

F. ACTUARIAL ESTIMATES

Section 201(c)(2) of the Social Security Act requires the Board of Trustees to report annually to the Congress on the operations and status of the OASI and DI Trust Funds during the preceding fiscal year and on the expected operations and status of those trust funds during the ensuing 5 fiscal years. Section 201(c) of the Act also requires that the annual report include "a statement of the actuarial status of the Trust Funds."

The required information for the fiscal year that ended September 30, 1993, is presented in section II.C of this report. Estimates of the operations and status of the trust funds during fiscal years 1994-2003 are presented in this section. In addition, similar estimates for calendar years 1994-2003 are presented. A description of the actuarial status of the trust funds over the next 75 years, including long-range estimates of program income and program costs over that period, is also included in this section. The methods used to estimate the short-range operations of the trust funds and the long-range actuarial status are described in section II.H.

A number of different measures are useful in evaluating the financial status of the trust funds over the next 75 years. In addition to actuarial balance, and summarized income and cost rates, which are described in detail below, these measures include (1) the levels of future annual income and outgo, both in terms of dollars and relative to annual taxable earnings or payroll, including the pattern and ultimate values of such levels; (2) the annual differences between income and outgo, i.e., the annual balances, in dollars and relative to taxable payroll; (3) the size of future fund accumulations, in dollars and relative to future annual expenditures; and (4) the year in which trust fund exhaustion is estimated to occur. Estimates of all these indicators are presented in this section or in the appendices of this report. However, more attention is focused on certain elements of these measures, as described below.

In the short range, the adequacy of the trust fund level is generally measured by the "trust fund ratio," which is defined to be the assets at the beginning of the year expressed as a percentage of the outgo during the year. (For the years 1984-90, the assets at the beginning of the year also included advance tax transfers for the month of January. Assets at the beginning of subsequent years include ad-

Actuarial Analysis

vance tax transfers only if such transfers are needed to enable the timely payment of benefits.) The trust fund ratio represents the proportion of a year's outgo which can be paid with the funds available at the beginning of the year. During periods when trust fund disbursements exceed income, as might happen during an economic recession, trust fund assets are used to meet the shortfall. In the event of recurring shortfalls for an extended period, the trust funds can allow sufficient time for the development, enactment, and implementation of legislation to restore financial stability to the program.

The test of financial adequacy over the short-range projection period (the next 10 years), is applicable to each of the OASI and DI Trust Funds, separately, as well as to the combined funds. The requirements of this test are as follows: If the estimated trust fund ratio for a fund is at least 100 percent at the beginning of the projection period, then it must be projected to remain at or above 100 percent throughout the 10-year projection period. Alternatively, if the ratio is initially less than 100 percent, then it must be projected to reach a level of at least 100 percent by the beginning of the sixth year and to remain at or above 100 percent throughout the remainder of the 10-year period. In addition, the fund's estimated assets at the beginning of each month of the 10-year period must be sufficient to cover that month's disbursements. This test is applied on the basis of the intermediate (alternative II) estimates. Failure to meet this test by either trust fund is an indication that solvency of the program over the next 10 years is in question and that Congressional action is needed to improve the short-range financial adequacy of the program.

Basic to the discussion of the long-range actuarial status are the concepts of "income rate" and "cost rate," each of which is expressed as a percentage of taxable payroll. The annual income rate is the ratio of income from revenues (payroll tax contributions and income from the taxation of benefits) to the OASDI taxable payroll for the year. The OASDI taxable payroll consists of the total earnings which are subject to OASDI taxes, with some relatively small adjustments.¹ Because the taxable payroll reflects these adjustments, the annual income rate can be defined to be the sum of the OASDI combined employee-employer contribution rate (or the payroll-tax rate) scheduled in the law and the rate of income from taxation of benefits

¹ Adjustments are made to include, after 1982, deemed wage credits based on military service, and to reflect the lower effective tax rates (as compared to the combined employee-employer rate) which apply to multiple-employer "excess wages," and which did apply, before 1984, to net earnings from self-employment and, before 1988, to income from tips.

(which is, in turn, expressed as a percentage of taxable payroll). As such, it excludes reimbursements from the general fund of the Treasury for the costs associated with special monthly payments to certain uninsured persons who attained age 72 before 1968 and who have fewer than 3 quarters of coverage, transfers under the interfund borrowing provisions, and net investment income.

The annual cost rate is the ratio of the cost (or outgo, expenditures, or disbursements) of the program to the taxable payroll for the year. In this context, the outgo is defined to include benefit payments, special monthly payments to certain uninsured persons who have 3 or more quarters of coverage (and whose payments are therefore not reimbursable from the general fund of the Treasury), administrative expenses, net transfers from the trust funds to the Railroad Retirement program under the financial-interchange provisions, and payments for vocational rehabilitation services for disabled beneficiaries; it excludes special monthly payments to certain uninsured persons whose payments are reimbursable from the general fund of the Treasury (as described above), and transfers under the interfund borrowing provisions. For any year, the income rate minus the cost rate is referred to as the "balance" for the year. (In this context, the term "balance" does not represent the assets of the trust funds, which are sometimes referred to as the "balance" in the trust funds.)

The long-range actuarial status of the trust funds has generally been summarized by the calculation of the "actuarial balance." The actuarial balance for a specified valuation period is defined as the difference between the summarized income rate and the summarized cost rate over that period. The summarized income rate over a period of years is equal to the ratio of (a) the sum of the trust fund balance at the beginning of the period plus the present value of the total income (excluding interest earnings) during the period, to (b) the present value of the taxable payroll for the years in the period. The summarized cost rate is equal to the ratio of (a) the sum of the present value of the outgo during the period plus the present value of a targeted trust fund level at the end of the period equal to the following year's outgo to (b) the present value of the taxable payroll for the years in the period. A targeted ending trust fund level of 1 year's expenditures is considered to be an adequate reserve for unforeseen contingencies; thus, in addition to the total outgo during the projection period, the summarized cost rate includes the cost of

Actuarial Analysis

reaching and maintaining a target trust fund ratio of 100 percent through the end of the projection period.

The present-value calculations take account of the effect of interest on future income and outgo. In calculating the present value of future income, for example, the income in each year of the projection period is discounted to the beginning of the period using the interest rate assumed for calculating the interest earnings of the trust funds during the period. Thus, the calculations of the summarized income and cost rates are consistent with the estimates of trust fund operations over the projection period.

If the program is in exact actuarial balance for a particular period (that is, if the actuarial balance is zero), then the present value of estimated future income for all years in the period, plus the beginning trust fund balance, is exactly equal to the present value of estimated future expenditures for all years in the period, plus the present value of targeted trust fund assets at the end of the period in the amount of the next year's estimated outgo. A negative actuarial balance indicates that future estimated income and the beginning trust fund balance together are not sufficient to accumulate to the level of the targeted assets while also covering all estimated expenditures in the period. A positive actuarial balance indicates that in addition to covering all estimated expenditures in the period, the estimated ending trust fund assets are more than the targeted level.

The size of the actuarial balance represents a measure of the program's financial adequacy for the period in question. The actuarial balance can be interpreted as that amount which, if added to the combined employee-employer contribution rate scheduled under present law for each of the next 75 years, would bring the program into exact actuarial balance. Of course, there are any number of different ways to increase taxes or to reduce expenditures, as well as different combinations of such changes, that would have an equivalent effect on the actuarial balance. Any one of these different sets of changes would, therefore, bring the program into exact actuarial balance.

The long-range test of close actuarial balance applies to a set of valuation periods beginning with the first 10 years and continuing through the first 11 years, the first 12 years, etc., up to and including the full 75-year projection period. Under the long-range test, sum-

marized income rates and cost rates are calculated for each of the 66 valuation periods in the full 75-year long-range projection period, with the first of these periods consisting of the next 10 years. Each succeeding period becomes longer by 1 year, culminating with the period consisting of the next 75 years. The long-range test is met if, for each of the 66 time periods, the actuarial balance is not less than zero or is negative by, at most, a specified percentage of the summarized cost rate for the same time period. The percentage allowed for a negative actuarial balance is 5 percent for the full 75-year period. For shorter periods, the allowable percentage begins with zero for the first 10 years and increases uniformly for longer periods, until it reaches the maximum percentage of 5 percent allowed for the 75-year period. The criterion for meeting the test is less stringent for the longer periods in recognition of the greater uncertainty associated with estimates for more distant years.

When a negative actuarial balance in excess of the allowable percentage of the summarized cost rate is projected for one or more of the 66 separate valuation periods, the program fails the long-range test of close actuarial balance. Being out of close actuarial balance indicates that the program is expected to experience financial problems in the future and that ways of improving the financial status of the program should be considered. The sooner the actuarial balance is less than the minimum allowable balance, expressed as a percentage of the summarized cost rate, the more urgent is the need for corrective action. However, it is recognized that necessary changes in program financing or benefit provisions should not be put off until the last possible moment if future beneficiaries and workers are to be able to effectively plan for their retirement.

It was noted earlier in this section that in addition to the measures used in the tests of the overall financial condition of the program, other financial measures are also presented in this report. All of these measures are important factors in arriving at a full understanding of the financial position of the OASDI program.

1. Operations and Status of the Trust Funds During the Period October 1, 1993, to December 31, 2003

This subsection presents estimates of the operations and financial status of the OASI and DI Trust Funds for the period October 1, 1993, to December 31, 2003, based on the assumptions described in the preceding two sections. No changes are assumed to occur in the present statutory provisions and regulations under which the OASDI program operates.¹

These estimates indicate that the assets of the OASI Trust Fund would continue to increase rapidly throughout the next 10 years under each of the three sets of assumptions shown. In contrast, the estimates indicate that the assets of the DI Trust Fund would be depleted in 1995 in the absence of corrective legislation. Under the intermediate assumptions, DI assets would become insufficient to permit the timely payment of benefits by the middle of 1995. Based on the high cost assumptions, exhaustion would occur early in 1995 while under the low cost assumptions it would occur late in the same year.

As will be shown later in this subsection, the OASI Trust Fund meets the requirements of the Trustees' test of short-range financial adequacy, but the DI Trust Fund fails to do so. The OASI and DI Trust Funds, if combined, would pass the test. The imminent depletion of the DI Trust Fund is a clear indication that the financial position of the DI program must be strengthened in the immediate future. Further delay in addressing this issue, which was called for by the Board of Trustees in 1992 and 1993, imposes severe risks to the continued operation of the Disability Insurance program.

¹ The estimates shown in this subsection reflect 12 months of benefit payments in each year of the short-range projection period. In practice, 13 benefit payments can be made in certain years, with the next year having only 11 payments. This situation can result from the statutory requirement that benefit checks be delivered early when the normal check delivery date is a Saturday, Sunday, or legal public holiday. For example, the benefit checks for December 1992 would normally have been delivered on January 3, 1993; however, because that day was a Sunday, and the two preceding days a Saturday and a holiday, the checks were actually delivered on December 31, 1992. The annual benefit figures are shown as if those benefit checks were delivered on the usual date.

a. OASI Trust Fund Operations

Estimates of the operations and status of the OASI Trust Fund during calendar years 1994-2003 are shown in table II.F1 based on each of the three alternative sets of assumptions. Actual operations for calendar year 1993 are also shown in the table.

The increases in estimated income shown in table II.F1 under each set of assumptions reflect increases in estimated taxable earnings and growth in interest earnings on the invested assets of the trust fund. For each alternative, employment and earnings are assumed to increase in every year through the year 2003 (with the exception that employment is estimated to decline temporarily during the economic recessions assumed under alternative III). The number of persons with taxable earnings would increase on the basis of alternatives I, II, and III from 135 million during calendar year 1993 to about 155 million, 150 million, and 146 million, respectively, in 2003. The total annual amount of taxable earnings is projected to increase from \$2,657 billion in 1993 to \$4,758 billion, \$4,502 billion, and \$4,511 billion, in 2003, on the basis of alternatives I, II, and III, respectively. (In 1993 dollars—taking account of assumed increases in the CPI from 1993 to 2003 under each alternative—the estimated amounts of taxable earnings in 2003 are \$3,557 billion, \$3,167 billion, and \$2,783 billion, respectively.) These increases in taxable earnings are due primarily to (1) projected increases in employment levels and average earnings in covered employment, (2) increases in the contribution and benefit base in 1994-2003 under the automatic adjustment provisions, and (3) various provisions enacted in 1983-90, including extensions of coverage to additional categories of workers.

Growth in interest earnings represents a significant component of the overall increase in trust fund income during this period. Although interest rates payable on trust fund investments are not assumed to change substantially from current levels, the continuing rapid increase in OASI assets will result in a corresponding increase in interest income. By the year 2003, interest income to the OASI Trust Fund is projected to range from 12 to 15 percent of total trust fund income (depending on alternative), as compared to 8 percent in 1993.

**TABLE II.F1.—ESTIMATED OPERATIONS OF THE OASI TRUST FUND
BY ALTERNATIVE, CALENDAR YEARS 1993-2003**

[Amounts in billions]

Calendar year	Income	Expenditures	Net increase in fund	Fund at end of year	Trust fund	
					Amount ¹	Ratio ²
1993 ³	\$323.3	\$273.1	\$50.2	\$369.3	\$319.1	117
Intermediate:						
1994	343.7	285.7	58.0	427.3	369.3	129
1995	366.6	299.4	67.2	494.5	427.3	143
1996	388.9	314.2	74.8	569.3	494.5	157
1997	411.7	329.7	82.0	651.2	569.3	173
1998	435.5	345.9	89.7	740.9	651.2	188
1999	461.8	363.5	98.3	839.2	740.9	204
2000	482.8	382.8	100.1	939.3	839.2	219
2001	512.7	403.9	108.9	1,048.1	939.3	233
2002	544.9	426.5	118.3	1,166.5	1,048.1	246
2003	579.8	450.5	129.3	1,295.8	1,166.5	259
Low Cost:						
1994	346.4	285.2	61.2	430.5	369.3	129
1995	372.7	297.9	74.8	505.3	430.5	145
1996	400.0	310.9	89.1	594.4	505.3	163
1997	427.8	325.2	102.6	697.1	594.4	183
1998	457.5	339.7	117.7	814.8	697.1	205
1999	489.0	354.9	134.0	948.8	814.8	230
2000	514.0	371.0	143.0	1,091.9	948.8	256
2001	548.1	387.9	160.2	1,252.1	1,091.9	281
2002	584.0	405.7	178.3	1,430.4	1,252.1	309
2003	622.8	424.5	198.3	1,628.7	1,430.4	337
High Cost:						
1994	342.4	286.1	56.3	425.6	369.3	129
1995	360.6	302.8	57.8	483.5	425.6	141
1996	382.6	320.0	62.7	546.1	483.5	151
1997	411.2	343.9	67.3	613.4	546.1	159
1998	429.8	372.0	57.8	671.2	613.4	165
1999	454.7	395.7	58.9	730.2	671.2	170
2000	478.1	421.9	56.2	786.3	730.2	173
2001	508.0	449.6	58.4	844.8	786.3	175
2002	538.3	479.0	59.3	904.1	844.8	176
2003	570.2	510.1	60.1	964.2	904.1	177

¹Represents assets at beginning of year.

²Represents amounts shown in preceding column as a percentage of expenditures during the year. See text concerning interpretation of these ratios.

³Figures for 1993 represent actual experience.

Note: Totals do not necessarily equal the sums of rounded components.

Rising expenditures during 1994-2003 reflect automatic benefit increases as well as the upward trend in the numbers of beneficiaries and in the average monthly earnings underlying benefits payable by the program. The growth in the number of beneficiaries in the past and the expected growth in the future result both from the increase in the aged population and from the increase in the proportion of the population which is eligible for benefits. The latter increase is primarily due to various amendments enacted after 1950 which mod-

ified eligibility provisions and extended coverage to additional categories of employment.

Growth has also occurred, and will continue to occur, in the proportion of eligible persons who, in fact, receive benefits. This growth is due to several factors, among which are (1) the amendments enacted since 1950 which affect the conditions governing the receipt of benefits and (2) the increasing percentage of eligible persons who are aged 70 and over and who therefore may receive benefits regardless of earnings.

The estimates shown in table II.F1 indicate that income to the OASI Trust Fund would substantially exceed expenditures in every year of the short-range projection period, under each of the three sets of assumptions used in this report. The assets of the OASI Trust Fund at the beginning of 1993 were equal to 117 percent of the fund's expenditures in 1993. As described in the introduction to this section, this ratio is known as the "trust fund ratio;" it provides a useful measure of the relative level of trust fund assets. During 1993, income exceeded disbursements by \$50.2 billion. As a result, the trust fund ratio increased to about 129 percent at the beginning of 1994.

Assets are estimated to increase substantially in each year of the short-range projection period, based on each of the three alternative sets of assumptions. The increase in the trust fund ratio from 129 percent at the beginning of 1994 to the range of 177-337 percent at the beginning of the year 2003 is due, in part, to the increases in the OASI tax rate that became effective in 1988 and 1990. Asset growth is also assisted by the increases in taxable earnings during 1982-88 and 1992 that exceeded the rate of growth in benefit payments and the expected continuation of this experience in 1995 and later (except for certain years under alternative III).

As noted in section II.B, the portion of the OASI Trust Fund that is not needed to meet day-to-day expenditures is used to purchase investments, generally in special public-debt obligations of the U.S. Government. The cash used to make these purchases becomes part of the general fund of the Treasury and is used to meet various Federal outlays. Interest is paid to the trust fund on these securities and, when the securities mature or are redeemed prior to maturity, general fund revenues are used to repay the principal to the trust fund. Thus, the investment operations of the trust fund result in

Actuarial Analysis

various cash flows between the trust fund and the general fund of the Treasury.

Currently, the excess of tax income to the OASI Trust Fund over the fund's expenditures results in a substantial net cash flow from the trust fund to the general fund. Sometime after the turn of the century, as shown in the following subsection, this cash flow will reverse; as trust fund securities are redeemed to meet benefit payments and other expenditures, revenue from the general fund of the Treasury will be drawn upon to provide the necessary cash. The accumulation and subsequent redemption of substantial trust fund assets has important public policy and economic implications that extend well beyond the operation of the OASDI program itself. Discussion of these broader issues is not within the scope of this report.

Based on the intermediate (alternative II) assumptions, the assets of the OASI Trust Fund would continue to exceed 100 percent of annual expenditures by a steadily increasing amount through the end of the year 2003. Consequently, the OASI Trust Fund satisfies the test of short-range financial adequacy by a wide margin. The estimates in table II.F1 also indicate that the short-range test would be satisfied even under the high cost assumptions.

In interpreting the trust fund ratios in table II.F1, it should be noted that at the beginning of any month there must be sufficient assets on hand to meet the benefit payments that are payable at the beginning of that month. The specific minimum amount of assets required for this purpose depends on a number of factors and varies somewhat from month to month. Assets of roughly 8 to 9 percent of annual expenditures are normally sufficient for this purpose. If the assets of either the OASI or DI Trust Fund at the end of a month fall below the minimum amount needed to meet the benefits payable at the beginning of the next month, section 201(a) of the Social Security Act provides for an advance transfer to the trust fund of all the taxes that are expected to be received by the fund in the next month. Thus, the difference between (1) the sum of the estimated trust fund ratios shown in table II.F1 and the advance tax transfers for January expressed as a percentage of total expenditures in the

year and (2) the minimum required level of about 8-9 percent, represents the reserve available to handle adverse contingencies.

b. DI Trust Fund Operations

The estimated operations and financial status of the DI Trust Fund during calendar years 1994-2003 under the three sets of assumptions are shown in table II.F2, together with figures on actual experience in 1993. Income is generally projected to increase steadily under each alternative, reflecting most of the same factors described previously in connection with the OASI Trust Fund. Because of the low level of DI assets, however, interest income is not currently a significant component in the growth in overall income to the DI Trust Fund.

Expenditures are estimated to increase because of automatic benefit increases and projected increases in the amounts of average monthly earnings on which benefits are based. In addition, on the basis of all three sets of assumptions, the number of DI beneficiaries is projected to continue increasing throughout the short-range projection period. The projected growth in the number of DI beneficiaries is attributable to several factors, including (1) gradual increases in the number of persons estimated to be insured for disability benefits and (2) an assumption that the number of insured workers who apply for and are awarded disability benefits will continue to substantially exceed the number of disabled worker beneficiaries whose benefits terminate each year as a result of death, recovery, or attainment of normal retirement age.

The proportion of insured workers who apply for and are awarded disability benefits in a given year is referred to as the "disability incidence rate." This rate has fluctuated substantially in past years and the causes for the variation have not been precisely determined. Incidence rates increased during 1970-75, declined during 1976-82, increased again during 1983-85, and remained steady in 1986-89. During 1990-92 the incidence rate resumed increasing, with unusually rapid increases (on a relative basis) of 8, 12, and 17 percent in those 3 years. In 1993, the observed incidence rate declined slightly. The backlog of pending disability applications awaiting final adjudication increased substantially, however, indicating that there was

Actuarial Analysis

a delay in awards from 1993 to later years, rather than a true decrease.

The rapid increases in disability benefit applications and awards during 1990-93 are thought to be attributable, in part, to the rise in unemployment associated with the 1990-91 economic recession (although the evidence is somewhat inconclusive). Other explanatory factors may include changes to the conditions governing receipt of disability benefits, as introduced through recent legislation, regulations, and court decisions, and increased awareness of the DI program by the public.

These and other factors were discussed at some length in a report entitled "The Social Security Disability Insurance Program: An Analysis" prepared by the Department of Health and Human Services at the request of the Board of Trustees. Reference should be made to this report (issued December 1992) for further details on the possible factors contributing to the rapid increase in disability incidence rates in recent years.

Due to the substantial variation exhibited by incidence rates in the past and the difficulty in determining reliable explanatory factors for this variation, any projection of future incidence rates necessarily will be uncertain. The 1993 disability incidence rate (calculated on an age-sex-adjusted basis) was 5.2 awards per 1,000 insured workers. This figure was about 20 percent higher than the average incidence rate of 4.4 per thousand that was experienced during 1975 through 1993. Under the intermediate assumptions, incidence rates are assumed to increase by another 9 percent over the next 2 years and then to decline gradually for the remainder of the short-range projection period, returning to the level experienced in 1993. Under the low cost alternative, incidence rates decline by about 16 percent during 1994-2003, reaching the 1975-93 average at the end of the period. The high cost alternative assumes that incidence rates increase by another 28 percent over the next 8 years (returning briefly to the highest levels experienced during the 1970s) and then decline slightly over the remaining 2 years of the short-range period.

The proportion of DI beneficiaries whose benefits terminate in a given year has also fluctuated significantly in the past. Over the last 20 years, the rates of benefit termination due to death or conversion to retirement benefits (at attainment of normal retirement age) have

declined very gradually. This trend is attributable, in part, to the lower average age of new beneficiaries. The termination rate due to recovery has been much more volatile. Currently, the proportion of disabled beneficiaries whose benefits cease because of their recovery from disability is very low in comparison to past levels.

In this report, termination rates due to attainment of normal retirement age are estimated to continue their downward trend through about 2000. This rate would decrease again in 2003 as a result of the increase in the normal retirement age in that year. Age-specific death rates for disabled beneficiaries are assumed to remain at about their current level; the aggregate termination rate due to death, however, would continue to decline as a result of estimated continuing declines in the average age of beneficiaries. Terminations due to recovery are assumed to increase somewhat from their current unusually low level. The overall termination rate (reflecting all causes) is projected under all three alternatives to continue declining gradually during 1992-99, before leveling off at the end of the short-range projection period. The overall rate would also decline in 2003 as a result of the increase in the normal retirement age.

Actuarial Analysis

TABLE II.F2.—ESTIMATED OPERATIONS OF THE DI TRUST FUND BY ALTERNATIVE, CALENDAR YEARS 1993-2003

[Amounts in billions]

Calendar year	Income	Expenditures	Net increase in fund	Fund at end of year	Trust fund	
					Amount ¹	Ratio ²
1993	\$32.3	\$35.7	-\$3.4	\$9.0	\$12.3	35
Intermediate:						
1994	33.7	39.1	-5.4	3.6	9.0	23
1995 ⁴	35.4	43.0	-7.6	-4.0	3.6	8
1996 ⁴	36.8	46.9	-10.1	-14.1	(5)	(5)
1997 ⁴	38.1	50.9	-12.8	-27.0	(5)	(5)
1998 ⁴	39.3	55.4	-16.1	-43.1	(5)	(5)
1999 ⁴	40.4	60.1	-19.7	-62.8	(5)	(5)
2000 ⁴	49.6	65.0	-15.3	-78.1	(5)	(5)
2001 ⁴	52.2	70.4	-18.2	-96.3	(5)	(5)
2002 ⁴	54.2	76.1	-21.9	-118.2	(5)	(5)
2003 ⁴	56.2	82.4	-26.2	-144.5	(5)	(5)
Low Cost:						
1994	34.1	38.4	-4.4	4.6	9.0	23
1995 ⁴	36.2	41.3	-5.1	-5	4.6	11
1996 ⁴	38.2	44.2	-6.0	-6.5	(5)	(5)
1997 ⁴	40.2	47.2	-7.0	-13.5	(5)	(5)
1998 ⁴	42.3	50.5	-8.2	-21.7	(5)	(5)
1999 ⁴	44.4	53.9	-9.5	-31.2	(5)	(5)
2000 ⁴	55.1	57.2	-2.2	-33.4	(5)	(5)
2001 ⁴	58.8	60.8	-2.1	-35.5	(5)	(5)
2002 ⁴	62.0	64.8	-2.8	-38.3	(5)	(5)
2003 ⁴	65.4	69.2	-3.8	-42.0	(5)	(5)
High Cost:						
1994	33.6	39.9	-6.3	2.7	9.0	22
1995 ⁴	34.6	44.9	-10.4	-7.7	2.7	6
1996 ⁴	35.7	50.2	-14.5	-22.2	(5)	(5)
1997 ⁴	36.9	56.7	-19.8	-42.0	(5)	(5)
1998 ⁴	36.4	64.6	-28.1	-70.2	(5)	(5)
1999 ⁴	36.1	71.9	-35.8	-106.0	(5)	(5)
2000 ⁴	44.4	79.9	-35.5	-141.4	(5)	(5)
2001 ⁴	45.8	88.4	-42.6	-184.0	(5)	(5)
2002 ⁴	46.1	97.2	-51.1	-235.1	(5)	(5)
2003 ⁴	46.3	106.5	-60.3	-295.3	(5)	(5)

¹Represents assets at beginning of year.

²Represents amounts shown in preceding column as a percentage of expenditures during the year. See text concerning interpretation of these ratios.

³Figures for 1993 represent actual experience.

⁴Under all three alternatives, the DI Trust Fund would be depleted in 1995, when assets would become insufficient to pay benefits on time. Thus, figures shown under each alternative for 1995 and later are theoretical. See text for details.

⁵Fund depleted.

Note: Totals do not necessarily equal the sums of rounded components.

The continuing spread of Acquired Immunodeficiency Syndrome (AIDS) has contributed to the recent increases in DI awards.¹ Due to the extremely high mortality rates of affected individuals, the total number of disabled workers currently receiving benefits has not increased greatly as a result of AIDS. Although many aspects of AIDS are well understood, there remains considerable uncertainty regard-

¹ Although the number of disability benefit awards is higher as a result of AIDS, this effect has been fully reflected in the projections shown in past annual reports. Thus, the greater number of awards due to AIDS does not account for the unexpectedly large increases in awards experienced since 1990.

ing future medical advances and future incidence of HIV infection. To reflect this uncertainty, the projected numbers of benefit awards to AIDS patients (and their projected longevity) are varied by alternative. Under the intermediate assumptions, benefit awards to persons with AIDS are projected to continue to increase through 1999 before beginning to decline. Under the low cost assumptions, the number of new awards begins to decline in the near future, while the number projected under the high cost assumptions increases at a rapid rate throughout the short-range period.

At the beginning of calendar year 1993, the assets of the DI Trust Fund represented 35 percent of annual expenditures. During 1993, DI expenditures exceeded DI income by \$3.4 billion, with the result that the trust fund ratio for the beginning of 1994 decreased to about 23 percent. Under the intermediate assumptions, income is estimated to fall short of expenditures in each year of the short-range projection period, thereby requiring further redemption of Treasury securities held by the trust fund to cover the shortfalls. By the beginning of 1995, DI assets would represent 8 percent of annual expenditures—barely enough to meet the benefit payments due in the first month without triggering an advance tax transfer under section 201(a) of the Social Security Act. Following several more months of decline, the low level of assets would trigger advance tax transfers. The availability of each month's tax income in advance, at the beginning of the month, would postpone the depletion of the trust fund for about 4 additional months. By about mid-1995, however, assets (including advance tax transfers) would become insufficient to meet benefit payments when due without corrective legislation.

Theoretical operations of the DI Trust Fund are shown in table II.F2, beyond the point of asset depletion, as an indication of the magnitude of the deficits that will have to be corrected. For purposes of illustration, these theoretical operations are calculated on an assumption that the trust fund would be able to *borrow* funds on the same terms that it normally *lends* surplus cash amounts (in other words, a mirror image of normal operations). This assumption permits projected operations for two or more trust funds to be added together, with the resulting totals properly indicative of how the trust funds would operate if tax rates were reallocated or if the funds were merged. It is important to note, however, that there is no provision

Actuarial Analysis

in the Social Security Act that authorizes borrowing on behalf of a deficient trust fund.

Under the low cost and high cost assumptions, as under the intermediate assumptions, expenditures from the DI Trust Fund would exceed income in each year of the short-range projection period. The assets of the DI Trust Fund would continue to decline steadily under either alternative and would be exhausted in 1995—early in the year under the high cost assumptions or late in the year under the low cost alternative.

Because DI assets fail to reach the level of 1 year's expenditures under the intermediate assumptions and would be insufficient to meet benefit payments when due in 1995 and later, the DI Trust Fund does not satisfy the Trustees' short-range test of financial adequacy. In view of the imminent depletion of the DI Trust Fund, it is imperative that the financial position of the DI program be strengthened in the very near future. As noted previously, the Board of Trustees has recommended to the Congress that tax rates be reallocated between the OASI and DI Trust Funds. As will be seen in the next subsection, such action would correct the short-range financing insufficiency for the DI Trust Fund without jeopardizing the short-range financial status of the OASI Trust Fund.

c. Combined OASI and DI Trust Fund Operations

The estimated operations and status of the OASI and DI Trust Funds, combined, during calendar years 1994-2003 on the basis of the three alternatives, are shown in table II.F3, together with figures on actual experience in 1993. These amounts are the sums of the corresponding figures shown in tables II.F1 and II.F2.