



ong-Range Cost
Estimates for Old-Age,
Survivors, and
Disability Insurance
System, 1978

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A. BASIC CONCEPTS

Estimates of the actuarial status of the Old-Age, Survivors, and Disability Insurance (OASDI) system are customarily made over three time periods: short-range (5 years), medium-range (25 years), and long-range (75 years). The long-range actuarial status is measured by the long-range actuarial balance, which is the difference over the 75-year period, between the average of the combined employer-employee tax rates scheduled in the law and the projected average expenditures, expressed as percent of taxable payroll. (Taxable payroll is defined here as the amount which, when multiplied by the combined employer-employee tax rate, yields the total amount of taxes made by employers, employees, and the self-employed.) The medium-range actuarial status is sometimes measured by the medium-range actuarial balance, which is defined analogously to the long-range actuarial balance. It can be argued, however, that the progress of the trust funds should also be considered in evaluating the medium-range actuarial status of the system. The short-range actuarial status is usually measured by the progress of the trust funds over the short-range period.

If the actuarial balance over the medium range or long range is positive, the system is said to have an actuarial surplus; and if negative, to have an actuarial deficit. Over the long-range period, if the average of the scheduled tax rates is within 5 percent of the projected average expenditures, the system is said to be in close actuarial balance. The "5 percent" definition of close actuarial balance is sometimes extended to the medium-range period, although it can be argued that a somewhat lower percentage would be appropriate. Throughout most of its existence, the system has been maintained in close actuarial balance over the long-range period.

There is general agreement that the OASDI system should be financed by a current-cost method, under which the taxes collected each year are intended to be approximately equal to the expenditures during the year. Under this financing method the trust funds play the relatively minor role of absorbing temporary excesses of expenditures over income that may occur during periods of adverse economic conditions, and allowing time for corrective legislative action. The projected annual expenditures as percent of taxable payroll are extremely useful in designing tax rate schedules according to the current-cost method of financing.

B. ASSUMPTIONS

Future income and expenditures for the OASDI system will depend upon many economic and demographic factors. Among those factors are: rates of fertility, mortality, net immigration, labor force participation, marriage, unemployment, inflation, prevalence of retirement, and prevalence of disability. Income to the system will depend upon how these factors affect the size and composition of the working population and the general level of earnings. Similarly, expenditures will depend upon how the size and composition of the beneficiary population and the general level of benefits are affected.

It is impossible to know what the future holds with respect to the various economic and demographic factors. The best that can be done is to make assumptions about the future behavior of these factors in an objective manner according to current understanding. Cost projections based on such assumptions, although subject to appreciable variability, are a useful indicator of the trend and range of future income and expenditures. Even though such projections cannot be considered exact predictions of emerging experience, they provide insights which are useful for making informed policy decisions.

Tables 1a and 1b summarize the most important economic and demographic assumptions used in the projection of the long-range cost of the OASDI system.

Real-Wage Differential

The real-wage differential is defined here as the difference between the percentage increase in average annual wages in covered employment and the percentage increase in the average annual Consumer Price Index. Since 1951, the real-wage differential has averaged 1.7 percent, while average annual increases in productivity have averaged 2.7 percent. This difference of 1 percentage point results from such factors as the average number of hours worked, the degree to which employees share in productivity gains, and the methods of employee compensation. The ultimate average annual increase in productivity is projected to be 2 1/2 percent, and the differential adjustment is assumed to be 3/4 percent. This yields an ultimate average real-wage differential of 1 3/4 percent which is projected to be attained in the year 2000. During the period 1978-2000, the real-wage differentials are projected to be higher than the ultimate value, averaging 1.9 percent. This is because of the favorable demographic structure existing over the next two decades which is expected to result in relatively high productivity growth.

Consumer Price Index

The Consumer Price Index (CPI) is assumed to increase ultimately at an annual rate of 4 percent, which is slightly higher than the 3.4 percent average over the last 30 years. This is because of the tendency over the last 65 years for the rate of increase in the CPI to increase slowly with time. The current outlook does not support a cessation or reversal of this trend, although the recent high rates of increase in the CPI are not expected to continue over the long-range.

Wage in Covered Employment

The sums of the real-wage differentials and the corresponding percentage increases in the average annual CPI yield the assumed increases in average annual wages in covered employment. The ultimate value is 5 3/4 percent.

Benefit Increases

The annual automatic adjustment to benefits is based on the year-to-year change in the average first-quarter CPI. The automatic benefit increases used in the cost projections are calculated to be consistent with the assumed increases in the CPI. The ultimate value is 4 percent.

Interest Rates

Interest rates are assumed to decrease from a 1978 value of 7 3/8 percent to 6 6/10 percent in 1989, and to remain level thereafter. The ultimate rate of 6 6/10 percent was adopted to yield a real interest rate of 2 1/2 percent, based on the assumed ultimate 4 percent rate of increase in the CPI. The assumed interest rates have no effect on the projected expenditures or on the actuarial balance. They do, however, affect projections of trust fund assets.

Unemployment Rates

The annual total unemployment rate has averaged about 5.3 percent for the last 25 years and 5.7 percent for the last 10 years. The annual total unemployment rate after 1984 is assumed to be 5.0 percent, with varying rates in the earlier years. Annual unemployment rates by age and sex are projected on the basis of the historical trend of their relationships with the annual total unemployment rate existing since 1966.

Labor Force Participation Rates

Labor force participation rates are projected on the basis of historical data since 1960. The assumed ultimate rates by age and sex are attained by 2010. The ultimate age-adjusted rates reflect a decrease of 1.3 percent for men and an increase of 19.2 percent for women, relative to the 1977 level. These assumptions result in ultimate labor force participation rates for women which average about 75 percent of those for men.

Fertility

Fertility in the United States has shown a widely fluctuating history. The total fertility rate, which is the number of children a woman would have during her lifetime if age-by-age she were to experience the observed birth rates, decreased from a post-World War I level of about 3.3 children per woman to a Great Depression level of about 2.1, only to rise again to about 3.7 in 1957, and then fall to an estimated level of 1.7 in 1976. The first half of 1977 showed an increase to about 1.79, however, in the second half of 1977, the trend of decreasing fertility resumed. A total fertility rate of 1.75 is assumed for fiscal year 1978.

The total fertility rate in future years is projected from the base level of 1.75 to an ultimate 2.1 in fiscal year 2005 by the cohort method. Ultimate age-specific fertility rates are determined by single year of age from 14 to 49, to be consistent with the ultimate total fertility rate, assuming the mean age at childbearing to be 26 years for the ultimate cohort. It is assumed that the ultimate age-specific fertility rates are achieved by the 1970-born cohort, or in fiscal year 2005 if earlier. Age-specific rates for interim fiscal years are calculated by linear interpolation.

Net Immigration

Net immigration is assumed to be 400,000 persons per year.

Mortality

The general trend of improving mortality during the period 1950-75 is assumed to continue to 2050. The projected mortality level in 2050 is 19.1 percent below the 1977 level, which is estimated from preliminary mortality data. The projected improvement in mortality ranges from a low of about 13 percent for men aged 20-64 to a high of about 38 percent for women under 20. Mortality is assumed to remain level after 2050.

For additional detail regarding the fertility, mortality, and immigration assumptions see Actuarial Study No. 77: United States Population Projections for OASDHI Cost Estimates by Francisco R. Bayo, Howard W. Shiman and Bruce R. Sobus.

Disability Incidence Rates

The incidence rates are projected by age, sex, and year of exposure to disability. They are based on estimated average annual rates for the period 1972-75, smoothed to reflect the relative age-sex distributions during the 4-year period, and updated to reflect the disability benefit award experience through calendar year 1977. Although the disability award rate during 1977 remained level as compared with 1976, a general upward trend in incidence rates, as experienced over the past decade, is assumed to continue. Age-sex specific incidence rates are assumed to increase over the period 1978-97 to a level about 25 percent higher than that estimated for 1977, and to remain at that level thereafter.

Disability Termination Rates

Payment of disability benefits may be terminated by death, recovery from disability, or attainment of age 65 (when retired-worker benefits become payable). Termination rates for these three causes of termination are projected separately by age, sex, and duration of entitlement to benefits. They are based on mortality and recovery experience of disabled-worker beneficiaries during the period 1973-76, and are assumed to remain level in the future.

For additional detail regarding disability incidence and termination rates see Actuarial Study No. 75: Experience of Disabled-Worker Benefits Under OASDI, 1972-76, by Francisco R. Bayo, Stephen C. Goss, and Samuel S. Weissman.

Changes in the Law

The cost estimates are based on the assumption that the present statutory provisions and regulations affecting the OASDI system will remain unchanged. However, when considering the long-range actuarial status of the system, it is important to recognize that the law is likely to change as society itself changes in response to future economic and demographic developments.

C. METHODS

Population

Projections of the United States population by age and sex, including persons overseas covered by the OASDI system, are made for future years to 2055. The starting point is the population on July 1, 1977, as estimated by the Bureau of the Census from the 1970 census and from births, deaths, and migration during the period 1970-77. This population estimate, which includes an adjustment for net census undercount, is increased by the estimated populations in the geographical areas covered by the OASDI system but not included in the estimate of the Bureau of the Census. The population in future years is then developed from projected deaths, births, and net immigration.

Tables 2a, 2b, and 2c summarize the population projection. For additional detail, see Actuarial Study No. 77: United States Population Projections for OASDI Cost Estimates, by Francisco R. Bayo, Howard Shiman, and Bruce R. Sobus.

Covered Population

Projections of the percentage of the population in covered employment—that is, coverage rates—are made by age and sex on the basis of the projections of unemployment rates and labor force participation rates, and the relationships existing among those rates during the period 1970-75. For men, the projected coverage rates increase slightly for those aged 16-39, and decrease slightly for those of other ages, reflecting the trend of increasing value placed upon leisure time. For women, the coverage rates are projected to increase for all ages, as women become more active in the labor force. The ultimate age-adjusted coverage rates reflect increases of 0.8 percent for men and 18.3 percent for women, relative to the 1977 rates.

For the group aged 60 and over, age-adjusted coverage rates have shown a decrease from 1970 to 1977 of 16.5 percent for men and 9.5 percent for women. A significant deceleration is projected in the corresponding trend toward early retirement. Part of this deceleration is assumed to result from Public Law 95-256, which generally prohibits mandatory retirement before age 70. Ultimate age-adjusted coverage rates for the group aged 60 and over are 4.4 percent lower for men and 1.0 percent higher for women than the corresponding rates in 1977.

For the period 1978-1988, projections of the covered population by the SSA Office of Research and Statistics are used. These projections are based on assumed growth in the Gross National Product. The transition from this short-range projection to the Office of the Actuary long-range projection is done graphically.

Tables 3a and 3b summarize the projection of the covered population.

Taxable Payroll

The taxable payroll is defined here as the amount which, when multiplied by the combined employer-employee tax rate, yields the total amount of taxes paid by employers, employees, and the self-employed. In this way, expenditures, when

expressed as percent of taxable payroll, can be compared directly to the combined employer-employee tax rate to determine whether the system is operating at a surplus or deficit. In practice, the taxable payroll is calculated as a weighted average of the earnings of employers, employees, and the self-employed, where the weighting is done to take into account the lower tax rates on self-employment income, on tips, and on multiple-employer "excess wages" as compared to the combined employer-employee rate.

For the period 1978-1988, the amounts of earnings taxable for employers, employees, and the self-employed are projected separately by the SSA Office of Research and Statistics. After 1988, the amounts of earnings taxable for employers, employees, and the self-employed are each assumed to increase at the same rate.

Table 4 summarizes the projection of the taxable payroll.

Insured Population

There are three types of insured statuses under the OASDI system: fully, currently, and disability insured. Fully-insured status is required of an aged worker for his eligibility for a primary retirement benefit, and for his dependents' eligibility for secondary benefits. Fully-insured status is also required of a deceased worker, for his survivors' eligibility for benefits (with the exception of child survivors and parents of eligible child survivors, who alternatively may be eligible if the deceased worker had currently-insured status). Disability-insured status, which is more restrictive than fully-insured status, is required of a disabled worker for his eligibility for a primary disability benefit, and for his dependents' eligibility for secondary benefits.

Projections of the percentage of the population who are fully insured are made by age and sex based on recent experience and projected coverage rates. Currently-insured status is disregarded in the cost projection because the number of cases in which eligibility for benefits is based on currently-insured status is relatively small. Projections of the percentage of the population who are disability insured are developed from the percentages fully insured on the basis of projections of historical trends relating disability insured to fully insured.

The projections of the fully-insured and disability-insured populations are summarized in Tables 5a, 5b, 6a, and 6b.

Retired-Worker Beneficiaries

The number of retired-worker beneficiaries is projected by age and sex to increase gradually, as percent of the fully insured population. This is based on observed trends (after adjustment for changes in the earnings test, in the mandatory retirement age, and in unemployment). The resulting proportions of beneficiaries to aged population increase gradually with time.

The projection of the number of retired-worker beneficiaries is summarized in Tables 7a and 7b.

Disabled-Worker Beneficiaries

The number of disabled-worker beneficiaries is projected from the population exposed to disability, which is developed from the disability-insured population by removing those persons already entitled to disabled-worker benefits. The number of newly entitled beneficiaries is developed from the exposed population by applying disability incidence rates. To obtain the number of currently entitled beneficiaries, termination rates are applied to the population consisting of the newly entitled beneficiaries and those who previously became entitled.

The projection of the number of disabled-worker beneficiaries is summarized in Tables 8a and 8b.

Dependents of Retired Workers

The number of aged wife beneficiaries is estimated from projections of the fully-insured population and census data on marital status. The potential wife beneficiaries, after the exclusion of those eligible for their own retired-worker benefits and those eligible for a government pension from earnings in noncovered employment, are assumed to claim benefits as soon as they become eligible, even if this occurs at ages 62-64, when they would have to take reduced benefits. Experience indicates that, in the vast majority of cases, such immediate claiming of wife benefits does occur. The number of aged husband beneficiaries is estimated in a similar manner.

The number of child beneficiaries is projected as a proportion of the number of male retired-worker beneficiaries, based on recent actual data and the assumed fertility rates.

The number of wife beneficiaries who are entitled by virtue of caring for an entitled child is estimated by extrapolating the base year ratio of the number of such beneficiaries to the number of child beneficiaries. The extrapolation reflects projected fertility and female labor force participation.

Table 9a summarizes the projection of the numbers of beneficiaries who are dependents of retired workers.

Survivors of Deceased Workers

The number of widow beneficiaries is estimated from the projected number of aged widows in the female population, after adjustment for eligibility for their own retired-worker benefits, for eligibility for a government pension from earnings in noncovered employment, and for the insured status of their deceased husbands. The number of disabled widow beneficiaries is estimated from the number of eligible widows by using assumed disability prevalence rates for widows. The numbers of widower and disabled widower beneficiaries are estimated in a similar manner.

The number of child-survivor beneficiaries is based on the number of orphans in the United States, which is estimated from the projected child population by applying the age-specific probabilities of being an orphan. These probabilities are derived by using distributions of age of parent at birth of child and death rates as in the population projections. The number of orphans is then adjusted to include eligible disabled orphans aged 18 and over and to eliminate orphans of uninsured deceased parents. For nondisabled children aged 18-21 a further reduction is made to exclude those not attending school.

The number of mother beneficiaries is estimated by extrapolating the present ratio of the number of such beneficiaries to the number of child-survivor beneficiaries (excluding those nondisabled children aged 18-21 who are attending school). The extrapolation allows for projected changes in fertility. The number of father beneficiaries is estimated in a similar manner.

The number of parent beneficiaries is projected on the basis of the past trend in the number of such beneficiaries. A decrease is assumed from 18,000 at the beginning of 1978 to an ultimate 7,000 in 1990.

Table 9b summarizes the projection of the numbers of beneficiaries who are survivors of deceased workers.

Dependents of Disabled Workers

The number of child beneficiaries entitled under the DI program is projected as a proportion of the number of male disabled-worker beneficiaries, based on recent experience and allowing for projected changes in fertility.

The number of young wife beneficiaries is projected as a proportion of the number of child beneficiaries, based on recent experience and allowing for projected changes in fertility and female labor force participation. The number of aged wife beneficiaries is projected as a proportion of the number of male disabled-worker beneficiaries.

The numbers of young husband and aged husband beneficiaries are projected as proportions of the number of female disabled-worker beneficiaries.

Table 9c summarizes the projection of the numbers of beneficiaries who are dependents of disabled workers.

Average Benefits

The amount of the average retired-worker benefit awarded is projected by simulating the automatic benefit adjustment provisions, and calculating future benefits for workers at various earnings levels. The average in each year is based on awards to two hundred theoretical cases, whose earnings histories are designed to cover uniformly the distribution of covered earnings under OASDI. Each individual earnings history follows the path of average earnings in covered employment in the calendar years considered, with the following adjustments: (1) A salary scale is used so that earnings increase faster than average for younger workers and slower than average for older workers. (2) Random fluctuations are

introduced to the path of smoothly increasing earnings. (3) Years of zero earnings are included to account for periods of absence from the covered work force. (4) Earnings are limited to the contribution and benefit bases. For each year in the projection period the average PIA is computed and the trend of these PIA's is used to project the future benefit awards.

The amount of the average retired-worker benefit in current-payment status is projected on the basis of the present distribution of retired-worker beneficiaries by duration from year of award, their average awarded benefits, and the increases in their benefits since the year of award. The average benefits for all other persons receiving monthly benefits from the OASI trust fund (except young survivor benefits and residual benefits paid to wives, widows, husbands, and widowers) are projected to increase at the same rate as the average retired-worker benefit. The average benefits for young survivors and the average residual benefits are projected to increase at slightly faster and slower rates, respectively, than the average retired-worker benefit.

The amount of the average disabled-worker benefit awarded is projected in a manner similar to that for retired workers, except that the average computation period is modified to reflect its variation by age. The average disabled-worker benefit in current-payment status is projected analogously to that for retired workers. The average benefits for all persons receiving monthly benefits from the DI trust fund are assumed to increase at the same rate as the average disabled-worker benefit.

Table 10 summarizes the projection of the average benefits for retired workers and disabled workers.

Benefit Payments

Monthly benefit payments are calculated as the product of the number of beneficiaries and their corresponding average benefits. These amounts are then adjusted to include retroactive payments to newly entitled beneficiaries, and residual payments to dually entitled beneficiaries. Retroactive payments result from the provision in the law which allows a beneficiary to receive up to 12 months' benefits retroactive from the date of initial entitlement to benefits. Residual payments are those amounts paid in excess of the retired-worker benefit to those persons who are eligible to receive a secondary benefit in addition to their own retired-worker benefit. The law provides that in such cases, an individual may not receive more than the higher of the two benefits. Table 11 summarizes the projection of residual payments.

The number of lump-sum death payments is projected by applying the assumed mortality rates to the projected fully insured population. The total amount of such payments is calculated as the product of the number of payments and the amount of the lump-sum death payment (\$255).

Tables 12a, 12b, and 12c summarize the projection of OASDI benefit payments as percent of taxable payroll.

Administrative Expenses

The projection of administrative expenses through 1988 is based on assumed increases in average wages, increases in the CPI, and increases in the number of beneficiaries. For the years after 1988, administrative expenses are assumed to increase at the combined rate of the estimated increases in the number of beneficiaries and in average wages in covered employment.

Railroad Retirement Financial Interchange

The effect of the financial interchange with the railroad retirement program is evaluated on the basis of trends similar to those used in estimating the cost of the OASDI benefits. The resulting effect is a long-range loss to the OASDI system of .01 percent of taxable payroll.

Reimbursement for Noncontributory Credits

Although the effect of noncontributory credits for military service is implicit in the calculation of expenditures, the reimbursement from the general fund of the Treasury for such credits has not been reflected in the cost estimates. The reduction in cost resulting from such reimbursement is estimated to be about 0.05 percent of taxable payroll currently, and to decrease as percent of taxable payroll until about 2015, after which it is negligible.

Reimbursement from the general fund of the Treasury for special benefits to certain persons aged 72 and over has not been reflected in the cost estimates. The reduction in cost resulting from such reimbursement is estimated to be .02 percent of taxable payroll currently, and to decrease to a negligible cost after 1982.

Actuarial Balance

The long-range actuarial balance is the difference over the 75-year period, between the average of the combined employer-employee tax rates scheduled in the law and the projected average expenditures as percent of taxable payroll. The expenditures consist of benefit payments, administrative expenses (including payments for vocational rehabilitation services for disability beneficiaries), and net transfers under the financial interchange between the OASDI trust funds and the railroad retirement account. The medium-range actuarial balance is the analogous difference over the 25-year period.

Table 13 summarizes the projection of the expenditures as percent of taxable payroll and gives the projected actuarial balances over the long-range and medium-range periods.

D. RESULTS

The cost of the OASI program is projected to be a relatively constant percentage of taxable payroll during the remainder of this century, as shown in table 13. After the turn of the century, it is projected to increase rapidly and to peak at 14.36 percent of taxable payroll in the year 2035. The reason for the increase is that the number of beneficiaries will be increasing faster than the number of covered workers, since the large number of persons born during the period from the post-World War II years through the late 1950's and into the 1960's (when fertility rates were high) will reach retirement age and begin to receive benefits while the relatively small number of persons born during the period of current and projected low fertility rates will comprise the labor force. During the last years of the projection period, the OASI expenditures are projected to decrease slightly as percent of taxable payroll to 13.75 in 2052, because of the effect on the number of beneficiaries of the low birth rates experienced during the 1970's and projected through the 1980's.

The cost of the DI program, as percent of taxable payroll, is projected to increase steadily after 1979 to 2.69 percent of taxable payroll in 2020, after which it decreases slightly as percent of taxable payroll to 2.53 in 2052. The estimated DI expenditures are affected by the same demographic factors as the estimated OASI expenditures and, in addition, by the assumptions about future incidence of disability.

For the OASDI system, estimated annual surpluses begin in 1981 and continue to 2011, after which the system experiences annual deficits. After the medium-range period, these deficits grow rapidly before essentially stabilizing in the third 25-year period at about 4 percent of taxable payroll. These deficits in the third 25 years are large enough to cause a long-range actuarial deficit for the total 75-year period of 1.40 percent of taxable payroll, even though the surpluses of the medium-range period largely offset the deficits of the second 25 years. This long-range deficit is about 10 percent of the 75-year average of the expenditures which is estimated to be 13.55 percent of taxable payroll. Because the deficit exceeds 5 percent of the estimated average expenditures (that is, exceeds 0.68 percent of taxable payroll), the system is not regarded to be in close actuarial balance over the long-range period.

The effect on the trust funds of the surpluses projected to occur in the medium-range period and the deficits that occur thereafter is shown in table 14. The OASI trust fund ratio (that is, the ratio of the trust fund assets at the beginning of the year to the expenditures during the year) is projected to rise steadily after 1981 and to peak at 304 percent in the year 2011 before decreasing rapidly and becoming exhausted in 2029. Similarly, the DI trust fund ratio is projected to rise to a peak of 274 percent in the year 2000, and then to decrease until becoming exhausted in 2021. Thus, the OASI and DI trust funds are both projected to last for at least 40 years, but to be exhausted before the end of the long-range projection period.

Table 15 gives an indication of the increasing scope of the system as measured by the ratio of the number of beneficiaries to the population. The number of beneficiaries aged 65 and over as percent of the population aged 65 and over is projected to increase from 88 in 1977 to 96 in about 2035, and to remain level thereafter. The number of beneficiaries aged 20-64 as percent of the population aged 20-64 is projected to increase from 6 percent in 1977 to about 9 or 10 percent in 2010 and thereafter. The number of beneficiaries aged 19 and under as percent of the population aged 19 and under is projected to remain level at about 6 or 7 percent throughout the 75-year period.

E. SENSITIVITY TO SELECTED ASSUMPTIONS

Mortality

Table 16a shows the projected average expenditures as percent of taxable payroll under various assumptions as to ultimate future improvement in mortality. Those assumptions are: no improvement in mortality from the level experienced in 1977, improvement of approximately 19 percent, and improvement of approximately 35 percent.

Over the medium-range period, the average of the projected expenditures as percent of taxable payroll increases with increasing mortality improvement, from 10.51 assuming no mortality improvement to 10.77 assuming 35 percent improvement. Over the long-range period, a similar but more pronounced trend exists. The estimated long-range average varies from 12.77 percent of taxable payroll (assuming no mortality improvement) to 14.34 (assuming 35 percent improvement).

That the average of the projected expenditures as percent of taxable payroll increases with improvement in mortality is largely due to the relationship between age and mortality. For the population over age 65, where mortality rates are the highest, any mortality improvement means a relative lengthening to the period over which retirement benefits are paid. Between ages 50 and 65, mortality improvement would result in relatively more taxes. However, the additional taxes are more than offset by the additional benefits payable to the over-60 group. At the ages of 20 through 50, mortality rates are quite low, so that even substantial improvement in the rates would not result in significant gains in the number of workers paying social security taxes. Mortality improvement at ages under 20 has relatively little effect on expenditures or income. Consequently, for all ages combined, the net effect of mortality improvement is to increase expenditures more than payroll, thereby resulting in higher costs as percent of taxable payroll.

Fertility

Table 16b shows the projected average expenditures as percent of taxable payroll under various ultimate total fertility rate assumptions. Those assumptions are: 1.7, 1.9, 2.1, 2.3, and 2.5 children per woman.

Over the medium-range period, the average of the projected expenditures as percent of taxable payroll increases with increasing fertility--although very minutely--from 10.64 assuming 1.7 children per woman to 10.65 assuming 2.5 children per woman. Over the long-range period, the effect is reversed, with the average varying from 14.83 to 12.58.

The reversal of the effect of the fertility assumptions between the two periods is due to the time lag between the effect of fertility changes on the beneficiary population and on the worker population. Under high fertility, for example, the relatively large number of children receiving benefits during the first 25-year period is not offset to any appreciable extent by additional

tax income in that period. This results in an average cost over the 25-year period that increases with increasing fertility. Later in the 75-year period, however, higher fertility causes the labor force to increase faster than the beneficiary population, so that the average cost over the 75-year period decreases with increasing fertility.

Consumer Price Index

Table 16c shows the projected average expenditures as percent of taxable payroll under assumed ultimate annual CPI increases of 2 percent, 4 percent and 6 percent. In each case the ultimate real-wage differential is assumed to be 1 3/4 percent, yielding ultimate percentage increases in average annual wages of 3 3/4 percent, 5 3/4 percent, and 7 3/4 percent, respectively.

Over both the medium-range and the long-range periods, the average of the projected expenditures as percent of taxable payroll decreases with higher CPI assumptions. Over the medium-range period, the average varies from 10.85 assuming an ultimate rate of increase in the CPI of 2 percent, to 10.44 assuming 6 percent. Over the long-range period the average varies from 14.01 to 13.14.

The decreasing cost effect of higher CPI assumptions results from the time lag between the impact on payroll and the impact on benefit expenditures. When assuming a constant real-wage differential, the effect on payroll of a higher rate of increase in CPI is experienced immediately through higher wages, while the effect on benefits to currently eligible beneficiaries is experienced with about a half-year lag. In addition, the major effect on benefits to newly eligible individuals, through the indexing procedures, is experienced with about a two-year lag.

Table 16d shows the average of the projected expenditures under assumed ultimate real-wage differentials of 1 percent, 1 3/4 percent, and 2 1/2 percent. In each case the ultimate rate of increase in the CPI is assumed to be 4 percent, yielding ultimate annual increases in average wages of 5 percent, 5 3/4 percent, and 6 1/2 percent, respectively.

Over the medium-range period, the average of the projected expenditures as percent of taxable payroll decreases from 11.13 assuming a 1 percent real-wage gain, to 10.19 assuming a 2 1/2 percent gain. Over the long-range period, the average decreases from 14.47 to 12.72.

That the averages of the expenditures as percent of taxable payroll decrease with increasing real-wage differentials results from the substantial lag between the time when a worker incurs the assumed higher earnings and the time when he draws benefits based on those higher earnings. In addition, the marginal increase to benefits is relatively small for high earners, resulting in a greater net increase in payroll than in benefit expenditures.

F. COMPARISON WITH PREVIOUS ESTIMATES

Prior to the cost estimates prepared for the 1965 Report of the Board of Trustees, it was assumed that the financing of the system would be into perpetuity. The 1963-65 Advisory Council on Social Security recommended that the financing period be shortened to 75 years (roughly the life span of current new entrants). To compare the results of the two different methods, the 1961 Act was valued into perpetuity as well as for 75 years. Since that time, the long-range cost estimates for OASDI have covered the 75-year period beginning with the year of valuation.

In accordance with the recommendations of the 1971 Advisory Council on Social Security, the actuarial method was further modified to incorporate assumptions of increasing earnings and benefits. This change was made because proposals involving automatic adjustment to benefits, could not properly be evaluated otherwise. To compare the results of the two different methods, the 1971 Act was valued on level as well as dynamic assumptions. Since that time, the long-range cost estimates have been prepared on the basis of dynamic assumptions only.

With the enactment of the 1972 Amendments, the method of valuation was changed from present value to average cost. This change was made because the nature of the automatic adjustments in the 1972 Amendments made the simpler average-cost method a reasonable approximation to the present-value method. A further consideration was that the average-cost method is more easily understood by non-technicians.

Until the valuation for the 1976 Report of the Board of Trustees the average cost was calculated to include both the annual expenditures and amounts needed to build the trust funds to about one year's expenditures. Since that time, only the annual expenditures have been included.

Table 17 presents a summary of the results of the long-range cost estimates that have been prepared in previous years. In comparing these cost estimates, the changes in valuation periods and methods, as well as the changes in the system itself, should be taken into consideration. For a historic summary of program changes, see DHEW Publication No. (SSA) 78-11515: History of the Provisions of Old-Age, Survivors, Disability, and Health Insurance 1935-1977.

G. ESTIMATES UNDER ALTERNATIVE ASSUMPTIONS

Because of the uncertainties about future economic and demographic developments, cost projections based upon two alternative sets of assumptions are included. One of these alternative sets can be regarded as optimistic and the other as pessimistic, relative to the set of assumptions described in Section B (hereafter referred to as the intermediate set).

Under the optimistic set of assumptions, the level of economic activity is assumed to grow at a faster rate than under the intermediate set. The assumed rate of unemployment after 1979 is lower, reaching an ultimate level of 4 1/2 percent in 1985. During the period 1979-82, the assumed annual percentage increase in average wages in covered employment is higher, declining to 5 1/2 percent by 1985 and to an ultimate level of 5 1/4 percent by 2000. Although the assumed rate of increase in average wages is lower after 1982, the real-wage differential is higher because of the lower assumed rate of inflation which is ultimately 3 percent. The ultimate total fertility rate of 2.3 children per woman is higher. The mortality rates and the ultimate real interest rate are assumed to be as in the intermediate set of assumptions. Table 18a summarizes the assumptions in the optimistic set which differ from those in the intermediate set.

Under the pessimistic set of assumptions, economic recovery is assumed to be slower than under the intermediate set. As a result, the unemployment rate is assumed to remain above 6 percent through 1983, decreasing to an ultimate 5 1/2 percent by 1985. Because of the assumed higher rate of inflation, ultimately 5 percent, the ultimate real-wage differential is lower. The ultimate total fertility rate of 1.7 children per woman is lower. The mortality rates and the ultimate real interest rate are assumed to be as in the intermediate set. Table 18b summarizes the assumptions in the pessimistic set which differ from those in the intermediate set of assumptions.

The expenditures under the optimistic set of assumptions follow a pattern similar to that followed by expenditures under the intermediate set, however the magnitudes are different. Under the optimistic set of assumptions, OASDI expenditures as percent of taxable payroll decrease until 1983 reaching a peak of 15.29 percent of taxable payroll in 2030, and dropping thereafter to 14.34 by the end of the long-range projection period. Under the pessimistic set of assumptions, expenditures as percent of taxable payroll rise beginning in 1980, and continue rising throughout the remainder of the long-range period to a value of 20.90 percent of taxable payroll by 2052. Tables 19a and 19b summarize the expenditures as percent of taxable payroll under the optimistic and pessimistic sets of assumptions.

The projected assets of the OASDI trust funds as percent of annual expenditures under the optimistic and pessimistic sets of assumptions show time trends similar to that shown by the assets under the intermediate set. Under the optimistic set, the assets of the combined OASI and DI trust funds reach a peak value of 365 percent of annual expenditures in 2011, before becoming exhausted in 2036. Under the pessimistic set, the peak value reached is 164 percent in 2007, and the combined funds become exhausted in 2020. Tables 20a and 20b summarize the progress of the OASDI trust funds under the optimistic and pessimistic sets of assumptions.

Under all three sets of assumptions, the system is inadequately financed over the long-range period. Under the optimistic set, there is an average long-range deficit of .44 percent of taxable payroll. Under the pessimistic set, the long-range deficit is 3.23 percent. However, the financing through the turn of the century is sufficient to provide an actuarial surplus over the medium-range period under all three sets of assumptions. The projected surplus over the medium-range varies from 1.35 percent of taxable payroll under the optimistic set of assumptions, to .58 percent under the pessimistic set. Table 21 summarizes the average expenditures and actuarial balances under the optimistic, intermediate, and pessimistic sets of assumptions.

H. TABLES

Table 1a. Selected Assumptions Used in the Projection of the Long-Range Cost of the OASDI System

Calendar Year	Real Wage Differential	Increase in...			Interest Rate	Total Unemployment Rate	Total Fertility Rate (per thousand)
		Average Annual... Wages in Covered Employment	Consumer Price Index	Benefits Due to Automatic Adjustment			
1978	1.12%	7.24%	6.12%	6.5%	7.375%	6.3%	1,758.4
1979	1.79	7.86	6.07	6.1	7.375	5.9	1,775.1
1980	2.19	7.92	5.73	5.9	7.375	5.4	1,791.7
1981	2.18	7.37	5.19	5.4	7.375	5.0	1,808.4
1982	2.42	7.39	4.97	5.0	7.375	4.8	1,825.1
1983	2.41	7.15	4.74	4.9	7.375	4.6	1,841.8
1984	2.00	6.08	4.08	4.3	6.750	4.8	1,858.8
1985	2.01	6.01	4.00	4.0	6.625	5.0	1,876.9
1986	1.98	6.01	4.03	4.0	6.625	5.0	1,896.7
1987	2.03	6.01	3.98	4.0	6.625	5.0	1,918.2
1988	2.01	6.01	4.00	4.0	6.625	5.0	1,941.1
1989	2.00	6.00	4.00	4.0	6.600	5.0	1,964.5
1990	1.98	5.98	4.00	4.0	6.600	5.0	1,987.8
1991	1.96	5.96	4.00	4.0	6.600	5.0	2,009.9
1992	1.94	5.94	4.00	4.0	6.600	5.0	2,030.0
1993	1.91	5.91	4.00	4.0	6.600	5.0	2,047.5
1994	1.88	5.88	4.00	4.0	6.600	5.0	2,062.0
1995	1.85	5.85	4.00	4.0	6.600	5.0	2,073.7
1996	1.82	5.82	4.00	4.0	6.600	5.0	2,082.7
1997	1.79	5.79	4.00	4.0	6.600	5.0	2,089.5
1998	1.77	5.77	4.00	4.0	6.600	5.0	2,094.3
1999	1.76	5.76	4.00	4.0	6.600	5.0	2,097.4
2000	1.75	5.75	4.00	4.0	6.600	5.0	2,099.2
2001	1.75	5.75	4.00	4.0	6.600	5.0	2,100.1
2002	1.75	5.75	4.00	4.0	6.600	5.0	2,100.3
2003	1.75	5.75	4.00	4.0	6.600	5.0	2,100.3
2004	1.75	5.75	4.00	4.0	6.600	5.0	2,100.1
2005+	1.75	5.75	4.00	4.0	6.600	5.0	2,100.0

- NOTES: 1. The real-wage differential is the difference between the percentage increase in average annual wages in covered employment and the percentage increase in the average annual Consumer Price Index.
2. The percentage increases in benefits due to automatic adjustment are calculated to be consistent with the assumed increases in the Consumer Price Index.
3. The total fertility rate is the total number of children expected to be born per thousand women, throughout their lifetimes.

Table 1b. Mortality Assumptions Used in the Projection of the Long-Range Cost of the OASDI System

Calendar Year	Age-Adjusted Mortality Rate (per hundred thousand)			
	Under 20	20-64	Over 64	Total
male				
1980	147	650	6,314	931
1985	143	642	6,230	918
1990	139	634	6,149	906
1995	135	627	6,072	894
2000	132	620	5,998	883
2010	126	608	5,859	862
2020	121	597	5,733	844
2030	117	587	5,617	828
2040	114	579	5,513	813
2050	111	573	5,419	801
female				
1980	100	338	4,258	690
1985	96	332	4,169	675
1990	92	326	4,084	661
1995	89	320	4,001	647
2000	86	314	3,921	634
2010	80	303	3,769	609
2020	75	293	3,626	586
2030	71	283	3,492	565
2040	67	275	3,367	545
2050	63	266	3,250	526

NOTE: The age-adjusted mortality rate is the number of deaths per 100,000 persons in the standard population.

Table 2a. Projected Male Population by Age Group: 1980-2050

Age Group	1980	1990	2000	2010	2020	2030	2040	2050
number (in thousands)								
under 15	26,733	28,360	29,694	29,436	31,076	31,508	32,256	33,365
15-19	10,810	8,814	9,728	10,100	9,797	10,569	10,579	10,854
20-24	11,011	9,466	8,857	10,156	9,799	10,197	10,642	10,606
25-29	10,163	10,843	8,881	9,774	10,134	9,833	10,585	10,590
30-34	9,114	11,066	9,548	8,948	10,218	9,865	10,251	10,683
35-39	7,376	10,156	10,820	8,898	9,771	10,122	9,826	10,560
40-44	6,061	8,990	10,890	9,414	8,832	10,070	9,728	10,105
45-49	5,723	7,158	9,834	10,477	8,634	9,483	9,827	9,549
50-54	5,861	5,738	8,500	10,298	8,921	8,386	9,566	9,254
55-59	5,638	5,215	6,534	8,982	9,582	7,920	8,721	9,052
60-64	4,759	5,042	4,958	7,363	8,941	7,775	7,341	8,395
65-69	3,884	4,467	4,159	5,245	7,246	7,763	6,453	7,154
70-74	2,894	3,360	3,586	3,561	5,337	6,524	5,718	5,449
75-79	1,782	2,292	2,666	2,510	3,212	4,487	4,845	4,068
80-84	1,031	1,332	1,571	1,698	1,716	2,616	3,237	2,877
over 84	767	911	1,191	1,436	1,469	1,766	2,547	2,988
under 20	37,543	37,174	39,422	39,536	40,873	42,077	42,835	44,219
20-64	65,706	73,674	78,822	84,310	84,832	83,651	86,487	88,794
over 64	10,358	12,362	13,173	14,450	18,980	23,156	22,800	22,536
total	113,607	123,210	131,417	138,296	144,685	148,884	152,122	155,549
ratio to total male population (in percent)								
under 20	33.0	30.2	30.0	28.6	28.2	28.3	28.2	28.4
20-64	57.8	59.8	60.0	61.0	58.6	56.2	56.9	57.1
over 64	9.1	10.0	10.0	10.4	13.1	15.6	15.0	14.5

NOTE: The figures, which are as of July 1, are corrected for underenumeration and include not only the population of the continental United States but also the populations of the other geographical areas covered by the OASDI system. Age refers to "age last birthday".

Table 2b. Projected Female Population by Age Group: 1980-2050

Age Group	1980	1990	2000	2010	2020	2030	2040	2050
number (in thousands)								
under 15	25,585	27,123	28,400	28,146	29,704	30,110	30,820	31,874
15-19	10,410	8,455	9,346	9,701	9,409	10,148	10,157	10,420
20-24	10,721	9,219	8,597	9,862	9,519	9,903	10,336	10,303
25-29	10,004	10,651	8,709	9,595	9,950	9,661	10,396	10,406
30-34	9,046	10,942	9,452	8,837	10,094	9,755	10,139	10,570
35-39	7,396	10,110	10,753	8,832	9,713	10,067	9,782	10,515
40-44	6,139	9,039	10,911	9,447	8,844	10,088	9,757	10,141
45-49	5,799	7,314	9,974	10,608	8,734	9,605	9,958	9,686
50-54	6,102	5,995	8,806	10,626	9,219	8,646	9,862	9,550
55-59	6,116	5,557	7,009	9,553	10,170	8,397	9,246	9,597
60-64	5,417	5,680	5,598	8,224	9,936	8,647	8,133	9,291
65-69	4,780	5,477	5,002	6,331	8,653	9,242	7,664	8,472
70-74	3,996	4,566	4,815	4,781	7,068	8,582	7,512	7,112
75-79	2,819	3,591	4,158	3,836	4,913	6,777	7,292	6,099
80-84	1,958	2,507	2,919	3,127	3,166	4,765	5,869	5,216
over 84	1,764	2,204	2,893	3,520	3,630	4,348	6,238	7,445
under 20	35,995	35,578	37,746	37,847	39,113	40,258	40,977	42,294
20-64	66,740	74,507	79,809	85,584	86,179	84,769	87,609	90,059
over 64	15,317	18,345	19,787	21,595	27,430	33,714	34,575	34,344
total	118,052	128,430	137,342	145,026	152,722	158,741	163,161	166,697
ratio to total female population (in percent)								
under 20	30.5	27.7	27.5	26.1	25.6	25.4	25.1	25.4
20-64	56.5	58.0	58.1	59.0	56.4	53.4	53.7	54.0
over 64	13.0	14.3	14.4	14.9	18.0	21.2	21.2	20.6

NOTE: The figures, which are as of July 1, are corrected for underenumeration and include not only the population of the continental United States, but also the populations of the other geographical areas covered by the OASDI system. Age refers to "age last birthday".

Table 2c. Projected Population by Age Group: 1980-2050

Age Group	1980	1990	2000	2010	2020	2030	2040	2050
number (in thousands)								
under 15	52,318	55,483	58,094	57,582	60,780	61,618	63,076	65,239
15-19	21,220	17,269	19,074	19,801	19,206	20,717	20,736	21,274
20-24	21,732	18,685	17,454	20,018	19,318	20,100	20,978	20,909
25-29	20,167	21,494	17,590	19,369	20,084	19,494	20,981	20,996
30-34	18,160	22,008	19,000	17,785	20,312	19,620	20,390	21,253
35-39	14,772	20,266	21,573	17,730	19,484	20,189	19,608	21,075
40-44	12,200	18,029	21,801	18,861	17,676	20,158	19,485	20,246
45-49	11,522	14,472	19,808	21,085	17,368	19,088	19,785	19,235
50-54	11,963	11,733	17,306	20,924	18,140	17,032	19,428	18,804
55-59	11,754	10,772	13,543	18,535	19,752	16,317	17,967	18,649
60-64	10,176	10,722	10,556	15,587	18,877	16,422	15,474	17,686
65-69	8,664	9,944	9,161	11,576	15,899	17,005	14,117	15,626
70-74	6,890	7,926	8,401	8,342	12,405	15,106	13,230	12,561
75-79	4,601	5,883	6,824	6,346	8,125	11,264	12,137	10,167
80-84	2,989	3,839	4,490	4,825	4,882	7,381	9,106	8,093
over 84	2,531	3,115	4,084	4,956	5,099	6,114	8,785	10,433
under 20	73,538	72,752	77,168	77,383	79,986	82,335	83,812	86,513
20-64	132,446	148,181	158,631	169,894	171,011	168,420	174,096	178,853
over 64	25,675	30,707	32,960	36,045	46,410	56,870	57,375	56,880
total	231,659	251,640	268,759	283,322	297,407	307,625	315,283	322,246
ratio to total population (in percent)								
under 20	31.7	28.9	28.7	27.3	26.9	26.8	26.6	26.8
20-64	57.2	58.9	59.0	60.0	57.5	54.7	55.2	55.5
over 64	11.1	12.2	12.3	12.7	15.6	18.5	18.2	17.7

NOTE: The figures, which are as of July 1, are corrected for underenumeration and include not only the population of the continental United States but also the populations of the other geographical areas covered by the OASDI system. Age refers to "age last birthday".

Table 3a. Projected Male Covered Population by Age Group: 1980-2050

Age Group	1980	1990	2000	2010	2020	2030	2040	2050
number (in thousands)								
16-19	7,238	6,015	6,599	6,851	6,646	7,195	7,202	7,372
20-24	10,427	8,964	8,379	9,608	9,260	9,646	10,067	10,033
25-29	9,513	10,203	8,348	9,188	9,516	9,243	9,950	9,955
30-34	8,358	10,203	8,794	8,250	9,411	9,105	9,462	9,850
35-39	6,675	9,140	9,738	8,008	8,794	9,110	8,843	9,504
40-44	4,988	7,399	8,962	7,748	7,269	8,288	8,006	8,316
45-49	4,647	5,805	7,956	8,476	6,985	7,681	7,960	7,725
50-54	4,572	4,361	6,460	7,826	6,780	6,373	7,270	7,033
55-59	4,257	3,843	4,835	6,737	7,187	5,940	6,541	6,789
60-64	3,079	3,207	3,178	4,756	5,776	5,030	4,750	5,432
65-69	1,460	1,662	1,539	1,941	2,681	2,880	2,894	2,654
over 69	939	947	1,037	1,059	1,349	1,770	1,880	1,769
total	66,153	71,749	75,825	80,448	81,654	82,261	84,325	86,432
ratio to male population by age group (in percent)								
16-19	83.7	85.3	84.8	84.8	84.8	85.1	85.1	84.9
20-24	94.7	94.7	94.6	94.6	94.5	94.6	94.6	94.6
25-29	93.6	94.1	94.0	94.0	93.9	94.0	94.0	94.0
30-34	91.7	92.2	92.1	92.2	92.1	92.3	92.3	92.2
35-39	90.5	90.0	90.0	90.0	90.0	90.0	90.0	90.0
40-44	82.3	82.3	82.3	82.3	82.3	82.3	82.3	82.3
45-49	81.2	81.1	80.9	80.9	80.9	81.0	81.0	80.9
50-54	78.0	76.0	76.0	76.0	76.0	76.0	76.0	76.0
55-59	75.5	73.7	74.0	75.0	75.0	75.0	75.0	75.0
60-64	64.7	63.6	64.1	64.6	64.6	64.7	64.7	64.7
65-69	37.6	37.2	37.0	37.0	37.0	37.1	37.1	37.1
over 69	14.5	12.0	11.5	11.5	11.5	11.5	11.5	11.5

NOTE: The figures include all persons aged 16 and over, on a calendar-age basis, who have had some taxable earnings during the year.

Table 3b. Projected Female Covered Population by Age Group: 1980-2050

Age Group	1980	1990	2000	2010	2020	2030	2040	2050
number (in thousands)								
16-19	6,270	5,208	5,757	5,975	5,796	6,251	6,256	6,418
20-24	8,787	7,963	7,565	8,679	8,377	8,715	9,096	9,067
25-29	7,431	8,529	6,976	7,686	7,970	7,748	8,338	8,335
30-34	5,959	8,172	7,212	6,804	7,772	7,511	7,807	8,139
35-39	4,864	7,397	8,000	6,633	7,294	7,570	7,346	7,897
40-44	3,881	6,338	7,747	6,707	6,279	7,162	6,927	7,200
45-49	3,458	4,750	6,683	7,160	5,895	6,483	6,722	6,538
50-54	3,289	3,466	5,328	6,641	5,762	5,404	6,164	5,969
55-59	2,945	2,824	3,855	5,445	5,797	4,786	5,270	5,470
60-64	1,993	2,078	2,032	2,994	3,617	3,148	2,960	3,382
65-69	955	1,095	995	1,260	1,722	1,848	1,533	1,686
over 69	516	631	724	748	920	1,199	1,319	1,268
total	50,348	58,451	62,874	66,732	67,201	67,825	69,738	71,369
ratio to female population by age group (in percent)								
16-19	75.3	77.0	77.0	77.0	77.0	77.0	77.0	77.0
20-24	82.0	86.4	88.0	88.0	88.0	88.0	88.0	88.0
25-29	74.3	80.1	80.1	80.1	80.1	80.2	80.2	80.1
30-34	65.9	74.7	76.3	77.0	77.0	77.0	77.0	77.0
35-39	65.8	73.0	74.4	75.1	75.1	75.2	75.1	75.1
40-44	63.2	70.1	71.0	71.0	71.0	71.0	71.0	71.0
45-49	59.6	64.9	67.0	67.5	67.5	67.5	67.5	67.5
50-54	53.9	57.8	60.5	62.5	62.5	62.5	62.5	62.5
55-59	48.2	50.8	55.0	57.0	57.0	57.0	57.0	57.0
60-64	36.8	36.6	36.3	36.4	36.4	36.4	36.4	36.4
65-69	20.0	20.0	19.9	19.9	19.9	20.0	20.0	19.9
over 69	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9

NOTE: The figures include all persons aged 16 and over, on a calendar-age basis, who have had some taxable earnings during the year.

Table 4. Past and Projected Total Taxable Earnings for Employees, Employers, and the Self-Employed, and Taxable Payroll: 1970-2050

(in billions)

Calendar Year	Total Earnings Taxable			Taxable Payroll
	Employees	Employers	Self-Employed	
1970	\$ 379.7	\$ 388.3	\$ 26.9	\$ 404.2
1971	390.1	399.1	27.4	415.2
1972	442.8	451.6	32.1	471.2
1973	514.8	522.9	38.4	546.5
1974	588.4	594.9	42.4	621.6
1975	615.1	622.0	43.5	649.3
1976	682.9	690.4	48.4	720.9
1977	758.4	766.6	52.3	799.5
1980	1,099.7	1,107.1	72.4	1,153.7
1985	1,681.6	1,690.9	103.2	1,763.6
1990	2,338.8	2,346.7	137.7	2,443.5
1995	3,195.7	3,213.3	188.5	3,345.9
2000	4,386.9	4,411.1	258.8	4,593.1
2005	6,010.9	6,044.1	354.5	6,293.4
2010	8,143.1	8,188.2	480.3	8,525.9
2015	10,871.9	10,932.0	641.3	11,382.9
2020	14,407.3	14,487.0	849.8	15,084.5
2025	19,066.7	19,172.2	1,124.6	19,962.9
2030	25,402.2	25,542.7	1,498.3	26,596.2
2035	33,997.8	34,185.8	2,005.3	35,595.7
2040	45,613.9	45,866.1	2,690.4	47,757.9
2045	61,069.0	61,406.7	3,602.0	63,939.4
2050	81,696.8	82,148.6	4,818.7	85,536.8

NOTES: 1. Figures for the period 1974-77 are based on preliminary data.

2. The amount of earnings which is taxable for employees differs from that for employers because employees pay taxes on all tips while employers pay only on tips deemed to be wages, and employees do not pay taxes on multi-employer excess wages while employers do.
3. The taxable payroll is a theoretical figure defined to be that amount which when multiplied by the combined employer-employee tax rate, yields the total amount of taxes paid by employers, employees, and the self-employed.

Table 5a. Projected Male Fully-Insured Population by Age Group: 1980-2050

Age Group	1980	1990	2000	2010	2020	2030	2040	2050
number (in thousands)								
20-24	10,130	8,519	7,971	9,140	8,819	9,177	9,578	9,545
25-29	10,061	10,626	8,703	9,579	9,931	9,636	10,373	10,378
30-34	8,749	10,623	9,166	8,590	9,809	9,470	9,841	10,256
35-39	7,081	9,750	10,387	8,542	9,380	9,717	9,433	10,138
40-44	5,697	8,451	10,237	8,849	8,302	9,466	9,144	9,499
45-49	5,151	6,514	8,949	9,534	7,857	8,630	8,943	8,690
50-54	5,451	5,336	7,905	9,577	8,297	7,799	8,896	8,606
55-59	5,243	4,850	6,077	8,353	8,911	7,366	8,111	8,418
60-64	4,575	4,790	4,710	6,995	8,494	7,386	6,974	7,975
65-69	3,609	4,244	3,951	4,983	6,884	7,375	6,130	6,796
70-74	2,668	3,192	3,407	3,383	5,070	6,198	5,432	5,177
75-79	1,736	2,154	2,533	2,385	3,051	4,263	4,603	3,865
80-84	962	1,252	1,492	1,613	1,630	2,485	3,075	2,733
over 84	613	847	1,120	1,364	1,396	1,678	2,420	2,839
total	71,726	81,148	86,608	92,887	97,831	100,646	102,953	104,915
ratio to male population by age group (in percent)								
20-24	92	90	90	90	90	90	90	90
25-29	99	98	98	98	98	98	98	98
30-34	96	96	96	96	96	96	96	96
35-39	96	96	96	96	96	96	96	96
40-44	94	94	94	94	94	94	94	94
45-49	90	91	91	91	91	91	91	91
50-54	93	93	93	93	93	93	93	93
55-59	93	93	93	93	93	93	93	93
60-64	96	95	95	95	95	95	95	95
65-69	93	95	95	95	95	95	95	95
70-74	92	95	95	95	95	95	95	95
75-79	97	94	95	95	95	95	95	95
80-84	93	94	95	95	95	95	95	95
over 84	80	93	94	95	95	95	95	95

NOTE: The figures are as of July 1, on an "age last birthday" basis.

Table 5b. Projected Female Fully-Insured Population by Age Group: 1980-2050

Age Group	1980	1990	2000	2010	2020	2030	2040	2050
number (in thousands)								
20-24	8,255	7,099	6,792	7,791	7,520	7,823	8,165	8,139
25-29	8,804	9,586	7,925	8,731	9,055	8,792	9,460	9,469
30-34	7,418	9,301	8,223	7,688	8,782	8,487	8,821	9,196
35-39	5,547	8,391	9,248	7,684	8,450	8,758	8,510	9,148
40-44	4,359	7,050	9,165	8,124	7,606	8,676	8,391	8,721
45-49	3,943	5,412	8,179	9,017	7,424	8,164	8,464	8,233
50-54	4,149	4,197	6,869	8,926	7,836	7,349	8,383	8,118
55-59	4,037	3,779	5,257	7,833	8,645	7,137	7,859	8,157
60-64	3,679	3,862	3,975	6,497	8,446	7,350	6,913	7,897
65-69	2,949	3,724	3,451	4,812	7,182	7,856	6,514	7,201
70-74	2,160	3,014	3,274	3,442	5,584	7,295	6,385	6,045
75-79	1,521	2,191	2,827	2,647	3,734	5,625	6,198	5,184
80-84	928	1,454	1,927	2,126	2,280	3,764	4,989	4,434
over 84	657	1,080	1,678	2,288	2,468	3,174	4,990	6,328
total	58,406	70,140	78,790	87,606	95,012	100,250	104,042	106,270
ratio to female population by age group (in percent)								
20-24	77	77	79	79	79	79	79	79
25-29	88	90	91	91	91	91	91	91
30-34	82	85	87	87	87	87	87	87
35-39	75	83	86	87	87	87	87	87
40-44	71	78	84	86	86	86	86	86
45-49	68	74	82	85	85	85	85	85
50-54	68	70	78	84	85	85	85	85
55-59	66	68	75	82	85	85	85	85
60-64	68	68	71	79	85	85	85	85
65-69	62	68	69	76	83	85	85	85
70-74	54	66	68	72	79	85	85	85
75-79	54	61	68	69	76	83	85	85
80-84	47	58	66	68	72	79	85	85
over 84	37	49	58	65	68	73	80	85

NOTE: The figures are as of July 1, on an "age last birthday" basis.

Table 6a. Projected Male Disability-Insured Population by Age Group: 1980-2050

Age Group	1980	1990	2000	2010	2020	2030	2040	2050
number (in thousands)								
under 25	10,836	9,018	8,492	9,755	9,382	9,794	10,208	10,170
25-29	8,901	9,249	7,595	8,442	8,685	8,455	9,105	9,089
30-34	7,915	9,480	8,073	7,685	8,745	8,416	8,791	9,129
35-39	6,475	8,818	9,236	7,629	8,457	8,689	8,469	9,101
40-44	5,242	7,789	9,313	7,950	7,574	8,604	8,286	8,651
45-49	4,766	6,155	8,359	8,754	7,247	8,034	8,257	8,055
50-54	4,898	4,904	7,294	8,723	7,464	7,123	8,093	7,806
55-59	4,838	4,465	5,710	7,761	8,140	6,760	7,509	7,729
60-64	4,603	4,818	4,817	7,116	8,574	7,439	7,038	8,054
total	58,475	64,695	68,891	73,814	74,267	73,313	75,800	77,784
ratio to male fully-insured population by age group (in percent)								
under 25	87.0	87.0	87.0	87.0	87.0	87.0	87.0	87.0
25-29	88.4	88.4	88.4	88.4	88.4	88.4	88.4	88.4
30-34	89.0	89.0	89.0	89.0	89.0	89.0	89.0	89.0
35-39	89.5	89.5	89.5	89.5	89.5	89.5	89.5	89.5
40-44	90.5	90.5	90.5	90.5	90.5	90.5	90.5	90.5
45-49	92.2	92.2	92.2	92.2	92.2	92.2	98.2	92.2
50-54	89.9	90.3	90.5	90.5	90.5	90.5	90.5	90.5
55-59	91.5	91.5	91.5	91.5	91.5	91.5	91.5	91.5
60-64	90.3	90.9	91.1	91.1	91.1	91.1	91.1	91.1

NOTE: The figures are as of July 1, on an "age nearest birthday" basis.

Table 6b. Projected Female Disability-Insured Population by Age Group: 1980-2050

Age Group	1980	1990	2000	2010	2020	2030	2040	2050
number (in thousands)								
under 25	7,938	6,733	6,480	7,447	7,164	7,476	7,793	7,766
25-29	6,162	7,049	5,986	6,652	6,851	6,673	7,181	7,174
30-34	4,231	5,899	5,453	5,184	5,895	5,680	5,936	6,163
35-39	3,207	5,380	6,236	5,196	5,771	5,931	5,786	6,220
40-44	2,790	4,919	6,512	5,690	5,410	6,150	5,930	6,194
45-49	2,766	4,091	6,193	6,702	5,535	6,146	6,320	6,170
50-54	2,980	3,256	5,438	6,963	6,030	5,738	6,522	6,298
55-59	2,922	2,804	4,021	5,914	6,399	5,307	5,897	6,071
60-64	2,884	3,034	3,182	5,167	6,649	5,773	5,477	6,222
total	35,881	43,164	49,502	54,914	55,705	54,875	56,841	58,276
ratio to female fully-insured population by age group (in percent)								
under 25	78.0	78.0	78.0	78.0	78.0	78.0	78.0	78.0
25-29	69.0	74.0	76.0	76.0	76.0	76.0	76.0	76.0
30-34	55.0	62.5	66.5	66.5	66.5	66.5	66.5	66.5
35-39	56.5	63.5	68.0	68.0	68.0	68.0	68.0	68.0
40-44	63.5	68.8	71.0	71.0	71.0	71.0	71.0	71.0
45-49	70.4	74.0	75.0	75.0	75.0	75.0	75.0	75.0
50-54	72.0	76.0	77.5	77.5	77.5	77.5	77.5	77.5
55-59	71.8	73.5	74.0	74.0	74.0	74.0	74.0	74.0
60-64	70.5	71.0	71.0	71.0	71.0	71.0	71.0	71.0

NOTE: The figures are as of July 1, on an "age nearest birthday" basis.

Table 7a. Projected Numbers of Male Retired-Worker Beneficiaries in Current-Payment Status by Age Group: 1980-2050

Age Group	1980	1990	2000	2010	2020	2030	2040	2050
number (in thousands)								
62-64	1,017	1,207	1,194	1,775	2,187	1,909	1,768	2,057
65-69	3,356	3,989	3,714	4,684	6,471	6,733	5,762	6,388
70-74	2,668	3,192	3,407	3,383	5,070	6,198	5,432	5,177
75-79	1,736	2,154	2,533	2,385	3,051	4,263	4,603	3,865
80-84	962	1,252	1,492	1,613	1,630	2,485	3,075	2,733
over 84	613	847	1,120	1,364	1,396	1,678	2,420	2,839
total	10,352	12,641	13,460	15,204	19,805	23,466	23,060	23,059
ratio to male fully-insured population by age group (in percent)								
62-64	39	43	44	44	44	44	44	44
65-69	93	94	94	94	94	94	94	94
70-74	100	100	100	100	100	100	100	100
75-79	100	100	100	100	100	100	100	100
80-84	100	100	100	100	100	100	100	100
over 84	100	100	100	100	100	100	100	100

NOTE: The numbers of beneficiaries are as of June 30, while the fully-insured population is as of July 1. All figures are on an "age last birthday" basis.

Table 7b. Projected Numbers of Female Retired-Worker Beneficiaries in Current-Payment Status by Age Group: 1980-2050

Age Group	1980	1990	2000	2010	2020	2030	2040	2050
number (in thousands)								
62-64	1,053	1,218	1,228	2,005	2,649	2,315	2,135	2,480
65-69	2,625	3,426	3,175	4,427	6,607	7,228	5,993	6,625
70-74	2,160	3,014	3,274	3,442	5,584	7,295	6,385	6,045
75-79	1,521	2,191	2,827	2,647	3,734	5,625	6,198	5,184
80-84	928	1,454	1,927	2,126	2,280	3,764	4,989	4,434
over 84	657	1,080	1,678	2,288	2,468	3,174	4,990	6,328
total	8,944	12,383	14,109	16,935	23,322	29,401	30,690	31,096
ratio to female fully-insured population by age group (in percent)								
62-64	49	53	53	53	53	53	53	53
65-69	89	92	92	92	92	92	92	92
70-74	100	100	100	100	100	100	100	100
75-79	100	100	100	100	100	100	100	100
80-84	100	100	100	100	100	100	100	100
over 84	100	100	100	100	100	100	100	100

NOTE: The numbers of beneficiaries are as of June 30, while the fully-insured population is as of July 1. All figures are on an "age last birthday" basis.

Table 8a. Projected Numbers of Male Disabled-Worker Beneficiaries in Current-Payment Status by Age Group: 1980-2050

Age Group	1980	1990	2000	2010	2020	2030	2040	2050
number (in thousands)								
under 25	37	36	34	40	39	40	42	42
25-29	78	98	86	93	98	95	102	103
30-34	102	161	153	144	163	159	164	171
35-39	115	225	260	221	240	251	244	261
40-44	142	286	390	354	332	375	364	376
45-49	205	333	527	573	481	523	545	531
50-54	325	416	686	861	765	718	809	788
55-59	518	614	847	1,203	1,278	1,071	1,164	1,213
60-64	662	867	959	1,426	1,737	1,538	1,452	1,633
total	2,184	3,036	3,942	4,915	5,133	4,770	4,886	5,118
ratio to male disability-insured population by age group (in percent)								
under 25	0	0	0	0	0	0	0	0
25-29	1	1	1	1	1	1	1	1
30-34	1	2	2	2	2	2	2	2
35-39	2	3	3	3	3	3	3	3
40-44	3	4	4	4	4	4	4	4
45-49	4	5	6	7	7	7	7	7
50-54	7	8	9	10	10	10	10	10
55-59	11	14	15	16	16	16	16	16
60-64	14	18	20	20	20	21	20	20

NOTE: The numbers of beneficiaries are as of June 30, while the disability-insured population is as of July 1. All figures are on an "age nearest birthday" basis.

Table 8b. Projected Numbers of Female Disabled-Worker Beneficiaries in Current-Payment Status by Age Group: 1980-2050

Age Group	1980	1990	2000	2010	2020	2030	2040	2050
number (in thousands)								
under 25	13	13	13	15	15	15	16	16
25-29	31	45	40	44	46	45	48	48
30-34	43	82	83	79	90	87	90	94
35-39	48	120	155	135	147	154	150	160
40-44	61	156	246	234	220	249	242	250
45-49	94	188	345	401	340	370	386	377
50-54	164	240	457	628	573	536	605	589
55-59	273	351	553	873	971	817	887	925
60-64	338	478	581	975	1,276	1,147	1,080	1,215
total	1,065	1,673	2,473	3,384	3,678	3,420	3,504	3,674
ratio to female disability-insured population by age group (in percent)								
under 25	0	0	0	0	0	0	0	0
25-29	1	1	1	1	1	1	1	1
30-34	1	1	2	2	2	2	2	2
35-39	1	2	2	3	3	3	3	3
40-44	2	3	4	4	4	4	4	4
45-49	3	5	6	6	6	6	6	6
50-54	6	7	8	9	10	9	9	9
55-59	9	13	14	15	15	15	15	15
60-64	12	16	18	19	19	20	20	20

NOTE: The numbers of beneficiaries are as of June 30, while the disability-insured population is as of July 1. All figures are on an "age nearest birthday" basis.

Table 9a. Past and Projected Numbers of Beneficiaries in Current-Payment Status Who Are Retired Workers or Dependents of Retired Workers: 1970-2050

(in thousands)

Calendar Year	Retired Worker	Dependents of Retired Worker			Total
		Spouse		Child	
		With Child	Aged		
1970	13,066	166	2,485	535	16,252
1971	13,604	169	2,504	556	16,833
1972	14,181	177	2,529	578	17,465
1973	14,880	185	2,572	602	18,238
1974	15,589	191	2,615	619	19,015
1975	16,210	193	2,643	633	19,679
1976	16,789	200	2,666	674	20,329
1977	17,380	204	2,696	655	20,935
1980	19,296	235	2,819	708	23,058
1985	22,119	198	2,910	750	25,977
1990	25,024	177	2,995	506	28,702
1995	26,682	137	2,978	364	30,161
2000	27,569	156	2,887	380	30,992
2005	29,029	172	2,747	412	32,360
2010	32,139	204	2,772	499	35,614
2015	37,090	241	2,841	600	40,772
2020	43,127	274	2,933	700	47,034
2025	49,063	291	2,996	762	53,112
2030	52,867	289	2,901	762	56,819
2035	54,203	275	2,851	729	58,058
2040	53,750	263	2,677	693	57,383
2045	53,458	265	2,624	698	57,045
2050	54,155	277	2,687	730	57,849

NOTE: The figures are as of June 30.

Table 9b. Past and Projected Numbers of Beneficiaries in Current-Payment Status
Who Are Survivors of Deceased Workers: 1970-2050

(in thousands)

Calendar Year	Spouse			Child	Parent	Total
	With Child	Disabled	Aged			
1970	514	45	3,105	2,673	29	6,367
1971	523	53	3,234	2,745	28	6,582
1972	536	61	3,372	2,847	27	6,843
1973	548	71	3,504	2,887	25	7,036
1974	565	86	3,620	2,908	24	7,203
1975	568	101	3,722	2,905	22	7,319
1976	576	115	3,824	2,876	21	7,411
1977	573	122	3,920	2,859	19	7,493
1980	595	146	4,294	2,791	15	7,841
1985	636	152	4,818	2,593	10	8,209
1990	525	135	4,068	2,414	7	7,149
1995	595	123	3,980	2,486	7	7,191
2000	640	113	3,930	2,613	7	7,303
2005	651	102	3,749	2,656	7	7,165
2010	645	92	3,707	2,641	7	7,092
2015	643	77	3,523	2,626	7	6,876
2020	642	70	3,341	2,660	7	6,720
2025	641	68	3,203	2,718	7	6,637
2030	642	60	3,129	2,755	7	6,593
2035	646	57	3,053	2,771	7	6,534
2040	656	47	2,908	2,776	7	6,394
2045	669	47	2,747	2,813	7	6,283
2050	677	49	2,536	2,860	7	6,129

NOTE: The figures are as of June 30.

Table 9c. Past and Projected Numbers of Beneficiaries in Current-Payment Status Who Are Disabled Workers or Dependents of Disabled Workers: 1970-2050

(in thousands)

Calendar Year	Disabled Worker	Dependents of Disabled Worker			Total
		Spouse		Child	
		With Child	Aged		
1970	1,436	230	40	861	2,568
1971	1,561	252	41	934	2,788
1972	1,737	279	48	1,028	3,091
1973	1,925	311	53	1,127	3,416
1974	2,098	334	57	1,203	3,691
1975	2,363	367	61	1,333	4,125
1976	2,602	399	69	1,462	4,533
1977	2,755	410	71	1,496	4,733
1980	3,249	450	85	1,641	5,425
1985	4,040	482	97	1,737	6,356
1990	4,709	611	123	1,868	7,311
1995	5,465	703	141	1,935	8,244
2000	6,415	804	162	2,058	9,439
2005	7,455	901	185	2,257	10,798
2010	8,299	971	204	2,492	11,966
2015	8,750	990	213	2,700	12,653
2020	8,811	990	213	2,829	12,843
2025	8,523	982	206	2,811	12,522
2030	8,190	970	198	2,692	12,040
2035	8,161	961	198	2,650	11,970
2040	8,390	974	204	2,708	12,276
2045	8,675	999	210	2,819	12,703
2050	8,792	1,015	212	2,873	12,892

NOTE: The figures are as of June 30.

Table 10. Past and Projected Average Annual Benefits Paid to Retired-Worker Beneficiaries and Disabled-Worker Beneficiaries: 1970-2050

Calendar Year	Retired Workers	Disabled Workers
1970	\$ 1,367	\$ 1,540
1971	1,538	1,719
1972	1,653	1,851
1973	1,936	2,156
1974	2,090	2,352
1975	2,288	2,567
1976	2,495	2,809
1977	2,695	3,046
1980	3,385	3,851
1985	4,584	5,147
1990	6,125	6,717
1995	8,147	8,927
2000	10,786	11,959
2005	14,375	15,983
2010	19,143	21,266
2015	25,470	28,235
2020	33,801	37,510
2025	44,750	49,688
2030	59,215	65,721
2035	78,255	86,857
2040	103,572	114,795
2045	136,989	152,072
2050	181,323	201,195

NOTE: The average annual benefits exclude retroactive payments and payments attributable to dual entitlement to a secondary benefit.

Table 11. Projected Number of Beneficiaries Who Are Dually Eligible for Retired-Worker and Spouse or Surviving Spouse Benefits, Percentage Who Are Dually Entitled, and Average Residual Benefit as Percent of Average Full Benefit, by Sex: 1980-2050

Calendar Year	Dual Eligibility to Retired-Worker Benefit and to Spouse Benefit			Dual Eligibility to Retired-Worker Benefit and to Surviving Spouse Benefit		
	Number Dually Eligible (in thousands)	Percentage of Dually Eligible Who Are Dually Entitled	Average Residual Benefit as Percent of Average Full Benefit	Number Dually Eligible (in thousands)	Percentage of Dually Eligible Who Are Dually Entitled	Average Residual Benefit as Percent of Average Full Benefit
male						
1980	9,730	1.0	31.0	170	42.1	42.5
1990	11,101	1.2	33.0	334	43.5	43.5
2000	11,335	1.2	34.0	479	44.4	44.4
2010	13,744	1.2	34.6	547	44.8	44.8
2020	18,961	1.2	35.0	610	45.0	45.0
2030	21,701	1.2	35.0	728	45.0	45.0
2040	20,648	1.2	35.0	831	45.0	45.0
2050	21,710	1.2	35.0	764	45.0	45.0
female						
1980	4,780	17.0	31.0	4,145	42.1	46.5
1990	6,141	18.0	33.0	5,350	43.5	47.5
2000	6,219	19.0	34.0	6,248	44.4	48.5
2010	8,139	19.6	34.6	6,985	44.8	49.4
2020	12,879	20.0	35.0	8,781	45.0	49.8
2030	15,890	20.0	35.0	11,680	45.0	50.0
2040	14,895	20.0	35.0	13,634	45.0	50.0
2050	15,706	20.0	35.0	13,725	45.0	50.0

- NOTES: 1. The number of cases of dual eligibility to retired-worker benefit and parent benefit is negligible.
2. Cases of potential dual eligibility, in which the beneficiary has not actually applied for his or her retired-worker benefit, are not included in this tabulation. There are relatively few such spouses because married couples generally retire concurrently. However, the number of surviving spouses in this category is substantial.
3. The residual benefit is the amount paid in excess of the retired-worker benefit to those persons who are dually eligible.

Table 12a. Past and Projected Benefit Payments to Retired Workers and Dependents of Retired Workers: 1970-2050

(as percent of taxable payroll)

Calendar Year	Retired Worker	Dependents of Retired Worker			Total Monthly Benefits
		Spouse			
		With Child	Aged	Child	
1970	4.56	.02	.48	.08	5.14
1971	5.19	.02	.53	.08	5.83
1972	5.12	.02	.51	.08	5.74
1973	5.37	.03	.52	.08	6.00
1974	5.37	.02	.51	.09	5.99
1975	5.86	.03	.55	.10	6.53
1976	5.97	.03	.54	.10	6.64
1977	6.02	.03	.54	.09	6.68
1980	5.77	.03	.49	.09	6.38
1985	6.03	.02	.47	.07	6.59
1990	6.35	.02	.47	.05	6.88
1995	6.55	.01	.46	.04	7.06
2000	6.51	.01	.43	.04	6.99
2005	6.65	.01	.41	.04	7.11
2010	7.22	.02	.42	.05	7.70
2015	8.29	.02	.44	.06	8.81
2020	9.63	.02	.48	.07	10.20
2025	10.93	.02	.51	.07	11.54
2030	11.67	.02	.50	.07	12.27
2035	11.79	.02	.48	.07	12.36
2040	11.50	.02	.45	.06	12.04
2045	11.29	.02	.44	.06	11.81
2050	11.28	.02	.46	.07	11.82
averages:					
1978-2002	6.25	.02	.46	.06	6.79
2003-2027	8.56	.02	.45	.06	9.09
2028-2052	11.49	.02	.47	.07	12.05
1978-2052	8.77	.02	.46	.06	9.31

NOTE: Taxable payroll is adjusted to take into account the lower tax rates on self-employment income, on tips, and on multiple-employer "excess wages" as compared to the combined employer-employee rate.

Table 12b. Past and Projected Benefit Payments to Survivors of Deceased Workers and Lump-Sum Death Payments: 1970-2050

(as percent of taxable payroll)

Calendar Year	Spouse			Child	Parent	Total Monthly Benefits	Lump-Sum Death Payments
	With Child	Disabled	Aged				
1970	.14	.01	.99	.68	.01	1.84	.07
1971	.15	.02	1.13	.76	.01	2.07	.07
1972	.14	.02	1.11	.73	.01	2.01	.07
1973	.15	.02	1.35	.73	.01	2.26	.06
1974	.14	.02	1.34	.71	.01	2.23	.05
1975	.16	.03	1.45	.75	.01	2.39	.05
1976	.15	.03	1.46	.75	.01	2.40	.05
1977	.15	.03	1.48	.74	.01	2.40	.04
1980	.13	.03	1.42	.63	.00	2.22	.03
1985	.11	.03	1.32	.50	.00	1.96	.02
1990	.10	.02	1.27	.46	.00	1.85	.02
1995	.11	.02	1.25	.46	.00	1.83	.01
2000	.11	.02	1.22	.46	.00	1.81	.01
2005	.11	.02	1.17	.46	.00	1.76	.01
2010	.11	.01	1.16	.45	.00	1.74	.01
2015	.11	.01	1.16	.44	.00	1.72	.01
2020	.11	.01	1.18	.45	.00	1.75	.00
2025	.11	.01	1.22	.46	.00	1.80	.00
2030	.11	.01	1.27	.46	.00	1.85	.00
2035	.11	.01	1.30	.46	.00	1.87	.00
2040	.11	.01	1.29	.45	.00	1.86	.00
2045	.11	.01	1.25	.45	.00	1.82	.00
2050	.11	.01	1.20	.47	.00	1.79	.00
averages:							
1978-2002	.11	.02	1.29	.50	.00	1.93	.02
2003-2027	.11	.01	1.18	.45	.00	1.75	.01
2028-2052	.11	.01	1.26	.46	.00	1.83	.00
1978-2052	.11	.01	1.24	.47	.00	1.84	.01

NOTE: Taxable payroll is adjusted to take into account the lower tax rates on self-employment income, on tips, and on multiple-employer "excess wages" as compared to the combined employer-employee rate.

Table 12c. Past and Projected Benefit Payments to Disabled Workers and Dependents of Disabled Workers: 1970-2050

(as percent of taxable payroll)

Calendar Year	Disabled Worker	Dependents of Disabled Worker			Total Monthly Benefits
		Spouse		Child	
		With Child	Aged		
1970	.61	.03	.01	.11	.76
1971	.73	.04	.01	.13	.91
1972	.77	.04	.01	.13	.95
1973	.86	.05	.01	.14	1.05
1974	.91	.04	.01	.15	1.11
1975	1.06	.05	.01	.17	1.30
1976	1.14	.05	.01	.18	1.38
1977	1.18	.05	.01	.19	1.43
1980	1.19	.05	.01	.18	1.43
1985	1.30	.05	.01	.17	1.53
1990	1.41	.06	.01	.17	1.64
1995	1.57	.06	.01	.17	1.81
2000	1.79	.07	.01	.17	2.04
2005	2.01	.07	.02	.18	2.29
2010	2.19	.08	.02	.20	2.49
2015	2.29	.08	.02	.21	2.60
2020	2.31	.08	.02	.23	2.63
2025	2.23	.08	.02	.22	2.55
2030	2.13	.08	.02	.21	2.44
2035	2.10	.08	.02	.21	2.40
2040	2.13	.08	.02	.21	2.43
2045	2.17	.08	.02	.21	2.48
2050	2.18	.08	.02	.22	2.49
averages:					
1978-2002	1.46	.06	.01	.17	1.70
2003-2027	2.20	.08	.02	.21	2.50
2028-2052	2.14	.08	.02	.21	2.45
1978-2052	1.93	.07	.01	.20	2.22

NOTE: Taxable payroll is adjusted to take into account the lower tax rates on self-employment income, on tips, and on multiple-employer "excess wages" as compared to the combined employer-employee rate.

Table 13. Past and Projected Expenditures of the OASDI System and Comparison with Scheduled Tax Rates: 1970-2050
(as percent of taxable payroll)

Calendar Year	OASI			DI			OASDI		
	Expenditures	Taxes	Balance	Expenditures	Taxes	Balance	Expenditures	Taxes	Balance
1970	7.38	7.30	- .08	.81	1.10	+.29	8.19	8.40	+ .21
1971	8.32	8.10	- .22	.96	1.10	+.14	9.28	9.20	- .08
1972	8.17	8.10	- .07	1.01	1.10	+.09	9.18	9.20	+ .02
1973	8.63	8.60	- .03	1.09	1.10	+.01	9.72	9.70	+ .02
1974	8.59	8.75	+ .16	1.16	1.15	-.01	9.75	9.90	+ .15
1975	9.30	8.75	- .55	1.35	1.15	-.20	10.65	9.90	- .75
1976	9.42	8.75	- .67	1.44	1.15	-.29	10.85	9.90	- .95
1977	9.42	8.75	- .67	1.49	1.15	-.34	10.91	9.90	-1.01
1980	8.86	8.66	- .20	1.48	1.50	+.02	10.34	10.16	- .18
1985	8.75	9.50	+ .75	1.57	1.90	+.33	10.31	11.40	+1.09
1990	8.90	10.20	+1.30	1.67	2.20	+.53	10.58	12.40	+1.82
1995	9.05	10.20	+1.15	1.85	2.20	+.35	10.90	12.40	+1.50
2000	8.94	10.20	+1.26	2.08	2.20	+.12	11.02	12.40	+1.38
2005	8.99	10.20	+1.21	2.33	2.20	-.13	11.32	12.40	+1.08
2010	9.55	10.20	+ .65	2.54	2.20	-.34	12.08	12.40	+ .32
2015	10.64	10.20	- .44	2.66	2.20	-.46	13.30	12.40	- .90
2020	12.06	10.20	-1.86	2.69	2.20	-.49	14.74	12.40	-2.34
2025	13.46	10.20	-3.26	2.61	2.20	-.41	16.06	12.40	-3.66
2030	14.24	10.20	-4.04	2.49	2.20	-.29	16.73	12.40	-4.33
2035	14.36	10.20	-4.16	2.45	2.20	-.25	16.80	12.40	-4.40
2040	14.01	10.20	-3.81	2.48	2.20	-.28	16.49	12.40	-4.09
2045	13.74	10.20	-3.54	2.53	2.20	-.33	16.28	12.40	-3.88
2050	13.72	10.20	-3.52	2.54	2.20	-.34	16.26	12.40	-3.86
averages:									
1978-2002	8.91	9.70	+ .79	1.74	1.97	+.23	10.64	11.67	+1.02
2003-2027	10.96	10.20	- .76	2.56	2.20	-.36	13.51	12.40	-1.11
2028-2052	14.00	10.20	-3.80	2.50	2.20	-.30	16.50	12.40	-4.10
1978-2052	11.29	10.03	-1.26	2.26	2.12	-.14	13.55	12.16	-1.40

- NOTE: 1. Taxable payroll is adjusted to take into account the lower tax rates on self-employment income, on tips, and on multiple-employer "excess wages" as compared to the combined employer-employee rate.
2. The historical figures reflect revisions to payroll estimates done by the Office of Research and Statistics, and hence differ from the figures shown in the 1978 Report of the Board of Trustees.

Table 14. Past and Projected Assets of the OASDI Trust Funds at the Beginning of the Year as Percent of Expenditures During the Year: 1970-2025

Calendar Year	OASI	DI	OASDI
1970	101	126	103
1971	94	140	99
1972	88	140	93
1973	75	125	80
1974	68	110	73
1975	63	92	66
1976	54	71	57
1977	47	48	47
1980	24	25	24
1985	37	57	40
1990	73	135	82
1995	136	242	154
2000	201	274	215
2005	266	247	262
2010	303	188	279
2015	289	112	253
2020	221	27	186
2025	116	a/	87 b/

trust fund is
 projected to be
 exhausted in
 calendar
 year...2029 2021 2028

a/ fund is projected to be exhausted

b/ this figure is theoretical, since the DI trust fund is projected to be exhausted

Table 15. Past and Projected Numbers of OASDI Beneficiaries by Broad Age Group and Ratio to Population by Broad Age Group: 1970-2050

Calendar Year	Number of Beneficiaries (in thousands)			Ratio of Number of Beneficiaries to Population (in percent)		
	Under Age 20	Ages 20-64	Over Age 64	Under Age 20	Ages 20-64	Over Age 64
1970	3,636	4,882	16,668	5	4	81
1971	3,769	5,202	17,232	5	5	82
1972	3,946	5,613	17,840	5	5	83
1973	4,066	6,062	18,562	5	5	84
1974	4,158	6,446	19,305	5	5	86
1975	4,253	6,894	19,976	5	5	86
1976	4,355	7,304	20,614	6	6	87
1977	4,313	7,572	21,275	6	6	88
1980	4,416	8,340	23,568	6	6	92
1985	4,452	9,550	26,540	6	7	94
1990	4,070	10,257	28,835	6	7	94
1995	4,120	10,871	30,605	5	7	94
2000	4,349	12,045	31,340	6	6	95
2005	4,573	13,807	31,943	6	8	95
2010	4,827	15,601	34,244	6	9	95
2015	5,133	16,530	38,638	7	10	95
2020	5,308	17,206	44,083	7	10	95
2025	5,397	16,962	49,912	7	10	95
2030	5,549	15,627	54,276	7	9	95
2035	5,286	15,601	55,675	6	9	96
2040	5,284	15,662	55,107	6	9	96
2045	5,423	16,461	54,147	6	9	96
2050	5,537	16,891	54,442	6	9	96

NOTE: The figures are as of June 30, and exclude certain beneficiaries aged 72 and over, whose entitlement to benefits is based on non-contributory credits. The effect of these beneficiaries on the long-range cost of the System is negligible. Age refers to "age last birthday".

Table 16a. Projected Average Expenditures and Actuarial Balances of the OASDI System Assuming Various Rates of Mortality Improvement

(as percent of taxable payroll)

Calendar Years	Ultimate Percentage Mortality Improvement		
	0	19	35
	average expenditures		
1978-2002	10.51	10.64	10.77
2003-2027	12.85	13.51	14.19
2028-2052	14.95	16.50	18.05
1978-2052	12.77	13.55	14.34
	actuarial balance		
1978-2002	+1.16	+1.02	+ .90
2003-2027	- .45	-1.11	-1.79
2028-2052	-2.55	-4.10	-5.65
1978-2052	- .61	-1.40	-2.18

- NOTES: 1. Taxable payroll is adjusted to take into account the lower tax rates on self-employment income, on tips, and on multiple-employer "excess wages" as compared to the combined employer-employee rate.
2. The rate of mortality improvement is the ratio of the age-adjusted mortality rate in the year 2050 to that in 1977. A rate of improvement of 19 percent is assumed in the intermediate cost projection.

Table 16b. Projected Average Expenditures and Actuarial Balances of the OASDI System Assuming Various Total Fertility Rates

(as percent of taxable payroll)

Calendar Years	Ultimate Total Fertility Rate				
	1.7	1.9	2.1	2.3	2.5
	average expenditures				
1978-2002	10.64	10.64	10.64	10.64	10.65
2003-2027	14.25	13.87	13.51	13.18	12.87
2028-2052	19.59	17.93	16.50	15.28	14.22
1978-2052	14.83	14.15	13.55	13.04	12.58
	actuarial balance				
1978-2002	+1.03	+1.03	+1.02	+1.02	+1.02
2003-2027	-1.85	-1.47	-1.11	- .78	- .47
2028-2052	-7.19	-5.53	-4.10	-2.88	-1.82
1978-2052	-2.67	-1.99	-1.40	- .88	- .42

- NOTES: 1. Taxable payroll is adjusted to take into account the lower tax rates on self-employment income, on tips, and on multiple-employer "excess wages" as compared to the combined employer-employee rate.
2. The total fertility rate is the total number of children expected to be born per woman. A rate of 2.1 is assumed in the intermediate cost projection.

Table 16c. Projected Average Expenditures and Actuarial Balances of the OASDI System Assuming Various Rates of Increase in the Consumer Price Index

(as percent of taxable payroll)

Calendar Years	Ultimate Percentage Increases in Wages - CPI		
	3 3/4 - 2	5 3/4 - 4	7 3/4 - 6
	average expenditures		
1978-2002	10.85	10.64	10.44
2003-2027	13.99	13.51	13.09
2028-2052	17.18	16.50	15.88
1978-2052	14.01	13.55	13.14
	actuarial balance		
1978-2002	+ .81	+1.02	+1.23
2003-2027	-1.59	-1.11	- .69
2028-2052	-4.78	-4.10	-3.48
1978-2052	-1.85	-1.40	- .98

- NOTES: 1. Taxable payroll is adjusted to take into account the lower tax rates on self-employment income, on tips, and on multiple-employer "excess wages" as compared to the combined employer-employee rate.
2. An ultimate rate of increase in the Consumer Price Index of 4 percent is assumed in the intermediate cost projection.

Table 16d. Projected Average Expenditures and Actuarial Balances of the OASDI System Assuming Various Real-Wage Differentials

(as percent of taxable payroll)

Calendar Years	Ultimate Percentage Increases in Wages - CPI		
	5 - 4	5 3/4 - 4	6 1/2 - 4
average expenditures			
1978-2002	11.13	10.64	10.19
2003-2027	14.51	13.51	12.62
2028-2052	17.77	16.50	15.35
1978-2052	14.47	13.55	12.72
actuarial balance			
1978-2002	+ .54	+1.02	+1.48
2003-2027	-2.11	-1.11	- .22
2028-2052	-5.37	-4.10	-2.95
1978-2052	-2.31	-1.40	- .56

- NOTES: 1. Taxable payroll is adjusted to take into account the lower tax rates on self-employment income, on tips, and on multiple-employer "excess wages" as compared to the combined employer-employee rate.
2. An ultimate real-wage differential of 1 3/4 percent is assumed in the intermediate cost projection.

Table 17. Long-Range Actuarial Balance of the OASDI System by Date of Valuation

(as percent of taxable payroll)

Date of Valuation	Act	OASI			DI			OASDI		
		Expenditures	Taxes	Balance	Expenditures	Taxes	Balance	Expenditures	Taxes	Balance
valuation to perpetuity under level assumptions (present value)										
1935	1935	5.36	5.36	.00	--	--	--	--	--	--
1939	1939	5.22	5.30	+ .08	--	--	--	--	--	--
1950	1939 a/	4.45	3.98	- .47	--	--	--	--	--	--
1950	1950	6.20	6.10	- .10	--	--	--	--	--	--
1952	1950	5.49	5.90	+ .41	--	--	--	--	--	--
1952	1952	6.00	5.90	- .10	--	--	--	--	--	--
1954	1952	6.62	6.05	- .57	--	--	--	--	--	--
1954	1954	7.50	7.12	- .38	--	--	--	--	--	--
1956	1954	7.45	7.29	- .16	--	--	--	--	--	--
1956	1956	7.43	7.23	- .20	.42	.49	+ .07	7.85	7.72	- .13
1958	1956	7.90	7.33	- .57	.35	.50	+ .15	8.25	7.83	- .42
1958	1958	8.27	8.02	- .25	.49	.50	+ .01	8.76	8.52	- .24
1960	1958	8.38	8.18	- .20	.35	.50	+ .15	8.73	8.68	- .05
1960	1960	8.42	8.18	- .24	.56	.50	- .06	8.98	8.68	- .30
1961	1961	8.79	8.55	- .24	.56	.50	- .06	9.35	9.05	- .30
1963	1961	8.69	8.52	- .17	.64	.50	- .14	9.33	9.02	- .31
1964	1961	8.72	8.62	- .10	.64	.50	- .14	9.36	9.12	- .24
valuation for 75 years under level assumptions (present value)										
1964	1961	8.46	8.60	+ .14	.63	.50	- .13	9.09	9.10	+ .01
1965	1965	8.82	8.72	- .10	.67	.70	+ .03	9.49	9.42	- .07
1966	1965	7.91	8.80	+ .89	.85	.70	- .15	8.76	9.50	+ .74
1967	1967	8.77	8.78	+ .01	.95	.95	.00	9.72	9.73	+ .01
1968	1967	8.34	8.90	+ .56	.98	.95	- .03	9.32	9.85	+ .53
1969	1967	7.76	8.93	+1.17	.96	.95	- .01	8.72	9.88	+1.16
1969	1969	8.86	8.78	- .08	1.10	1.10	.00	9.96	9.88	- .08
1970	1969	8.55	8.84	+ .29	1.05	1.10	+ .05	9.60	9.94	+ .34
1971	1971	9.13	9.07	- .06	1.14	1.10	- .04	10.27	10.17	- .10
1972	1971	8.98	9.11	+ .13	1.18	1.10	- .08	10.16	10.21	+ .05

(continued next page)

Table 17. Long-Range Actuarial Balance of the OASDI System by Date of Valuation (Continued)

(as percent of taxable payroll)

Date of Valuation	Act	OASI			DI			OASDI		
		Expenditures	Taxes	Balance	Expenditures	Taxes	Balance	Expenditures	Taxes	Balance
valuation for 75 years under dynamic assumptions (average current cost) b/										
1972	1971	7.81	9.19	+1.38	1.15	1.10	- .05	8.96	10.29	+1.33
1972	1971 c/	8.51	8.60	+ .09	1.26	1.24	- .02	9.77	9.84	+ .07
1972	1972	9.32	9.31	- .01	1.31	1.32	+ .01	10.63	10.63	.00
1973	1972	9.41	9.32	- .09	1.54	1.31	- .23	10.95	10.63	- .32
1973	1972 d/	9.81	9.38	- .43	1.58	1.50	- .08	11.39	10.88	- .51
1974	1973	11.97	9.39	-2.58	1.92	1.52	- .40	13.89	10.91	-2.98
1975	1973	13.29	9.41	-3.88	2.97	1.53	-1.44	16.26	10.94	-5.32
valuation for 75 years under dynamic assumptions (average expenditures)										
1976	1973	15.42	9.43	-5.99	3.51	1.54	-1.97	18.93	10.97	-7.96
1977	1973	15.51	9.45	-6.06	3.68	1.54	-2.14	19.19	10.99	-8.20
1977	1977	11.09	10.01	-1.08	2.49	2.11	- .38	13.58	12.12	-1.46
1978	1977	11.29	10.03	-1.26	2.26	2.12	- .14	13.55	12.16	-1.40

a/ as amended in the 1940's

b/ average current cost includes annual expenditures and amounts necessary to build the trust funds to about one year's expenditures

c/ as amended through Public Law 92-336

d/ as amended through Public Law 93-66

NOTE: Taxable payroll is adjusted to take into account the lower tax rates on self-employment income, on tips, and on multiple-employer "excess wages" as compared to the combined employer-employee rate.

Table 18a. Alternate Optimistic Assumptions Used in the Projection of the Long-Range Cost of the OASDI System

Calendar Year	Real Wage Differential	Increase in...			Interest Rate	Total Unemployment Rate	Total Fertility Rate (per thousand)
		Average Annual...		Benefits Due to Automatic Adjustment			
		Wages in Covered Employment	Consumer Price Index				
1978	1.12%	7.24%	6.12%	6.5%	7.375%	6.3%	1,764.6
1979	2.38	8.40	6.02	6.1	7.375	5.9	1,793.8
1980	2.62	8.10	5.48	5.8	7.375	5.3	1,822.9
1981	2.60	7.61	5.01	5.2	7.375	4.9	1,852.1
1982	2.94	7.41	4.47	4.6	7.375	4.3	1,881.2
1983	3.13	7.11	3.98	4.2	7.375	4.0	1,910.4
1984	2.50	6.00	3.50	3.7	6.125	4.2	1,940.0
1985	2.47	5.50	3.03	3.1	5.625	4.5	1,970.5
1986	2.48	5.50	3.02	3.0	5.625	4.5	2,002.5
1987	2.50	5.50	3.00	3.0	5.625	4.5	2,036.0
1988	2.50	5.50	3.00	3.0	5.625	4.5	2,070.2
1989	2.50	5.50	3.00	3.0	5.575	4.5	2,104.3
1990	2.48	5.48	3.00	3.0	5.575	4.5	2,137.3
1991	2.46	5.46	3.00	3.0	5.575	4.5	2,168.3
1992	2.44	5.44	3.00	3.0	5.575	4.5	2,196.3
1993	2.41	5.41	3.00	3.0	5.575	4.5	2,220.7
1994	2.38	5.38	3.00	3.0	5.575	4.5	2,241.1
1995	2.35	5.35	3.00	3.0	5.575	4.5	2,257.6
1996	2.32	5.32	3.00	3.0	5.575	4.5	2,270.6
1997	2.29	5.29	3.00	3.0	5.575	4.5	2,280.5
1998	2.27	5.27	3.00	3.0	5.575	4.5	2,287.8
1999	2.26	5.26	3.00	3.0	5.575	4.5	2,292.8
2000	2.25	5.25	3.00	3.0	5.575	4.5	2,296.1
2001	2.25	5.25	3.00	3.0	5.575	4.5	2,298.0
2002	2.25	5.25	3.00	3.0	5.575	4.5	2,299.1
2003	2.25	5.25	3.00	3.0	5.575	4.5	2,299.6
2004	2.25	5.25	3.00	3.0	5.575	4.5	2,299.9
2005+	2.25	5.25	3.00	3.0	5.575	4.5	2,300.0

- NOTES: 1. The real-wage differential is the difference between the percentage increase in average annual wages in covered employment and the percentage increase in the average annual Consumer Price Index.
2. The percentage increases in benefits due to automatic adjustment are calculated to be consistent with the assumed increases in the Consumer Price Index.
3. The total fertility rate is the total number of children expected to be born per thousand women, throughout their lifetimes.
4. The characterization "optimistic" is relative to the assumptions contained in Table 1a., which are used in the intermediate projection.

Table 18b. Alternate Pessimistic Assumptions Used in the Projection of the Long-Range Cost of the OASDI System

Calendar Year	Real Wage Differential	Increase in...			Interest Rate	Total Unemployment Rate	Total Fertility Rate (per thousand)
		Average Annual...		Benefits Due to Automatic Adjustment			
		Wages in Covered Employment	Consumer Price Index				
1978	1.12%	7.24%	6.12%	6.5%	7.375%	6.3%	1,745.9
1979	1.38	8.18	6.80	6.4	7.375	6.0	1,737.6
1980	.30	7.40	7.10	7.3	7.375	7.0	1,729.2
1981	.99	7.98	6.99	6.8	7.375	7.0	1,720.9
1982	1.85	8.34	6.49	6.8	7.375	6.6	1,712.6
1983	1.98	7.96	5.98	6.2	7.375	6.2	1,704.3
1984	1.54	6.99	5.45	5.7	7.625	5.8	1,696.4
1985	1.48	6.51	5.03	5.1	7.625	5.5	1,689.6
1986	1.50	6.50	5.00	5.0	7.625	5.5	1,684.9
1987	1.51	6.51	5.00	5.0	7.625	5.5	1,682.6
1988	1.50	6.50	5.00	5.0	7.625	5.5	1,682.7
1989	1.50	6.50	5.00	5.0	7.625	5.5	1,684.9
1990	1.48	6.48	5.00	5.0	7.625	5.5	1,688.6
1991	1.46	6.46	5.00	5.0	7.625	5.5	1,693.0
1992	1.44	6.44	5.00	5.0	7.625	5.5	1,697.3
1993	1.41	6.41	5.00	5.0	7.625	5.5	1,701.0
1994	1.38	6.38	5.00	5.0	7.625	5.5	1,703.9
1995	1.35	6.35	5.00	5.0	7.625	5.5	1,705.8
1996	1.32	6.32	5.00	5.0	7.625	5.5	1,706.9
1997	1.29	6.29	5.00	5.0	7.625	5.5	1,707.3
1998	1.27	6.27	5.00	5.0	7.625	5.5	1,707.1
1999	1.26	6.26	5.00	5.0	7.625	5.5	1,706.5
2000	1.25	6.25	5.00	5.0	7.625	5.5	1,705.4
2001	1.25	6.25	5.00	5.0	7.625	5.5	1,704.1
2002	1.25	6.25	5.00	5.0	7.625	5.5	1,702.8
2003	1.25	6.25	5.00	5.0	7.625	5.5	1,701.6
2004	1.25	6.25	5.00	5.0	7.625	5.5	1,700.5
2005+	1.25	6.25	5.00	5.0	7.625	5.5	1,700.0

- NOTES: 1. The real-wage differential is the difference between the percentage increase in average annual wages in covered employment and the percentage increase in the average annual Consumer Price Index.
2. The percentage increases in benefits due to automatic adjustment are calculated to be consistent with the assumed increases in the Consumer Price Index.
3. The total fertility rate is the total number of children expected to be born per thousand women, throughout their lifetimes.
4. The characterization "pessimistic" is relative to the assumptions contained in Table 1a., which are used in the intermediate projection.

Table 19a. Past and Projected Expenditures of the OASDI System under Alternative Optimistic Assumptions and Comparison with Scheduled Tax Rates: 1970-2050

(as percent of taxable payroll)

Calendar Year	OASI			DI			OASDI		
	Expenditures	Taxes	Balance	Expenditures	Taxes	Balance	Expenditures	Taxes	Balance
1970	7.38	7.30	- .08	.81	1.10	+.29	8.19	8.40	+ .21
1971	8.32	8.10	- .22	.96	1.10	+.14	9.28	9.20	- .08
1972	8.17	8.10	- .07	1.01	1.10	+.09	9.18	9.20	+ .02
1973	8.63	8.60	- .03	1.09	1.10	+.01	9.72	9.70	+ .02
1974	8.59	8.75	+ .16	1.16	1.15	-.01	9.75	9.90	+ .15
1975	9.30	8.75	- .55	1.35	1.15	-.20	10.65	9.90	- .75
1976	9.42	8.75	- .67	1.44	1.15	-.29	10.85	9.90	- .95
1977	9.42	8.75	- .67	1.49	1.15	-.34	10.91	9.90	-1.01
1980	8.79	8.66	- .13	1.47	1.50	+.03	10.26	10.16	- .10
1985	8.46	9.50	+1.04	1.52	1.90	+.38	9.98	11.40	+1.42
1990	8.55	10.20	+1.65	1.62	2.20	+.58	10.17	12.40	+2.23
1995	8.71	10.20	+1.49	1.80	2.20	+.40	10.51	12.40	+1.89
2000	8.58	10.20	+1.62	2.03	2.20	+.17	10.61	12.40	+1.79
2005	8.59	10.20	+1.61	2.26	2.20	-.06	10.85	12.40	+1.55
2010	9.05	10.20	+1.15	2.45	2.20	-.25	11.50	12.40	+ .90
2015	9.99	10.20	+ .21	2.55	2.20	-.35	12.54	12.40	- .14
2020	11.22	10.20	-1.02	2.57	2.20	-.37	13.79	12.40	-1.39
2025	12.38	10.20	-2.18	2.48	2.20	-.28	14.85	12.40	-2.45
2030	12.94	10.20	-2.74	2.35	2.20	-.15	15.29	12.40	-2.89
2035	12.85	10.20	-2.65	2.31	2.20	-.11	15.16	12.40	-2.76
2040	12.37	10.20	-2.17	2.34	2.20	-.14	14.71	12.40	-2.31
2045	11.99	10.20	-1.79	2.40	2.20	-.20	14.39	12.40	-1.99
2050	11.92	10.20	-1.72	2.41	2.20	-.21	14.33	12.40	-1.93
averages:									
1978-2002	8.63	9.70	+1.07	1.69	1.97	+.28	10.32	11.67	+1.35
2003-2027	10.26	10.20	- .06	2.45	2.20	-.25	12.72	12.40	- .32
2028-2052	12.40	10.20	-2.20	2.36	2.20	-.16	14.76	12.40	-2.36
1978-2052	10.43	10.03	- .40	2.17	2.12	-.05	12.60	12.16	- .44

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- NOTES: 1. Taxable payroll is adjusted to take into account the lower tax rates on self-employment income, on tips, and on multiple-employer "excess wages" as compared to the combined employer-employee rate.
2. The historical figures reflect revisions to payroll estimates done by the Office of Research and Statistics, and hence differ from the figures shown in the 1978 Report of the Board of Trustees.
3. The characterization "optimistic" is relative to the assumptions contained in Table 1a., which are used in the intermediate projection.

Table 19b. Past and Projected Expenditures of the OASDI System under Alternative Pessimistic Assumptions and Comparison with Scheduled Tax Rates: 1970-2050

(as percent of taxable payroll)

Calendar Year	OASI			DI			OASDI		
	Expenditures	Taxes	Balance	Expenditures	Taxes	Balance	Expenditures	Taxes	Balance
1970	7.38	7.30	- .08	.81	1.10	+.29	8.19	8.40	+ .21
1971	8.32	8.10	- .22	.96	1.10	+.14	9.28	9.20	- .08
1972	8.17	8.10	- .07	1.01	1.10	+.09	9.18	9.20	+ .02
1973	8.63	8.60	- .03	1.09	1.10	+.01	9.72	9.70	+ .02
1974	8.59	8.75	+ .16	1.16	1.15	-.01	9.75	9.90	+ .15
1975	9.30	8.75	- .55	1.35	1.15	-.20	10.65	9.90	- .75
1976	9.42	8.75	- .67	1.44	1.15	-.29	10.85	9.90	- .95
1977	9.42	8.75	- .67	1.49	1.15	-.34	10.91	9.90	-1.01
1980	9.15	8.66	- .49	1.54	1.50	-.04	10.69	10.16	- .53
1985	9.19	9.50	+ .31	1.62	1.90	+.28	10.82	11.40	+ .58
1990	9.30	10.20	+ .90	1.73	2.20	+.47	11.03	12.40	+1.37
1995	9.41	10.20	+ .79	1.90	2.20	+.30	11.31	12.40	+1.09
2000	9.32	10.20	+ .88	2.14	2.20	+.06	11.46	12.40	+ .94
2005	9.46	10.20	+ .74	2.42	2.20	-.22	11.88	12.40	+ .52
2010	10.22	10.20	- .02	2.66	2.20	-.46	12.88	12.40	- .48
2015	11.61	10.20	-1.41	2.82	2.20	-.62	14.43	12.40	-2.03
2020	13.45	10.20	-3.25	2.89	2.20	-.69	16.34	12.40	-3.94
2025	15.38	10.20	-5.18	2.84	2.20	-.64	18.22	12.40	-5.82
2030	16.79	10.20	-6.59	2.75	2.20	-.55	19.54	12.40	-7.14
2035	17.50	10.20	-7.30	2.73	2.20	-.53	20.22	12.40	-7.82
2040	17.67	10.20	-7.47	2.76	2.20	-.56	20.42	12.40	-8.02
2045	17.81	10.20	-7.61	2.79	2.20	-.59	20.61	12.40	-8.21
2050	18.05	10.20	-7.85	2.79	2.20	-.59	20.84	12.40	-8.44
averages:									
1978-2002	9.29	9.70	+ .40	1.79	1.97	+.18	11.08	11.67	+ .58
2003-2027	12.05	10.20	-1.85	2.72	2.20	-.52	14.77	12.40	-2.37
2028-2052	17.53	10.20	-7.33	2.76	2.20	-.56	20.30	12.40	-7.90
1978-2052	12.96	10.03	-2.93	2.42	2.12	-.30	15.38	12.16	-3.23

- NOTES: 1. Taxable payroll is adjusted to take into account the lower tax rates on self-employment income, on tips, and on multiple-employer "excess wages" as compared to the combined employer-employee rate.
2. The historical figures reflect revisions to payroll estimates done by the Office of Research and Statistics, and hence differ from the figures shown in the 1978 Report of the Board of Trustees.
3. The characterization "pessimistic" is relative to the assumptions contained in Table 1a., which are used in the intermediate projection.

Table 20a. Past and Projected Assets of the OASDI Trust Funds at the Beginning of the Year as Percent of Expenditures During the Year under Alternative Optimistic Assumptions: 1970-2035

Calendar Year	OASI	DI	OASDI
1970	101	126	103
1971	94	140	99
1972	88	140	93
1973	75	125	80
1974	68	110	73
1975	63	92	66
1976	54	71	57
1977	47	48	47
1980	24	25	24
1985	47	68	50
1990	104	162	113
1995	186	279	202
2000	269	313	277
2005	350	287	337
2010	400	232	364
2015	396	166	350
2020	340	96	295
2025	249	33	213
2030	145	a/	120 b/
2035	41	a/	28 b/

trust fund is

projected to be
exhausted in
calendar

year...2037 2028 2036

a/ fund is projected to be exhausted

b/ this figure is theoretical, since the DI trust fund is projected to be exhausted

- NOTE: 1. The characterization "optimistic" is relative to the assumptions contained in Table 1a., which are used in the intermediate projection.
2. The figures are based on the same real interest rate as in the intermediate set of assumptions. They differ from the corresponding figures in the 1978 Report of the Board of Trustees, which are based on the same nominal interest rate (rather than the same real interest rate).

Table 21. Projected Average Expenditures and Actuarial Balances of the OASDI System under Alternative Assumptions

(as percent of taxable payroll)

Calendar Years	Assumptions that are...		
	Optimistic	Intermediate	Pessimistic
average expenditures			
1978-2002	10.32	10.64	11.08
2003-2027	12.72	13.51	14.77
2028-2052	14.76	16.50	20.30
1978-2052	12.60	13.55	15.38
actuarial balance			
1978-2002	+1.35	+1.02	+ .58
2003-2027	- .32	-1.11	-2.37
2028-2052	-2.36	-4.10	-7.90
1978-2052	- .44	-1.40	-3.23

- NOTES: 1. Taxable payroll is adjusted to take into account the lower tax rates on self-employment income, on tips, and on multiple-employer "excess wages" as compared to the combined employer-employee rate.
2. The characterizations "optimistic" and "pessimistic" are relative to the assumptions which are used in the intermediate projection.