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1998 ANNUAL REPORT OF THE BOARD OF TRUSTEES OF THE FEDERAL OLD-AGE AND SURVIVORS INSURANCE AND DISABILITY INSURANCE TRUST FUNDS

COMMUNICATION

FROM

THE BOARD OF TRUSTEES, FEDERAL OLD-AGE AND SURVIVORS INSURANCE AND DISABILITY INSURANCE TRUST FUNDS

TRANSMITTING

THE 1998 ANNUAL REPORT OF THE BOARD OF TRUSTEES OF THE FEDERAL OLD-AGE AND SURVIVORS INSURANCE AND THE FEDERAL DISABILITY INSURANCE TRUST FUNDS, PURSUANT TO 42 U.S.C. 401(c)(2), 1395i(b)(2), AND 1395t(b)(2)

APRIL 30, 1998.—Referred to the Committee on Ways and Means and ordered to be printed

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LETTER OF TRANSMITTAL

BOARD OF TRUSTEES OF THE
FEDERAL OLD-AGE AND SURVIVORS INSURANCE
AND DISABILITY INSURANCE TRUST FUNDS,
Washington, D.C., April 28, 1998

The Honorable Newt Gingrich
Speaker of the House of Representatives
Washington, D.C.

The Honorable Albert Gore, Jr.
President of the Senate
Washington, D.C.

Gentlemen:

We have the honor of transmitting to you the 1998 Annual Report of the Board of Trustees of the Federal Old-Age and Survivors Insurance Trust Fund and the Federal Disability Insurance Trust Fund (the 58th such report), in compliance with section 201(c)(2) of the Social Security Act.

Respectfully,

Robert E. Rubin, *Secretary of the Treasury, and Managing Trustee of the Trust Funds.*

Alexis M. Herman, *Secretary of Labor, and Trustee.*

Donna E. Shalala, *Secretary of Health and Human Services, and Trustee.*

Kenneth S. Apfel, *Commissioner of Social Security, and Trustee.*

Stephen G. Kellison, *Trustee.*

Marilyn Moon, *Trustee.*

Jane L. Ross, *Deputy Commissioner for Policy, Social Security Administration, and Acting Secretary, Board of Trustees.*

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I. OVERVIEW

A. INTRODUCTION

The Old-Age, Survivors, and Disability Insurance (OASDI) program in the United States provides protection against the loss of earnings due to retirement, death, or disability. The OASDI program consists of two separate parts which pay monthly benefits to workers and their families—Old-Age and Survivors Insurance (OASI) and Disability Insurance (DI). Under OASI, monthly benefits are paid to retired workers and their families and to survivors of deceased workers. Under DI, monthly benefits are paid to disabled workers and their families.

The Board of Trustees was established under the Social Security Act to oversee the financial operations of the Federal Old-Age and Survivors Insurance Trust Fund and the Federal Disability Insurance Trust Fund. The Board is composed of six members, four of whom serve automatically by virtue of their positions in the Federal Government: the Secretary of the Treasury, who is the Managing Trustee, the Secretary of Labor, the Secretary of Health and Human Services, and the Commissioner of Social Security. The other two members are appointed by the President and confirmed by the Senate to serve as public representatives: Stephen G. Kellison and Marilyn Moon are currently serving 4-year terms that began on July 20, 1995.

The Social Security Act requires that the Board, among other duties, report annually to the Congress on the financial and actuarial status of the OASI and DI Trust Funds. This annual report, for 1998, is the 58th such report.

B. HIGHLIGHTS

Important developments since the 1997 Annual Report was issued are shown below:

- During calendar year 1997, OASDI benefits amounting to $362.0 billion were paid to retired and disabled workers and their families, and to survivors of deceased workers.

- The number of persons receiving monthly OASDI benefits at the end of December 1997 was 44 million.

- In 1997, an estimated 147 million people worked in jobs covered by the OASDI program and paid OASDI contributions on their earnings.

- Income to the combined OASI and DI Trust Funds amounted to $457.7 billion in calendar year 1997, and expenditures were $369.1 billion. The assets of the combined funds, therefore, increased by $88.6 billion, from $567.0 billion at the end of December 1996 to $655.5 billion at the end of December 1997.

- Assets at the beginning of the year, as a percentage of expenditures during the year, increased from 154 percent at the beginning of 1997 to an estimated 171 percent at the beginning of 1998, for the combined OASI and DI Trust Funds.

- Interest earnings on the invested assets of the combined OASI and DI Trust Funds were $43.8 billion in calendar year 1997. This represented an effective annual interest rate of 7.5 percent, earned by the combined assets during calendar year 1997. During the same period, the average interest rate on new securities purchased by the trust funds was 6.6 percent.

- Administrative expenses for the OASDI program were $3.4 billion in calendar year 1997, or about 0.9 percent of benefit payments in the year.

- An automatic benefit increase of 2.1 percent became effective for December 1997. The OASDI contribution and benefit base was increased from $65,400 for 1997, to $68,400 for 1998.

Highlights

The major findings of this report are summarized below:

Short-Range Results

- In the short range (i.e., the next 10 years) the combined assets of the OASI and DI Trust Funds are expected to increase from the current level of $655.5 billion at the end of calendar year 1997, or 171 percent of estimated expenditures in 1998, to $1,800 billion, or 301 percent of annual expenditures, at the beginning of 2007, based on the intermediate assumptions.
- The assets of the OASI Trust Fund are expected to increase rapidly during the next 10 years, from 177 percent of annual expenditures at the beginning of 1998 to 323 percent of annual expenditures at the beginning of 2007, based on the intermediate assumptions.
- The assets of the DI Trust Fund are expected to increase rapidly for most of the next 10 years, rising from 131 percent of annual expenditures at the beginning of 1998 to 201 percent of annual expenditures at the beginning of 2004, based on the intermediate assumptions. While the assets of the fund, in nominal dollars, continue to grow during the entire short-range period consisting of the next 10 years, assets relative to annual expenditures begin to decline in 2004, becoming 187 percent at the beginning of 2007.
- The combined OASI and DI Trust Funds, as well as each fund separately, are adequately financed and meet the short-range test for financial adequacy.

Long-Range Results

- The assets of the combined OASI and DI Trust Funds are expected to continue growing over most of the next 25 years, based on the intermediate assumptions. By the end of 2020, the assets are estimated to reach $3.78 trillion, in nominal dollars. The assets are then estimated to decline to $3.70 trillion 2 years later, at the end of the 25-year period.
- In the long range (i.e., the next 75 years) the difference between the summarized income and cost rates for the OASDI program is a deficit of 2.19 percent of taxable payroll based on the intermediate assumptions, slightly smaller than the difference of 2.23 percent in last year's report. The assets of the combined OASI and

DI Trust Funds are estimated to be depleted under present law in 2032 based on the intermediate assumptions. At that time, the estimates indicate that annual tax revenues would be sufficient to cover almost 3/4 of annual expenditures.

- On a combined basis, the OASDI program is not in "close actuarial balance" over the next 75 years. In addition, the individual OASI and DI Trust Funds are not in close actuarial balance. These results are the same as those shown in the 1997 Annual Report.

- With the retirement of the "baby-boom" generation starting in about 2010, OASDI costs will increase rapidly relative to the taxable earnings of workers. By the end of the 75-year projection period, the OASDI cost rate is estimated to reach 19.6 percent under the intermediate assumptions, resulting in an annual deficit of about 6.3 percent. Annual tax revenue would be sufficient to cover only about 2/3 of annual expenditures at the end of the 75-year period.

- The cost of the OASDI program is estimated to rise from its current level of 4.6 percent of gross domestic product (GDP) to 6.9 percent of GDP by the end of the 75-year projection period, and the annual deficit is estimated to be 2.2 percent of GDP at the end of the 75-year projection period.

Estimated Operations of the Trust Funds

- Under the intermediate assumptions, the excess of OASDI tax revenues over expenditures until 2013, together with interest earnings on the trust funds, will result in a rapid accumulation of assets for the combined OASI and DI Trust Funds during this period. However, total income is estimated to fall short of expenditures beginning in 2021 and in each year thereafter. In this circumstance, trust fund assets would be redeemed to cover the difference until the assets of the combined funds are exhausted in 2032.

- The DI Trust Fund is expected to increase until 2009, and then to decline steadily until its assets are exhausted in 2019. Because DI program growth has fluctuated widely in the past, it is essential that the program's future experience be monitored closely and that action be taken soon to address the DI Trust Fund's actuarial imbalance.

- The assets of the OASI Trust Fund are expected to increase until 2023, and then to decline until they are exhausted in 2034. Because the OASI program is not in close actuarial balance, the long-range deficit of the OASI Trust Fund should be addressed.

- It is important to address the financing of both the OASI and DI programs soon to allow time for phasing in any necessary changes and for workers to adjust their retirement plans to take account of those changes. The importance of this is emphasized by the high priority that the President and the Congress are giving to the resolution of the program's long-range financial problems. The bipartisan efforts to hold public forums this year, followed by a White House Conference in December, should result in timely legislation restoring the long-range balance of the program. The impact of the changes in the current program will be minimized if they are enacted soon.

C. TRUST FUND FINANCIAL OPERATIONS

The various sources of income to the OASDI program, and categories of expenditures, can be illustrated by reference to the actual transactions during calendar year 1997. Table I.C1 summarizes these transactions.

Table I.C1.—Summary of OASDI Trust Fund Operations

Type of income or expenditure	Amount in calendar year 1997 (in billions) OASI	DI	OASDI
Total income	$397.2	$60.5	$457.7
Payroll taxes	349.9	56.0	406.0
Taxation of benefits	7.4	.5	7.9
Interest	39.8	4.0	43.8
Total expenditures	322.1	47.0	369.1
Benefit payments	316.3	45.7	362.0
Railroad Retirement financial interchange	3.7	.1	3.7
Administrative expenses	2.1	1.3	3.4

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

1. Income

Most OASDI income consists of the taxes paid by employees, employers, and the self-employed on earnings covered by the OASDI program. These taxes (also called contributions) are collected under the Federal Insurance Contributions Act and the Self-Employment Contributions Act. The taxes are paid on earnings up to a specified maximum annual amount (the "contribution and benefit base"), which was $65,400 for 1997. Table I.C2 shows the allocation of the OASDI tax rates by program for 1997.

Table I.C2.—Tax Rates for 1997

	OASI	DI	OASDI
Tax rate for employees and employers, each (in percent)	5.35	0.85	6.20
Tax rate for self-employed persons (in percent)	10.70	1.70	12.40

The tax rates for OASDI are not scheduled to change from their current values under present law. The maximum amount of earnings subject to OASDI taxes increases automatically each year, based on the increase in the average wage for all workers. In calendar year 1997, OASDI payroll tax income amounted to $406.0 billion, representing 89 percent of the total income received under the OASDI program during the year.

Beneficiaries whose "adjusted gross income" exceeds certain threshold amounts must pay income taxes on up to 85 percent of their annual OASDI benefits. The income tax revenue that results from taxing up to 50 percent of those benefits, together with taxes withheld from the benefits paid to nonresident aliens, is credited to the OASI and DI Trust Funds and totaled $7.9 billion in 1997. (The additional tax revenue that results from taxing up to 85 percent of benefits is credited to the Hospital Insurance (HI) Trust Fund.)

The final source of income to the trust funds is from interest on the invested assets of the funds. By law, these investments must be in interest-bearing securities of the U.S. Government or in securities guaranteed by the United States. Interest from investments in 1997 amounted to $43.8 billion. This represented an effective annual interest rate of 7.5 percent, earned by the assets of the trust funds during calendar year 1997. During the same period, the average interest rate on new securities purchased by the trust funds was 6.6 percent.

2. Expenditures

In 1997, benefit payments totaling $362.0 billion were made to retired and disabled workers and their families, and to survivors of deceased workers. Such payments represent 98 percent of all expenditures by the OASDI program. An additional $3.7 billion was transferred from the OASI and DI Trust Funds to the Railroad Retirement program in 1997, under provisions of the law requiring a financial interchange between the two programs. The cost of administering the OASDI program in 1997 was $3.4 billion, or about 0.9 percent of total benefits paid during the year.

3. Trust Fund Assets

In 1997, total income was $457.7 billion and total expenditures were $369.1 billion. The assets of the OASI and DI Trust Funds therefore increased by a net total of $88.6 billion during the year, from $567.0 billion to $655.5 billion. The invested assets of the trust funds are backed by the full faith and credit of the U.S. Government, in the same way as other public-debt obligations of the United States.

When program income exceeds expenditures, the trust fund serves as a vehicle to help fund a portion of the program's accruing financial obligations in advance. In particular, as invested assets continue to increase over the next 20 or so years, interest earnings will become a larger share of total trust fund income. In 1997, interest income to the combined OASI and DI Trust Funds represented 9.6 percent of total OASDI income. On a combined basis, interest income in 2007 would represent an estimated 15.1 percent of total income.

Conversely, if income to a trust fund is inadequate to defray expenditures, the fund's assets serve as a contingency reserve to cover the shortfall temporarily. For example, the expenditures of the DI Trust Fund exceeded income to the fund for most of 1994 (prior to enactment of the OASDI tax rate reallocation), necessitating a redemption of assets to cover the difference. In the event of recurring shortfalls, the availability of trust fund assets allows time for the enactment and implementation of legislation to restore financial stability to the program.

D. INTRODUCTION TO ACTUARIAL ESTIMATES

The financial and actuarial status of the OASDI program is traditionally evaluated for both short-range (the next 10 years) and long-range (the next 75 years) periods. The various income and expenditure items described in the previous section are estimated separately, and then combined to form estimates of the future level of trust fund assets.

A period of 75 years is used to evaluate the long-range actuarial status of the program in order to obtain the full range of financial commitments that will be incurred on behalf of the great majority of current program participants. For example, a group of workers now entering the labor force at age 22 will work and pay OASDI taxes for the next 45 years before reaching age 67. At age 67, those surviving may retire and begin to receive full benefits (i.e., not reduced for early retirement). Some of them may live and receive benefits for more than 30 years. Thus, a 75-year projection period will include the entire working and retired life span of the great majority of workers now contributing to the program, as well as those now receiving benefits.

Because of the inherent uncertainty in estimates for as long as 75 years into the future, projections are shown in this report under three alternative sets of assumptions regarding future economic and demographic trends. Designated as alternatives I, II, and III, these sets range from low cost (alternative I) to high cost (alternative III), with alternative II representing the set of intermediate cost assumptions. The low cost set is more optimistic from the standpoint of OASDI financing and the high cost set is more pessimistic. In the tables in this report, the intermediate estimates, which the Board of Trustees regard as their "best estimates," will be shown first followed by the low cost and high cost estimates.

From the estimated income, expenditure, and asset amounts, a number of different measures are calculated for use in evaluating the financial status of the program. Because of the difficulty in comparing dollar values for different periods, these measures are generally based on relative scales (although financial operations in nominal and inflation-adjusted dollar amounts are also available). These relative measures include (1) the annual amounts of future income and outgo as a percentage of the amount of earnings subject to the OASDI payroll tax, (2) the annual differences between these income and outgo figures, and (3) summarized values representing these figures over various periods. The level of trust fund assets relative to annual expenditures and the year in which the trust fund is projected to be exhausted are also presented as additional measures for evaluating the financial status of the program. Careful review of these measures provides a reasonably complete picture of the financial outlook for the OASDI program.

The program is also subject to two explicit tests of financial status (see section II.F)—a short-range test and a long-range test. The purpose of these tests is to provide objective criteria for determining whether or not the projected financial status of the OASDI program is considered satisfactory in each time period. The tests help highlight the need for corrective action when they are not met.

As usually required in the analysis of any complex subject, these summary tests should be considered in conjunction with a full understanding of the year-by-year patterns, trends, and other financial characteristics revealed by the underlying actuarial projections.

E. ECONOMIC AND DEMOGRAPHIC ASSUMPTIONS

Actual future income from OASDI payroll taxes and other sources, and actual future expenditures for benefits and administrative expenses, will depend upon a large number of factors: the size and composition of the population that is receiving benefits, the level of monthly benefit amounts, the size and characteristics of the work force covered under OASDI, and the level of workers' earnings. These factors will depend in turn upon future marriage and divorce rates, birth rates, death rates, migration rates, labor force participation and unemployment rates, disability incidence and termination rates, retirement age patterns, productivity gains, wage increases, cost-of-living increases, and many other economic and demographic factors.

While it is reasonable to assume that actual trust fund experience will fall within the range defined by the three alternative sets of assumptions used in this report, no definite assurance can be given that this will occur because of the uncertainty inherent in projections of this type and length. In general, a greater degree of confidence can be placed in the assumptions and estimates for the earlier years than for the later years. Nonetheless, even for the earlier years, the estimates are only an indication of the expected trend and potential range of future program experience.

The assumptions vary, in most cases, from year to year during the first 5 to 25 years before reaching their ultimate values for the remainder of the 75-year projection period. The following table summarizes the ultimate values assumed for the key economic and demographic factors underlying the actuarial estimates shown in this report. These ultimate values apply for years after 2023, with the exception of life expectancy, which is assumed to continue improving throughout the projection period.

Table I.E1.— Ultimate Economic and Demographic Assumptions

Ultimate assumptions	Intermediate	Low Cost	High Cost
Annual percentage change in:			
Average wage in covered employment	4.4	3.9	4.9
Consumer Price Index (CPI)	3.5	2.5	4.5
Real-wage differential (percent)	0.9	1.4	0.4
Unemployment rate (percent)	6.0	5.0	7.0
Annual interest rate (percent)	6.3	6.0	6.5
Total fertility rate (children per woman)	1.9	2.2	1.6
Life expectancy at birth in 2075 (combined average for men and women, in years)	81.7	78.8	85.6
Annual net immigration (in thousands)	900.0	1,150.0	750.0

Overview

With the exception of the annual interest rate, the long-range economic assumptions are unchanged from last year's report. The annual interest rate was increased by 0.1 percentage point in all three sets of assumptions, in recognition of continuing higher real rates of interest and the expectation that the ultimate real rate will be higher than assumed last year. This change has a small positive effect on the long-range actuarial balance.

Revisions of other economic assumptions for the early years of the projection period had a positive net effect on the long-range actuarial balance. The revisions reflect both recent actual data, which affects the starting point of the projections, and an assessment that the continuing favorable performance by the economy through 1997, with low unemployment, low inflation, and faster than expected growth in employment and GDP, indicates that economic performance over the early years of the projection period is likely to be better than was assumed in last year's report. This year's report assumes lower CPI increases, lower unemployment rates, higher productivity increases, higher real wage gains, a larger labor force, a higher ratio of wages to total compensation and a smaller decline in average hours, generally through the first ten years of the projection period, than was assumed in last year's report. These changes combine to produce an increase in the level of employment, productivity, average real wage, and GDP throughout the balance of the long-range projection period.

Revisions of demographic assumptions for the early years of the projection period, based on data collected since the 1997 report, had little effect in the long range, with the exception of changes in the mortality rates. Based on additional data for the years 1995-96, mortality rates estimated for 1997, the starting year for this year's projection, are slightly lower than those projected for 1997 in last year's report. As a result, the rates of reduction in mortality assumed for the first 25 years of the projection period are increased slightly over those used in the 1997 report.

The ultimate demographic assumptions for this report are essentially unchanged from those used in the 1997 report. While the ultimate rates of improvement in mortality are unchanged, the values for life expectancy are slightly higher because they reflect the accumulated difference in annual mortality rate assumptions through the first 25 years.

These assumptions reflect a careful assessment of past data and future prospects. Other changes in assumptions and methods reflected in the estimates in this report are discussed in section II.F.

F. SHORT-RANGE ACTUARIAL ESTIMATES

The financial status of the OASDI program during the next 10 years (1998-2007) is measured by the estimated level of trust fund assets. Because of inflation, economic growth, and growth in the OASDI program, asset levels expressed in nominal dollar amounts are not comparable over long periods of time. For this reason, it is more informative to consider a relative measure of the program's financial condition.

For example, OASDI assets at the beginning of calendar year 1998 amounted to $656 billion, while assets at the beginning of 1960 were $22 billion. The asset level in 1998 would be sufficient to cover roughly 20 months of expenditures in the absence of other income. Assets in 1960, although much smaller in nominal dollars, could have covered about 22 months of expenditures and in that sense represented a somewhat stronger contingency reserve.

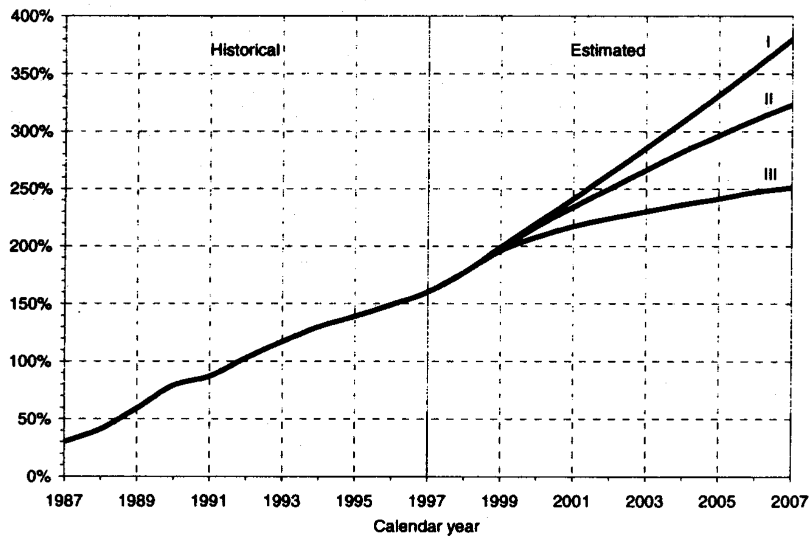
The ratio of trust fund assets at the beginning of a year to expenditures during the year is termed the "trust fund ratio." This ratio serves as the primary measure of the fund's financial adequacy in the short range. It is also used when applying an explicit test of short-range financial adequacy.

1. OASI Trust Fund

Figure I.F1 presents historical trust fund ratios for the OASI Trust Fund in 1987-97 and estimated ratios for 1998-2007 based on the alternative sets of assumptions.

As shown in figure I.F1, the OASI trust fund ratio is estimated to increase from 177 percent at the beginning of 1998 to 323 percent by 2007, based on the intermediate (alternative II) assumptions. The ratio is also estimated to increase during the next 10 years under the low cost (alternative I) assumptions. However, under the high cost (alternative III) assumptions the ratio is estimated to level off soon after the end of the short-range projection period. Because OASI assets are estimated to exceed 100 percent of annual expenditures throughout the next 10 years, the OASI Trust Fund meets the requirements of the Trustees' formal test of short-range financial adequacy. (This test is described in detail in the section entitled "Actuarial Estimates" later in this report.) Thus, the financing scheduled under present law for the OASI Trust Fund is considered fully adequate to meet future expenditures over this period and to provide for an adequate contingency reserve.

Figure I.F1.—OASI Trust Fund Ratios
[Assets as a percentage of annual expenditures]

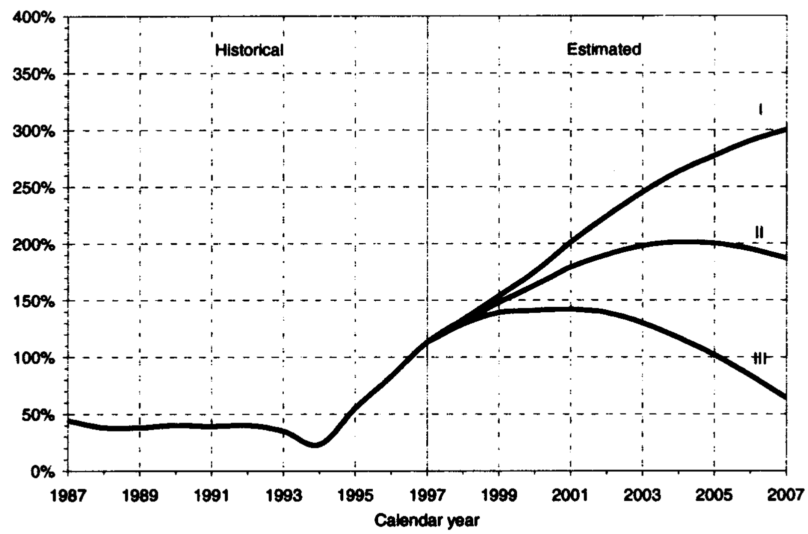


2. DI Trust Fund

As described in the 1995 Annual Report, legislation enacted in 1994 provided additional financing to the DI Trust Fund through a reallocation of a portion of the OASI tax rate. Largely as a result of this additional revenue, the DI Trust Fund is currently adequately financed for the short-range period. As shown in figure I.F2, the DI trust fund ratio is estimated to increase from 131 percent at the beginning of 1998 to 187 percent by 2007, based on the intermediate (alternative II) assumptions. Because DI assets exceeded the level of one year's expenditures at the beginning of 1998 and are estimated to remain above that level in 1999 and later, the DI Trust Fund meets the requirements of the Trustees' formal test of short-range financial adequacy under the intermediate assumptions.

However, as also shown in figure I.F2, under the high cost assumptions, not only does DI fail to meet the short-range test of financial adequacy, the DI Trust Fund is projected to be exhausted soon after the end of the short-range projection period. This situation is similar to projections made for the 1997 Annual Report.

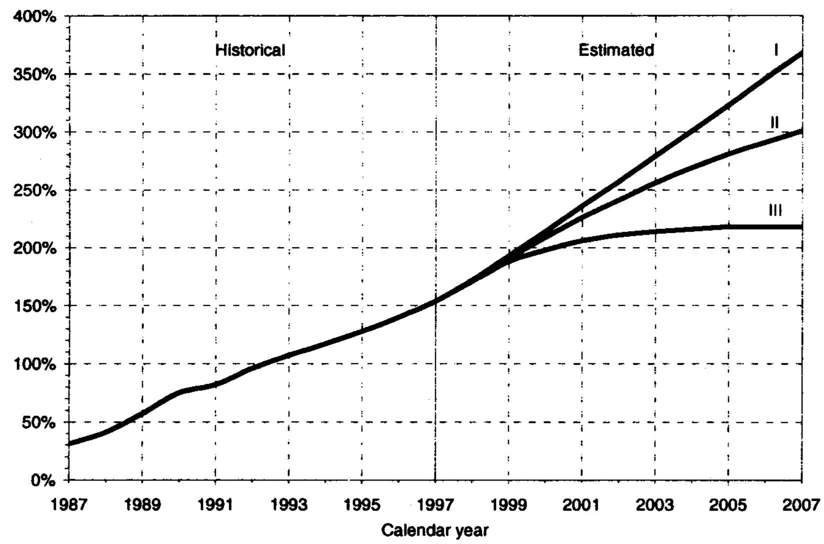
Figure I.F2.—DI Trust Fund Ratios
[Assets as a percentage of annual expenditures]



3. OASI and DI Trust Funds, Combined

Figure I.F3 summarizes the trust fund ratio for the OASI and DI Trust Funds, combined, in the recent past and estimates for the next 10 years.

Figure I.F3.—Trust Fund Ratios for OASI and DI Trust Funds, Combined
[Assets as a percentage of annual expenditures]



As shown, the trust fund ratio for OASI and DI on a combined basis is estimated to increase from 171 percent at the beginning of 1998 to 301 percent by 2007, based on the intermediate assumptions. Based on the low cost assumptions, the ratio would also increase throughout the 10-year period. Under the high cost assumptions, however, the ratio would level off after 2002, and begin to decline near the end of the short-range projection period. However, because the trust fund ratio for the combined funds is estimated to remain above 100 percent under the intermediate assumptions, the combined funds meet the short-range test of financial adequacy.

G. LONG-RANGE ACTUARIAL ESTIMATES

The long-range financial estimates provided in this section generally relate to the OASI and DI Trust Funds on a combined basis. However, as the OASI and DI programs are legally separate, a final assessment of the financial status of these funds must be provided on a separate basis, as is done later in this section. More detailed estimates for these trust funds, both separately and combined, can be found in section II.F2 of this report.

Each year estimates of the financial and actuarial status of the OASDI program are prepared for the next 75 years. Although financial estimates for periods as long as 75 years are inherently uncertain, the results can provide valuable information for policymakers. In particular, such estimates can indicate whether the program—as seen from today's vantage point—is considered to be in satisfactory financial condition.

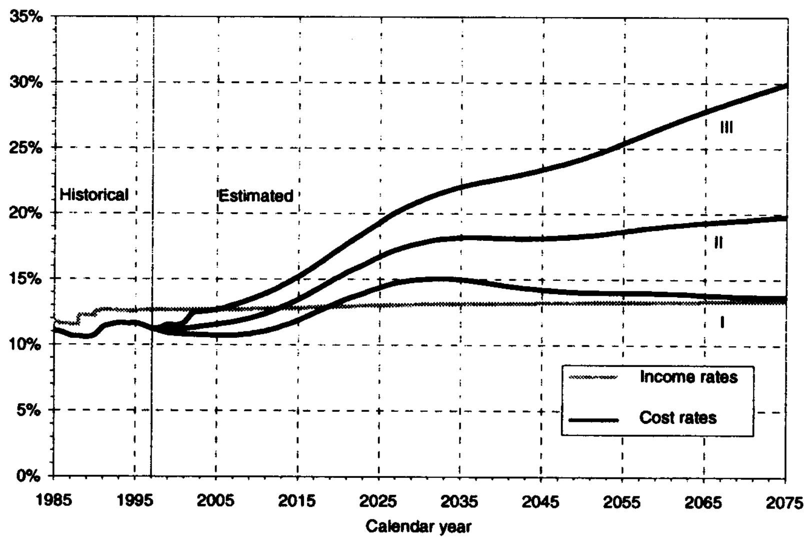
As mentioned previously, a number of different measures are useful in evaluating the financial status of the trust funds over the next 75 years. In addition to the actuarial balance and the trust fund ratio, emphasis is placed on the relationship between the estimated future levels of tax income and expenditures for each year. The year-by-year patterns of this relationship are of particular interest.

The estimates and measures described above provide a basis for analyzing the expected future cost and income of the OASDI program. In order to assess the actuarial status of the program, however, a specific test is applied. This test is referred to as the test for long-range "close actuarial balance."

1. Annual Income Rates, Cost Rates, and Balances

Figure I.G1 compares past and estimated future OASDI income (from payroll taxes on covered earnings and income taxes on OASDI benefits) with OASDI expenditures (for benefits and administrative expenses credited to OASI and DI Trust Funds). Included are historical data for the past 13 calendar years (1985-97) and estimates for the 75-year long-range projection period (1998-2072) under the three alternative sets of assumptions. These income and expenditure amounts are shown relative to the earnings in covered employment that are taxable under the OASDI program—referred to as "taxable payroll." The ratio of tax income (including both payroll taxes and income from taxation of benefits) to taxable payroll is called the "income rate" and the ratio of expenditures to taxable payroll is the "cost rate."

Figure I.G1.—OASDI Income Rates and Cost Rates
[As a percentage of taxable payroll]



For calendar year 1998, the income rate for the OASDI program is estimated to be about 12.65 percent of taxable payroll. This rate is made up of the combined tax rate payable by employees and employers, 12.40 percent, plus the revenue from the income taxation of OASDI benefits that is credited to the trust funds, equivalent to 0.25 percent of taxable payroll. Since OASDI payroll tax rates are not scheduled to change in the future under present law, payroll tax income as a percentage of taxable payroll remains constant at about 12.40 percent. Income from the taxation of benefits will gradually increase as a percentage of taxable payroll, primarily because a greater proportion of benefits will become subject to taxation. Thus, the income rate is projected to increase somewhat from its current level, reaching about 13.35 percent of taxable payroll by the year 2072. The income rate projection shown in figure I.G1 is based on the intermediate set of assumptions (alternative II) only; the projections under the low cost and high cost sets of assumptions (alternatives I and III, respectively) are very similar.

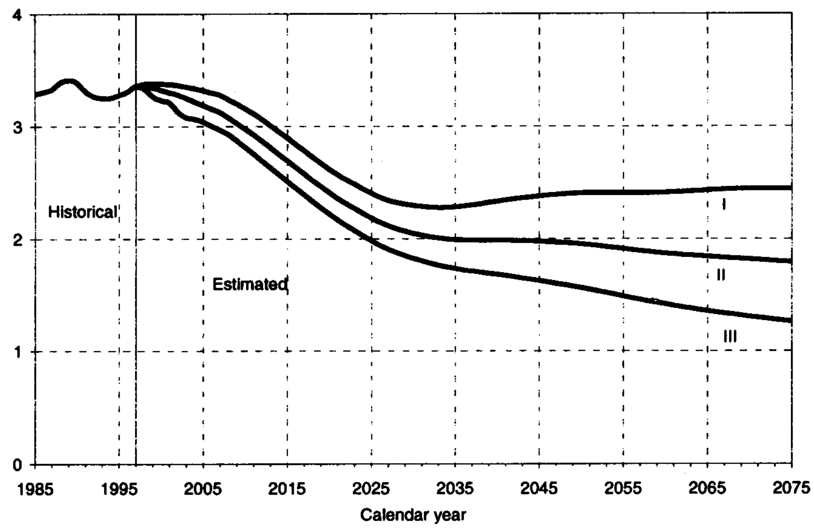
Overview

As figure I.G1 indicates, the pattern followed by the estimated cost rates is much different. Costs as a percentage of taxable payroll are estimated to rise slowly until about 2010 (or to decline slowly, in the case of alternative I) and then to increase rapidly for about the next 20 years. Thereafter, cost rates are estimated to grow less rapidly (or to decline somewhat, in the case of alternative I). By the year 2072 the cost rate is estimated to have reached 13.70 percent, 19.64 percent, and 29.32 percent under alternatives I, II, and III, respectively.

The primary reason that the estimated OASDI cost rate increases rapidly after about 2010 is that the number of beneficiaries is projected to increase more rapidly than the number of covered workers. Because the cost rate expresses expenditures (primarily payments to beneficiaries) as a percentage of taxable payroll (the taxable earnings of covered workers), there is a close relationship between the demographic characteristics of the population and the OASDI cost rate.

Figure I.G2 shows the estimated number of covered workers per OASDI beneficiary. In 1997, there were about 3.4 workers for every beneficiary. As indicated, this ratio is expected to decline substantially in the future under all three sets of assumptions. The most rapid decline will occur as the relatively large number of persons born during the "baby boom" (from the end of World War II through the mid-1960s) reaches retirement age and begins to receive benefits. At the same time, the relatively small number of persons born during the subsequent period of low fertility rates will comprise the labor force. Between 2030 and 2050, the number of workers per beneficiary is relatively stable as the "baby-boom" generation diminishes in size. After the year 2050, this ratio will continue to decline at a slower pace for the intermediate and high cost projections, reflecting the increasing numbers of beneficiaries due to projected increases in life expectancy. Based on the low cost assumptions, a slow increase in this ratio is projected to occur after 2050. By the end of the 75-year projection period, the number of workers per beneficiary is projected to decline to 2.4, 1.8, and 1.3 under the low cost (alternative I), intermediate (alternative II), and high cost (alternative III) assumptions, respectively.

Figure I.G2.—Number of Workers Per Beneficiary



The difference between the income rate and the cost rate in a given year is referred to as the "annual balance" for that year. The pattern of the projected OASDI annual balance depends significantly on the economic and demographic conditions assumed to occur in the future. Income rates are estimated to exceed cost rates until 2019, 2013, and 2006, under alternatives I, II, and III, respectively, resulting in positive annual balances. Thereafter, under the intermediate assumptions, the annual deficit would rise rapidly, reaching 4.66 percent of taxable payroll for 2030 and 6.29 percent for the year 2072. Under alternative I, a temporary period of deficits in excess of 1 percent of taxable payroll (from 2023 through 2050) would be followed by a return to relatively small deficits lasting throughout the remainder of the projection period. Under adverse conditions, as assumed in alternative III, the deficit would grow very rapidly, to over 15 percent of taxable payroll by the year 2072.

2. Summarized Income Rates, Cost Rates, and Balances

It is useful to consider the income and cost rates on a summarized basis over the three 25-year subperiods that make up the 75-year projection period. For this purpose, the annual income rates are summarized by calculating the present value of tax income for the subperiod in question, and expressing it as a percentage of the present value of taxable payroll for that subperiod. ("Present values" are used in financial analysis to calculate the lump-sum equivalent value, at a particular point in time, of a series of future amounts or transactions. See the Glossary for additional information.) Similarly, a summarized cost rate is calculated, as the present value of expenditures for the subperiod, expressed as a percentage of the present value of taxable payroll for that subperiod. The following table shows these summarized rates for the OASDI program for the three 25-year subperiods.

Table I.G1.—OASDI Income and Cost Rates for 25-Year Subperiods

	Income rate	Cost rate	Balance
Intermediate:			
1998-2022	12.76	12.58	0.18
2023-2047	13.13	17.71	-4.58
2048-2072	13.29	18.91	-5.62
Low Cost:			
1998-2022	12.73	11.46	1.27
2023-2047	12.99	14.62	-1.63
2048-2072	13.05	13.92	-.87
High Cost:			
1998-2022	12.81	13.92	-1.11
2023-2047	13.31	21.50	-8.19
2048-2072	13.66	26.36	-12.71

A small positive balance is shown under the intermediate alternative II assumptions for the first subperiod; thereafter, the program is projected to experience substantial deficits, for the reasons outlined previously. Under the low cost alternative I assumptions, summarized tax income would also exceed summarized costs only for the first 25-year subperiod, with deficits diminishing to relatively low levels in the third subperiod. (The less favorable outlook for the second subperiod occurs under the low cost assumptions because the "baby-boom" generation is retired essentially throughout this period, while the assumed higher ultimate fertility rates have not yet had their full effect on the estimated numbers of workers.) If the high cost conditions of alternative III are experienced, substantial deficits would occur for all three subperiods.

To assess the overall financial balance for the long range, it is customary to calculate summarized income rates and cost rates for the full 75-year valuation period. For this purpose, summarized income and cost rates are calculated on a present-value basis, as before. In addition, the summarized income rate is augmented by the value of trust fund assets on hand at the beginning of the period. Similarly, the summarized cost rate is adjusted to include the additional cost of accumulating trust fund assets at the end of the period equal to 100 percent of the following year's expenditures. The results of this calculation are shown in the following table.

Table I.G2.—OASDI Income and Cost Rates for 75-Year Valuation Period

	Income rate	Cost rate	Actuarial balance
Intermediate:			
1998-2072	13.45	15.64	-2.19
Low Cost:			
1998-2072	13.33	13.08	.25
High Cost:			
1998-2072	13.61	19.03	-5.42

The difference between the summarized income and cost rates for the 75-year valuation period is called the "actuarial balance" and ranges from a positive actuarial balance of 0.25 percent of taxable payroll under the low cost assumptions to a deficit of 5.42 percent under the high cost assumptions. Based on the intermediate assumptions, an actuarial deficit of 2.19 percent is projected, representing the difference between the summarized income rate of 13.45 percent and the corresponding cost rate of 15.64 percent.

The estimated actuarial deficit is slightly smaller than the corresponding deficit of 2.23 percent of payroll in last year's report. If the only change for this year's report were to change the long-range valuation period from 1997-2071 to 1998-2072, the deficit for this year's report would have risen to 2.31 percent of payroll. However, there were a number of other changes that had the net effect of more than offsetting the increase in the deficit which resulted from the change in valuation period. The principal change contributing to the improved actuarial balance is the more favorable economic growth assumed for the short-range period. See section II.F2g for complete details on the change in actuarial balance from last year's report.

The size of the actuarial balance for any valuation period represents a measure of the program's financial adequacy for that period. The actuarial balance can be interpreted as the amount of change which, if made to the payroll tax rates scheduled under present law for each year in the period, would bring the program into exact actuarial balance. For example, if the 75-year actuarial deficit of 2.19 percent under intermediate assumptions were addressed by raising scheduled tax rates by 1.10 percent for employees and employers, each, and by 2.20 percent for the self-employed, then OASDI assets at the beginning of 1998, together with income from payroll taxes, interest, and other sources, would be just sufficient to meet all expenditures for the long-range period and leave a trust fund level at the end of the period equal to about 100 percent of the following year's expenditures. Of course, there are numerous other changes to tax rates, revenue provisions, or benefit provisions that could also result in the elimination of the long-range actuarial deficit.

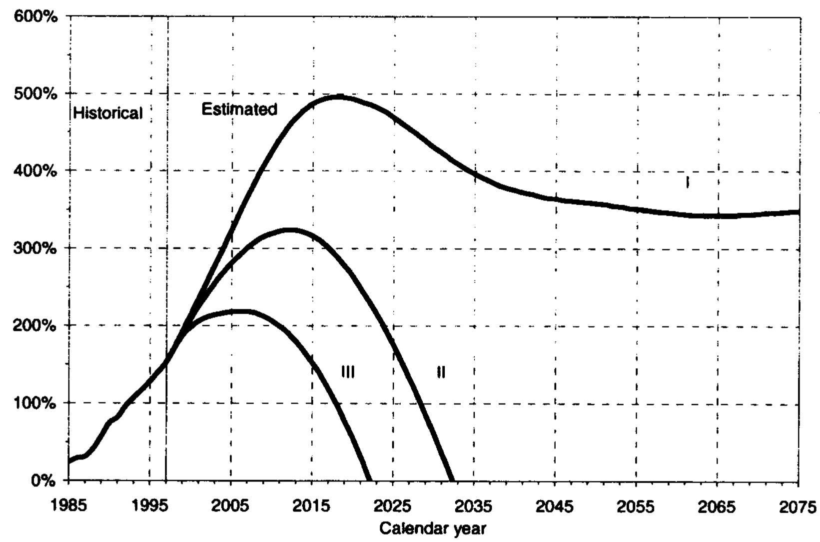
The 75-year actuarial balance is a convenient and widely used measure of the OASDI program's overall financial status. It is important to remember, however, that this summary measure reflects the combined effects of several very different periods, as previously described. Thus, while the use of summary measures such as the actuarial balance is often convenient, such measures should not be used as a substitute for a more complete understanding of the underlying year-by-year outlook.

3. Trust Fund Ratios

As noted previously, the total income of the OASDI program currently exceeds total expenditures by a substantial margin. As a result, the assets of the combined trust funds are increasing rapidly. Under the intermediate alternative II assumptions, tax income is expected to exceed expenditures until 2013, when the cost of the program will have started to increase with the retirement of the "baby-boom" generation. Beginning with 2013, the tax income projected under present law is expected to be insufficient to cover program expenditures and it will be necessary to draw upon the annual interest earned on trust fund assets, to make up the shortfall. Total income, including interest earnings, is expected to exceed expenditures until 2021. It will then be necessary to draw on accumulated trust fund assets, effectively redeeming assets to make up the shortfall. If no corrective action were taken, trust fund assets would be exhausted by the end of 2032. At that time, the annual tax revenues of the combined trust funds would be sufficient to cover about 3/4 of annual expenditures. The resulting pattern of combined OASI and DI assets, expressed as a percentage of annual expenditures, is illustrated in figure I.G3 under each of the three alternative sets of assumptions.

At the beginning of 1998, the combined assets of the OASI and DI Trust Funds represented about 171 percent of combined expenditures estimated for the year. Based on the intermediate assumptions, assets would accumulate to a peak of 324 percent of expenditures in 2012, and would then decline steadily until exhaustion in the year 2032. Based on the intermediate estimates in last year's report, the peak fund ratio for the combined funds was estimated to be 265 percent in 2011 and the year of exhaustion was estimated to be 2029.

Figure I.G3.—Trust Fund Ratios for OASI and DI Trust Funds, Combined
[Assets as a percentage of annual expenditures]



For OASI and DI, separately, the peak fund ratios based on the intermediate assumptions are 367 and 201 percent, respectively, in this year's report and 306 percent and 152 percent, respectively, in last year's report. The following table summarizes the projections in this year's report for OASI, DI, and the combined trust funds under the three sets of assumptions for the period 1998 through 2072.

Table I.G3.—OASDI Trust Fund Ratios

	OASI	DI	Combined
Intermediate:			
Maximum trust fund ratio (percent)	367	201	324
Year attained	2013	2004	2012
Year of exhaustion	2034	2019	2032
Low Cost:			
Maximum trust fund ratio (percent)	509	1,351	496
Year attained	2017	2072	2018
Year of exhaustion	—	—	—
High Cost:			
Maximum trust fund ratio (percent)	257	142	218
Year attained	2009	2001	2006
Year of exhaustion	2025	2009	2022

Overview

Under the low cost alternative I assumptions, the combined trust fund ratio rises rapidly until the retirement of the "baby-boom" generation, begins declining during the retirement years of the "baby-boom" generation, but levels off and then resumes increasing around 2065, even though annual balances are negative. This occurs because the assumed trust fund interest earnings are high enough to offset the small annual deficits and still keep the trust funds growing faster than annual outgo. For the high cost alternative III, the combined trust fund is permanently exhausted in 2022.

Trust fund assets are generally invested in special Treasury securities so that the excess of cash receipts over expenditures is borrowed from the trust funds by the general fund of the Treasury and used to help meet various Federal outlays, or to reduce the amount of publicly-held Federal debt. These securities are backed by the full faith and credit of the U.S. Government, the same as other public-debt obligations of the U.S. Government. The assets of the trust funds can be redeemed for cash at any time if required to meet program expenditures. The redemption of a Treasury security held by a trust fund requires that the Treasury transfer cash—obtained from another revenue source, such as income taxes or borrowing from the public—to the trust fund. Thus, the investment operations of the trust funds result in various cash flows between the trust funds and the general fund of the Treasury.

Under the intermediate assumptions, the excess of OASDI tax income over outgo during the next 15 years will result in a substantial net cash flow of these amounts to the general fund as they are borrowed from the trust funds. Thereafter, this cash flow is expected to reverse; as more trust fund securities are redeemed to meet benefit payments and other expenditures, 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 economic and public policy implications that go well beyond the operation of the OASDI program itself. Discussion of these broader issues is not within the scope of this report.

4. Test of Long-Range Close Actuarial Balance

Because the OASI and DI programs, both separately and combined, have actuarial deficits that are more than 5 percent of the corresponding summarized cost rates over the next 75 years under the Trustees' intermediate (alternative II) assumptions, they do not meet the requirements of the Trustees' formal test for long-range close actuarial balance. (This test is described in detail in section II.F entitled "Actuarial Estimates" later in this report.)

H. CONCLUSION

While the OASDI program is adequately financed over the next 10 years and for many years thereafter, the program is not in close actuarial balance over the next 75 years. This result is not different from the reports of the last several years. However, the long-range deficit shown in this report is lower than in the 1997 report, and, if the OASI and DI Trust Funds were combined, the year of exhaustion of the funds is now estimated to be 2032, or 3 years later than in the 1997 report. This modest improvement is due primarily to higher economic growth than was expected in last year's report.

1. Short-Term Status

At the beginning of 1998, the combined assets of the trust funds represented 171 percent of estimated expenditures in 1998. Under both the intermediate and low cost assumptions, the combined funds, as well as the ratio of fund assets at the beginning of a year to annual expenditures, are projected to grow during the next 10 years and for several years thereafter. However, under the high cost assumptions, while the dollar amount of assets of the combined funds continues to grow throughout the next 10 years, the trust fund ratio increases until 2005 and is level during 2005-06, before starting to decline in 2007. Both the OASI and DI Trust Funds separately meet the short-term solvency test.

2. Long-Term Status

Although the combined trust funds are well financed over the next 10 years, the OASDI program is not in close actuarial balance over the full 75-year projection period and therefore does not meet the long-term solvency test. The estimated actuarial balance is a deficit of 2.19 percent of taxable payroll over the next 75 years, based on the intermediate assumptions. The combined OASI and DI Trust Funds would become exhausted in 2032 without corrective legislation. At that time, annual tax revenues of the combined trust funds would be less than expenditures by 4.87 percent of taxable earnings and would be sufficient to cover only about 3/4 of annual expenditures.

The intermediate estimates indicate that the combined trust funds would be sufficient to enable the timely payment of benefits for the next 34 years. Relative to annual expenditures, the combined trust funds would continue to grow during the next 14 years, reaching a peak of about 3.2 times annual expenditures. Considering each fund separately, the OASI Trust Fund would have sufficient funds for the next 36 years, and the DI Trust Fund for the next 21 years, to enable timely payment of benefits. Based on the high cost assumptions, the combined funds would be sufficient to enable the timely payment of benefits only for the next 24 years.

For each of the next 15 years, OASDI income from contributions on earnings and income taxes on benefits is expected to exceed total expenditures. Starting in about 2010, however, OASDI costs, relative to taxable earnings, are expected to begin increasing rapidly as the "baby-boom" generation reaches retirement age. In contrast, the program's income from contributions on taxable earnings and income taxes on benefits will remain a relatively constant percentage of taxable payroll.

Therefore, the OASDI cost rate is estimated to exceed the income rate from 2013 through the end of the projection period, with the shortfall reaching 6.29 percent of taxable earnings by 2072, the last year of the 75-year period. Based on the less favorable conditions assumed for the high cost estimates, the crossover point would be reached in 2006, and the shortfall would grow eventually to be 15.49 percent of taxable earnings by 2072.

Although OASDI annual balances become negative in 2013 in the intermediate case, the availability of interest earnings results in continued trust fund growth until 2021. Because expenditures are estimated to increase faster than assets, however, OASDI assets would decline relative to annual expenditures, from about 3.2 to about 2.5 times annual expenditures, during the same period.

3. Recommendations

In view of the size of the financial shortfall in the OASDI program over the next 75 years, we again urge that the long-range deficits of both the OASI and DI Trust Funds be addressed in a timely way. Because the DI Trust Fund is expected to be depleted several years earlier than the OASI Trust Fund, and because DI program growth has fluctuated widely in the past, it is essential that the DI program's future experience be monitored closely.

It is important to address both the OASI and DI problems soon to allow time for phasing in any necessary changes and for workers to adjust their retirement plans to take account of those changes.

Overview

We believe extensive public discussion and analysis of the long-range financing problems of the OASDI program is essential in developing broad support for any necessary legislation to restore the long-range balance of the program. We strongly support the bipartisan efforts of the President and the Congress to carry out the President's plan for bipartisan forums on Social Security across the country this year. We also support the plan to hold a White House Conference on Social Security in December, following the forums, and to develop bipartisan legislation early next year.

II. ACTUARIAL ANALYSIS

A. SOCIAL SECURITY AMENDMENTS SINCE THE 1997 REPORT

Since the 1997 Annual Report was transmitted to the Congress on April 24, 1997, there have been no legislative changes enacted that would have a significant effect on the financial status of the OASDI program.

B. DESCRIPTION OF THE TRUST FUNDS

The Federal Old-Age and Survivors Insurance Trust Fund was established on January 1, 1940, as a separate account in the United States Treasury. All the financial operations of the OASI program are handled through this fund. The Federal Disability Insurance Trust Fund is another separate account in the United States Treasury; it was established on August 1, 1956. All the financial operations of the DI program are handled through this fund.

The primary receipts of these two funds are amounts appropriated to each of them under permanent authority on the basis of contributions payable by workers, their employers, and individuals with self-employment income, in work covered by the OASDI program. All employees, and their employers, in covered employment are required to pay contributions with respect to their wages. Employees, and their employers, are also required to pay contributions with respect to cash tips, if the individual's monthly cash tips amount to at least $20. All self-employed persons are required to pay contributions with respect to their covered net earnings from self-employment. In addition to paying the required employer contributions on the wages of covered Federal employees, the Federal Government also pays amounts equivalent to the combined employer and employee contributions that would be paid on deemed wage credits attributable to military service performed after 1956 if such wage credits were covered wages.

In general, an individual's contributions, or taxes, are computed on wages or net earnings from self-employment, or both wages and net self-employment earnings combined, up to a specified maximum annual amount. The contributions are determined first on the wages and then on any net self-employment earnings, such that the total does not exceed the annual maximum amount. An employee who pays contributions on wages in excess of the annual maximum amount (because of employment with two or more employers) is eligible for a refund of the excess employee contributions.

The monthly benefit amount to which an individual (or his or her spouse and children) may become entitled under the OASDI program is based on the individual's taxable earnings during his or her lifetime. For almost all persons who first become eligible to receive benefits in 1979 or later, the earnings used in the computation of benefits are indexed to reflect increases in average wage levels.

The contribution, or tax, rates applicable in each calendar year and the allocation of these rates between the OASI and DI Trust Funds are shown in table II.B1.

For 1999 and later, the rates shown in table II.B1 are those scheduled in present law. (The total contribution rates for the OASDI and Hospital Insurance (HI) programs combined, and for each program separately, are shown in appendix A, table III.A1.) The maximum amount of earnings on which OASDI contributions are payable in a year, which is also the maximum amount of earnings creditable in that year for benefit-computation purposes, is called the contribution and benefit base. The contribution and benefit base for each year through 1998 is also shown in table II.B1.

Table II.B1.—Contribution and Benefit Base and Contribution Rates

		Contribution rates (percent)					
	Contribution and benefit	Employees and employers, each			Self-employed		
Calendar years	base	OASDI	OASI	DI	OASDI	OASI	DI
1937-49	$3,000	1.000	1.000	—	—	—	—
1950	3,000	1.500	1.500	—	—	—	—
1951-53	3,600	1.500	1.500	—	2.2500	2.2500	—
1954	3,600	2.000	2.000	—	3.0000	3.0000	—
1955-56	4,200	2.000	2.000	—	3.0000	3.0000	—
1957-58	4,200	2.250	2.000	0.250	3.3750	3.0000	0.3750
1959	4,800	2.500	2.250	.250	3.7500	3.3750	.3750
1960-61	4,800	3.000	2.750	.250	4.5000	4.1250	.3750
1962	4,800	3.125	2.875	.250	4.7000	4.3250	.3750
1963-65	4,800	3.625	3.375	.250	5.4000	5.0250	.3750
1966	6,600	3.850	3.500	.350	5.8000	5.2750	.5250
1967	6,600	3.900	3.550	.350	5.9000	5.3750	.5250
1968	7,800	3.800	3.325	.475	5.8000	5.0875	.7125
1969	7,800	4.200	3.725	.475	6.3000	5.5875	.7125
1970	7,800	4.200	3.650	.550	6.3000	5.4750	.8250
1971	7,800	4.600	4.050	.550	6.9000	6.0750	.8250
1972	9,000	4.600	4.050	.550	6.9000	6.0750	.8250
1973	10,800	4.850	4.300	.550	7.0000	6.2050	.7950
1974	13,200	4.950	4.375	.575	7.0000	6.1850	.8150
1975	14,100	4.950	4.375	.575	7.0000	6.1850	.8150
1976	15,300	4.950	4.375	.575	7.0000	6.1850	.8150
1977	16,500	4.950	4.375	.575	7.0000	6.1850	.8150
1978	17,700	5.050	4.275	.775	7.1000	6.0100	1.0900
1979	22,900	5.080	4.330	.750	7.0500	6.0100	1.0400
1980	25,900	5.080	4.520	.560	7.0500	6.2725	.7775
1981	29,700	5.350	4.700	.650	8.0000	7.0250	.9750
1982	32,400	5.400	4.575	.825	8.0500	6.8125	1.2375
1983	35,700	5.400	4.775	.625	8.0500	7.1125	.9375
1984 [1]	37,800	5.700	5.200	.500	11.4000	10.4000	1.0000
1985 [1]	39,600	5.700	5.200	.500	11.4000	10.4000	1.0000
1986 [1]	42,000	5.700	5.200	.500	11.4000	10.4000	1.0000
1987 [1]	43,800	5.700	5.200	.500	11.4000	10.4000	1.0000
1988 [1]	45,000	6.060	5.530	.530	12.1200	11.0600	1.0600
1989 [1]	48,000	6.060	5.530	.530	12.1200	11.0600	1.0600
1990	51,300	6.200	5.600	.600	12.4000	11.2000	1.2000

Table II.B1.—Contribution and Benefit Base and Contribution Rates (Cont.)

Calendar years	Contribution and benefit base	Contribution rates (percent): Employees and employers, each: OASDI	OASI	DI	Self-employed: OASDI	OASI	DI
1991	$53,400	6.200	5.600	0.600	12.4000	11.2000	1.2000
1992	55,500	6.200	5.600	.600	12.4000	11.2000	1.2000
1993	57,600	6.200	5.600	.600	12.4000	11.2000	1.2000
1994	60,600	6.200	5.260	.940	12.4000	10.5200	1.8800
1995	61,200	6.200	5.260	.940	12.4000	10.5200	1.8800
1996	62,700	6.200	5.260	.940	12.4000	10.5200	1.8800
1997	65,400	6.200	5.350	.850	12.4000	10.7000	1.7000
1998	68,400	6.200	5.350	.850	12.4000	10.7000	1.7000
1999	(2)	6.200	5.350	.850	12.4000	10.7000	1.7000
2000 and later...	(2)	6.200	5.300	.900	12.4000	10.6000	1.8000

[1] In 1984 only, an immediate credit of 0.3 percent of taxable wages was allowed against the OASDI contributions paid by employees, which resulted in an effective contribution rate of 5.4 percent. The appropriations of contributions to the trust funds, however, were based on the combined employee-employer rate of 11.4 percent, as if the credit for employees did not apply. Similar credits of 2.7 percent, 2.3 percent, and 2.0 percent were allowed against the combined OASDI and Hospital Insurance (HI) contributions on net earnings from self-employment in 1984, 1985, and 1986-89, respectively. Beginning in 1990, self-employed persons are allowed a deduction, for purposes of computing their net earnings, equal to half of the combined OASDI and HI contributions that would be payable without regard to the contribution and benefit base. The OASDI contribution rate is then applied to net earnings after this deduction, but subject to the OASDI base.

[2] Subject to automatic adjustment based on increases in average wages.

All contributions are collected by the Internal Revenue Service and deposited in the general fund of the Treasury. The contributions are immediately and automatically appropriated to the trust funds on an estimated basis. The exact amount of contributions received is not known initially because the OASDI and HI contributions and individual income taxes are not separately identified in collection reports received by the Internal Revenue Service. Periodic adjustments are subsequently made to the extent that the estimates are found to differ from the amounts of contributions actually payable as determined from reported earnings. Adjustments are also made to account for any refunds to employees (with more than one employer) who paid contributions on wages in excess of the contribution and benefit base.

Beginning in 1984, up to one-half of an individual's or couple's OASDI benefits was subject to Federal income taxation under certain circumstances. Effective for taxable years beginning after 1993, the maximum percentage of benefits subject to taxation was increased from 50 percent to 85 percent. The proceeds from taxation of up to 50 percent of benefits are credited to the OASI and DI Trust Funds in advance, on an estimated basis, at the beginning of each calendar quarter, with no reimbursement to the general fund for interest costs attributable to the advance transfers. (The additional tax revenues resulting from the increase to 85 percent are transferred to the HI Trust Fund.) Subsequent adjustments are made based on the actual amounts as shown on annual income tax records. The amounts appropriated from the general fund of the Treasury are allocated to the OASI and DI Trust Funds on the basis of the income taxes paid on the benefits from each fund. (A special provision applies to benefits paid to nonresident aliens. Under Public Law 103-465, effective for taxable years beginning after 1994, a flat-rate tax, usually 25.5 percent, is withheld from the benefits before they are paid and, therefore, remains in the trust funds. From 1984 to 1994 the flat-rate tax that was withheld was usually 15 percent.)

Another source of income to the trust funds is interest received on investments held by the trust funds. That portion of each trust fund which, in the judgment of the Managing Trustee, is not required to meet current expenditures for benefits and administration is invested, on a daily basis, primarily in interest-bearing obligations of the U.S. Government (including special public-debt obligations described below). Investments may also be made in obligations guaranteed as to both principal and interest by the United States, including certain Federally sponsored agency obligations that are designated in the laws authorizing their issuance as lawful investments for fiduciary and trust funds under the control and authority of the United States or any officer of the United States. These obligations may be acquired on original issue at the issue price or by purchase of outstanding obligations at their market price. Thus, all of the investments held by the trust funds are backed by the full faith and credit of the U.S. Government.

The Social Security Act authorizes the issuance of special public-debt obligations for purchase exclusively by the trust funds. The Act provides that these obligations shall bear interest at a rate equal to the average market yield (computed on the basis of market quotations as of the end of the calendar month next preceding the date of such issue) on all marketable interest-bearing obligations of the United States then forming a part of the public debt which are not due or callable until after the expiration of 4 years from the end of such calendar month. These special issues are redeemable at all times at par value and thus bear no risk with respect to changes in interest rates (i.e., principal price fluctuations).

Income is also affected by provisions of the Social Security Act for (1) transfers between the general fund of the Treasury and the OASI and DI Trust Funds for any adjustments to prior payments for the cost arising from the granting of noncontributory wage credits for military service prior to 1957, according to periodic determinations; (2) annual reimbursements from the general fund of the Treasury to the OASI Trust Fund for any costs arising from the special monthly cash payments to certain uninsured persons—i.e., those who attained age 72 before 1968 and who generally are not eligible for cash benefits under other provisions of the OASDI program; and (3) the receipt of unconditional money gifts or bequests made for the benefit of the trust funds or any activity financed through the funds.

The primary expenditures of the OASI and DI Trust Funds are for (1) OASDI benefit payments, net of any reimbursements from the general fund of the Treasury for unnegotiated benefit checks, and (2) expenses incurred by the Social Security Administration and the Department of the Treasury in administering the OASDI program and the provisions of the Internal Revenue Code relating to the collection of contributions. Such administrative expenses include expenditures for construction, rental and lease, or purchase of office buildings and related facilities for the Social Security Administration. The Social Security Act does not permit expenditures from the OASI and DI Trust Funds for any purpose not related to the payment of benefits or administrative costs for the OASDI program.

The expenditures of the trust funds are also affected by (1) costs of vocational rehabilitation services furnished as an additional benefit to disabled persons receiving cash benefits because of their disabilities where such services contributed to their successful rehabilitation, and (2) the provisions of the Railroad Retirement Act which provide for a system of coordination and financial interchange between the Railroad Retirement program and the Social Security program. Under the latter provisions, transfers between the Railroad Retirement program's Social Security Equivalent Benefit Account and the trust funds are made on an annual basis in order to place each trust fund in the same position in which it would have been if railroad employment had always been covered under Social Security.

The net worth of facilities and other fixed capital assets is not carried in the statements of the operations of the trust funds presented in this report. This is because the value of fixed capital assets does not represent funds available for the payment of benefits or administrative expenditures, and therefore is not considered in assessing the actuarial status of the trust funds.

C. SUMMARY OF THE OPERATIONS OF THE OLD-AGE AND SURVIVORS INSURANCE AND DISABILITY INSURANCE TRUST FUNDS, FISCAL YEAR 1997

1. Old-Age and Survivors Insurance Trust Fund

A statement of the income and disbursements of the Federal Old-Age and Survivors Insurance Trust Fund in fiscal year 1997, and of the assets of the fund at the beginning and end of the fiscal year, is presented in table II.C1.

During fiscal year 1997, total receipts amounted to $386.5 billion, and total disbursements were $318.5 billion. The assets of the OASI Trust Fund thus increased by $67.9 billion during the year, to a total of $567.4 billion on September 30, 1997.

Included in total receipts during fiscal year 1997 were $342.9 billion in payroll tax contributions appropriated to the fund. These contributions were offset by transfers totaling $0.9 billion to the general fund of the Treasury for the estimated amount of refunds to employees who worked for more than one employer during a year and paid contributions in excess of the contribution and benefit base. In addition, $0.3 billion was received from the general fund of the Treasury representing payment for the taxes that would have been paid on estimated deemed wage credits for military service in 1997 if such credits had been considered to be covered wages. (Included in this payment are adjustments for revised estimates of deemed wage credits in prior years.)

Net contributions thus amounted to $342.3 billion, an increase of 7.9 percent over the amount in the preceding year. The increase in OASI tax contributions from fiscal year 1996 to fiscal year 1997 is due to (1) the increase in the allocation of the OASDI tax rate to OASI that became effective January 1, 1997, (2) increased earnings, and (3) the increases in the contribution and benefit base that became effective on January 1 of each year 1996 and 1997. (Table II.B1 in the preceding section shows the tax rates and contribution and benefit bases in effect for these years.)

Income from taxation of benefits amounted to $6.5 billion, of which nearly 97 percent represented amounts credited to the trust funds in advance, on an estimated basis, together with adjustments to 1994 transfers to account for actual experience. The remaining 3 percent of

the total income from taxation of benefits represented amounts withheld from the benefits paid to nonresident aliens.

Table II.C1.—Statement of Operations of the OASI Trust Fund During Fiscal Year 1997
[In thousands]

Total assets, September 30, 1996		$499,478,666
Receipts:		
Contributions.		
Employment taxes	$342,939,363	
Payments from general fund of the Treasury for:		
Contributions subject to refund	-895,340	
Employee-employer contributions on deemed wage credits for military service	267,483	
Net contributions		342,311,506
Income from taxation of benefit payments:		
Withheld from benefit payments to nonresident aliens	197,919	
All other, not subject to withholding	6,264,000	
Total income from taxation of benefits		6,461,919
Reimbursement from general fund of the Treasury for costs of payments to uninsured persons who attained age 72 before 1968		2,823
Investment income and interest adjustments:		
Interest on investments	37,686,979	
Interest on transfers to the general fund account for the Supplemental Security Income program due to adjustment in allocation of administrative expenses	934	
Interest on interfund transfers due to adjustment in allocation of administrative expenses	234	
Interest on interfund transfers due to adjustment in allocation of tax deposits by States	241	
Total investment income and interest adjustments		37,688,388
Gifts		193
Total receipts		386,464,828
Disbursements:		
Benefit payments:		
Gross benefit payments	314,161,066	
Offset for collected overpayments	-1,245,568	
Reimbursement from general fund for unnegotiated checks	-53,642	
Net benefit payments		312,861,855
Transfer to the Railroad Retirement "Social Security Equivalent Benefit Account"		3,688,088
Administrative expenses:		
Social Security Administration	1,783,495	
Department of the Treasury	217,183	
Reimbursement from general fund of the Treasury for costs of furnishing information on deferred vested pension benefits	-1,510	
Offsetting receipts from sales of supplies, materials, etc.	-246	
Reimbursement from general fund of the Treasury for costs of furnishing information related to the Coal Industry Retiree Health Benefit Act of 1992	-515	
Net administrative expenses		1,998,406
Total disbursements		318,548,349
Net increase in assets		67,916,479
Total assets, September 30, 1997		567,395,145

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

Special payments are made to uninsured persons who either attained age 72 before 1968, or who attained age 72 after 1967 and had 3 quarters of coverage for each year after 1966 and before the year of attainment of age 72. The costs associated with providing such payments to persons having fewer than 3 quarters of coverage are reimbursable from the general fund of the Treasury. Accordingly, a reimbursement of $2,823,000 was transferred to the OASI Trust Fund in fiscal year 1997, as required by section 228 of the Social Security Act. The reimbursement reflected the costs of payments made in fiscal year 1995.

The OASI Trust Fund was credited with interest totaling $37.7 billion which consisted of (1) interest earned on the investments of the trust fund, (2) interest on transfers between the trust fund and the general fund account for the Supplemental Security Income program due to adjustments in the allocation of administrative expenses, (3) interest arising from the revised allocation of administrative expenses among the trust funds, and (4) interest arising from the revised allocation of certain tax deposits among the trust funds.

The remaining $192,717 of receipts consisted of gifts received under the provisions authorizing the deposit of money gifts or bequests in the trust funds.

Of the $318.5 billion in total disbursements, $312.9 billion was for net benefit payments. The amount of net benefit payments in fiscal year 1997 represents an increase of 4.3 percent over the corresponding amount in fiscal year 1996. This increase was due primarily to (1) the automatic cost-of-living benefit increases of 2.6 percent and 2.9 percent which became effective for December 1995 and December 1996 respectively, under the automatic-adjustment provisions in section 215(i) of the Social Security Act, (2) an increase in the total number of beneficiaries, and (3) an increase in the average benefit amount resulting from the rising level of earnings.

As described in the preceding section, certain provisions of the Railroad Retirement Act coordinate the Railroad Retirement and OASDI programs and govern the financial interchanges arising from the allocation of costs between the two programs. Under those provisions, the Railroad Retirement Board and the Commissioner of Social Security determined that a transfer of $3.7 billion to the Social Security Equivalent Benefit Account from the OASI Trust Fund was required in June 1997.

Actuarial Analysis

The remaining $2.0 billion of disbursements from the OASI Trust Fund represented net administrative expenses. The expenses of administering the OASDI and Medicare programs are allocated and charged directly to each of the various trust funds, through which those programs are financed, on the basis of provisional estimates. Similarly, the expenses of administering the Supplemental Security Income program are also allocated and charged directly to the general fund of the Treasury on a provisional basis. Periodically, as data on actual experience become available and are analyzed, adjustments to the allocations of administrative expenses for prior periods are effected by interfund transfers and transfers between the OASI Trust Fund and the general fund account for the Supplemental Security Income program, with appropriate interest adjustments.

Section 1131 of the Social Security Act authorizes annual reimbursements from the general fund of the Treasury to the OASI Trust Fund for additional administrative expenses incurred as a result of furnishing information on deferred vested benefits to pension plan participants, as required by the Employee Retirement Income Security Act of 1974 (Public Law 93-406). The reimbursement in fiscal year 1997 amounted to $1,509,851.

The OASI Trust Fund was reimbursed $515,294 for expenses of providing certain information required by the Coal Industry Retiree Health Benefit Act of 1992 (part of the Energy Policy Act of 1992, Public Law 102-486).

The assets of the OASI Trust Fund at the end of fiscal year 1997 totaled $567.4 billion, consisting of $567.4 billion in U.S. Government obligations and, as an offset, an extension of credit amounting to $49,492,936. Table II.C2 shows the total assets of the fund and their distribution at the end of each fiscal year 1996 and 1997.

Table II.C2.—Assets of the OASI Trust Fund, by Type, Interest Rate, and Year of Maturity, at End of Fiscal Year, 1996 and 1997

	September 30, 1996	September 30, 1997
Obligations sold only to the trust funds (special issues):		
Certificates of indebtedness:		
6.625 percent, 1998	—	$28,865,523,000.00
7.125 percent, 1997	$21,998,798,000.00	—
Bonds:		
6.25 percent, 1998	3,150,975,000.00	—
6.25 percent, 1999-2006	25,207,800,000.00	25,207,800,000.00
6.25 percent, 2007	3,150,974,000.00	3,150,974,000.00
6.25 percent, 2008	23,350,034,000.00	23.350.034,000.00
6.5 percent,1998	2,431,253,000.00	—
6.5 percent, 1999-2009	26,743,794,000.00	26,743,794,000.00
6.5 percent, 2010	29,742,844,000.00	29,742,844,000.00
6.875 percent, 1999-2003	—	19,876,350,000.00
6.875 percent, 2004-09	—	23,851,626,000.00
6.875 percent, 2010-11	—	7,950,544,000.00
6.875 percent, 2012	—	37,089,596,000.00
7 percent,1998	3,371,481,000.00	—
7 percent,1999-2003	16,857,405,000.00	16,857,405,000.00
7 percent, 2004-10	23,600,360,000.00	23,600,360,000.00
7 percent, 2011	33,114,324,000.00	33,114,324,000.00
7.25 percent, 1998	3,961,557,000.00	—
7.25 percent, 1999-2006	31,692,448,000.00	31,692,448,000.00
7.25 percent, 2007-08	7,923,114,000.00	7,923,114,000.00
7.25 percent, 2009	27,311,591,000.00	27,311,591,000.00
7.375 percent, 1998	3,575,473,000.00	2,701,184,000.00
7.375 percent, 1999-2000	7,150,946,000.00	7,150,946,000.00
7.375 percent, 2001-06	21,452,844,000.00	21,452,844,000.00
7.375 percent, 2007	20,199,060,000.00	20,199,060,000.00
8.125 percent, 1997	791,653,000.00	—
8.125 percent, 1998-2000	10,834,047,000.00	10,834,047,000.00
8.125 percent, 2001-05	18,056,740,000.00	18,056,740,000.00
8.125 percent, 2006	16,623,586,000.00	16,623,586,000.00
8.375 percent, 1997	313,295,000.00	—
8.375 percent, 1998-2000	939,885,000.00	939,885,000.00
8.375 percent, 2001	2,370,396,000.00	2,370,396,000.00
8.625 percent, 1997	1,301,731,000.00	—
8.625 percent, 1998-2001	5,206,924,000.00	5,206,924,000.00
8.625 percent, 2002	3,672,127,000.00	3,672,127,000.00
8.75 percent, 1997	7,099,802,000.00	—
8.75 percent, 1998-2000	21,299,406,000.00	21,299,406,000.00
8.75 percent, 2001-03	21,299,409,000.00	21,299,409,000.00
8.75 percent, 2004-05	26,024,476,000.00	26,024,476,000.00
9.25 percent, 1997	2,240,309,000.00	—
9.25 percent, 1998-2000	6,720,927,000.00	6,720,927,000.00
9.25 percent, 2001-02	4,480,616,000.00	4,480,616,000.00
9.25 percent, 2003	5,912,435,000.00	5,912,435,000.00
10.375 percent, 1997	565,186,000.00	—
10.375 percent, 1998-99	1,130,372,000.00	1,130,372,000.00
10.375 percent, 2000	2,057,101,000.00	2,057,101,000.00
10.75 percent, 1997	1,022,230,000.00	—
10.75 percent, 1998	1,022,230,000.00	1,022,230,000.00
13.75 percent, 1997	469,685,000.00	—
13.75 percent, 1998	469,685,000.00	469,685,000.00
13.75 percent, 1999	1,491,915,000.00	1,491,915,000.00
Total investments	499,403,243,000.00	567,444,638,000.00
Undisbursed balances [1]	75,422,981.75	-49,492,935.68
Total assets	499,478,665,981.75	567,395,145,064.32

[1] The negative figure for September 30, 1997, represents extension of credit against securities to be redeemed within the following few days.

Note: Special issues are always purchased at par value. Therefore, book value and par value are the same for each special issue, and the common value is shown above. Where the maturity years are grouped, the amount maturing in each year is the amount shown divided by the number of years.

Actuarial Analysis

All securities held by the trust funds are backed by the full faith and credit of the United States Government. Those currently held by the OASI Trust Fund are special issues (i.e., securities sold only to the trust funds). These are of two types: short-term certificates of indebtedness and long-term bonds. The certificates of indebtedness are issued through the investment of receipts not required to meet current expenditures, and they mature on the next June 30 following the date of issue. Special-issue bonds, on the other hand, are normally acquired only when special issues of either type mature on June 30. The amount of bonds acquired on June 30 is equal to the amount of special issues maturing, less amounts required to meet expenditures on that day.

The effective annual rate of interest earned by the assets of the OASI Trust Fund during calendar year 1997 was 7.6 percent, as compared to 7.7 percent earned during calendar year 1996. The interest rate on special issues purchased by the trust fund in June 1997 was 6.875 percent, payable semiannually. Special-issue bonds with a total par value of $92.7 billion were purchased in June 1997.

Section 201(d) of the Social Security Act provides that the public-debt obligations issued for purchase by the OASI and DI Trust Funds shall have maturities fixed with due regard for the needs of the funds. The usual practice has been to spread the holdings of special issues, as of each June 30, so that the total amounts of special issues maturing in each of the next 15 years are approximately equal. Accordingly, the amounts and maturity dates of the OASI special-issue bonds purchased on June 30, 1997, were selected in such a way that the maturity dates of the total portfolio of special issues were spread evenly over the 15-year period 1998-2012.

2. Disability Insurance Trust Fund

A statement of the income and disbursements of the Federal Disability Insurance Trust Fund during fiscal year 1997, and of the assets of the fund at the beginning and end of the fiscal year, is presented in table II.C3.

During fiscal year 1997, total receipts amounted to $60.1 billion, and total disbursements were $46.7 billion. The assets of the trust fund thus increased by $13.4 billion during the year, to a total of $63.5 billion on September 30, 1997.

Included in total receipts were $56.3 billion representing payroll tax contributions appropriated to the fund. These contributions were offset by transfers totaling $0.2 billion to the general fund of the Treasury for the estimated amount of refunds to employees who worked for more than one employer during a year and paid contributions in excess of the contribution and benefit base. In addition, $33,339,000 was received from the general fund of the Treasury representing taxes that would have been paid on estimated deemed wage credits for military service in 1997 if such credits had been considered to be covered wages.

Net contributions amounted to $56.2 billion, a decrease of 0.7 percent from the amount in the preceding fiscal year. This decrease is primarily attributable to the reallocation of the OASDI tax rate that accounted for the increase in contributions to the OASI Trust Fund in fiscal year 1997. Income from the taxation of benefit payments amounted to $0.4 billion in fiscal year 1997.

Interest totaling $3.5 billion consisted of interest on the investments of the fund and interest on amounts of interfund transfers.

Of the $46.7 billion in total disbursements, $45.4 billion was for net benefit payments. This represents an increase of 4.9 percent over the corresponding amount of benefit payments in fiscal year 1996. This increase is due in part to the same factors that resulted in the net increase in benefit payments from the OASI Trust Fund. The number of persons receiving benefits from the DI Trust Fund increased more rapidly in 1997, however, than those receiving benefits from the OASI Trust Fund.

Table II.C3.—Statement of Operations of the DI Trust Fund During Fiscal Year 1997
[In thousands]

Total assets, September 30, 1996		$50,083,338
Receipts:		
Contributions:		
Employment taxes	$56,286,892	
Payments from general fund of the Treasury for:		
Contributions subject to refund	-158,040	
Employee-employer contributions on deemed wage credits for military service	33,339	
Net contributions		56,162,191
Income from taxation of benefit payments:		
Withheld from benefit payments to nonresident aliens	8,948	
All other, not subject to withholding	391,000	
Total income from taxation of benefits		399,948
Investment income and interest adjustments:		
Interest on investments	3,526,552	
Interest on interfund transfers due to adjustment in allocation of administrative expenses	-616	
Net interest adjustments on disbursement of funds to certain State Disability Determination Services	483	
Interest on interfund transfers due to adjustment in allocation of tax deposits by States	-62	
Net investment income and interest adjustments		3,526,358
Total receipts		60,088,497
Disbursements:		
Benefit payments:		
Gross benefit payments	45,634,587	
Offset for collected overpayments	-247,153	
Reimbursement from general fund for unnegotiated checks	-16,844	
Net benefit payments		45,370,591
Transfer to the Railroad Retirement "Social Security Equivalent Benefit Account"		59,107
Payment for costs of vocational rehabilitation services for disabled beneficiaries		48,287
Administrative expenses:		
Social Security Administration	1,173,206	
Department of the Treasury	38,114	
Demonstration projects and experiments	219	
Offsetting receipts from sales of supplies, materials, etc.	-10	
Reimbursement from general fund of the Treasury for costs of furnishing information related to the Coal Industry Retiree Health Benefit Act of 1992	-336	
Net administrative expenses		1,211,193
Total disbursements		46,689,178
Net increase in assets		13,399,319
Total assets, September 30, 1997		63,482,657

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

Provisions governing the financial interchanges between the Railroad Retirement and OASDI programs are described in the preceding section. Under those provisions, $59,107,000 was transferred to the Social Security Equivalent Benefit Account from the DI Trust Fund in June 1997.

The remaining disbursements amounted to $1.2 billion for net administrative expenses (including $218,842 for demonstration projects and experiments to test the effect of alternative methods for assisting disabled beneficiaries' attempts to work), and $48,287,168 for the costs of vocational rehabilitation services furnished to disabled-worker beneficiaries and to those children of disabled workers who were receiving benefits on the basis of disabilities that began before age 22. Reimbursement from the trust funds for the costs of such services is made only in those cases where the services contributed to the successful rehabilitation of the beneficiaries.

The assets of the DI Trust Fund at the end of fiscal year 1997 totaled $63.5 billion, consisting of $63.6 billion in U.S. Government obligations and, as an offset, an extension of credit amounting to $78,960,539. Table II.C4 shows the total assets of the fund and their distribution at the end of each fiscal year 1996 and 1997.

The effective annual rate of interest earned by the assets of the DI Trust Fund during calendar year 1997 was 7.0 percent, as compared to 6.9 percent earned during calendar year 1996. The interest rate on public-debt obligations issued for purchase by the trust fund in June 1997 was 6.875 percent, payable semiannually. Special-issue bonds with a total par value of $16.5 billion were purchased in June 1997.

The investment policies and practices described for the OASI Trust Fund apply as well to the investment of the assets of the DI Trust Fund.

Table II.C4.—Assets of the DI Trust Fund, by Type, Interest Rate, and Year of Maturity, at End of Fiscal Year, 1996 and 1997

	September 30, 1996	September 30, 1997
Investments in public-debt obligations:		
Public issues:		
Treasury bonds:		
3.5 percent, 1998	$5,000,000.00	$5,000,000.00
7.625 percent, 2002-07	10,000,000.00	10,000,000.00
8.25 percent, 2000-05	3,750,000.00	3,750,000.00
11.75 percent, 2005-10	30,250,000.00	30,250,000.00
Total investments in public issues at par value, as shown above	49,000,000.00	49,000,000.00
Unamortized premium or discount, net	-129,493.69	-110,597.65
Total investments in public issues at book value	48,870,506.31	48,889,402.35
Obligations sold only to the trust funds (special issues):		
Certificates of indebtedness:		
6.625 percent, 1998	—	4,284,629,000.00
6.75 percent, 1998	—	62,383,000.00
7.125 percent, 1997	5,107,600,000.00	—
Bonds:		
6.5 percent, 1998	2,147,659,000.00	—
6.5 percent, 1999-2007	19,328,931,000.00	19,328,931,000.00
6.5 percent, 2008	3,064,120,000.00	3,064,120,000.00
6.875 percent, 1998	—	220,111,000.00
6.875 percent, 1999-2002	—	1,060,996,000.00
6.875 percent, 2003	—	265,252,000.00
6.875 percent, 2004-07	—	1,061,000,000.00
6.875 percent, 2008-09	—	530,498,000.00
6.875 percent, 2010-12	—	13,336,560,000.00
7 percent, 1997	104,415,000.00	—
7 percent, 1998	1,116,150,000.00	1,116,150,000.00
7 percent, 1999-2008	11,161,510,000.00	11,161,510,000.00
7 percent, 2009	4,180,271,000.00	4,180,271,000.00
7.375 percent, 2004-06	142,803,000.00	142,803,000.00
7.375 percent, 2007	916,460,000.00	916,460,000.00
8.125 percent, 2004-05	300,322,000.00	300,322,000.00
8.125 percent, 2006	868,859,000.00	868,859,000.00
8.75 percent, 2003	174,477,000.00	174,477,000.00
8.75 percent, 2004-05	1,437,396,000.00	1,437,396,000.00
Total obligations sold only to the trust funds (special issues)	50,050,973,000.00	63,512,728,000.00
Total investments in public-debt obligations (book value [1])	50,099,843,506.31	63,561,617,402.35
Undisbursed balances [2]	-16,505,920.98	-78,960,538.67
Total assets (book value [1])	50,083,337,585.33	63,482,656,863.68

[1] Par value, plus unamortized premium or less discount outstanding.

[2] Negative figures represent extension of credit against securities to be redeemed within the following few days.

Note: Special issues are always purchased at par value. Therefore, book value and par value are the same for each special issue, and the common value is shown above. Where the maturity years are grouped for special issues, the amount maturing in each year is the amount shown divided by the number of years.

3. Old-Age and Survivors Insurance and Disability Insurance Trust Funds, Combined

A statement of the operations of the OASI and DI Trust Funds, on a combined basis, is presented in table II.C5. The entries in this table represent the sums of the corresponding values from tables II.C1 and II.C3. For a discussion of the nature of these income and expenditure transactions, reference should be made to the preceding two subsections covering OASI and DI separately.

Table II.C5.—Statement of Operations of the OASI and DI Trust Funds, Combined, During Fiscal Year 1997
[In thousands]

Total assets, September 30, 1996		$549,562,004
Receipts:		
Contributions:		
Employment taxes	$399,226,255	
Payments from general fund of the Treasury for:		
Contributions subject to refund	-1,053,380	
Employee-employer contributions on deemed wage credits for military service	300,822	
Net contributions		398,473,697
Income from taxation of benefit payments:		
Withheld from benefit payments to nonresident aliens	206,867	
All other, not subject to withholding	6,655,000	
Total income from taxation of benefits		6,861,867
Reimbursement from general fund of the Treasury for costs of payments to uninsured persons who attained age 72 before 1968		2,823
Investment income and interest adjustments:		
Interest on investments	41,213,531	
Interest on transfers to the general fund account for the Supplemental Security Income program due to adjustment in allocation of administrative expenses	934	
Interest on interfund transfers due to adjustment in allocation of administrative expenses	-383	
Interest on interfund transfers due to adjustment in allocation of tax deposits by States	179	
Net interest adjustments on disbursement of funds to certain State Disability Determination Services	483	
Net investment income and interest adjustments		41,214,746
Gifts		193
Total receipts		446,553,326
Disbursements:		
Benefit payments:		
Gross benefit payments	359,795,653	
Offset for collected overpayments	-1,492,721	
Reimbursement from general fund for unnegotiated checks	-70,486	
Net benefit payments		358,232,446
Transfer to the Railroad Retirement "Social Security Equivalent Benefit Account"		3,747,195
Payment for costs of vocational rehabilitation services for disabled beneficiaries		48,287

Table II.C5.—Statement of Operations of the OASI and DI Trust Funds, Combined, During Fiscal Year 1997 (Cont.)

[In thousands]

Disbursements: (Cont.)		
Administrative expenses:		
Social Security Administration	$2,956,701	
Department of the Treasury	255,297	
Reimbursement from general fund of the Treasury for costs of furnishing information on deferred vested pension benefits	-1,510	
Offsetting receipts from sales of supplies, materials, etc.	-256	
Reimbursement from general fund of the Treasury for costs of furnishing information related to the Coal Industry Retiree Health Benefit Act of 1992	-852	
Demonstration projects and experiments	219	
Net administrative expenses		$3,209,599
Total disbursements		365,237,527
Net increase in assets		81,315,798
Total assets, September 30, 1997		630,877,802

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

Table II.C6 compares past estimates of contributions and benefit payments for fiscal year 1997, as shown in the 1993-97 Annual Reports, with the corresponding actual amounts in 1997. The estimates shown are the ones based on the alternative II assumptions.

A number of factors can contribute to differences between estimates and subsequent actual amounts, including actual values for key economic, demographic, and other variables that differ from assumed levels. In addition, amendments to the Social Security Act can cause actual taxes or benefits to vary from earlier estimates. For example, the reallocation of the OASDI tax rate, enacted in October 1994, makes comparison of tax estimates in the 1993-94 Annual Reports with actual taxes in fiscal year 1997 meaningless for OASI and DI taken separately. Estimates of OASI benefit payments were generally close to actual payments in 1997. The actual amount of DI benefit payments in 1997, however, was roughly 2.7 percent lower than estimated at the time of the 1997 Annual Report. This difference is largely attributable to a decline in the number of awards to disabled workers, from 1996 to 1997, rather than the increase that had been estimated. In addition, terminations of disabled-worker benefits were somewhat higher in 1997 than had been anticipated in the 1997 Annual Report. The higher level of terminations was due, in part, to more terminations than had been expected under 1996 legislation requiring cessation of disability benefits paid to drug addicts and alcoholics .

Table II.C6.—Comparison of Actual and Estimated Operations of the OASI and DI Trust Funds, Fiscal Year 1997
[Amounts in millions]

	Net contributions [1]		Benefit payments [2]	
	Amount	Difference from actual (percent)	Amount	Difference from actual (percent)
OASI Trust Fund:				
Estimate in 1993 report	$364,567	6.5	$321,379	2.7
Estimate in 1994 report	359,170	4.9	320,046	2.3
Estimate in 1995 report	342,892	0.2	316,235	1.1
Estimate in 1996 report	335,185	-2.1	314,092	0.4
Estimate in 1997 report	340,223	-0.6	312,586	-0.1
Actual amount	342,312	—	312,862	—
DI Trust Fund:				
Estimate in 1993 report	39,064	-30.4	48,533	6.9
Estimate in 1994 report	38,485	-31.5	48,661	7.1
Estimate in 1995 report	56,262	0.2	47,885	5.4
Estimate in 1996 report	54,984	-2.1	47,031	3.5
Estimate in 1997 report	55,743	-0.7	46,647	2.7
Actual amount	56,162	—	45,419	—
OASI and DI Trust Funds, combined:				
Estimate in 1993 report	403,631	1.3	369,912	3.2
Estimate in 1994 report	397,655	-0.2	368,707	2.9
Estimate in 1995 report	399,154	0.2	364,120	1.6
Estimate in 1996 report	390,169	-2.1	361,123	0.8
Estimate in 1997 report	395,966	-0.6	359,232	0.3
Actual amount	398,474	—	358,281	—

[1] "Actual" contributions for 1997 reflect adjustments for prior fiscal years (see preceding section for description of these adjustments). "Estimated" contributions also include such adjustments, but on an estimated basis.

[2] Includes payments, if any, for vocational rehabilitation services furnished to disabled persons receiving benefits because of their disabilities.

At the end of fiscal year 1997, about 43.9 million persons were receiving monthly benefits under the OASDI program. Of these persons, about 37.8 million and 6.1 million were receiving monthly benefits from the OASI Trust Fund and the DI Trust Fund, respectively. The number of persons receiving benefits from the OASI and DI Trust Funds grew by 0.4 percent and 1.5 percent, respectively, during the fiscal year. The estimated distribution of benefit payments in fiscal years 1996 and 1997, by type of beneficiary, is shown in table II.C7 for each trust fund separately.

Table II.C7.—Estimated Distribution of Benefit Payments From the OASI and DI Trust Funds, by Type of Beneficiary or Payment, Fiscal Years 1996 and 1997

[Amounts in millions]

	Fiscal year 1996		Fiscal year 1997	
	Amount	Percentage of total	Amount	Percentage of total
Total OASDI benefit payments	$343,203	100.0	$358,232	100.0
OASI benefit payments	299,968	87.4	312,862	87.3
DI benefit payments	43,235	12.6	45,371	12.7
OASI benefit payments, total	299,968	100.0	312,862	100.0
Monthly benefits:				
Retired workers and auxiliaries	230,677	76.9	240,665	76.9
Retired workers	211,280	70.4	220,761	70.6
Wives and husbands	17,619	5.9	18,042	5.8
Children	1,777	0.6	1,861	0.6
Survivors of deceased workers	69,072	23.0	71,981	23.0
Aged widows and widowers	55,375	18.5	57,789	18.5
Disabled widows and widowers	1,065	0.4	1,142	0.4
Parents	31	(1)	30	(1)
Children	11,094	3.7	11,552	3.7
Widowed mothers and fathers caring for child beneficiaries	1,507	0.5	1,468	0.5
Uninsured persons generally aged 72 before 1968	2	(1)	1	(1)
Lump-sum death payments	218	0.1	216	0.1
DI benefit payments, total	43,235	100.0	45,371	100.0
Disabled workers	38,759	89.6	40,798	89.9
Wives and husbands	530	1.2	487	1.1
Children	3,946	9.1	4,086	9.0

[1] Less than 0.05 percent.

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

Net administrative expenses charged to the OASI and DI Trust Funds in fiscal year 1997 totaled $3.2 billion. This amount represented 0.8 percent of contribution income and 0.9 percent of expenditures for benefit payments. Corresponding percentages for each trust fund separately and for the OASDI program as a whole are shown in table II.C8 for each of the last 5 years.

Table II.C8.—Net Administrative Expenses as a Percentage of Contribution Income and of Benefit Payments, by Trust Fund, Fiscal Years 1993-97

	OASI Trust Fund		DI Trust Fund		OASI and DI Trust Funds, combined	
Fiscal year	Contribution income	Benefit payments	Contribution income	Benefit payments	Contribution income	Benefit payments
1993	0.7	0.8	3.0	2.8	0.9	1.0
1994	.6	.7	3.1	2.8	.8	.9
1995	.6	.6	1.6	2.7	.8	.9
1996	.6	.6	1.9	2.5	.8	.8
1997	.6	.6	2.2	2.7	.8	.9

Tables II.C2 and II.C4, presented in the two preceding subsections, showed the assets of the OASI and DI Trust Funds at the end of fiscal years 1996 and 1997. The changes in the invested assets of the funds between those two dates are a result of the acquisition and disposition of securities during fiscal year 1997. Table II.C9 presents these investment transactions for each trust fund separately and combined. All amounts shown in the table are at par value.

Table II.C9.—Investment Transactions of the OASI and DI Trust Funds in Fiscal Year 1997

[In thousands]

	OASI Trust Fund	DI Trust Fund	OASI and DI Trust Funds, combined
Invested assets, September 30, 1996	$499,403,243	$50,099,973	$549,503,216
Acquisitions:			
Special issues:			
Certificates of indebtedness	371,890,275	58,743,839	430,634,114
Bonds	92,743,386	16,519,555	109,262,941
Public issues:			
Treasury bonds	—	—	—
Total acquisitions	464,633,661	75,263,394	539,897,055
Dispositions:			
Special issues:			
Certificates of indebtedness	365,023,550	59,504,427	424,527,977
Bonds	31,568,716	2,297,212	33,865,928
Public issues:			
Treasury bonds	—	—	—
Total dispositions	396,592,266	61,801,639	458,393,905
Net increase in invested assets	68,041,395	13,461,755	81,503,150
Invested assets, September 30, 1997	567,444,638	63,561,728	631,006,366

Note: All investments are shown at par value.

D. PRINCIPAL ECONOMIC AND DEMOGRAPHIC ASSUMPTIONS

The future income and outgo of the OASDI program depend on many economic and demographic factors, including gross domestic product, labor force, unemployment, average earnings, productivity, inflation, fertility, mortality, net immigration, marriage, divorce, retirement patterns, and disability incidence and termination. The income will depend on how these factors affect the size and composition of the working population and the level and distribution of earnings. Similarly, the outgo will depend on how these factors affect the size and composition of the beneficiary population and the general level of benefits.

Because precise prediction of these various factors is impossible, estimates are shown in this report on the basis of three sets of assumptions, designated as intermediate (alternative II), low cost (alternative I), and high cost (alternative III). The intermediate set, alternative II, represents the Board's best estimate of the future course of the population and the economy. In terms of the net effect on the status of the OASDI program, the low cost alternative I is the most optimistic, and the high cost alternative III is the most pessimistic of the plausible economic and demographic conditions.

The values assumed after the first 5 to 25 years for both the economic and the demographic factors are intended to represent average experience or growth rates. Actual future values will exhibit fluctuations or cyclical patterns, as in the past.

Although these sets of economic and demographic assumptions have been developed using the best available information, the resulting estimates should be interpreted with care. The resulting estimates are not intended to be precise predictions of the future financial status of the OASDI program, but rather, they are intended to be indicators of the trend and potential range of future income and outgo, under a variety of plausible economic and demographic conditions.

The economic and demographic assumptions used in this report are reexamined each year in light of recent experience and new information about future trends, and are revised if warranted. This year, the need for such a review is illustrated by such factors as changes in the calculation of the CPI by the Bureau of Labor Statistics, and the potential long-term implications of our recent positive economic growth. As usual, this reexamination should be completed in ample time to make any needed adjustments in the next report.

1. Economic Assumptions

The principal economic assumptions for the three alternatives are summarized in table II.D1

Alternatives I, II, and III represent a range of economic assumptions which have been designed to produce variation in Social Security's financial status that should encompass most of the possibilities that might be encountered. The intermediate set of assumptions (alternative II) reflects the Trustees' consensus expectation of moderate economic growth throughout the projection period. The low cost assumptions (alternative I) represent a more optimistic outlook, with relatively stronger economic growth. The high cost assumptions (alternative III) represent a relatively pessimistic forecast, with weaker economic growth, and with two recessions in the short-range period. Economic cycles are not included in assumptions beyond the first 5 to 10 years of the projection period because they have little effect on the long-range estimates of financial status.

For alternative II, the annual growth in real GDP is assumed to average 2.0 percent over the short-range (1998-2007) projection period, a slower rate than the 2.4 percent average observed over the most recent historical ten-year (1988-1997) period. This 0.4 percent slowdown is mostly due to slower projected growth in labor force and employment. For alternative I, the annual growth rate in the real GDP is assumed to average 2.5 percent over the next ten years. The relatively faster growth is due mostly to a higher assumed rate of growth in worker productivity.

For alternative III, relatively weak economic growth and an increased rate of price inflation are assumed for the first three quarters of 1998. The first projected recession begins in the fourth quarter of 1998, lasts 3 quarters, and results in a total decline in real GDP of 1.4 percent. After 8 quarters of recovery, a second recession, with a total decline in real GDP of 3.0 percent, is assumed to begin in the third quarter of 2001, lasting 4 quarters. After the second recession, a moderate economic recovery is assumed through the year 2004, with continued modest economic growth thereafter.

After 2007, the projected rates of growth in real GDP, for all three alternatives, are determined by the assumed rates of growth in employment, average hours worked, and labor productivity. The trend toward slower growth in real GDP after 2007 results primarily from much slower growth in the working age population, as the "baby-boom" generation approaches retirement and succeeding generations reflecting lower birth rates reach working age. The slowdown in the growth rate in real GDP also reflects cessation of growth in labor force participation rates for some age groups of women prior to 2007, and cessation of growth in labor force participation rates in the remaining age groups after 2007. The decline in labor force participation rates among men, projected to continue in the future, also contributes to slower GDP growth after 2007. The annual rate of growth in total labor force decreased from over 2.4 percent in the 1970s, to about 1.6 percent in the 1980s, and to about 1.1 percent for 1990 through 1997. After 1997 the labor force is projected to increase at about 0.9 percent per year, on average, through 2007, and to increase more slowly thereafter, reflecting the projected slowing of growth of the working-age population as compared with the experience of the 1980s and early 1990s.

Unemployment rates through 2007 are presented in the most commonly cited form, the civilian rate, which describes the differences between aggregate civilian labor force and aggregate civilian employment. For years after 2007, however, total age-sex adjusted rates are presented. These include the military (which reduces the rate by about 0.1 percentage point relative to the civilian rate) and are age-sex adjusted to the 1996 labor force. Such total rates better represent the total population covered by the OASDI program and adjust for the changing age-sex distribution of the labor force, which can obscure the comparison of unemployment rates over different time periods.

The age-sex adjusted unemployment rate, for alternative II, is assumed to move gradually toward its ultimate average level of 6.0 percent, by 2008. For alternative I, the age-sex-adjusted unemployment rate is assumed to reach its ultimate average level of 5.0 percent by 2006. For alternative III, the age-sex-adjusted unemployment rate is assumed to reach its ultimate average level of 7.0 percent by 2008, after a recovery that is assumed to follow the second projected recession.

The annual rate of increase in the Consumer Price Index for Urban Wage Earners and Clerical Workers (hereinafter denoted as "CPI") was 2.3 percent in 1997. For alternative II, the CPI is assumed to increase 1.4 percent in 1998, 2.4 percent in 1999, and subsequent rates that increase toward the assumed ultimate rate of 3.5 percent which is reached by 2006. For alternative I, the CPI is projected to increase 1.3 percent in 1998 and 2.1 percent in 1999, reaching the assumed ultimate rate of 2.5 percent by 2002. For alternative III, the CPI is projected to increase from 2.0 percent in 1998 to 5.4 percent in 2000 and 6.0 percent in 2001, eventually stabilizing at the assumed ultimate rate of 4.5 percent in 2003.

For alternative II, the annual rate of change in the average wage in covered employment is assumed to drop, initially, from the estimated 4.5 percent increase for 1997, to a projected rate of 3.3 percent for 1998, and then to rise, generally, averaging about 4.0 percent for the period 1998 through 2007. Growth in the average wage through 2007 averages somewhat less than the ultimate assumed rate of 4.4 percent primarily because price inflation in the early years of the period is assumed to average less than its ultimate level through this period. Between 2005 and 2015, growth in the average covered wage is slightly higher than the assumed ultimate rate of 4.4 percent, reflecting the gradual movement toward complete inclusion of Federal civilian employees. After 2015, the average covered wage growth rate remains at the ultimate assumed rate of 4.4 percent.

The real-wage differential (i.e., the difference between the annual rates of change in the average wage in covered employment and in the CPI) was 2.2 percent in 1997, based on preliminary data. After 1997, under the intermediate assumptions, the real-wage differential is projected to be between 0.9 and 1.9 percent for the years 1998 through the year 2015, thereafter remaining at the ultimate assumed differential of 0.9 percent. For the low cost alternative I, the real-wage differential is assumed to be in the range of 1.2 percent to 2.2 percent between 1998 and 2015, thereafter remaining at the ultimate assumed real-wage differential of 1.4 percent. For the high cost alternative III, the real-wage differential for the short-range period, is assumed to average 0.5 percent per year. After 2015, the real-wage differential is assumed to be 0.4 percent per year for alternative III.

The average annual nominal interest rate for securities newly issued to the trust funds remained unchanged from 1996 to 1997 at 6.6 percent. Under the intermediate assumptions it is projected to be below 6.0 percent in the period 1998-2001 reflecting the low projected rate of inflation, and then to move up gradually, reaching the ultimate assumed level of 6.3 percent in 2007. For the low cost, alternative I assumptions the average annual nominal interest rates are assumed to reach an ultimate level of 6.0 percent in 2003. It is assumed in the high cost, alternative III, assumptions that average annual nominal interest rates peak at 8.3 percent in 2001 and 2002, and then decline to an ultimate rate of 6.5 percent in 2007. The assumed ultimate nominal interest rates are based on assumed real interest rates of 2.8 percent for the intermediate assumptions, and 3.5 percent and 2.0 percent for alternatives I and III, respectively.

Thus, concerning the future financial status of the program, the various economic assumptions for alternatives I and III are generally selected so that each will tend to result in a more optimistic and pessimistic projection, respectively. Many of the assumptions are normally expected to move in opposite directions, in terms of their effect on OASDI financial status. Hence, alternatives I and III may also reflect the assumption of structural economic shifts in the relationships among factors that reinforce their low and high cost paths.

Table II.D1.—Selected Economic Assumptions by Alternative, Calendar Years 1960-2075

Calendar year	Average annual percentage change in— Real GDP [1]	Average annual wage in covered employment	Consumer Price Index [2]	Real-wage differential [3] (percent)	Average annual interest rate [4] (percent)	Average annual unemployment rate [5] (percent)	Average annual percentage increase in labor force [6]
Historical data:							
1960-64	4.6	3.4	1.2	2.2	3.7	5.7	1.3
1965-69	4.2	6.1	3.9	2.2	5.2	3.8	2.1
1970-74	3.4	6.6	6.2	.4	6.7	5.4	2.3
1975	-.4	6.7	9.1	-2.4	7.4	8.5	1.9
1976	5.4	8.5	5.7	2.8	7.1	7.7	2.4
1977	4.7	6.8	6.5	.3	7.1	7.1	2.9
1978	5.4	8.9	7.7	1.2	8.2	6.1	3.2
1979	2.8	10.1	11.4	-1.3	9.1	5.8	2.6
1980	-.3	9.4	13.4	-4.0	11.0	7.1	1.9
1981	2.3	9.7	10.3	-.5	13.3	7.6	1.6
1982	-2.1	6.4	6.0	.4	12.8	9.7	1.5
1983	4.0	5.0	3.0	2.0	11.0	9.6	1.2
1984	7.0	7.3	3.5	3.8	12.4	7.5	1.8
1985	3.6	4.7	3.5	1.2	10.8	7.2	1.7
1986	3.1	4.6	1.6	3.0	8.0	7.0	2.0
1987	2.9	4.6	3.6	1.0	8.4	6.2	1.7
1988	3.8	5.3	4.0	1.3	8.8	5.5	1.5
1989	3.4	3.9	4.8	-.9	8.7	5.3	1.7
1990	1.2	5.1	5.2	-.1	8.6	5.6	1.6
1991	-.9	3.0	4.1	-1.1	8.0	6.8	.4
1992	2.7	4.9	2.9	2.0	7.1	7.5	1.2
1993	2.3	[7] 1.9	2.8	-.9	6.1	6.9	.7
1994	3.5	[7] 3.5	2.5	1.0	7.1	6.1	1.3
1995	2.0	[7] 4.0	2.9	1.1	6.9	5.6	.9
1996	2.8	[7] 4.3	2.9	1.4	6.6	5.4	1.2
1997	[7] 3.8	[7] 4.5	2.3	2.2	6.6	4.9	1.7
Intermediate:							
1998	2.5	3.3	1.4	1.9	5.8	4.8	1.0
1999	2.0	3.4	2.4	1.0	5.4	5.0	.9
2000	2.0	3.8	2.6	1.3	5.6	5.3	1.0
2001	2.0	3.6	2.7	.9	5.9	5.5	1.0
2002	1.9	3.7	2.8	.9	6.0	5.7	.9
2003	1.9	4.1	3.1	1.0	6.1	5.8	.7
2004	1.9	4.4	3.2	1.2	6.2	5.9	.7
2005	1.9	4.4	3.4	1.0	6.3	5.9	.8
2006	2.0	4.4	3.5	.9	6.4	6.0	.9
2007	2.0	4.4	3.5	.9	6.3	6.0	.9
2010	1.8	4.5	3.5	1.0	6.3	6.0	.6
2020	1.3	4.4	3.5	.9	6.3	6.0	.1
2030	1.4	4.4	3.5	.9	6.3	6.0	.2
2040	1.4	4.4	3.5	.9	6.3	6.0	.2
2050	1.3	4.4	3.5	.9	6.3	6.0	.1
2060	1.3	4.4	3.5	.9	6.3	6.0	.1
2070	1.3	4.4	3.5	.9	6.3	6.0	.1
2075	1.2	4.4	3.5	.9	6.3	6.0	.1

Table II.D1.—Selected Economic Assumptions by Alternative, Calendar Years 1960-2075 (Cont.)

Calendar year	Average annual percentage change in— Real GDP [1]	Average annual percentage change in— Average annual wage in covered employment	Average annual percentage change in— Consumer Price Index [2]	Real-wage differential [3] (percent)	Average annual interest rate [4] (percent)	Average annual unemployment rate [5] (percent)	Average annual percentage increase in labor force [6]
Low Cost:							
1998	3.1	3.5	1.3	2.2	5.7	4.6	1.2
1999	2.5	3.4	2.1	1.3	5.4	4.6	1.1
2000	2.4	3.7	2.3	1.4	5.5	4.7	1.1
2001	2.4	3.6	2.4	1.2	5.9	4.8	1.2
2002	2.4	3.8	2.5	1.3	5.9	4.9	1.0
2003	2.4	3.9	2.5	1.5	6.0	4.9	.9
2004	2.4	3.9	2.5	1.4	3.0	4.9	.8
2005	2.4	3.8	2.5	1.3	6.0	5.0	.9
2006	2.4	3.8	2.5	1.3	6.0	5.0	1.0
2007	2.5	4.0	2.5	1.5	6.0	5.0	.9
2010	2.3	4.1	2.5	1.6	6.0	5.0	.7
2020	1.8	3.9	2.5	1.4	6.0	5.0	.3
2030	2.1	3.9	2.5	1.4	6.0	5.0	.5
2040	2.2	3.9	2.5	1.4	6.0	5.0	.6
2050	2.1	3.9	2.5	1.4	6.0	5.0	.5
2060	2.2	3.9	2.5	1.4	6.0	5.0	.6
2070	2.2	3.9	2.5	1.4	6.0	5.0	.6
2075	2.2	3.9	2.5	1.4	6.0	5.0	.6
High Cost:							
1998	1.6	3.5	2.0	1.5	6.0	5.2	.9
1999	-.7	3.0	3.8	-.8	6.1	6.5	.6
2000	2.5	6.9	5.4	1.5	7.3	6.5	.8
2001	1.1	6.1	6.0	.2	8.3	6.5	1.1
2002	-1.7	2.6	4.6	-2.0	8.3	8.0	.5
2003	2.9	6.5	4.5	2.0	7.7	7.8	.5
2004	2.3	5.4	4.5	.9	7.1	7.2	.8
2005	1.6	4.9	4.5	.4	6.9	7.0	.8
2006	1.5	4.8	4.5	.3	6.7	7.0	.9
2007	1.5	5.0	4.5	.5	6.5	7.0	.8
2010	1.3	5.0	4.5	.5	6.5	7.0	.5
2020	.7	4.9	4.5	.4	6.5	7.0	.0
2030	.7	4.9	4.5	.4	6.5	7.0	.0
2040	.6	4.9	4.5	.4	6.5	7.0	-.2
2050	.4	4.9	4.5	.4	6.5	7.0	-.4
2060	.3	4.9	4.5	.4	6.5	7.0	-.5
2070	.3	4.9	4.5	.4	6.5	7.0	-.5
2075	.3	4.9	4.5	.4	6.5	7.0	-.5

[1] The real GDP (gross domestic product) is the value of total output of goods and services, expressed in 1992 dollars.

[2] The Consumer Price Index is the annual average value for the calendar year of the Consumer Price Index for Urban Wage Earners and Clerical Workers (CPI-W).

[3] The real-wage differential is the difference between the percentage increases, before rounding, in (1) the average annual wage in covered employment, and (2) the average annual Consumer Price Index.

[4] The average annual interest rate is the average of the nominal interest rates, which, in practice, are compounded semiannually, for special public-debt obligations issuable to the trust funds in each of the 12 months of the year.

[5] Through 2007, the rates shown are unadjusted civilian unemployment rates. After 2007, the rates are total rates (including military), adjusted by age and sex based on the average labor force for 1996.

[6] Labor force is the total for the United States (including military personnel) and reflects the average of the monthly numbers of persons in the labor force for each year.

[7] Preliminary. Wages in covered employment are considered preliminary for several years primarily due to uncertainty associated with estimates of amounts above the benefit and contribution base. Estimated real GDP for 1997 is subject to revision; the value for the intermediate assumption is shown.

2. Demographic Assumptions

The principal demographic assumptions for the three alternatives are shown in table II.D2.

For the intermediate projection, the assumed ultimate total fertility rate of 1.9 children per woman is attained in 2022 after a gradual decline from the preliminary estimate for 1997 of 2.03 children per woman. The age-sex-adjusted death rate is assumed to decrease steadily during the entire projection period, with a total reduction of 35 percent from the 1997 level by 2072. Life expectancies at birth are 79.3 years for men and 84.2 years for women based on mortality projected for the year 2075, compared to 72.9 and 79.3 years, respectively, based on 1997 mortality. Life expectancies at age 65 for 2075 mortality are projected to be 18.8 years for men and 22.2 years for women, compared to 15.6 and 19.2 years, respectively, for 1997 mortality. Total net immigration is assumed to rise over the next several years reaching an ultimate level of 900,000 persons per year by the year 2000. The ultimate assumed level of net annual immigration is the combination of 600,000 net legal immigrants per year and 300,000 net other-than-legal immigrants per year.

For the low cost alternative I, the total fertility rate is assumed to rise to an ultimate average level of 2.2 children per woman by 2022. The age-sex-adjusted death rate is assumed to decrease more slowly than for the intermediate alternative II, with the total reduction from the 1997 level being 16 percent by 2072. Life expectancies at birth based on mortality projected for 2075 are 76.4 years for men and 81.2 years for women, while at age 65 they are 16.6 and 19.7 years, respectively. Total net immigration is ultimately assumed to be 1,150,000 persons per year. The assumed level of net annual immigration is the combination of 700,000 net legal immigrants per year and 450,000 net other-than-legal immigrants per year.

For the high cost alternative III, the total fertility rate is assumed to decrease to an ultimate level of 1.6 by 2022. The age-sex-adjusted death rate is assumed to decrease more rapidly than for alternative II, with the total reduction from the 1997 level being 54 percent by 2072. Life expectancies at birth for 2075 mortality are 83.1 years for men and 88.2 years for women, while at age 65 they are 21.9 and 25.4 years, respectively. Total net immigration is ultimately assumed to be 750,000 persons per year, the combination of 550,000 net legal immigrants per year and 200,000 net other-than-legal immigrants per year.

Table II.D2.—Selected Demographic Assumptions by Alternative, Calendar Years 1940-2075

Calendar year	Total fertility rate [1]	Age-sex-adjusted death rate [2] (per 100,000)	Life expectancy [3] At birth Male	Life expectancy [3] At birth Female	Life expectancy [3] At age 65 Male	Life expectancy [3] At age 65 Female
Historical data:						
1940	2.23	1,672.6	61.4	65.7	11.9	13.4
1945	2.42	1,488.6	62.9	68.4	12.6	14.4
1950	3.03	1,339.9	65.6	71.1	12.8	15.1
1955	3.50	1,243.0	66.7	72.8	13.1	15.6
1960	3.61	1,237.9	66.7	73.2	12.9	15.9
1965	2.88	1,210.8	66.8	73.8	12.9	16.3
1970	2.43	1,138.4	67.1	74.9	13.1	17.1
1975	1.77	1,020.9	68.7	76.6	13.7	18.0
1976	1.74	1,010.1	69.1	76.8	13.7	18.1
1977	1.79	981.8	69.4	77.2	13.9	18.3
1978	1.76	976.3	69.6	77.2	13.9	18.3
1979	1.82	944.8	70.0	77.7	14.2	18.6
1980	1.85	961.1	69.9	77.5	14.0	18.4
1981	1.83	934.5	70.4	77.9	14.2	18.6
1982	1.83	906.4	70.8	78.2	14.5	18.8
1983	1.81	916.0	70.9	78.1	14.3	18.6
1984	1.80	909.2	71.1	78.2	14.4	18.7
1985	1.84	912.3	71.1	78.2	14.4	18.6
1986	1.84	904.8	71.1	78.3	14.5	18.7
1987	1.87	895.6	71.3	78.4	14.6	18.7
1988	1.93	906.0	71.2	78.3	14.6	18.7
1989	2.01	882.4	71.5	78.6	14.8	18.9
1990	2.07	865.9	71.8	78.9	15.0	19.0
1991	2.07	854.8	71.9	79.0	15.1	19.1
1992	2.06	843.6	72.2	79.2	15.2	19.2
1993	2.04	863.3	72.0	78.9	15.1	19.0
1994	2.04	852.2	72.2	79.0	15.3	19.0
1995	2.02	849.8	72.4	79.0	15.3	19.0
1996 [4]	2.03	821.8	73.0	79.2	15.8	19.1
1997 [4]	2.03	823.4	72.9	79.3	15.6	19.2
Intermediate:						
1998	2.02	815.9	73.1	79.4	15.7	19.2
2000	2.01	801.5	73.5	79.6	15.8	19.3
2005	1.99	771.0	74.3	80.1	16.1	19.4
2010	1.96	749.2	74.9	80.4	16.3	19.5
2015	1.94	728.0	75.4	80.7	16.5	19.7
2020	1.91	706.7	75.7	81.1	16.7	19.9
2025	1.90	686.2	76.1	81.4	16.9	20.1
2030	1.90	666.7	76.5	81.7	17.1	20.4
2035	1.90	648.1	76.8	82.0	17.3	20.6
2040	1.90	630.5	77.2	82.3	17.5	20.8
2045	1.90	613.7	77.5	82.6	17.7	21.0
2050	1.90	597.7	77.8	82.9	17.9	21.2
2055	1.90	582.4	78.1	83.2	18.1	21.4
2060	1.90	567.8	78.4	83.4	18.3	21.6
2065	1.90	554.0	78.7	83.7	18.5	21.8
2070	1.90	540.7	79.0	84.0	18.7	22.0
2075	1.90	528.0	79.3	84.2	18.8	22.2

Table II.D2.—Selected Demographic Assumptions by Alternative, Calendar Years 1940-2075 (Cont.)

Calendar year	Total fertility rate [1]	Age-sex-adjusted death rate [2] (per 100,000)	Life expectancy [3] At birth Male	Life expectancy [3] At birth Female	Life expectancy [3] At age 65 Male	Life expectancy [3] At age 65 Female
Low Cost:						
1998	2.04	822.6	73.0	79.3	15.6	19.1
2000	2.05	811.0	73.5	79.4	15.7	19.1
2005	2.09	811.0	73.8	79.5	15.7	18.9
2010	2.12	810.7	74.1	79.5	15.7	18.8
2015	2.15	803.2	74.3	79.6	15.7	18.8
2020	2.19	792.9	74.5	79.8	15.8	18.9
2025	2.20	782.5	74.7	79.9	15.9	19.0
2030	2.20	772.5	74.9	80.1	16.0	19.0
2035	2.20	762.8	75.1	80.2	16.1	19.1
2040	2.20	753.5	75.3	80.4	16.1	19.2
2045	2.20	744.5	75.5	80.5	16.2	19.3
2050	2.20	735.8	75.6	80.6	16.3	19.4
2055	2.20	727.4	75.8	80.8	16.3	19.4
2060	2.20	719.2	76.0	80.9	16.4	19.5
2065	2.20	711.3	76.1	81.0	16.5	19.6
2070	2.20	703.7	76.3	81.1	16.6	19.7
2075	2.20	696.3	76.4	81.2	16.6	19.7
High Cost:						
1998	2.00	810.1	73.2	79.5	15.7	19.3
2000	1.97	785.6	73.7	79.9	16.0	19.5
2005	1.89	735.2	74.7	80.7	16.5	19.9
2010	1.80	697.4	75.5	81.3	16.8	20.2
2015	1.72	663.5	76.2	81.9	17.2	20.6
2020	1.63	630.1	76.9	82.4	17.6	21.0
2025	1.60	598.3	77.5	83.0	18.0	21.4
2030	1.60	568.4	78.1	83.6	18.4	21.8
2035	1.60	540.4	78.7	84.1	18.8	22.2
2040	1.60	514.1	79.3	84.7	19.2	22.7
2045	1.60	489.4	79.8	85.2	19.6	23.1
2050	1.60	466.2	80.4	85.7	20.0	23.5
2055	1.60	444.3	81.0	86.2	20.4	23.8
2060	1.60	423.7	81.5	86.7	20.7	24.2
2065	1.60	404.4	82.1	87.2	21.1	24.6
2070	1.60	386.1	82.6	87.7	21.5	25.0
2075	1.60	368.8	83.1	88.2	21.9	25.4

[1] The total fertility rate for any year is the average number of children who would be born to a woman in her lifetime if she were to experience the birth rates by age observed in, or assumed for, the selected year, and if she were to survive the entire childbearing period. The ultimate total fertility rate is assumed to be reached in 2022.

[2] The age-sex-adjusted death rate is the crude rate that would occur in the enumerated total population as of April 1, 1990, if that population were to experience the death rates by age and sex observed in, or assumed for, the selected year.

[3] The life expectancy for any year is the average number of years of life remaining for a person if that person were to experience the death rates by age observed in, or assumed for, the selected year.

[4] Preliminary or estimated.

The ultimate total fertility rates, as shown in table II.D2, are unchanged from last year's report. Due to the higher-than-expected level of additional data for the years 1995 and 1996, the total fertility rates during the first 25 years of the projection period are, generally, slightly higher than those in last year's report.

Actuarial Analysis

The life expectancies shown in table II.D2 are based on the concept of a "period" life table. The "period" life expectancy at a given age for any year represents the average number of years of life remaining if all persons at that age in the population were to experience the mortality rates by age observed in, or assumed for, that year. Thus, the life expectancies are not based on the concept of a "cohort" life table; i.e., they do not represent the effects of mortality rates observed in, or assumed for, each later year of that cohort's remaining lifetime.

Mortality values shown in table II.D2 are different from values in last year's report. Additional data for the years 1994-96, resulted in overall lower mortality rates estimated for the starting year 1996 and slightly higher rates of mortality reduction during the first 25 years of the projection period. The ultimate rates of reduction in mortality are the same as those used in last year's report.

In addition to the assumptions discussed above, many other factors are necessary to prepare the estimates presented in this report. Section II.H includes a discussion of many of those factors.

E. AUTOMATIC ADJUSTMENTS

The Social Security Act specifies that certain program amounts affecting the determination of OASDI benefits are to be adjusted annually, in general, to reflect changes in the economy. The law prescribes specific formulas that, when applied to reported statistics, produce "automatic" revisions in these program amounts and hence in the benefit-computation procedures.

In this section, values are shown for program amounts that are subject to automatic adjustment, from the time that such adjustments became effective through 2007. Projected values for future years are based on the economic assumptions described in the preceding section of this report. Appendix F, in addition to providing the most recent determinations of program amounts under the automatic adjustment provisions, also provides a more complete description of such amounts.

Under the automatic-adjustment provisions affecting cost-of-living increases, benefits generally are increased once a year. These provisions were originally enacted in 1972 and first became effective with the benefit increase effective for June 1975. The 1983 amendments changed the effective month to December for years after 1982. For persons becoming eligible for benefits in 1979 and later, the increases generally begin with the year in which the worker reaches age 62, or becomes disabled or dies, if earlier. An automatic cost-of-living benefit increase of 2.1 percent, effective for December 1997, was announced in October 1997, as described in appendix F. The automatic cost-of-living benefit increase for any year is normally based on the change in the CPI from the third quarter of the previous year to the third quarter of the current year.[1]

Under section 215(b)(3) of the Social Security Act, the national average wage index[2] for each year after 1950 is used to index the earnings of most workers first becoming eligible for benefits in 1979 or later. This procedure converts a worker's past earnings to approximately their equivalent values near the time of the worker's retirement or

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[1] If the combined assets of the OASI and DI Trust Funds at the beginning of a year represent less than 20 percent of annual expenditures for that year, then the automatic benefit increase for December is limited to the lesser of the increases in wages or prices. This "stabilizer" provision has not affected any benefit increases since its enactment in 1983. Based on the projected operations of the trust funds shown in this report under the alternative sets of assumptions, the stabilizer provision is unlikely to affect any future OASDI benefit increases under present law.

[2] The average wage index is defined in the Code of Federal Regulations (Title 20, Chapter III, section 404.211(c)).

other eligibility, and these indexed values are used to calculate the worker's benefit. The average wage index is also used to adjust most of the program amounts that are subject to the automatic-adjustment provisions. Table II.E1 shows the average wage index as determined for each year 1951 through 1996.

Table II.E1.—Average Wage Index, Calendar Years 1951-96

Year	Amount	Year	Amount	Year	Amount
1951	$2,799.16	1971	$6,497.08	1991	$21,811.60
1952	2,973.32	1972	7,133.80	1992	22,935.42
1953	3,139.44	1973	7,580.16	1993	23,132.67
1954	3,155.64	1974	8,030.76	1994	23,753.53
1955	3,301.44	1975	8,630.92	1995	24,705.66
1956	3,532.36	1976	9,226.48	1996	25,913.90
1957	3,641.72	1977	9,779.44		
1958	3,673.80	1978	10,556.03		
1959	3,855.80	1979	11,479.46		
1960	4,007.12	1980	12,513.46		
1961	4,086.76	1981	13,773.10		
1962	4,291.40	1982	14,531.34		
1963	4,396.64	1983	15,239.24		
1964	4,576.32	1984	16,135.07		
1965	4,658.72	1985	16,822.51		
1966	4,938.36	1986	17,321.82		
1967	5,213.44	1987	18,426.51		
1968	5,571.76	1988	19,334.04		
1969	5,893.76	1989	20,099.55		
1970	6,186.24	1990	21,027.98		

The law provides for an automatic increase in the OASDI program's contribution and benefit base, based on the increase in the average wage index, for the year following a year in which an automatic benefit increase became effective. As described in appendix F, the contribution and benefit base for 1998 was determined to be $68,400.

Under the retirement earnings test, earnings below certain amounts are exempted from the withholding of benefits payable to beneficiaries under age 70. Different exempt amounts apply for beneficiaries under the normal retirement age (currently, age 65) and for those at this age and above, up to age 69. The automatic adjustment provisions require that such exempt amounts be increased in the year following a year in which an automatic cost-of-living benefit increase becomes effective. Generally, increases in the exempt amounts are based on increases in the average wage index. Public Law 104-121, however, mandates a fixed series of exempt amounts for persons aged 65 to 69, for years 1996-2002. After 2002, the exempt amounts are indexed.

Table II.E2 shows historical automatic cost-of-living benefit increases for the years 1975-97 and assumed increases through 2007. The table also shows historical year-to-year percentage increases in the average wage index for 1975-96 and assumed increases through 2007. As noted above, the OASDI contribution and benefit base and the retirement test exempt amounts for those under the normal retirement age are adjusted on the basis of such wage increases. After 2002, the retirement test exempt amounts for those between the normal retirement age and age 70 are also indexed based on increases in the average wage index. The historical and projected amounts for the base and the exempt amounts are also shown in table II.E2. The projections are shown under the three alternative sets of economic assumptions described in the previous section.

Table II.E2.—Cost-of-Living Benefit Increases, Average Wage Index Increases, OASDI Contribution and Benefit Bases, and Retirement Earnings Test Exempt Amounts, by Alternative, 1975-2007

Calendar year	OASDI benefit increases[1] (percent)	Increase in average wage index[2] (percent)	OASDI contribution and benefit base[3]	Retirement earnings test exempt amount: Under NRA[4]	Retirement earnings test exempt amount: NRA[4] and over[5]
Historical data:					
1975	8.0	7.5	$14,100	$2,520	$2,520
1976	6.4	6.9	15,300	2,760	2,760
1977	5.9	6.0	16,500	3,000	3,000
1978	6.5	7.9	17,700	3,240	4,000
1979	9.9	8.7	22,900	3,480	4,500
1980	14.3	9.0	25,900	3,720	5,000
1981	11.2	10.1	29,700	4,080	5,500
1982	7.4	5.5	32,400	4,440	6,000
1983	3.5	4.9	35,700	4,920	6,600
1984	3.5	5.9	37,800	5,160	6,960
1985	3.1	4.3	39,600	5,400	7,320
1986	1.3	3.0	42,000	5,760	7,800
1987	4.2	6.4	43,800	6,000	8,160
1988	4.0	4.9	45,000	6,120	8,400
1989	4.7	4.0	48,000	6,480	8,880
1990	5.4	4.6	51,300	6,840	9,360
1991	3.7	3.7	53,400	7,080	9,720
1992	3.0	5.2	55,500	7,440	10,200
1993	2.6	.9	57,600	7,680	10,560
1994	2.8	2.7	60,600	8,040	11,160
1995	2.6	4.0	61,200	8,160	11,280
1996	2.9	4.1	62,700	8,280	12,500
1997	2.1	[6] 4.3	65,400	8,640	13,500
Intermediate:					
1998	1.5	3.2	[7] 68,400	[7] 9,120	14,500
1999	2.4	3.4	71,400	9,480	15,500
2000	2.6	3.8	73,800	9,720	17,000
2001	2.7	3.6	76,200	10,080	25,000
2002	2.9	3.7	79,200	10,440	30,000
2003	3.1	4.0	81,900	10,920	31,080
2004	3.3	4.3	84,900	11,280	32,160
2005	3.4	4.3	88,200	11,760	33,480
2006	3.5	4.3	92,100	12,240	34,920
2007	3.5	4.4	96,000	12,720	36,480

Table II.E2.—Cost-of-Living Benefit Increases, Average Wage Index Increases, OASDI Contribution and Benefit Bases, and Retirement Earnings Test Exempt Amounts, by Alternative, 1975-2007 (Cont.)

Calendar year	OASDI benefit increases[1] (percent)	Increase in average wage index[2] (percent)	OASDI contribution and benefit base [3]	Retirement earnings test exempt amount: Under NRA[4]	Retirement earnings test exempt amount: NRA[4] and over[5]
Low Cost:					
1998	1.3	3.4	[7] $68,400	[7] $9,120	$14,500
1999	2.3	3.4	71,700	9,480	15,500
2000	2.2	3.6	74,100	9,840	17,000
2001	2.4	3.5	76,500	10,200	25,000
2002	2.5	3.7	79,200	10,560	30,000
2003	2.5	3.9	82,200	10,920	31,080
2004	2.6	3.9	85,200	11,280	32,160
2005	2.4	3.8	88,500	11,760	33,480
2006	2.5	3.8	91,800	12,240	34,800
2007	2.5	3.9	95,400	12,600	36,000
High Cost:					
1998	2.2	3.5	[7] 68,400	[7] 9,120	14,500
1999	3.8	3.0	71,100	9,480	15,500
2000	5.7	6.7	73,800	9,720	17,000
2001	6.0	6.0	75,900	10,080	25,000
2002	4.5	2.7	81,000	10,800	30,000
2003	4.5	6.4	85,800	11,400	31,800
2004	4.5	5.3	88,200	11,760	32,640
2005	4.4	4.9	93,900	12,480	34,800
2006	4.6	4.8	99,000	13,080	36,600
2007	4.5	4.9	103,800	13,800	38,400

[1] Effective with benefits payable for June in each year 1975-82, and for December in each year after 1982.

[2] Increase in the average wage index from prior year to the year shown. See footnote 6 below and table III.B1 for projected dollar amounts of the average wage index.

[3] Amounts for 1979-81 were specified by Public Law 95-216. The bases for years after 1989 were increased slightly by changes to the indexing procedure, as required by Public Law 101-239. Prior to 1991, the Hospital Insurance (HI) contribution base was the same as the OASDI contribution and benefit base. Higher HI bases of $125,000, $130,200, and $135,000 applied for 1991-93, respectively. Public Law 103-66 repealed the HI contribution base.

[4] Normal retirement age.

[5] In 1955-82, the retirement earnings test did not apply at ages 72 and over; beginning in 1983, it does not apply at ages 70 and over. Amounts for 1978-82 specified by Public Law 95-216; for 1996-2002, Public Law 104-121.

[6] Based on an estimated average wage index of $27,019.16 for 1997.

[7] Actual amount, as determined and announced in October 1997.

Other wage-indexed amounts are shown in table II.E3. The table provides historical values from 1978, when the amount of earnings required for a quarter of coverage was first indexed, through 1998, and also shows projected amounts under the intermediate assumptions through the year 2007. These other wage-indexed program amounts are described in the following paragraphs.

As noted earlier, a worker who becomes eligible for benefits in 1979 or later generally receives a benefit based on his or her indexed earnings. These indexed earnings are used to calculate the worker's Average Indexed Monthly Earnings (AIME). The basic formula used to compute the Primary Insurance Amount (PIA) for workers who reach age 62, become disabled, or die in 1998 is:

> 90 percent of the first $477 of AIME, plus
> 32 percent of AIME in excess of $477
> but not in excess of $2,875, plus
> 15 percent of AIME in excess of $2,875.

The amounts separating the individual's AIME into intervals—the "bend points"—are adjusted automatically by the changes in average wages as specified in section 215(a)(1)(B) of the Social Security Act.

A similar formula is used to compute the maximum total amount of monthly benefits payable on the basis of the earnings of a retired or deceased individual. This formula is a function of the individual's PIA, and is shown below for workers who first became eligible for benefits, or who died before becoming eligible, in 1998:

> 150 percent of the first $609 of PIA, plus
> 272 percent of the PIA in excess of $609
> but not in excess of $880, plus
> 134 percent of the PIA in excess of $880
> but not in excess of $1,147, plus
> 175 percent of the PIA in excess of $1,147.

These PIA-interval bend points are adjusted automatically in accordance with section 203(a)(2) of the Act.

An individual's insured status depends on the number of quarters of coverage he or she has earned while in covered employment. The 1977 amendments specified the amount of earnings required in 1978 to be credited with a quarter of coverage and provided for automatic adjustment of this amount for years thereafter.

The law provides for the determination of the OASDI contribution and benefit bases that would have been in effect in each year after 1978 under the automatic-adjustment provisions as in effect before the enactment of the 1977 amendments. This "old-law base" is used in determining special-minimum benefits for certain workers who have many years of low earnings in covered employment.[1] Beginning in 1986, the old-law base is also used in the calculation of OASDI benefits for certain workers who are eligible to receive pensions based on

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[1] For special minimum purposes, "low earnings" means earnings of at least 15 percent of the old-law base. Prior to 1991, the definition required earnings of at least 25 percent of the old-law base.

noncovered employment. In addition, it is used for certain purposes under the Railroad Retirement program and the Employee Retirement Income Security Act of 1974.

Table II.E3.—Selected OASDI Program Amounts[1] Determined Under the Automatic-Adjustment Provisions, Calendar Years 1978-98, and Projected Future Amounts, Calendar Years 1999-2007, on the Basis of the Intermediate Set of Assumptions

Calendar year	AIME "bend points" in PIA formula: First	AIME "bend points" in PIA formula: Second	PIA "bend points" in maximum-family-benefit formula: First	PIA "bend points" in maximum-family-benefit formula: Second	PIA "bend points" in maximum-family-benefit formula: Third	Earnings required for a quarter of coverage[2]	"Old law" contribution and benefit base[3]
Historical data:							
1978	(4)	(4)	(4)	(4)	(4)	5 $250	(4)
1979	5 $180	5 $1,085	5 $230	5 $332	5 $433	260	$18,900
1980	194	1,171	248	358	467	290	20,400
1981	211	1,274	270	390	508	310	22,200
1982	230	1,388	294	425	554	340	24,300
1983	254	1,528	324	468	610	370	26,700
1984	267	1,612	342	493	643	390	28,200
1985	280	1,691	358	517	675	410	29,700
1986	297	1,790	379	548	714	440	31,500
1987	310	1,866	396	571	745	460	32,700
1988	319	1,922	407	588	767	470	33,600
1989	339	2,044	433	626	816	500	35,700
1990	356	2,145	455	656	856	520	38,100
1991	370	2,230	473	682	890	540	39,600
1992	387	2,333	495	714	931	570	41,400
1993	401	2,420	513	740	966	590	42,900
1994	422	2,545	539	779	1,016	620	45,000
1995	426	2,567	544	785	1,024	630	45,300
1996	437	2,635	559	806	1,052	640	46,500
1997	455	2,741	581	839	1,094	670	48,600
1998	477	2,875	609	880	1,147	700	50,700
Estimates:							
1999	497	2,998	635	917	1,196	730	53,100
2000	513	3,095	656	947	1,235	760	54,600
2001	531	3,199	678	979	1,277	780	56,700
2002	551	3,319	704	1,016	1,325	810	58,800
2003	570	3,438	729	1,052	1,372	840	60,900
2004	591	3,565	756	1,091	1,423	870	63,000
2005	615	3,709	786	1,135	1,480	910	65,700
2006	642	3,869	820	1,184	1,544	940	68,400
2007	670	4,036	856	1,235	1,611	990	71,400

[1] Other program amounts determined under automatic-adjustment provisions have negligible implications for the financial operations of the trust funds. These amounts are the substantial gainful activity amount for blind beneficiaries, the coverage threshold for domestic workers, and, for years after 1999, the coverage threshold for election workers.

[2] See appendix F for a description of quarter-of-coverage requirements prior to 1978.

[3] Contribution and benefit base that would have been determined automatically under the law in effect prior to enactment of the Social Security Amendments of 1977. The bases for years after 1989 were increased slightly by changes to the indexing procedure to determine the base, as required by Public Law 101-239.

[4] No provision in law for this amount in this year.

[5] Amount specified for first year by Social Security Amendments of 1977; amounts for subsequent years subject to automatic-adjustment provisions.

In addition to the program amounts affecting the determination of OASDI benefits that reflect changes in the economy, there are certain legislated changes that have affected, and will affect, benefits. One such change, the scheduled increases in the retirement test exempt amount for beneficiaries aged 65 to 69 over the years 1996-2002, was shown in table II.E2. Other important changes are the scheduled increases in the normal retirement age and in the delayed retirement credits. Table II.E4 shows the scheduled changes in these two important items and their effect on benefits expressed as a percentage of PIA.

Table II.E4.—Increases in Normal Retirement Age and Delayed Retirement Credits, With Resulting Benefit, as a Percentage of PIA, Payable at Selected Ages, for Persons Reaching Age 62 in Each Year 1986 and Later

Year of birth	Year of attainment of age 62	Normal retirement age (NRA)	Credit for each year of delayed retirement after NRA (percent)	Benefit, as a percentage of PIA, beginning at age —				
				62	65	66	67	70
1924	1986	65	3	80	100	103	106	115
1925	1987	65	3 1/2	80	100	103 1/2	107	117 1/2
1926	1988	65	3 1/2	80	100	103 1/2	107	117 1/2
1927	1989	65	4	80	100	104	108	120
1928	1990	65	4	80	100	104	108	120
1929	1991	65	4 1/2	80	100	104 1/2	109	122 1/2
1930	1992	65	4 1/2	80	100	104 1/2	109	122 1/2
1931	1993	65	5	80	100	105	110	125
1932	1994	65	5	80	100	105	110	125
1933	1995	65	5 1/2	80	100	105 1/2	111	127 1/2
1934	1996	65	5 1/2	80	100	105 1/2	111	127 1/2
1935	1997	65	6	80	100	106	112	130
1936	1998	65	6	80	100	106	112	130
1937	1999	65	6 1/2	80	100	106 1/2	113	132 1/2
1938	2000	65, 2 mo .	6 1/2	79 1/6	98 8/9	105 5/12	111 11/12	131 5/12
1939	2001	65, 4 mo .	7	78 1/3	97 7/9	104 2/3	111 2/3	132 2/3
1940	2002	65, 6 mo .	7	77 1/2	96 2/3	103 1/2	110 1/2	131 1/2
1941	2003	65, 8 mo .	7 1/2	76 2/3	95 5/9	102 1/2	110	132 1/2
1942	2004	65, 10 mo	7 1/2	75 5/6	94 4/9	101 1/4	108 3/4	131 1/4
1943-54....	2005-16...	66	8	75	93 1/3	100	108	132
1955	2017	66, 2 mo .	8	74 1/6	92 2/9	98 8/9	106 2/3	130 2/3
1956	2018	66, 4 mo .	8	73 1/3	91 1/9	97 7/9	105 1/3	129 1/3
1957	2019	66, 6 mo .	8	72 1/2	90	96 2/3	104	128
1958	2020	66, 8 mo .	8	71 2/3	88 8/9	95 5/9	102 2/3	126 2/3
1959	2021	66, 10 mo	8	70 5/6	87 7/9	94 4/9	101 1/3	125 1/3
1960 & later.	2022 & later	67	8	70	86 2/3	93 1/3	100	124

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, 1997, is presented in section II.C of this report. Estimates of the operations and status of the trust funds during fiscal years 1998-2007 are presented in this section. In addition, similar estimates for calendar years 1998-2007 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 advance 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 (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

[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.

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 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. If the actuarial balance is a deficit, the size of the deficit 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, summarized 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, 1997, to December 31, 2007

This subsection presents estimates of the operations and financial status of the OASI and DI Trust Funds for the period October 1, 1997, to December 31, 2007, 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 throughout the next 10 years, rapidly under the intermediate and low cost assumptions and less rapidly under the high cost assumptions. The estimates indicate that the assets of the DI Trust Fund would also continue to increase throughout the next 10 years under the intermediate and low cost assumptions, at a slightly lower rate than for the OASI Trust Fund. Under the high cost assumptions, DI assets would increase for a few years before declining. Although not shown in these estimates, DI assets would become insufficient to permit the timely payment of benefits by the latter half of 2009 under the high cost assumptions.

As will be shown later in this subsection, the OASI and DI Trust Funds, both individually and combined, meet the requirements of the Trustees' test of short-range financial adequacy.

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[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 have been made in certain years, with the next year having only 11 payments. This situation resulted 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. When this situation occurs in the future, only the portion of benefits payable on January 3 would be delivered in December. The benefits payable later in January due to payment cycling, which began in June 1997, would still be paid in January.

Actuarial Analysis

a. OASI Trust Fund Operations

Estimates of the operations and status of the OASI Trust Fund during calendar years 1998-2007 are shown in table II.F1 based on each of the three alternative sets of assumptions. Actual operations for calendar year 1997 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 2007 (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 147 million during calendar year 1997 to about 162 million, 158 million, and 155 million, respectively, in 2007. The total annual amount of taxable earnings is projected to increase from $3,292 billion in 1997 to $5,218 billion, $5,116 billion, and $5,422 billion, in 2007, on the basis of alternatives I, II, and III, respectively. (In 1997 dollars—taking account of assumed increases in the CPI from 1997 to 2007 under each alternative—the estimated amounts of taxable earnings in 2007 are $4,160 billion, $3,859 billion, and $3,518 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 1998-2007 under the automatic adjustment provisions, and (3) various provisions enacted in 1983 and later, 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 2007, interest income to the OASI Trust Fund is projected to range from 15 to 17 percent of total trust fund income (depending on alternative), as compared to 10 percent in 1997.

Table II.F1.—Estimated Operations of the OASI Trust Fund by Alternative, Calendar Years 1997-2007

[Amounts in billions]

Calendar year	Income	Expen-ditures	Net increase in fund	Fund at end of year	Trust fund Amount [1]	Trust fund Ratio [2]
1997 [3]	$397.2	$322.1	$75.1	$589.1	$514.0	160
Intermediate:						
1998	420.5	332.3	88.2	677.3	589.1	177
1999	437.3	342.6	94.6	772.0	677.3	198
2000	453.8	356.5	97.3	869.2	772.0	217
2001	476.0	372.1	103.9	973.1	869.2	234
2002	500.0	389.1	110.9	1,084.0	973.1	250
2003	525.8	407.2	118.6	1,202.6	1,084.0	266
2004	554.3	427.1	127.2	1,329.8	1,202.6	282
2005	586.5	449.2	137.2	1,467.0	1,329.8	296
2006	620.3	473.3	147.1	1,614.1	1,467.0	310
2007	658.4	499.6	158.8	1,772.9	1,614.1	323
Low Cost:						
1998	422.0	332.0	89.9	679.1	589.1	177
1999	442.8	341.4	101.4	780.5	679.1	199
2000	461.0	354.4	106.6	887.1	780.5	220
2001	486.4	368.0	118.4	1,005.5	887.1	241
2002	512.8	383.0	129.8	1,135.3	1,005.5	263
2003	541.2	398.7	142.4	1,277.7	1,135.3	285
2004	571.2	415.2	156.0	1,433.6	1,277.7	308
2005	604.6	433.3	171.3	1,604.9	1,433.6	331
2006	638.8	451.6	187.1	1,792.1	1,604.9	355
2007	677.7	471.9	205.8	1,997.9	1,792.1	380
High Cost:						
1998	419.6	332.6	87.0	676.1	589.1	177
1999	429.6	345.7	83.9	760.0	676.1	196
2000	457.1	365.0	92.2	852.2	760.0	208
2001	491.3	392.7	98.6	950.8	852.2	217
2002	509.3	423.9	85.4	1,036.2	950.8	224
2003	543.7	450.8	92.8	1,129.0	1,036.2	230
2004	580.3	479.3	101.1	1,230.1	1,129.0	236
2005	618.4	509.7	108.8	1,338.9	1,230.1	241
2006	655.3	541.9	113.4	1,452.3	1,338.9	247
2007	695.0	577.7	117.3	1,569.6	1,452.3	251

[1] Represents assets at beginning of year.

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

[3] Figures for 1997 represent actual experience.

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

Rising expenditures during 1998-2007 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 modified 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 1997 were equal to 160 percent of the fund's expenditures in 1997. 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 1997, income exceeded disbursements by $75.1 billion. As a result, the trust fund ratio increased to about 177 percent at the beginning of 1998.

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 177 percent at the beginning of 1998 to the range of 251-380 percent at the beginning of 2007 is due, in part, to the increases in the OASI tax rate that became effective in 1988 and 1990 (even though much of the increase was reallocated to the DI Trust Fund in 1994). Asset growth is also assisted by growth in taxable earnings that is projected to exceed the growth in benefit payments throughout the short-range projection period (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 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 2007. 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. Currently, assets of roughly 8 to 9 percent of annual expenditures are sufficient for this purpose, although this minimum requirement will decline very gradually in the future as payment cycling is phased in. 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 level required to pay benefits on time, represents the reserve available to handle adverse contingencies.

connection with the OASI Trust Fund. Interest income was 7 percent of overall income to the DI Trust Fund in 1997; it is projected to increase to roughly 11 percent of annual trust fund income by 2007 on the basis of the intermediate assumptions.

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, under all three sets of assumptions, the number of DI beneficiaries in current-payment status is projected to continue increasing throughout the short-range projection period, but at somewhat lower levels than anticipated in last year's report. The projected annual average growth rate in the number of DI worker beneficiaries is roughly 4.4 percent over the period 1997-2007. Growth is attributable to several factors, including (1) a gradually increasing trend in the estimated number of individuals insured for disability benefits, and (2) program dynamics which result in a greater number of insured workers awarded benefits than disabled workers whose benefits terminate as a result of death, recovery, or conversion to old-age benefit payments.

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 1993-97, the observed incidence rate declined from the 1992 level. A 5.9 percent reduction in the number of disabled worker awards from 1996 to 1997 is attributable to numerous factors, including (1) reductions of roughly 4 percent and 8 percent in applications in 1996 and 1997, respectively, resulting in fewer determinations (and consequently allowances) of disability benefits, and (2) low levels of unemployment.

The rapid increases in disability benefit applications and awards during 1990-92 appear to be attributable, in part, to the rise in unemployment associated with the 1990-91 economic recession (although the evidence is not conclusive). 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 issued December 1992, 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. Subsequent to that report, the Social Security Administration, together with the Office of the Assistant Secretary for Planning and Evaluation in the Department of Health and Human Services, commissioned a series of studies attempting to quantify some of the reasons for the rapid growth in the DI program in the early 1990s. Reference should be made to these studies for further details on the possible factors contributing to the increases in disability incidence rates observed in the period 1990-92, and the subsequent decline observed since 1992.

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 1997 disability incidence rate (calculated on an age-sex-adjusted basis) was 4.65 awards per 1,000 insured workers. This figure was about 1 percent lower than the average incidence rate of 4.70 per thousand that was experienced during the period 1975-97. Under the intermediate assumptions, incidence rates are assumed to decrease by another 1 percent in 1998 and then to increase gradually for the remainder of the short-range projection period, to about 9 percent above the level experienced in 1997. Under the low cost alternative, incidence rates decline by about 7 percent during 1998-2007, staying under the 1975-97 average for years after 1998. The high cost alternative assumes that incidence rates increase by 25 percent over the next 10 years.

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 levels experienced throughout the 1970s and early 1980s.

Table II.F2.—Estimated Operations of the DI Trust Fund by Alternative, Calendar Years 1997-2007

[Amounts in billions]

Calendar year	Income	Expen-ditures	Net increase in fund	Fund at end of year	Trust fund Amount [1]	Trust fund Ratio [2]
1997 [3]	$60.5	$47.0	$13.5	$66.4	$52.9	113
Intermediate:						
1998	63.8	50.6	13.2	79.6	66.4	131
1999	66.4	53.6	12.8	92.4	79.6	148
2000	73.3	56.9	16.4	108.8	92.4	163
2001	77.2	60.8	16.4	125.2	108.8	179
2002	81.1	65.7	15.4	140.6	125.2	190
2003	85.3	71.0	14.3	154.8	140.6	198
2004	89.7	77.1	12.6	167.4	154.8	201
2005	94.5	83.9	10.6	178.0	167.4	200
2006	99.3	91.2	8.1	186.0	178.0	195
2007	104.5	99.4	5.1	191.2	186.0	187
Low Cost:						
1998	64.0	50.0	14.1	80.4	66.4	133
1999	67.4	52.2	15.2	95.7	80.4	154
2000	74.7	54.6	20.1	115.8	95.7	175
2001	79.2	57.5	21.7	137.5	115.8	201
2002	83.8	61.3	22.5	160.0	137.5	224
2003	88.6	65.3	23.3	183.3	160.0	245
2004	93.6	69.8	23.8	207.1	183.3	263
2005	99.1	74.7	24.4	231.5	207.1	277
2006	104.5	79.8	24.8	256.3	231.5	290
2007	110.6	85.3	25.3	281.6	256.3	300
High Cost:						
1998	63.6	51.6	12.0	78.4	66.4	129
1999	65.1	56.4	8.7	87.1	78.4	139
2000	73.2	61.9	11.4	98.4	87.1	141
2001	78.9	69.1	9.8	108.2	98.4	142
2002	81.1	77.8	3.3	111.5	108.2	139
2003	85.9	86.0	-0.1	111.4	111.5	130
2004	90.8	95.2	-4.4	107.0	111.4	117
2005	95.6	105.1	-9.5	97.6	107.0	102
2006	99.8	115.6	-15.9	81.7	97.6	84
2007	103.9	127.3	-23.4	58.4	81.7	64

[1] Represents assets at beginning of year.

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

[3] Figures for 1997 represent actual experience.

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

In this report, termination rates due to attainment of normal retirement age are estimated to continue their downward trend through 2002. This rate would drop in 2003 and remain at a depressed level for 5 more years as a result of the increase in the normal retirement age which begins in that year. Age-specific death rates for disabled beneficiaries are assumed to remain at about the level experienced over the last 2-3 years. Terminations due to recovery are assumed to increase over the next few years from their current levels as a result of the additional funding for continuing disability reviews authorized under Public Law 104-121. The overall termination rate (reflecting all causes) is projected under all three alternatives to decline gradually during 1998-2002. The overall rate then declines in 2003 due largely to the increase in the normal retirement age cited above.

The continuing spread of Acquired Immunodeficiency Syndrome (AIDS) had contributed somewhat to increases in DI awards in the early 1990s; however, revised downward estimates of both historical and projected awards due to HIV impairments has been the trend over the last several reports. In addition, due to the higher mortality rates of affected individuals, the total number of disabled workers currently receiving benefits has not increased greatly as a result of AIDS, and has actually decreased in recent years. Although many aspects of the AIDS epidemic are well understood, there remains considerable uncertainty regarding future medical advances and future incidence of HIV infection. To reflect this uncertainty, the projected numbers of benefit awards to AIDS patients are varied by alternative. Under the intermediate assumptions, benefit awards to persons with AIDS are projected to continue recent declines through the remainder of the short-range period. Under the low cost assumptions, the number of new awards also declines throughout the projection period, but at a somewhat more rapid rate, while the number projected under the high cost assumptions increases slightly through 2002 before beginning to decline.

At the beginning of calendar year 1997, the assets of the DI Trust Fund represented 113 percent of annual expenditures. During 1997, DI income exceeded DI expenditures by $13.5 billion, with the result that the trust fund ratio for the beginning of 1998 increased to about 131 percent. Under the intermediate and low cost sets of assumptions, total income is estimated to exceed expenditures in each year of the short-range projection period. The increase in the trust fund ratio from 113 percent at the beginning of 1997 to 131 percent at the beginning of 1998, and the further increase to 201 percent at the beginning of 2004 on the basis of the intermediate assumptions, are largely due to the tax rate reallocation enacted in 1994. The decline in the trust fund ratio to 187 percent at the beginning of 2007 is an early warning of trouble for the DI Trust Fund soon after the short-range period.

Under the low cost assumptions, the trust fund ratio would increase rapidly to 300 percent at the beginning of 2007. Under the high cost assumptions, the assets of the DI Trust Fund would increase through 2002, decline steadily thereafter, and would be exhausted in 2009.

Actuarial Analysis

Because DI assets were greater than 1 year's expenditures at the beginning of 1998 and would remain above that level in 1999 and later under the intermediate assumptions, the DI Trust Fund satisfies the Trustees' short-range test of financial adequacy. However, as indicated above, under the high cost assumptions not only does DI fail to meet the short-range test of financial adequacy, but the DI Trust Fund is exhausted soon after the short-range projection period.

c. *Combined OASI and DI Trust Fund Operations*

The estimated operations and status of the OASI and DI Trust Funds, combined, during calendar years 1998-2007 on the basis of the three alternatives, are shown in table II.F3, together with figures on actual experience in 1997. These amounts are the sums of the corresponding figures shown in tables II.F1 and II.F2.

Table II.F3.—Estimated Operations of the OASI and DI Trust Funds, Combined, by Alternative, Calendar Years 1997-2007

[Amounts in billions]

Calendar year	Income	Expenditures	Net increase in funds	Funds at end of year	Trust fund	
					Amount [1]	Ratio [2]
1997 [3]	$457.7	$369.1	$88.6	$655.5	$567.0	154
Intermediate:						
1998	484.3	382.9	101.4	756.9	655.5	171
1999	503.7	396.3	107.5	864.4	756.9	191
2000	527.1	413.4	113.7	978.1	864.4	209
2001	553.2	433.0	120.3	1,098.3	978.1	226
2002	581.1	454.8	126.3	1,224.6	1,098.3	241
2003	611.1	478.2	132.9	1,357.4	1,224.6	256
2004	643.9	504.2	139.7	1,497.2	1,357.4	269
2005	680.9	533.1	147.8	1,645.0	1,497.2	281
2006	719.6	564.5	155.1	1,800.1	1,645.0	291
2007	762.9	599.0	163.9	1,964.0	1,800.1	301
Low Cost:						
1998	486.0	382.0	104.0	759.5	655.5	172
1999	510.1	393.5	116.6	876.1	759.5	193
2000	535.8	409.0	126.7	1,002.8	876.1	214
2001	565.7	425.5	140.1	1,143.0	1,002.8	236
2002	596.6	444.3	152.2	1,295.2	1,143.0	257
2003	629.8	464.0	165.7	1,461.0	1,295.2	279
2004	664.8	485.1	179.8	1,640.8	1,461.0	301
2005	703.7	508.0	195.7	1,836.4	1,640.8	323
2006	743.3	531.4	211.9	2,048.3	1,836.4	346
2007	788.3	557.2	231.2	2,279.5	2,048.3	368
High Cost:						
1998	483.2	384.2	99.0	754.5	655.5	171
1999	494.7	402.1	92.6	847.1	754.5	188
2000	530.4	426.9	103.5	950.6	847.1	198
2001	570.2	461.8	108.4	1,059.0	950.6	206
2002	590.5	501.8	88.7	1,147.7	1,059.0	211
2003	629.6	536.9	92.7	1,240.4	1,147.7	214
2004	671.2	574.4	96.7	1,337.2	1,240.4	216
2005	714.0	614.7	99.3	1,436.5	1,337.2	218
2006	755.0	657.5	97.6	1,534.0	1,436.5	218
2007	798.9	705.0	93.9	1,628.0	1,534.0	218

[1] Represents assets at beginning of year.

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

[3] Figures for 1997 represent actual experience.

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

At the beginning of 1997, the trust fund ratio for the OASI and DI Trust Funds combined was 154 percent, as shown in table II.F3. During 1997, total income to the two trust funds was $88.6 billion higher than total expenditures. As a result of this increase, combined OASDI assets at the beginning of 1998 represented about 171 percent of estimated combined expenditures for the year. Based on the intermediate assumptions, the trust fund ratio for the combined funds is projected to increase substantially, to 301 percent by 2007. The ratio would grow at an even faster rate under the low cost assumptions, reaching 368 percent at the beginning of 2007. Under the high cost assumptions, assets would grow more slowly, reaching a maximum of 218 percent in 2005-2007.

Under the intermediate assumptions, the total assets of the OASI and DI Trust Funds would remain above 100 percent of annual OASDI expenditures throughout the short-range projection period. Therefore, the combined trust funds meet the requirements of the short-range test of financial adequacy. Under the high cost assumptions, the fund ratio for OASI and DI combined would still remain above 100 percent through 2007 (although, as indicated in the section on long-range projections, the ratio would fall below this level shortly thereafter). Thus, even under adverse conditions the combined funds would satisfy the short-range test of financial adequacy, although by a narrower margin.

Section 215(i) of the Social Security Act includes a provision to stabilize automatic benefit increases in the event of high inflation at a time when the combined assets of the OASI and DI Trust Funds are at very low levels (see section II.E of this report). Under all three alternatives, the level of OASDI assets during 1998-2007 would substantially exceed the applicable threshold. Thus, the stabilizer provision would not be triggered during the short-range projection period under any of the sets of assumptions used in this report.

Figure II.F1 presents the estimated total assets of the OASI and DI Trust Funds at the end of each year 1998-2007, based on the three sets of assumptions (together with actual assets at the end of each year 1987-97). Figure II.F2 illustrates the pattern of actual past and estimated future OASDI trust fund ratios under the three alternatives. Trust fund ratios for selected years prior to 1998, and estimates for 1998-2007 under the three alternatives, are shown in table II.F4 for OASI, DI, and both funds combined. In evaluating the ratios shown in figure II.F2 and table II.F4, it should be recalled that a minimum of roughly 8 to 9 percent is currently needed to meet monthly cash-flow requirements. The shaded area in figure II.F2 depicts this requirement.

Figure II.F1.—Estimated Assets at End of Year, for OASI and DI Trust Funds Combined, by Alternative, Calendar Years 1987-2007
[In billions]

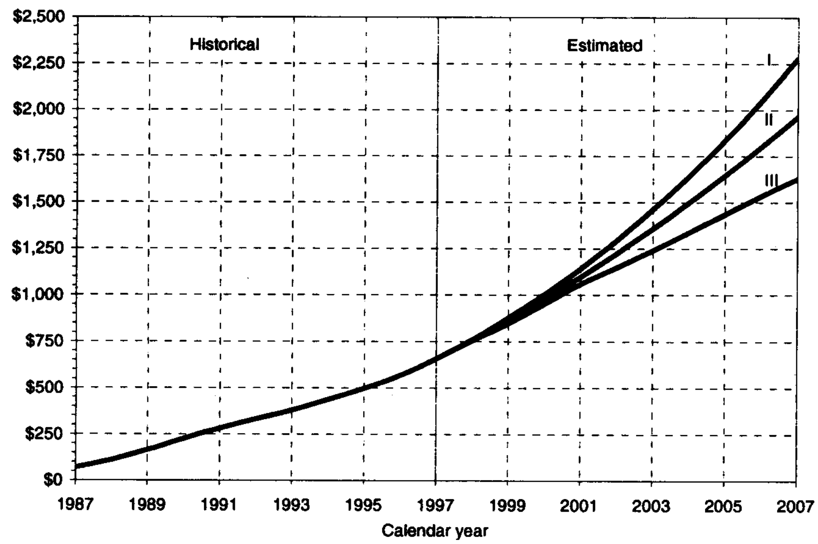


Figure II.F2.—Estimated Trust Fund Ratios, for OASI and DI Trust Funds Combined, by Alternative, Calendar Years 1987-2007
[Assets as a percentage of annual expenditures]

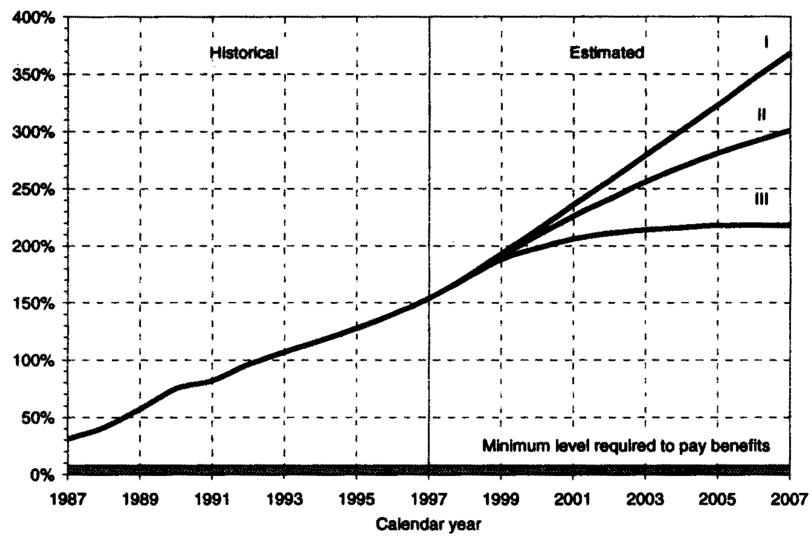


Table II.F4.—Trust Fund Ratios [1] by Trust Fund, Selected Calendar Years 1950-97, and Estimated Future Ratios by Alternative, Calendar Years 1998-2007
[In percent]

Calendar year	OASI Trust Fund	DI Trust Fund	OASI and DI Trust Funds, combined
Historical data:			
1950	1,156	—	1,156
1955	405	—	405
1960	180	304	186
1965	109	121	110
1970	101	126	103
1975	63	92	66
1980	23	35	25
1985	24	27	24
1990	78	40	75
1991	87	39	82
1992	103	40	96
1993	117	35	107
1994	130	23	117
1995	139	55	128
1996	149	83	140
1997	160	113	154
Intermediate:			
1998	177	131	171
1999	198	148	191
2000	217	163	209
2001	234	179	226
2002	250	190	241
2003	266	198	256
2004	282	201	269
2005	296	200	281
2006	310	195	291
2007	323	187	301

Table II.F4.—Trust Fund Ratios [1] by Trust Fund, Selected Calendar Years 1950-97, and Estimated Future Ratios by Alternative, Calendar Years 1998-2007 (Cont.)
[In percent]

Calendar year	OASI Trust Fund	DI Trust Fund	OASI and DI Trust Funds, combined
Low Cost:			
1998	177	133	172
1999	199	154	193
2000	220	175	214
2001	241	201	236
2002	263	224	257
2003	285	245	279
2004	308	263	301
2005	331	277	323
2006	355	290	346
2007	380	300	368
High Cost:			
1998	177	129	171
1999	196	139	188
2000	208	141	198
2001	217	142	206
2002	224	139	211
2003	230	130	214
2004	236	117	216
2005	241	102	218
2006	247	84	218
2007	251	64	218

[1] Represents assets at beginning of year as a percentage of expenditures during the year. For 1985 and 1990, assets at beginning of year for each trust fund and the combined funds include the respective OASI and DI advance tax transfers for January.

The factors underlying the changes in the intermediate estimates for the OASI Trust Fund from last year's annual report to this report are analyzed in table II.F5. In the 1997 Annual Report, the trust fund ratio for OASI was estimated to reach 264 percent at the beginning of 2006—the tenth projection year from that report. The corresponding ratio shown in this report for the tenth projection year (2007) is 323 percent. If there had been no changes to the projections, then the estimated ratio at the beginning of 2007 would have been 11 percentage points higher than at the beginning of 2006. There were changes, however, to reflect the latest actual data, as well as adjustments to the assumptions for future years. The cumulative net effects of changes in economic assumptions (including re-estimates of future tax revenue consistent with recent revisions to historical data) resulted in an increase in the trust fund ratio of 48 percentage points by the beginning of 2007. The tenth year trust fund ratio showed no net change due to the effects of revised assumptions regarding future average benefit levels and projected numbers of old age and survivor beneficiaries.

Corresponding estimates of the factors underlying the changes in the financial projections for the DI Trust Fund, and for the OASI and DI

Trust Funds combined, are also shown in table II.F5. As was the case for OASI, the key factor affecting the new estimates for the DI Trust Fund was the cumulative effect of changes in assumptions related to economic performance. In addition, the lower projected numbers of awards to disabled workers had a significant positive effect on the DI trust fund ratio.

Table II.F5.—Change in OASI and DI Trust Fund Ratios at the Beginning of the Tenth Year of Projection, Based on the Intermediate Assumptions, by Reason for Change
[In percent]

Item	OASI Trust Fund	DI Trust Fund	OASI and DI Trust Funds, combined
Trust fund ratio shown in last year's report for calendar year 2006	264	140	244
Change in trust fund ratio due to changes in:			
Valuation period	11	-8	7
Demographic assumptions	(1)	(1)	(1)
Economic assumptions	48	33	47
Programmatic assumptions	(1)	22	3
Total change in trust fund ratio	59	47	57
Trust fund ratio shown in this report for calendar year 2007	323	187	301

[1] Between -0.5 and 0.5 percent.

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

For the DI Trust Fund during 1998-2007, the estimated operations in this report under all three alternatives show a slight improvement since the 1997 Annual Report, primarily due to the upward revisions in projections of tax revenue. As for benefit payments from the DI Trust Fund, the number of new disability awards to insured workers in 1997 was less than anticipated in last year's report. As a result, the assumed disability incidence rates for the 1998 Annual Report are slightly lower than the corresponding rates from the 1997 report.

The overall disability termination rate experienced in 1997 was somewhat lower than that assumed under the intermediate assumptions of the 1997 Annual Report. Consequently, the termination rate assumptions for this report were lowered slightly as compared to the 1997 Annual Report.

Table II.F6 shows that total expenditures in calendar year 1997 from the OASI and DI Trust Funds decreased to 11.23 percent of taxable payroll for the year—1.41 percentage points less than the income rate of 12.64 percent. This decrease in the total cost rate for OASDI is primarily attributable to the growth of the OASDI taxable payroll, as described previously. Under the intermediate assumptions, the OASDI cost rate would increase gradually during the short-range projection period, to 11.74 percent in 2007. Based on the low cost assumptions, the cost rate is estimated to decline steadily, reaching 10.70 percent in 2007. The high cost alternative indicates a significant increase, to 13.03 percent in 2007.

These cost rate projections are shown in table II.F6 for both trust funds, separately and combined. Table II.F6 also shows a comparison of the cost rates with the corresponding income rates. As explained previously, the income rate represents the sum of the combined employee-employer payroll tax rate and the income derived from the Federal income taxation of OASDI benefits, expressed as a percentage of taxable payroll. The difference between the income rate and the cost rate for a year is referred to as the "balance" for that year.

Table II.F6.—Comparison of Income Rates and Cost Rates, by Trust Fund, Selected Calendar Years 1950-97, and Estimated Rates by Alternative, Calendar years 1998-2007

[As a percentage of taxable payroll]

Calendar year	OASI Trust Fund: Income rate	OASI Trust Fund: Cost rate	OASI Trust Fund: Balance	DI Trust Fund: Income rate	DI Trust Fund: Cost rate	DI Trust Fund: Balance	OASI and DI, combined: Income rate	OASI and DI, combined: Cost rate	OASI and DI, combined: Balance
Historical data:									
1950	3.00	1.17	1.83	—	—	—	3.00	1.17	1.83
1955	4.00	3.34	.66	—	—	—	4.00	3.34	.66
1960	5.50	5.59	-.09	0.50	0.30	0.20	6.00	5.89	.11
1965	6.75	7.23	-.48	.50	.70	-.20	7.25	7.93	-.68
1970	7.30	7.31	-.01	1.10	.81	.29	8.40	8.12	.28
1975	8.75	9.29	-.54	1.15	1.36	-.21	9.90	10.64	-.74
1980	9.04	9.33	-.29	1.12	1.38	-.26	10.16	10.71	-.55
1985	[1] 10.71	9.92	.79	[1] 1.07	1.13	-.06	[1] 11.79	11.05	.73
1990	[1] 11.32	9.66	1.66	[1] 1.17	1.09	.09	[1] 12.49	10.74	1.74
1991	11.44	10.15	1.29	1.21	1.18	.03	12.65	11.33	1.32
1992	11.43	10.27	1.16	1.21	1.27	-.06	12.64	11.54	1.10
1993	11.40	10.37	1.04	1.21	1.35	-.14	12.61	11.72	.89
1994	10.70	10.22	.48	1.89	1.40	.49	12.59	11.62	.97
1995	[1] 10.70	10.21	.49	[1] 1.88	1.44	.44	[1] 12.59	11.65	.93
1996	10.73	10.03	.70	1.89	1.48	.42	12.62	11.50	1.12
1997	10.93	9.81	1.11	1.71	1.43	.28	12.64	11.24	1.40
Intermediate:									
1998	10.93	9.70	1.23	1.71	1.48	.24	12.65	11.18	1.47
1999	10.93	9.62	1.31	1.71	1.51	.21	12.65	11.13	1.52
2000	[1] 10.82	9.62	1.20	[1] 1.81	1.53	.28	[1] 12.63	11.16	1.48
2001	10.84	9.65	1.19	1.82	1.58	.24	12.66	11.23	1.43
2002	10.85	9.67	1.18	1.82	1.63	.18	12.66	11.30	1.36
2003	10.85	9.69	1.16	1.82	1.69	.13	12.67	11.38	1.29
2004	10.86	9.71	1.15	1.82	1.75	.07	12.68	11.46	1.22
2005	10.87	9.73	1.13	1.82	1.82	.00	12.69	11.55	1.14
2006	10.87	9.76	1.12	1.82	1.88	-.06	12.70	11.64	1.06
2007	10.88	9.79	1.09	1.82	1.95	-.12	12.70	11.74	.97
Low Cost:									
1998	10.93	9.62	1.31	1.71	1.45	.27	12.65	11.07	1.58
1999	10.93	9.45	1.48	1.71	1.44	.27	12.64	10.89	1.75
2000	[1] 10.80	9.39	1.41	[1] 1.81	1.45	.37	[1] 12.61	10.84	1.78
2001	10.83	9.33	1.50	1.81	1.46	.36	12.65	10.79	1.86
2002	10.84	9.28	1.56	1.82	1.49	.33	12.65	10.77	1.89
2003	10.84	9.24	1.61	1.82	1.51	.30	12.66	10.75	1.91
2004	10.85	9.19	1.66	1.82	1.54	.27	12.66	10.73	1.93
2005	10.85	9.15	1.70	1.82	1.58	.24	12.67	10.73	1.94
2006	10.86	9.10	1.75	1.82	1.61	.21	12.67	10.71	1.96
2007	10.86	9.06	1.80	1.82	1.64	.18	12.68	10.70	1.98
High Cost:									
1998	10.94	9.76	1.18	1.71	1.52	.20	12.65	11.28	1.37
1999	10.94	9.92	1.02	1.72	1.62	.10	12.66	11.54	1.11
2000	[1] 10.85	9.83	1.02	[1] 1.82	1.67	.15	[1] 12.67	11.49	1.17
2001	10.85	9.94	.91	1.82	1.75	.07	12.67	11.69	.98
2002	10.87	10.49	.38	1.82	1.93	-.11	12.69	12.42	.27
2003	10.88	10.50	.37	1.82	2.00	-.18	12.70	12.51	.19
2004	10.88	10.50	.38	1.82	2.09	-.26	12.70	12.58	.12
2005	10.89	10.52	.37	1.82	2.17	-.34	12.71	12.68	.03
2006	10.90	10.58	.32	1.83	2.26	-.43	12.72	12.83	-.11
2007	10.91	10.68	.23	1.83	2.35	-.53	12.73	13.03	-.30

[1] Income rates for 1985, 1990, 1995, and 2000 are modified to include adjustments to the lump-sum payments received in 1983 from the general fund of the Treasury for the cost of noncontributory wage credits for military service in 1940-56.

Notes:
1. Historical taxable payroll data are subject to revision.
2. The income rate excludes interest income and certain transfers from the general fund of the Treasury.
3. Totals do not necessarily equal the sums of rounded components.

Estimates of the operations of the trust funds during calendar years 1998-2007 have been presented in the preceding tables on the basis of three different sets of economic assumptions, because of the uncertainty of future economic and demographic developments. Under the provisions of the Social Security Act, estimates of the expected operations and status of the trust funds during the next 5 *fiscal* years are required to be shown in this report. Accordingly, detailed estimates of the expected operations and status of the trust funds during fiscal years 1998-2002 are shown in the remaining tables of this section for the intermediate assumptions (alternative II) only. Similar detailed estimates are also shown for 5 additional fiscal years (2003-07) and on a calendar-year basis for 1998-2007.

Data on the actual operations of the OASI Trust Fund for selected years during 1940-97, and estimates of the expected operations of the trust fund during 1998-2007 on the basis of the intermediate assumptions, are shown in tables II.F7 and II.F8 on a fiscal- and calendar-year basis, respectively. Corresponding figures on the operations of the DI Trust Fund are shown in tables II.F9 and II.F10. Operations of both trust funds combined are shown in tables II.F11 and II.F12. (Data relating to the operations of the two trust funds for years not shown in tables II.F7-II.F12 are contained in past annual reports.) The figures shown in tables II.F8, II.F10, and II.F12 for 1987, 1988, 1992, and 1993 are adjusted to reflect 12 months of benefit payments in each year. The amounts estimated for 1998 and 1999 are similarly adjusted.

Table II.F7.—Operations of the OASI Trust Fund During Selected Fiscal Years 1940-97 and Estimated Future Operations During Fiscal Years 1998-2007, on the Basis of the Intermediate Set of Assumptions

[In millions]

	Income				
Fiscal year [1]	Total	Net contributions [2]	Income from taxation of benefits	Payments from the general fund of the Treasury [3]	Net interest [4]
Historical data:					
1940	$592	$550	—	—	$42
1945	1,434	1,310	—	—	124
1950	2,367	2,106	—	$4	257
1955	5,525	5,087	—	—	438
1960	10,360	9,843	—	—	517
1965	16,443	15,857	—	—	586
1970	31,746	29,955	—	442	1,350
1975	58,757	56,017	—	447	2,292
1980	100,051	97,608	—	557	1,886
1985	179,881	175,305	$3,151	105	1,321
1986	195,331	187,007	3,329	2,293	2,701
1987	206,846	199,554	3,323	69	3,900
1988	235,720	226,409	3,335	55	5,922
1989	260,457	247,116	3,638	43	9,660
1990	278,607	261,506	2,924	34	14,143
1991	293,288	270,841	5,790	-2,089	18,746
1992	307,102	278,506	6,019	19	22,557
1993	319,298	287,569	5,893	14	25,822
1994	342,263	308,397	5,351	10	28,505
1995	326,067	289,529	5,114	7	31,417
1996	356,843	317,157	5,785	-124	34,026
1997	386,465	342,312	6,462	3	37,689
Estimates:					
1998	415,285	364,499	8,597	2	42,188
1999	432,122	377,585	8,251	1	46,286
2000	450,745	391,503	8,671	1	50,571
2001	468,973	404,981	9,198	-685	55,479
2002	492,799	422,017	9,821	(5)	60,960
2003	517,612	440,065	10,511	(5)	67,035
2004	544,188	459,137	11,275	(5)	73,777
2005	579,590	486,142	12,119	(5)	81,329
2006	610,078	507,457	13,058	(5)	89,563
2007	647,351	534,545	14,095	(5)	98,711

[1] Under the Congressional Budget Act of 1974 (Public Law 93-344), fiscal years 1977 and later consist of the 12 months ending on September 30 of each year. Fiscal years prior to 1977 consisted of the 12 months ending on June 30 of each year.

[2] Beginning in 1983, includes transfers from general fund of Treasury representing contributions that would have been paid on deemed wage credits for military service in 1957 and later, if such credits were considered to be covered wages.

[3] Includes payments (1) in 1947-52 and in 1967 and later, for costs of noncontributory wage credits for military service performed before 1957; (2) in 1972-83, for costs of deemed wage credits for military service performed after 1956; and (3) in 1969 and later, for costs of benefits to certain uninsured persons who attained age 72 before 1968.

[4] Net interest includes net profits or losses on marketable investments. Beginning in 1967, administrative expenses are charged currently to the trust fund on an estimated basis, with a final adjustment, including interest, made in the following fiscal year. The amounts of these interest adjustments are included in net interest. For years prior to 1967, a description of the method of accounting for administrative expenses is contained in the 1970 Annual Report. Beginning in October 1973, the figures shown include relatively small amounts of gifts to the fund. Net interest for 1983-86 reflects payments from a borrowing trust fund to a lending trust fund for interest on amounts owed under the interfund borrowing provisions. During 1983-91, interest paid from the trust fund to the general fund on advance tax transfers is reflected. The amounts shown for 1985 and 1986 include interest adjustments of $76.5 million and $11.5 million, respectively, on unnegotiated checks issued before April 1985.

[5] Less than $500,000.

Table II.F7.—Operations of the OASI Trust Fund During Selected Fiscal Years 1940-97 and Estimated Future Operations During Fiscal Years 1998-2007, on the Basis of the Intermediate Set of Assumptions (Cont.)

[In millions]

	Expenditures				Assets	
Fiscal year	Total	Benefit payments [1]	Adminis-trative expenses	Transfers to Railroad Retirement program	Net increase during year	Amount at end of period
Historical data:						
1940	$28	$16	$12	—	$564	$1,745
1945	267	240	27	—	1,167	6,613
1950	784	727	57	—	1,583	12,893
1955	4,427	4,333	103	-$10	1,098	21,141
1960	11,073	10,270	202	600	-713	20,829
1965	15,962	15,226	300	436	482	20,180
1970	27,321	26,268	474	579	4,425	32,616
1975	56,676	54,847	848	982	2,081	39,948
1980	103,228	100,626	1,160	1,442	-3,177	24,566
1985	169,210	165,310	1,589	2,310	[2] 6,308	33,877
1986	178,534	174,340	1,609	2,585	[2] 3,642	37,519
1987	186,101	182,003	1,541	2,557	20,745	58,265
1988	197,021	192,502	1,729	2,790	38,700	96,964
1989	209,102	204,600	1,657	2,845	51,355	148,319
1990	223,481	218,948	1,564	2,969	55,126	203,445
1991	241,316	236,195	1,746	3,375	51,972	255,417
1992	256,239	251,268	1,823	3,148	50,862	306,280
1993	269,934	264,561	2,021	3,353	49,364	355,644
1994	281,572	276,278	1,874	3,420	60,691	416,335
1995	294,456	288,607	1,797	4,052	31,611	447,946
1996	305,311	299,968	1,788	3,554	51,533	499,479
1997	318,548	312,862	1,998	3,688	67,916	567,395
Estimates:						
1998	329,759	323,698	2,353	3,708	85,527	652,922
1999	340,081	334,206	2,133	3,742	92,041	744,963
2000	352,967	347,181	2,055	3,731	97,778	842,741
2001	368,140	362,364	2,131	3,645	100,833	943,575
2002	384,869	378,951	2,180	3,737	107,930	1,051,505
2003	402,665	396,689	2,229	3,747	114,947	1,166,452
2004	422,061	416,004	2,280	3,777	122,128	1,288,580
2005	443,631	437,486	2,330	3,815	135,959	1,424,538
2006	467,194	461,011	2,380	3,803	142,884	1,567,422
2007	492,972	486,577	2,431	3,963	154,379	1,721,801

[1] Beginning in 1967, includes payments for vocational rehabilitation services furnished to disabled persons receiving benefits because of their disabilities. Beginning in 1983, amounts are reduced by amount of reimbursement for unnegotiated benefit checks.

[2] Reflects offset for repayment from the OASI Trust Fund of amounts borrowed from the DI and HI Trust Funds in 1982. The amount repaid in 1985 was $4,364 million; in 1986, the amount was $13,155 million.

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

Table II.F8.—Operations of the OASI Trust Fund During Selected Calendar Years 1940-97 and Estimated Future Operations During Calendar Years 1998-2007, on the Basis of the Intermediate Set of Assumptions

[In millions]

	Income				
Calendar year	Total	Net contributions [1]	Income from taxation of benefits	Payments from the general fund of the Treasury [2]	Net interest [3]
Historical data:					
1940	$368	$325	—	—	$43
1945	1,420	1,285	—	—	134
1950	2,928	2,667	—	$4	257
1955	6,167	5,713	—	—	454
1960	11,382	10,866	—	—	516
1965	16,610	16,017	—	—	593
1970	32,220	30,256	—	449	1,515
1975	59,605	56,619	—	622	2,364
1980	105,841	103,355	—	641	1,845
1985	184,239	176,958	$3,208	2,203	1,871
1986	197,393	190,741	3,424	160	3,069
1987	210,736	202,735	3,257	55	4,690
1988	240,770	229,775	3,384	43	7,568
1989	264,653	250,195	2,439	34	11,985
1990	286,653	267,530	4,848	-2,089	16,363
1991	299,286	272,574	5,864	19	20,829
1992	311,162	280,992	5,852	14	24,303
1993	323,277	290,905	5,335	10	27,027
1994	328,271	293,323	4,995	7	29,946
1995	342,801	304,620	5,490	-129	32,820
1996	363,741	321,557	6,471	7	35,706
1997	397,169	349,946	7,426	2	39,795
Estimates:					
1998	420,509	368,169	8,036	1	44,304
1999	437,277	380,591	8,331	1	48,354
2000	453,805	392,737	8,787	-685	52,967
2001	476,048	408,549	9,339	(4)	58,160
2002	499,970	426,038	9,983	(4)	63,948
2003	525,825	444,795	10,689	(4)	70,342
2004	554,287	465,363	11,474	(4)	77,450
2005	586,473	488,761	12,338	(4)	85,374
2006	620,340	512,970	13,302	(4)	94,069
2007	658,407	540,580	14,365	(4)	103,462

[1] Beginning in 1983, includes transfers from general fund of Treasury representing contributions that would have been paid on deemed wage credits for military service in 1957 and later, if such credits were considered to be covered wages.

[2] Includes payments (1) in 1947-51 and in 1966 and later, for costs of noncontributory wage credits for military service performed before 1957; (2) in 1971-82, for costs of deemed wage credits for military service performed after 1956; and (3) in 1968 and later, for costs of benefits to certain uninsured persons who attained age 72 before 1968.

[3] Net interest includes net profits or losses on marketable investments. Beginning in 1967, administrative expenses are charged currently to the trust fund on an estimated basis, with a final adjustment, including interest, made in the following fiscal year. The amounts of these interest adjustments are included in net interest. For years prior to 1967, a description of the method of accounting for administrative expenses is contained in the 1970 Annual Report. Beginning in October 1973, the figures shown include relatively small amounts of gifts to the fund. Net interest for 1983-86 reflects payments from a borrowing trust fund to a lending trust fund for interest on amounts owed under the interfund borrowing provisions. During 1983-90, interest paid from the trust fund to the general fund on advance tax transfers is reflected. The amount shown for 1985 includes an interest adjustment of $88 million on unnegotiated checks issued before April 1985.

[4] Less than $500,000.

Table II.F8.—Operations of the OASI Trust Fund During Selected Calendar Years 1940-97 and Estimated Future Operations During Calendar Years 1998-2007, on the Basis of the Intermediate Set of Assumptions (Cont.)

[In millions]

	Expenditures				Assets	
Calendar year	Total	Benefit payments [1]	Adminis-trative expenses	Transfers to Railroad Retirement program	Net increase during year	Amount at end of period
Historical data:						
1940	$62	$35	$26	—	$306	$2,031
1945	304	274	30	—	1,116	7,121
1950	1,022	961	61	—	1,905	13,721
1955	5,079	4,968	119	-$7	1,087	21,663
1960	11,198	10,677	203	318	184	20,324
1965	17,501	16,737	328	436	-890	18,235
1970	29,848	28,798	471	579	2,371	32,454
1975	60,395	58,517	896	982	-789	36,987
1980	107,678	105,082	1,154	1,442	-1,837	22,824
1985	171,150	167,248	1,592	2,310	[2] 8,725	35,842
1986	181,000	176,813	1,601	2,585	[2] 3,239	39,081
1987	187,668	183,587	1,524	2,557	23,068	62,149
1988	200,020	195,454	1,776	2,790	40,750	102,899
1989	212,489	207,971	1,673	2,845	52,164	155,063
1990	227,519	222,987	1,563	2,969	59,134	214,197
1991	245,634	240,467	1,792	3,375	53,652	267,849
1992	259,861	254,883	1,830	3,148	51,301	319,150
1993	273,104	267,755	1,996	3,353	50,173	369,322
1994	284,133	279,068	1,645	3,420	44,138	413,460
1995	297,760	291,630	2,077	4,052	45,041	458,502
1996	308,217	302,861	1,802	3,554	55,524	514,026
1997	322,073	316,257	2,128	3,688	75,096	589,121
Estimates:						
1998	332,297	326,409	2,180	3,708	88,213	677,334
1999	342,644	336,787	2,115	3,742	94,633	771,967
2000	356,527	350,724	2,072	3,731	97,278	869,245
2001	372,148	366,361	2,142	3,645	103,901	973,145
2002	389,090	383,162	2,191	3,737	110,880	1,084,026
2003	407,221	401,234	2,240	3,747	118,604	1,202,630
2004	427,119	421,050	2,291	3,777	127,168	1,329,798
2005	449,245	443,088	2,342	3,815	137,229	1,467,026
2006	473,288	467,093	2,392	3,803	147,052	1,614,078
2007	499,634	493,227	2,443	3,963	158,773	1,772,851

[1] Beginning in 1966, includes payments for vocational rehabilitation services furnished to disabled persons receiving benefits because of their disabilities. Beginning in 1983, amounts are reduced by amount of reimbursement for unnegotiated benefit checks.

[2] Reflects offset for repayment from the OASI Trust Fund of amounts borrowed from the DI and HI Trust Funds in 1982. The amount repaid in 1985 was $4,364 million; in 1986, the amount was $13,155 million.

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

Table II.F9.—Operations of the DI Trust Fund During Selected Fiscal Years 1960-97 and Estimated Future Operations During Fiscal Years 1998-2007, on the Basis of the Intermediate Set of Assumptions

[In millions]

	Income				
Fiscal year [1]	Total	Net contributions [2]	Income from taxation of benefits	Payments from the general fund of the Treasury [3]	Net interest [4]
Historical data:					
1960	$1,034	$987	—	—	$47
1965	1,237	1,175	—	—	62
1970	4,380	4,141	—	$16	223
1975	7,920	7,356	—	52	512
1980	17,376	16,805	—	118	453
1985	17,984	16,876	$217	—	891
1986	20,130	18,139	229	1,017	746
1987	20,047	19,324	[5] -16	—	738
1988	22.369	21,736	56	—	577
1989	24,479	23,694	135	—	650
1990	28,215	27,291	158	—	766
1991	29,322	28,953	131	-775	1,014
1992	31,168	29,871	218	—	1,080
1993	32,056	30,822	268	—	966
1994	34,044	33,041	305	—	699
1995	70,209	67,987	335	—	1,888
1996	59,220	56,571	370	-203	2,482
1997	60,088	56,162	400	—	3,526
Estimates:					
1998	62,864	57,911	527	—	4,426
1999	65,621	59,988	511	—	5,122
2000	71,678	65,322	547	—	5,809
2001	76,062	68,779	594	-7	6,696
2002	79,958	71,667	656	—	7,635
2003	84,000	74,726	725	—	8,549
2004	88,187	77,968	805	—	9,414
2005	93,637	82,556	896	—	10,186
2006	98,027	86,177	997	—	10,853
2007	103,270	90,772	1,112	—	11,387

[1] Under the Congressional Budget Act of 1974 (Public Law 93-344), fiscal years 1977 and later consist of the 12 months ending on September 30 of each year. Fiscal years prior to 1977 consisted of the 12 months ending on June 30 of each year.

[2] Beginning in 1983, includes transfers from general fund of Treasury representing contributions that would have been paid on deemed wage credits for military service in 1957 and later, if such credits were considered to be covered wages.

[3] Includes payments (1) in 1967 and later, for costs of noncontributory wage credits for military service performed before 1957; and (2) in 1972-83, for costs of deemed wage credits for military service performed after 1956.

[4] Net interest includes net profits or losses on marketable investments. Beginning in 1967, administrative expenses are charged currently to the trust fund on an estimated basis, with a final adjustment, including interest, made in the following fiscal year. The amounts of these interest adjustments are included in net interest. For years prior to 1967, a description of the method of accounting for administrative expenses is contained in the 1970 Annual Report. Beginning in July 1974, the figures shown include relatively small amounts of gifts to the fund. Net interest for 1983-86 reflects payments from a borrowing trust fund to a lending trust fund for interest on amounts owed under the interfund borrowing provisions. During 1983-91, interest paid from the trust fund to the general fund on advance tax transfers is reflected. The amount shown for 1985 includes an interest adjustment of $14.8 million on unnegotiated checks issued before April 1985.

[5] Reflects $195 million in transfers from the DI Trust Fund to the general fund of the Treasury to correct estimated amounts transferred for calendar years 1984 and 1985.

Table II.F9.—Operations of the DI Trust Fund During Selected Fiscal Years 1960-97 and Estimated Future Operations During Fiscal Years 1998-2007, on the Basis of the Intermediate Set of Assumptions (Cont.)

[In millions]

	Expenditures				Assets	
Fiscal year	Total	Benefit payments [1]	Adminis-trative expenses	Transfers to Railroad Retirement program	Net increase during year	Amount at end of period
Historical data:						
1960	$533	$528	$32	-$27	$501	$2,167
1965	1,495	1,392	79	24	-257	2,007
1970	2,954	2,795	149	10	1,426	5,104
1975	7,982	7,701	253	29	-62	8,191
1980	15,320	14,998	334	-12	2,056	7,680
1985	19,294	18,648	603	43	[2] 1,230	5,873
1986	20,196	19,529	600	68	[2] 2,475	8,348
1987	21,222	20,427	738	57	-1,175	7,173
1988	22,269	21,405	803	61	100	7,273
1989	23,389	22,550	751	88	1,090	8,363
1990	25,124	24,327	717	80	3,091	11,455
1991	27,780	26,909	789	82	1,543	12,997
1992	31,285	30,382	845	58	-116	12,881
1993	34,632	33,615	935	83	-2,576	10,305
1994	37,979	36,851	1,022	106	-3,935	6,370
1995	41,374	40,234	1,072	68	28,835	35,206
1996	44,343	43,266	1,074	2	14,877	50,083
1997	46,689	45,419	1,211	59	13,399	63,483
Estimates:						
1998	49,643	48,274	1,292	76	13,221	76,704
1999	52,951	51,409	1,438	103	12,670	89,374
2000	56,030	54,448	1,471	110	15,649	105,023
2001	59,752	58,197	1,476	78	16,311	121,334
2002	64,502	62,854	1,535	113	15,456	136,790
2003	69,634	67,897	1,615	122	14,367	151,156
2004	75,554	73,717	1,706	131	12,633	163,789
2005	82,143	80,201	1,803	139	11,494	175,283
2006	89,349	87,312	1,906	131	8,678	183,960
2007	97,301	95,122	2,015	164	5,969	189,929

[1] Beginning in 1967, includes payments for vocational rehabilitation services furnished to disabled persons receiving benefits because of their disabilities. Beginning in 1983, amounts are reduced by amount of reimbursement for unnegotiated benefit checks.

[2] Reflects repayment from the OASI Trust Fund of amounts borrowed from the DI Trust Fund in 1982. The amount repaid in 1985 was $2,540 million; in 1986, the amount was $2,541 million.

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

Table II.F10.—Operations of the DI Trust Fund During Selected Calendar Years 1960-97 and Estimated Future Operations During Calendar Years 1998-2007, on the Basis of the Intermediate Set of Assumptions

[In millions]

Calendar year	Income: Total	Net contributions [1]	Income from taxation of benefits	Payments from the general fund of the Treasury [2]	Net interest [3]
Historical data:					
1960	$1,063	$1,010	—	—	$53
1965	1,247	1,188	—	—	59
1970	4,774	4,481	—	$16	277
1975	8,035	7,444	—	90	502
1980	13,871	13,255	—	130	485
1985	19,301	17,191	$222	1,017	870
1986	19,439	18,399	238	—	803
1987	20,303	19,691	[4] -36	—	648
1988	22,699	22,039	61	—	600
1989	24,795	23,993	95	—	707
1990	28,791	28,539	144	-775	883
1991	30,390	29,137	190	—	1,063
1992	31,430	30,136	232	—	1,062
1993	32,301	31,185	281	—	835
1994	52,841	51,373	311	—	1,157
1995	56,696	54,401	341	-203	2,158
1996	60,710	57,325	373	—	3,012
1997	60,499	56,037	470	—	3,992
Estimates:					
1998	63,774	58,489	489	—	4,796
1999	66,448	60,481	519	—	5,448
2000	73,261	66,476	557	-7	6,235
2001	77,166	69,385	608	—	7,173
2002	81,114	72,340	673	—	8,102
2003	85,267	75,531	743	—	8,992
2004	89,660	79,027	826	—	9,807
2005	94,455	83,000	919	—	10,535
2006	99,273	87,114	1,023	—	11,136
2007	104,503	91,795	1,141	—	11,567

[1] Beginning in 1983, includes transfers from general fund of Treasury representing contributions that would have been paid on deemed wage credits for military service in 1957 and later, if such credits were considered to be covered wages.

[2] Includes payments (1) in 1966 and later, for costs of noncontributory wage credits for military service performed before 1957; and (2) in 1971-82, for costs of deemed wage credits for military service performed after 1956.

[3] Net interest includes net profits or losses on marketable investments. Beginning in 1967, administrative expenses are charged currently to the trust fund on an estimated basis, with a final adjustment, including interest, made in the following fiscal year. The amounts of these interest adjustments are included in net interest. For years prior to 1967, a description of the method of accounting for administrative expenses is contained in the 1970 Annual Report. Beginning in July 1974, the figures shown include relatively small amounts of gifts to the fund. Net interest for 1983-86 reflects payments from a borrowing trust fund to a lending trust fund for interest on amounts owed under the interfund borrowing provisions. During 1983-90, interest paid from the trust fund to the general fund on advance tax transfers is reflected. The amount shown for 1985 includes an interest adjustment of $14.8 million on unnegotiated checks issued before April 1985.

[4] Reflects $195 million in transfers from the DI Trust Fund to the general fund of the Treasury to correct estimated amounts transferred for calendar years 1984 and 1985.

Table II.F10.—Operations of the DI Trust Fund During Selected Calendar Years 1960-97 and Estimated Future Operations During Calendar Years 1998-2007, on the Basis of the Intermediate Set of Assumptions (Cont.)

[In millions]

Calendar year	Expenditures: Total	Expenditures: Benefit payments [1]	Expenditures: Administrative expenses	Expenditures: Transfers to Railroad Retirement program	Assets: Net increase during year	Assets: Amount at end of period
Historical data:						
1960	$600	$568	$36	-$5	$464	$2,289
1965	1,687	1,573	90	24	-440	1,606
1970	3,259	3,085	164	10	1,514	5,614
1975	8,790	8,505	256	29	-754	7,354
1980	15,872	15,515	368	-12	-2,001	3,629
1985	19,478	18,827	608	43	[2] 2,363	6,321
1986	20,522	19,853	600	68	[2] 1,459	7,780
1987	21,425	20,519	849	57	-1,122	6,658
1988	22,494	21,695	737	61	206	6,864
1989	23,753	22,911	754	88	1,041	7,905
1990	25,616	24,829	707	80	3,174	11,079
1991	28,571	27,695	794	82	1,819	12,898
1992	32,004	31,112	834	58	-574	12,324
1993	35,662	34,613	966	83	-3,361	8,963
1994	38,879	37,744	1,029	106	13,962	22,925
1995	42,055	40,923	1,064	68	14,641	37,566
1996	45,351	44,189	1,160	2	15,359	52,924
1997	47,034	45,695	1,280	59	13,465	66,389
Estimates:						
1998	50,574	49,259	1,239	76	13,200	79,590
1999	53,620	52,071	1,445	103	12,827	92,417
2000	56,869	55,286	1,472	110	16,392	108,809
2001	60,809	59,241	1,489	78	16,357	125,166
2002	65,723	64,057	1,553	113	15,392	140,558
2003	71,005	69,247	1,636	122	14,262	154,820
2004	77,101	75,241	1,728	131	12,560	167,380
2005	83,853	81,887	1,827	139	10,602	177,982
2006	91,217	89,155	1,930	131	8,056	186,038
2007	99,356	97,151	2,041	164	5,148	191,185

[1] Beginning in 1966, includes payments for vocational rehabilitation services furnished to disabled persons receiving benefits because of their disabilities. Beginning in 1983, amounts are reduced by amount of reimbursement for unnegotiated benefit checks.

[2] Reflects repayment from the OASI Trust Fund of amounts borrowed from the DI Trust Fund in 1982. The amount repaid in 1985 was $2,540 million; in 1986, the amount was $2,541 million.

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

Actuarial Analysis

Table II.F11.—Operations of the OASI and DI Trust Funds, Combined, During Selected Fiscal Years 1960-97 and Estimated Future Operations During Fiscal Years 1998-2007, on the Basis of the Intermediate Set of Assumptions

[In millions]

	Income				
Fiscal year [1]	Total	Net contributions [2]	Income from taxation of benefits	Payments from the general fund of the Treasury [3]	Net interest [4]
Historical data:					
1960	$11,394	$10,830	—	—	$564
1965	17,681	17,032	—	—	648
1970	36,127	34,096	—	$458	1,572
1975	66,677	63,374	—	499	2,804
1980	117,427	114,413	—	675	2,339
1985	197,865	192,181	$3,368	105	2,211
1986	215,461	205,146	3,558	3,310	3,447
1987	226,893	218,878	3,307	69	4,638
1988	258,090	248,145	3,390	55	6,500
1989	284,936	270,811	3,772	43	10,310
1990	306,822	288,797	3,081	34	14,909
1991	322,611	299,794	5,921	-2,864	19,759
1992	338,270	308,377	6,237	19	23,637
1993	351,354	318,391	6,161	14	26,788
1994	376,307	341,438	5,656	10	29,203
1995	396,276	357,516	5,449	7	33,304
1996	416,064	373,728	6,155	-327	36,508
1997	446,553	398,474	6,862	3	41,215
Estimates:					
1998	478,149	422,410	9,124	2	46,613
1999	497,743	437,573	8,762	1	51,408
2000	522,423	456,825	9,218	1	56,380
2001	545,035	473,760	9,793	-692	62,175
2002	572,757	493,684	10,478	(5)	68,595
2003	601,612	514,791	11,236	(5)	75,585
2004	632,375	537,105	12,079	(5)	83,191
2005	673,227	568,698	13,014	(5)	91,515
2006	708,105	593,634	14,055	(5)	100,416
2007	750,621	625,317	15,207	(5)	110,098

[1] Under the Congressional Budget Act of 1974 (Public Law 93-344), fiscal years 1977 and later consist of the 12 months ending on September 30 of each year. Fiscal years prior to 1977 consisted of the 12 months ending on June 30 of each year.

[2] Beginning in 1983, includes transfers from general fund of Treasury representing contributions that would have been paid on deemed wage credits for military service in 1957 and later, if such credits were considered to be covered wages.

[3] Includes payments (1) in 1947-52 and in 1967 and later, for costs of noncontributory wage credits for military service performed before 1957; (2) in 1972-83, for costs of deemed wage credits for military service performed after 1956; and (3) in 1969 and later, for costs of benefits to certain uninsured persons who attained age 72 before 1968.

[4] Net interest includes net profits or losses on marketable investments. Beginning in 1967, administrative expenses are charged currently to the trust funds on an estimated basis, with a final adjustment, including interest, made in the following fiscal year. The amounts of these interest adjustments are included in net interest. For years prior to 1967, a description of the method of accounting for administrative expenses is contained in the 1970 Annual Report. Beginning in October 1973, the figures shown include relatively small amounts of gifts to the funds. Net interest for 1983-86 reflects payments from a borrowing trust fund to a lending trust fund for interest on amounts owed under the interfund borrowing provisions. During 1983-91, interest paid from the trust funds to the general fund on advance tax transfers is reflected. The amounts shown for 1985 and 1986 include interest adjustments of $91.3 million and $11.5 million, respectively, on unnegotiated checks issued before April 1985.

[5] Less than $500,000.

Table II.F11.—Operations of the OASI and DI Trust Funds, Combined, During Selected Fiscal Years 1960-97 and Estimated Future Operations During Fiscal Years 1998-2007, on the Basis of the Intermediate Set of Assumptions (Cont.)

[In millions]

	Expenditures				Assets	
Fiscal year	Total	Benefit payments [1]	Adminis-trative expenses	Transfers to Railroad Retirement program	Net increase during year	Amount at end of period
Historical data:						
1960	$11,606	$10,798	$234	$574	-$212	$22,996
1965	17,456	16,618	379	459	224	22,187
1970	30,275	29,063	623	589	5,851	37,720
1975	64,658	62,547	1,101	1,010	2,018	48,138
1980	118,548	115,624	1,494	1,430	-1,121	32,246
1985	188,504	183,959	2,192	2,353	[2] 7,538	39,750
1986	198,730	193,869	2,209	2,653	[2] 6,117	45,867
1987	207,323	202,430	2,279	2,614	19,570	65,437
1988	219,290	213,907	2,532	2,851	38,800	104,237
1989	232,491	227,150	2,407	2,934	52,445	156,682
1990	248,605	243,275	2,280	3,049	58,217	214,900
1991	269,096	263,104	2,535	3,457	53,515	268,415
1992	287,524	281,650	2,668	3,206	50,746	319,161
1993	304,566	298,176	2,955	3,435	46,788	365,949
1994	319,551	313,129	2,896	3,526	56,757	422,706
1995	335,830	328,841	2,870	4,120	60,446	483,152
1996	349,654	343,235	2,862	3,556	66,410	549,562
1997	365,238	358,281	3,210	3,747	81,316	630,878
Estimates:						
1998	379,401	371,972	3,645	3,784	98,748	729,626
1999	393,032	385,616	3,571	3,845	104,712	834,337
2000	408,997	401,630	3,526	3,841	113,427	947,764
2001	427,891	420,561	3,607	3,723	117,144	1,064,908
2002	449,371	441,806	3,715	3,850	123,387	1,188,295
2003	472,298	464,585	3,844	3,870	129,314	1,317,608
2004	497,615	489,720	3,986	3,909	134,760	1,452,368
2005	525,775	517,687	4,134	3,954	147,452	1,599,821
2006	556,543	548,323	4,286	3,934	151,561	1,751,382
2007	590,273	581,699	4,446	4,128	160,348	1,911,730

[1] Beginning in 1967, includes payments for vocational rehabilitation services furnished to disabled persons receiving benefits because of their disabilities. Beginning in 1983, amounts are reduced by amount of reimbursement for unnegotiated benefit checks.

[2] Reflects offset for repayment from the OASI Trust Fund of amounts borrowed from the HI Trust Fund in 1982. The amount repaid in 1985 was $1,824 million; in 1986, the amount was $10,613 million.

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

Table II.F12.—Operations of the OASI and DI Trust Funds, Combined, During Selected Calendar Years 1960-97 and Estimated Future Operations During Calendar Years 1998-2007, on the Basis of the Intermediate Set of Assumptions

[In millions]

Calendar year	Income: Total	Income: Net contributions [1]	Income: Income from taxation of benefits	Income: Payments from the general fund of the Treasury [2]	Income: Net interest [3]
Historical data:					
1960	$12,445	$11,876	—	—	$569
1965	17,857	17,205	—	—	651
1970	36,993	34,737	—	$465	1,791
1975	67,640	64,259	—	515	2,866
1980	119,712	116,711	—	670	2,330
1985	203,540	194,149	$3,430	3,220	2,741
1986	216,833	209,140	3,662	160	3,871
1987	231,039	222,425	3,221	55	5,338
1988	263,469	251,814	3,445	43	8,168
1989	289,448	274,189	2,534	34	12,692
1990	315,443	296,070	4,992	-2,864	17,245
1991	329,676	301,711	6,054	19	21,892
1992	342,591	311,128	6,084	14	25,365
1993	355,578	322,090	5,616	10	27,862
1994	381,111	344,695	5,306	7	31,103
1995	399,497	359,021	5,831	-332	34,977
1996	424,451	378,881	6,844	7	38,718
1997	457,668	405,984	7,896	2	43,787
Estimates:					
1998	484,283	426,658	8,525	1	49,100
1999	503,724	441,072	8,850	1	53,802
2000	527,066	459,213	9,344	-692	59,202
2001	553,214	477,934	9,946	([4])	65,334
2002	581,084	498,378	10,656	([4])	72,051
2003	611,092	520,326	11,432	([4])	79,334
2004	643,947	544,390	12,300	([4])	87,258
2005	680,928	571,761	13,257	([4])	95,910
2006	719,613	600,084	14,325	([4])	105,204
2007	762,910	632,375	15,507	([4])	115,029

[1] Beginning in 1983, includes transfers from general fund of Treasury representing contributions that would have been paid on deemed wage credits for military service in 1957 and later, if such credits were considered to be covered wages.

[2] Includes payments (1) in 1947-51 and in 1966 and later, for costs of noncontributory wage credits for military service performed before 1957; (2) in 1971-82, for costs of deemed wage credits for military service performed after 1956; and (3) in 1968 and later, for costs of benefits to certain uninsured persons who attained age 72 before 1968.

[3] Net interest includes net profits or losses on marketable investments. Beginning in 1967, administrative expenses are charged currently to the trust funds on an estimated basis, with a final adjustment, including interest, made in the following fiscal year. The amounts of these interest adjustments are included in net interest. For years prior to 1967, a description of the method of accounting for administrative expenses is contained in the 1970 Annual Report. Beginning in October 1973, the figures shown include relatively small amounts of gifts to the funds. Net interest for 1983-86 reflects payments from a borrowing trust fund to a lending trust fund for interest on amounts owed under the interfund borrowing provisions. During 1983-90, interest paid from the trust funds to the general fund on advance tax transfers is reflected. The amount shown for 1985 includes an interest adjustment of $102.8 million on unnegotiated checks issued before April 1985.

[4] Less than $500,000.

Table II.F12.—Operations of the OASI and DI Trust Funds, Combined, During Selected Calendar Years 1960-97 and Estimated Future Operations During Calendar Years 1998-2007, on the Basis of the Intermediate Set of Assumptions (Cont.)

[In millions]

	Expenditures				Assets	
Calendar year	Total	Benefit payments [1]	Adminis-trative expenses	Transfers to Railroad Retirement program	Net increase during year	Amount at end of period
Historical data:						
1960	$11,798	$11,245	$240	$314	$647	$22,613
1965	19,187	18,311	418	459	-1,331	19,841
1970	33,108	31,884	635	589	3,886	38,068
1975	69,184	67,022	1,152	1,010	-1,544	44,342
1980	123,550	120,598	1,522	1,430	-3,838	26,453
1985	190,628	186,075	2,200	2,353	[2] 11,088	42,163
1986	201,522	196,667	2,202	2,653	[2] 4,698	46,861
1987	209,093	204,106	2,373	2,614	21,946	68,807
1988	222,514	217,149	2,513	2,851	40,955	109,762
1989	236,242	230,882	2,427	2,934	53,206	162,968
1990	253,135	247,816	2,270	3,049	62,309	225,277
1991	274,205	268,162	2,587	3,457	55,471	280,747
1992	291,865	285,995	2,664	3,206	50,726	331,473
1993	308,766	302,368	2,963	3,435	46,812	378,285
1994	323,011	316,812	2,674	3,526	58,100	436,385
1995	339,815	332,554	3,141	4,120	59,683	496,068
1996	353,569	347,050	2,962	3,556	70,883	566,950
1997	369,108	361,952	3,409	3,747	88,560	655,510
Estimates:						
1998	382,871	375,668	3,419	3,784	101,413	756,923
1999	396,264	388,858	3,561	3,845	107,461	864,384
2000	413,396	406,010	3,544	3,841	113,671	978,054
2001	432,957	425,602	3,632	3,723	120,257	1,098,312
2002	454,812	447,218	3,744	3,850	126,272	1,224,584
2003	478,226	470,481	3,876	3,870	132,866	1,357,450
2004	504,219	496,291	4,019	3,909	139,728	1,497,177
2005	533,097	524,975	4,168	3,954	147,831	1,645,008
2006	564,505	556,248	4,322	3,934	155,108	1,800,116
2007	598,990	590,378	4,484	4,128	163,920	1,964,037

[1] Beginning in 1966, includes payments for vocational rehabilitation services furnished to disabled persons receiving benefits because of their disabilities. Beginning in 1983, amounts are reduced by amount of reimbursement for unnegotiated benefit checks.

[2] Reflects offset for repayment from the OASI Trust Fund of amounts borrowed from the HI Trust Fund in 1982. The amount repaid in 1985 was $1,824 million; in 1986, the amount was $10,613 million.

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

2. Long-Range Actuarial Status of the Trust Funds

Historically, the actuarial balance (described earlier in this section) has been used as the principal measure of the actuarial status of the OASDI program. Actuarial balances have traditionally been computed for the 25-year valuation period encompassing 1998-2022, the 50-year valuation period covering 1998-2047, and the entire long-range (75-year) valuation period, 1998-2072.

Beginning with the 1991 Annual Report, actuarial balances have also been computed based on the intermediate (alternative II) assumptions for valuation periods that are 10 years, 11 years, and continuing through 75 years in length. This series of actuarial balances provides the basis for the test of long-range close actuarial balance, described earlier in this section.

In addition to these actuarial balances, other indicators of the financial condition of the program are shown in this report. One is the series of projected annual balances (that is, the differences between the projected annual income rates and annual cost rates), with particular attention being paid to the level of the annual balances at the end of the long-range period and the time at which the annual balances may change from positive to negative values. Another is the series of projected trust fund ratios, with particular attention being paid to the amount and year of maximum fund ratio accumulation and to the year of exhaustion of the funds. These additional indicators are defined in the introduction to this section.

The estimates are sensitive to changes in the underlying economic and demographic assumptions. The degree of sensitivity, however, varies considerably among the various assumptions. For example, variations in assumed fertility rates have little effect on the estimates for the early years, because almost all of the covered workers and beneficiaries projected for the early years were born prior to the start of the projection period. However, lower fertility rates have large impacts on the actuarial balance in the later years. Variations in economic factors, such as interest rates and increases in wages and prices, have significant effects on the estimates for the short term, as well as for the long term. In general, the degree of confidence that can be placed in the assumptions and estimates is greater for the earlier years than for the later years. Nonetheless, even for the earlier years, the estimates are only an indication of the expected trend and general range of future program experience. Section II.G contains a more detailed discussion of the effects on the estimates of varying certain economic and demographic assumptions.

a. Annual Income Rates, Cost Rates, and Balances

Table II.F13 presents a comparison of the estimated annual income rates and cost rates by trust fund and alternative. As previously mentioned, the annual income rate excludes net interest income, as well as certain other transfers from the general fund of the Treasury. Detailed long-range projections of trust fund operations, in nominal dollar amounts, are shown in appendix B.

The projections for OASDI under the intermediate alternative II assumptions show income rates that increase slowly and steadily due to the combination of the flat payroll tax rate and the gradually increasing effect of the taxation of benefits. The pattern followed by the cost rates is much different. Initially, they are projected to rise slowly with faster increases by 2010; for about the next 20 years thereafter (through about 2030), they increase rather rapidly, as the "baby-boom" generation reaches retirement age. Cost rates continue to rise, but more slowly, through 2037 and then decline slightly for the next 5 years as the "baby-boom" generation ages and begins to diminish, and the relatively small birth cohorts of the late 1970s reach retirement age. Thereafter, they rise steadily, but slowly, reflecting projected increases in life expectancy. The cost rates during the third 25-year subperiod rise to a level over 19 percent of taxable payroll under the intermediate alternative II assumptions. The income rate during the third 25-year subperiod is over 13 percent of taxable payroll under alternative II.

Projected income rates under the low cost and high cost sets of assumptions (alternatives I and III, respectively) are very similar to those projected for alternative II as they are largely a reflection of the tax rates specified in the law. OASDI combined cost rates for alternatives I and III differ significantly in size from those projected for alternative II, but follow generally similar patterns. For the low cost alternative I, cost rates decline somewhat for the first 9 years, and then rise, reaching the current level around 2011 and a peak of 15.04 percent of payroll in 2032. Thereafter, cost rates decline gradually, reaching a level of 13.70 percent of payroll in 2072. For the high cost alternative III, cost rates rise throughout the 75-year period. They rise at a relatively fast pace during the next 5 years, due to the two assumed economic recessions, and between 2010 and 2030, because of the aging of the "baby-boom" generation. During the third 25-year subperiod, the projected cost rate continues rising and reaches 29.32 percent of payroll in 2072.

The projected pattern of the OASDI annual balances (that is, the difference between the income rates and the cost rates) is important in the analysis of the financial condition of the program. Under the alternative II assumptions the annual balances are positive for 15 years (through 2012) and are negative thereafter. This annual deficit rises rapidly, reaching over 2 percent of taxable payroll by 2020, and continues rising thereafter, to a level of 6.29 percent of taxable payroll for 2072.

Under alternative I projected OASDI annual balances are positive for 21 years (through 2018) and thereafter are negative. Deficits under alternative I rise to a peak of 2.05 percent of taxable payroll in 2032, but diminish thereafter, as the effect of the "baby-boom" generation diminishes and the assumed higher fertility rates increase the work force. Deficits under alternative I diminish to 0.65 percent of payroll by 2072. Under the more pessimistic alternative III, however, the OASDI actuarial balance is projected to be positive for only 8 years (through 2005) and to be negative thereafter, with deficits exceeding 4 percent of payroll by 2020, 10 percent by 2050, and 15 percent of payroll by 2072.

Table II.F13.—Comparison of Estimated Income Rates and Cost Rates by Trust Fund and Alternative, Calendar Years 1998-2075

[As a percentage of taxable payroll]

Calendar year	OASI Income rate	OASI Cost rate	OASI Balance	DI Income rate	DI Cost rate	DI Balance	Combined Income rate	Combined Cost rate	Combined Balance
Intermediate:									
1998	10.93	9.70	1.23	1.71	1.48	0.24	12.65	11.18	1.47
1999	10.93	9.62	1.31	1.71	1.51	.21	12.65	11.13	1.52
2000	10.82	9.62	1.20	1.81	1.53	.28	12.63	11.16	1.48
2001	10.84	9.65	1.19	1.82	1.58	.24	12.66	11.23	1.43
2002	10.85	9.67	1.18	1.82	1.63	.18	12.66	11.30	1.36
2003	10.85	9.69	1.16	1.82	1.69	.13	12.67	11.38	1.29
2004	10.86	9.71	1.15	1.82	1.75	.07	12.68	11.46	1.22
2005	10.87	9.73	1.13	1.82	1.82	.00	12.69	11.55	1.14
2006	10.87	9.76	1.12	1.82	1.88	-.06	12.70	11.64	1.06
2007	10.88	9.79	1.09	1.82	1.95	-.12	12.70	11.74	.97
2010	10.91	10.10	.82	1.82	2.10	-.27	12.74	12.19	.54
2015	10.99	11.23	-.24	1.83	2.23	-.40	12.82	13.46	-.64
2020	11.09	12.86	-1.77	1.83	2.31	-.48	12.92	15.17	-2.26
2025	11.18	14.28	-3.10	1.84	2.42	-.59	13.02	16.70	-3.69
2030	11.26	15.32	-4.06	1.84	2.44	-.60	13.10	17.76	-4.66
2035	11.31	15.77	-4.46	1.84	2.39	-.55	13.15	18.17	-5.02
2040	11.34	15.73	-4.39	1.84	2.40	-.56	13.18	18.13	-4.95
2045	11.35	15.64	-4.28	1.84	2.50	-.65	13.20	18.13	-4.93
2050	11.38	15.74	-4.36	1.85	2.56	-.71	13.22	18.29	-5.07
2055	11.41	16.07	-4.66	1.85	2.59	-.75	13.26	18.66	-5.40
2060	11.45	16.47	-5.03	1.85	2.57	-.72	13.29	19.04	-5.75
2065	11.47	16.76	-5.29	1.85	2.56	-.71	13.32	19.32	-6.00
2070	11.49	16.97	-5.48	1.85	2.57	-.72	13.34	19.54	-6.20
2075	11.51	17.19	-5.68	1.85	2.60	-.75	13.36	19.79	-6.43

Table II.F13.—Comparison of Estimated Income Rates and Cost Rates by Trust Fund and Alternative, Calendar Years 1998-2075 (Cont.)

[As a percentage of taxable payroll]

Calendar year	OASI Income rate	OASI Cost rate	OASI Balance	DI Income rate	DI Cost rate	DI Balance	Combined Income rate	Combined Cost rate	Combined Balance
Low Cost:									
1998	10.93	9.62	1.31	1.71	1.45	0.27	12.65	11.07	1.58
1999	10.93	9.45	1.48	1.71	1.44	.27	12.64	10.89	1.75
2000	10.80	9.39	1.41	1.81	1.45	.37	12.61	10.84	1.78
2001	10.83	9.33	1.50	1.81	1.46	.36	12.65	10.79	1.86
2002	10.84	9.28	1.56	1.82	1.49	.33	12.65	10.77	1.89
2003	10.84	9.24	1.61	1.82	1.51	.30	12.66	10.75	1.91
2004	10.85	9.19	1.66	1.82	1.54	.27	12.66	10.73	1.93
2005	10.85	9.15	1.70	1.82	1.58	.24	12.67	10.73	1.94
2006	10.86	9.10	1.75	1.82	1.61	.21	12.67	10.71	1.96
2007	10.86	9.06	1.80	1.82	1.64	.18	12.68	10.70	1.98
2010	10.88	9.24	1.64	1.82	1.69	.13	12.70	10.93	1.77
2015	10.94	10.15	.79	1.82	1.72	.10	12.76	11.87	.89
2020	11.02	11.51	-.49	1.82	1.74	.08	12.84	13.25	-.41
2025	11.09	12.58	-1.48	1.83	1.79	.03	12.92	14.37	-1.45
2030	11.15	13.20	-2.05	1.83	1.78	.04	12.98	14.98	-2.00
2035	11.18	13.24	-2.06	1.83	1.73	.10	13.01	14.97	-1.96
2040	11.18	12.86	-1.67	1.83	1.71	.12	13.01	14.56	-1.55
2045	11.19	12.47	-1.29	1.83	1.75	.08	13.02	14.22	-1.20
2050	11.19	12.27	-1.08	1.83	1.76	.07	13.02	14.03	-1.01
2055	11.20	12.25	-1.04	1.83	1.76	.07	13.04	14.01	-.97
2060	11.22	12.23	-1.02	1.83	1.73	.10	13.05	13.96	-.91
2065	11.22	12.12	-.90	1.83	1.71	.12	13.05	13.83	-.78
2070	11.22	11.99	-.77	1.83	1.72	.11	13.05	13.72	-.67
2075	11.23	11.95	-.73	1.83	1.74	.09	13.06	13.70	-.64
High Cost:									
1998	10.94	9.76	1.18	1.71	1.52	.20	12.65	11.28	1.37
1999	10.94	9.92	1.02	1.72	1.62	.10	12.66	11.54	1.11
2000	10.85	9.83	1.02	1.82	1.67	.15	12.67	11.49	1.17
2001	10.85	9.94	.91	1.82	1.75	.07	12.67	11.69	.98
2002	10.87	10.49	.38	1.82	1.93	-.11	12.69	12.42	.27
2003	10.88	10.50	.37	1.82	2.00	-.18	12.70	12.51	.19
2004	10.88	10.50	.38	1.82	2.09	-.26	12.70	12.58	.12
2005	10.89	10.52	.37	1.82	2.17	-.34	12.71	12.68	.03
2006	10.90	10.58	.32	1.83	2.26	-.43	12.72	12.83	-.11
2007	10.91	10.68	.23	1.83	2.35	-.53	12.73	13.03	-.30
2010	10.95	11.07	-.12	1.83	2.59	-.76	12.78	13.66	-.88
2015	11.05	12.40	-1.35	1.84	2.80	-.96	12.89	15.19	-2.31
2020	11.17	14.33	-3.16	1.84	2.94	-1.10	13.01	17.27	-4.26
2025	11.29	16.19	-4.90	1.85	3.13	-1.28	13.14	19.32	-6.18
2030	11.40	17.79	-6.39	1.85	3.20	-1.35	13.25	20.99	-7.74
2035	11.48	18.87	-7.38	1.85	3.18	-1.33	13.34	22.05	-8.71
2040	11.54	19.45	-7.91	1.86	3.24	-1.39	13.40	22.70	-9.30
2045	11.59	19.94	-8.35	1.86	3.44	-1.58	13.45	23.38	-9.93
2050	11.65	20.66	-9.01	1.87	3.58	-1.72	13.51	24.24	-10.73
2055	11.72	21.71	-9.99	1.87	3.70	-1.83	13.59	25.40	-11.82
2060	11.80	22.96	-11.16	1.87	3.70	-1.83	13.67	26.66	-12.99
2065	11.87	24.14	-12.26	1.87	3.70	-1.83	13.74	27.83	-14.09
2070	11.94	25.18	-13.24	1.87	3.72	-1.85	13.81	28.90	-15.09
2075	12.00	26.15	-14.15	1.87	3.77	-1.89	13.87	29.92	-16.04

Notes:

1. The income rate excludes interest income and certain transfers from the general fund of the Treasury.
2. Totals do not necessarily equal the sums of rounded components.

Also of interest are the long-range financial conditions of the separate OASI and DI programs. Annual balances under alternative II remain positive through 2014 for the OASI program, but only through 2005 for the DI program.

Actuarial Analysis

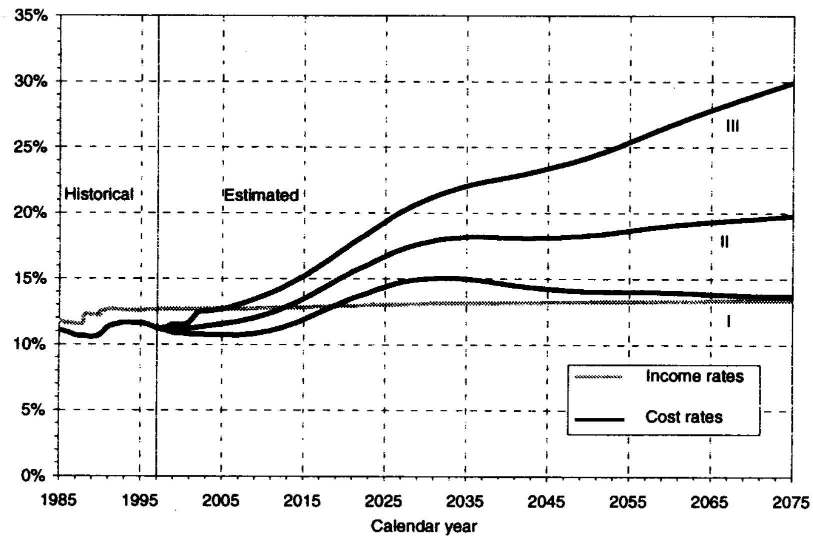
Figure II.F3 shows in graphical form the patterns of the OASDI annual income rates and cost rates. The income rates are shown only for alternative II in order to simplify the graphical presentation and because, as shown in table II.F13, the variation in the income rates by alternative is very small. Income rates increase generally, but at a slow rate, for each of the alternatives over the long-range period. Both increases in the income rate and variation among the alternatives result from the relatively small component of income from taxation of benefits. Increases in income from taxation of benefits reflect the combination of changes in the benefit cost and the fact that an increasing share of benefits will be subject to taxation, because benefit taxation threshold amounts are not indexed.

The OASDI long-range summarized income rates for alternatives I and III for the 75-year valuation period differ by less than 0.3 percent of taxable payroll. By 2072, the annual income rates under alternatives I and III differ by less than 0.8 percent of taxable payroll.

The patterns of the annual balances are indicated in figure II.F3. For each alternative, the magnitude of each of the positive balances in the early years, as a percent of taxable payroll, is represented by the distance between the appropriate cost-rate curve and the income-rate curve above it. The magnitude of each of the deficits in subsequent years is represented by the distance between the appropriate cost-rate curve and the income-rate curve below it.

In the future, the cost of the OASDI program, as a percent of taxable payroll, will not necessarily be within the range encompassed by alternatives I and III. Nonetheless, because alternatives I and III define a reasonably wide range of economic and demographic conditions, the resulting estimates delineate a reasonable range for future program costs.

Figure II.F3.—Estimated OASDI Income Rates and Cost Rates by Alternative, Calendar Years 1985-2075
[As a percentage of taxable payroll]



b. Summarized Income Rates, Cost Rates, and Balances

Summarized values for the full 75-year period are useful in analyzing the long-range financial condition of the program under present law and the long-range financial effects of proposed modifications to the law. In order to focus on the full 75-year period as well as on broad patterns through the period, tables II.F14 and II.F15 summarize, on a present-value basis, the projected annual figures presented in the previous table for various periods within the overall 75-year projection period.

Table II.F14 shows rates on a present-value basis summarized for each of the 25-year subperiods, excluding both the funds on hand at the beginning of the period and the cost of accumulating a target trust fund balance by the end of the period. These rates are useful for comparing the cash flows of tax income and expenditures, as an indicator of the degree to which tax income during the period is sufficient to meet the outgo estimated for the period.

For the combined OASDI program, a positive balance is projected only for the first 25-year subperiod under both the low cost alternative I and the intermediate alternative II. A deficit is projected for the first 25-year subperiod under the high cost alternative III. Deficits are projected for the second and third subperiods under all three alternatives.

Table II.F14.—Comparison of Summarized Income Rates and Cost Rates for 25-Year Subperiods [1], by Trust Fund and Alternative, Calendar Years 1998-2072

[As a percentage of taxable payroll]

	OASI			DI			Combined		
Subperiod	Income rate	Cost rate	Balance	Income rate	Cost rate	Balance	Income rate	Cost rate	Balance
Intermediate:									
1998-2022....	10.95	10.61	0.34	1.82	1.97	-0.16	12.76	12.58	0.18
2023-2047....	11.29	15.28	-3.99	1.84	2.43	-.59	13.13	17.71	-4.58
2048-2072....	11.44	16.34	-4.90	1.85	2.57	-.72	13.29	18.91	-5.62
Low Cost:									
1998-2022....	10.92	9.83	1.09	1.81	1.63	.18	12.73	11.46	1.27
2023-2047....	11.16	12.87	-1.70	1.83	1.75	.07	12.99	14.62	-1.63
2048-2072....	11.22	12.19	-.97	1.83	1.74	.09	13.05	13.92	-.87
High Cost:									
1998-2022....	10.99	11.53	-.54	1.82	2.39	-.57	12.81	13.92	-1.11
2023-2047....	11.45	18.27	-6.82	1.85	3.23	-1.37	13.31	21.50	-8.19
2048-2072....	11.79	22.69	-10.90	1.87	3.67	-1.80	13.66	26.36	-12.71

[1] Income rates do not include beginning trust fund balances and cost rates do not include the cost of accumulating target trust fund balances.

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

Table II.F15 shows summarized rates for valuation periods of the first 25, the first 50, and the entire 75 years of the long-range projection period, including the funds on hand at the start of the period and the cost of accumulating a target trust fund balance equal to 100 percent of annual expenditures by the end of the period. The actuarial balance for each of these three valuation periods is equal to the difference between the summarized income rate and cost rate for the corresponding period. An actuarial balance of zero for any period would indicate that estimated outgo for the period could be met, on average, with a remaining trust fund balance at the end of the period equal to 100 percent of the following year's outgo.

Table II.F15.—Comparison of Summarized Income Rates and Cost Rates for Valuation Periods [1], by Trust Fund and Alternative, Calendar Years 1998-2072

[As a percentage of taxable payroll]

	OASI			DI			Combined		
Valuation period	Income rate	Cost rate	Actuarial balance	Income rate	Cost rate	Actuarial balance	Income rate	Cost rate	Actuarial balance
Intermediate:									
25-years:									
1998-2022 . . .	11.82	11.07	0.75	1.91	2.05	-0.14	13.73	13.12	0.61
50-years:									
1998-2047 . . .	11.61	12.68	-1.07	1.88	2.19	-.30	13.49	14.86	-1.37
75-years:									
1998-2072 . . .	11.57	13.38	-1.81	1.88	2.26	-.38	13.45	15.64	-2.19
Low Cost:									
25-years:									
1998-2022 . . .	11.77	10.23	1.54	1.91	1.69	.22	13.67	11.91	1.76
50-years:									
1998-2047 . . .	11.53	11.21	.32	1.88	1.70	.17	13.40	12.91	.49
75-years:									
1998-2072 . . .	11.46	11.37	.08	1.87	1.70	.16	13.33	13.08	.25
High Cost:									
25-years:									
1998-2022 . . .	11.86	12.05	-.18	1.92	2.49	-.57	13.78	14.54	-.76
50-years:									
1998-2047 . . .	11.70	14.50	-2.80	1.89	2.77	-.88	13.59	17.27	-3.68
75-years:									
1998-2072 . . .	11.72	16.09	-4.37	1.89	2.94	-1.05	13.61	19.03	-5.42

[1] Income rates include beginning trust fund balances and cost rates include the cost of reaching an ending fund target equal to 100 percent of annual expenditures by the end of the period.

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

The values in table II.F15 show that the combined OASDI program is expected to operate with a positive actuarial balance over the 25-year valuation period under alternatives I and II. For the 25-year valuation period the summarized values indicate actuarial balances of 1.76 percent of taxable payroll under alternative I, 0.61 percent under alternative II, and -0.76 percent under alternative III. Thus, the program is more than adequately financed for the 25-year valuation period under all but the high cost alternative III projections. For the 50-year valuation period the OASDI program would have a positive actuarial balance of 0.49 percent under alternative I, but would have deficits of 1.37 percent under alternative II and 3.68 percent under alternative III. Thus, the program is more than adequately financed for the 50-year valuation period under only the low cost set of assumptions, alternative I.

For the entire 75-year valuation period, the combined OASDI program would again have actuarial deficits except for the low cost set of assumptions, alternative I. The actuarial balance for this long-range valuation period is projected to be 0.25 percent of taxable payroll under alternative I, -2.19 percent under alternative II, and -5.42 percent under alternative III.

As may be concluded from tables II.F14 and II.F15, the financial condition of the DI program is somewhat weaker than that of the OASI program for the first 25 years. Summarized over the full 75-year period, however, long-range deficits for the OASI and DI programs under intermediate assumptions are about the same relative to program costs.

c. *Test of Long-Range Close Actuarial Balance*

Two tests of the financial status of the OASI, DI, and combined OASDI programs are presented in this report. The test of long-range close actuarial balance incorporates a graduated tolerance scale which allows larger actuarial deficits (relative to program costs) for longer valuation periods, thus allowing for the greater uncertainty inherent in the estimates for later years. The other test, the short-range test of the financial adequacy of the program, was discussed earlier in this section.

Table II.F16 presents a comparison of the estimated actuarial balances with the minimum allowable balance (or maximum allowable deficit) under the long-range test, each expressed as a percentage of the summarized cost rate, based on the intermediate alternative II estimates. Values are shown for only 14 of the valuation periods: those of length 10 years, 15 years, and continuing in 5-year increments through 75 years. However, each of the 66 periods—those of length 10 years, 11 years, and continuing in 1-year increments through 75 years—is considered for the test. These minimum allowable balances are calculated to show the limit for each valuation period resulting from the graduated tolerance scale. The patterns in the estimated balances as a percentage of the summarized cost rates, as well as that for the minimum allowable balance, are presented graphically in figure II.F4 for the OASI, DI and combined OASDI programs. Values shown for the 25-year, 50-year, and 75-year valuation periods correspond to those presented in table II.F15.

As discussed earlier, a program is found not to be in long-range close actuarial balance if, for any of the valuation periods ending with the 10th through 75th years of the projection period, the estimated actuarial balance is less than the minimum allowable balance. The minimum allowable balance as a percentage of the summarized cost rate is

-5.0 percent for the full 75-year long-range period and is reduced uniformly for shorter valuation periods, reaching zero for the 10-year valuation period.

For the OASI program, the estimated actuarial balance as a percentage of the summarized cost rate exceeds the minimum allowable for valuation periods of length 10 years through 35 years, under the intermediate alternative II estimates. For valuation periods of length greater than 35 years, the estimated actuarial balance is less than the minimum allowable. For the full 75-year long-range period the estimated actuarial balance reaches -13.50 percent of the summarized cost rate, for a shortfall of 8.50 percent, from the minimum allowable balance of -5.0 percent of the summarized cost rate. Thus, although the OASI program satisfies the short-range test of financial adequacy (as discussed earlier in this section), it is not in long-range close actuarial balance.

For the DI program, the estimated actuarial balance as a percentage of the summarized cost rate exceeds the minimum allowable balance for valuation periods of length 10 through 16 years under the intermediate alternative II estimates. For valuation periods of length greater than 16 years, the estimated actuarial balance is less than the minimum allowable. The shortfall from the minimum allowable balance rises to a level of 16.83 percent of the summarized cost rate for the full long-range period, for a shortfall of 11.83 percent, from the minimum allowable balance of -5.0 percent of the summarized cost rate. Thus, as noted above for the OASI program, the DI program, although meeting the short-range test of financial adequacy (as discussed earlier in this section), is not in long-range close actuarial balance.

As indicated above, financing for the DI program is less adequate than for the OASI program during the first 25 years even though long-range actuarial deficits are comparable over the entire 75-year period. This occurs because much more of the increase in the long-range cost occurs early for the DI program than for the OASI program. As a result, tax rates that are relatively more adequate for the OASI program during the first 25 years become relatively less adequate thereafter.

For the combined OASDI program, the estimated actuarial balance as a percentage of the summarized cost rate exceeds the minimum allowable balance for valuation periods of length 10 years through 32 years. For valuation periods of length greater than 32 years, the estimated actuarial balance is below the minimum allowable balance. The size of the shortfall from the minimum allowable balance rises gradually, reaching 8.98 percent of the summarized cost rate for the full 75-year long-range valuation period. Thus, although the OASDI program satisfies the short-range test of financial adequacy (as discussed earlier in this section), it is out of long-range close actuarial balance.

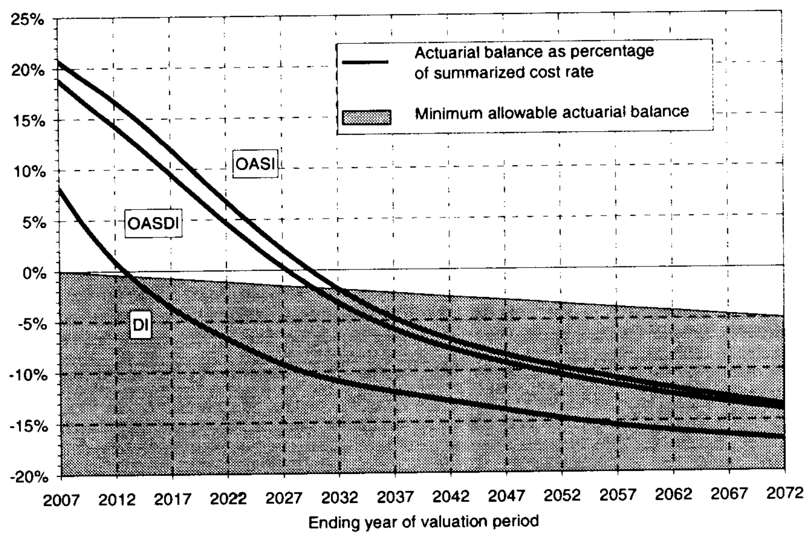
The OASI and DI programs, both separate and combined, were also found to be out of close actuarial balance in last year's report. The estimated deficits for the OASI, DI, and combined OASDI programs in this report are similar to those shown in last year's report.

Table II.F16.—Comparison of Estimated Long-Range Actuarial Balances With the Minimum Allowable for the Test for Close Actuarial Balance by Trust Fund, Based on Intermediate Estimates

	Rates (percentage of taxable payroll)			Values expressed as a percentage of cost rate	
Valuation period	Summarized income rate	Summarized cost rate	Actuarial balance	Actuarial balance	Minimum allowable actuarial balance
OASI:					
10 years: 1998-2007...	12.84	10.64	2.20	20.67	0.00
15 years: 1998-2012...	12.25	10.49	1.75	16.70	-.38
20 years: 1998-2017...	11.97	10.69	1.28	11.95	-.77
25 years: 1998-2022...	11.82	11.07	.75	6.77	-1.15
30 years: 1998-2027...	11.73	11.50	.24	2.05	-1.54
35 years: 1998-2032...	11.68	11.90	-.22	-1.85	-1.92
40 years: 1998-2037...	11.65	12.23	-.59	-4.79	-2.31
45 years: 1998-2042...	11.62	12.48	-.86	-6.89	-2.69
50 years: 1998-2047...	11.61	12.68	-1.07	-8.44	-3.08
55 years: 1998-2052...	11.59	12.84	-1.25	-9.70	-3.46
60 years: 1998-2057...	11.59	12.99	-1.41	-10.82	-3.85
65 years: 1998-2062...	11.58	13.13	-1.55	-11.83	-4.23
70 years: 1998-2067...	11.58	13.26	-1.69	-12.72	-4.62
75 years: 1998-2072...	11.57	13.38	-1.81	-13.50	-5.00
DI:					
10 years: 1998-2007...	2.02	1.87	.15	8.14	.00
15 years: 1998-2012...	1.96	1.94	.02	.91	-.38
20 years: 1998-2017...	1.93	2.00	-.07	-3.58	-.77
25 years: 1998-2022...	1.91	2.05	-.14	-6.68	-1.15
30 years: 1998-2027...	1.90	2.10	-.19	-9.26	-1.54
35 years: 1998-2032...	1.90	2.13	-.23	-10.93	-1.92
40 years: 1998-2037...	1.89	2.15	-.26	-12.02	-2.31
45 years: 1998-2042...	1.89	2.17	-.28	-12.93	-2.69
50 years: 1998-2047...	1.88	2.19	-.30	-13.86	-3.08
55 years: 1998-2052...	1.88	2.21	-.32	-14.70	-3.46
60 years: 1998-2057...	1.88	2.22	-.34	-15.42	-3.85
65 years: 1998-2062...	1.88	2.24	-.36	-15.98	-4.23
70 years: 1998-2067...	1.88	2.25	-.37	-16.43	-4.62
75 years: 1998-2072...	1.88	2.26	-.38	-16.83	-5.00
OASDI:					
10 years: 1998-2007...	14.86	12.51	2.35	18.80	.00
15 years: 1998-2012...	14.21	12.44	1.77	14.24	-.38
20 years: 1998-2017...	13.90	12.69	1.21	9.50	-.77
25 years: 1998-2022...	13.73	13.12	.61	4.66	-1.15
30 years: 1998-2027...	13.63	13.59	.04	.31	-1.54
35 years: 1998-2032...	13.58	14.03	-.45	-3.23	-1.92
40 years: 1998-2037...	13.54	14.38	-.84	-5.87	-2.31
45 years: 1998-2042...	13.51	14.65	-1.14	-7.78	-2.69
50 years: 1998-2047...	13.49	14.86	-1.37	-9.24	-3.08
55 years: 1998-2052...	13.48	15.05	-1.57	-10.43	-3.46
60 years: 1998-2057...	13.47	15.21	-1.75	-11.49	-3.85
65 years: 1998-2062...	13.46	15.37	-1.91	-12.43	-4.23
70 years: 1998-2067...	13.45	15.51	-2.06	-13.25	-4.62
75 years: 1998-2072...	13.45	15.64	-2.19	-13.98	-5.00

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

Figure II.F4.—Comparison of Estimated Long-Range Actuarial Balances With the Minimum Allowable for Close Actuarial Balance, Alternative II by Trust Fund



d. Income and Cost Rates by Component

Annual income rates and their components are shown in table II.F17 for each alternative set of assumptions. The annual income rates reflect the scheduled payroll tax rates and the projected income from the taxation of benefits expressed as a percentage of taxable payroll. (Income from taxation of benefits reflects changes in the cost rates and the fact that benefit-taxation threshold amounts are not indexed.)

Summarized income and cost rates, along with their components, are presented in table II.F18 for 25-year, 50-year, and 75-year valuation periods. Summarized income rates include the starting trust fund balance in addition to the components included in the annual income rates. The summarized cost rates include the cost of reaching and maintaining an ending trust fund target of 100 percent of annual expenditures by the end of the period in addition to the expenditures included in the annual cost rates.

It may be noted that the payroll tax income expressed as a percentage of taxable payroll is slightly smaller than the actual tax rates in effect for each period. This results from the fact that all OASDI income and outgo amounts presented in this report are computed on a cash basis, i.e., amounts are attributed to the year in which they are actually received by, or expended from, the fund, while taxable payroll is allocated to the year in which earnings are paid. Because earnings are paid to workers before the corresponding payroll taxes are credited to the funds, payroll tax income for a particular year reflects a combination of the taxable payrolls from that year and from prior years, when payroll was smaller. Dividing payroll tax income by taxable payroll for a particular year, or period of years, will thus generally result in an income rate that is slightly less than the applicable tax rate for the period.

Table II.F17.—Components of Annual Income Rates by Trust Fund and Alternative, Calendar Years 1998-2075

[As a percentage of taxable payroll]

	OASI			DI			Combined		
Calendar year	Payroll tax	Taxation of benefits	Total	Payroll tax	Taxation of benefits	Total	Payroll tax	Taxation of benefits	Total
Intermediate:									
1998	10.70	0.23	10.93	1.70	0.01	1.71	12.40	0.25	12.65
1999	10.70	.23	10.93	1.70	.01	1.71	12.40	.25	12.65
2000	10.60	.22	10.82	1.80	.01	1.81	12.40	.23	12.63
2001	10.60	.24	10.84	1.80	.02	1.82	12.40	.26	12.66
2002	10.60	.25	10.85	1.80	.02	1.82	12.40	.26	12.66
2003	10.60	.25	10.85	1.80	.02	1.82	12.40	.27	12.67
2004	10.60	.26	10.86	1.80	.02	1.82	12.40	.28	12.68
2005	10.60	.27	10.87	1.80	.02	1.82	12.40	.29	12.69
2006	10.60	.27	10.87	1.80	.02	1.82	12.40	.30	12.70
2007	10.60	.28	10.88	1.80	.02	1.82	12.40	.30	12.70
2010	10.60	.31	10.91	1.80	.02	1.82	12.40	.34	12.74
2015	10.60	.39	10.99	1.80	.03	1.83	12.40	.42	12.82
2020	10.60	.49	11.09	1.80	.03	1.83	12.40	.52	12.92
2025	10.60	.58	11.18	1.80	.04	1.84	12.40	.62	13.02
2030	10.60	.66	11.26	1.80	.04	1.84	12.40	.70	13.10
2035	10.60	.71	11.31	1.80	.04	1.84	12.40	.75	13.15
2040	10.60	.74	11.34	1.80	.04	1.84	12.40	.78	13.18
2045	10.60	.75	11.35	1.80	.04	1.84	12.40	.80	13.20
2050	10.60	.78	11.38	1.80	.05	1.85	12.40	.82	13.22
2055	10.60	.81	11.41	1.80	.05	1.85	12.40	.86	13.26
2060	10.60	.85	11.45	1.80	.05	1.85	12.40	.89	13.29
2065	10.60	.87	11.47	1.80	.05	1.85	12.40	.92	13.32
2070	10.60	.89	11.49	1.80	.05	1.85	12.40	.94	13.34
2075	10.60	.91	11.51	1.80	.05	1.85	12.40	.96	13.36

Actuarial Analysis

Table II.F17.—Components of Annual Income Rates by Trust Fund and Alternative, Calendar Years 1998-2075 (Cont.)

[As a percentage of taxable payroll]

	OASI			DI			Combined		
Calendar year	Payroll tax	Taxation of benefits	Total	Payroll tax	Taxation of benefits	Total	Payroll tax	Taxation of benefits	Total
Low Cost:									
1998	10.70	0.23	10.93	1.70	0.01	1.71	12.40	0.25	12.65
1999	10.70	.23	10.93	1.70	.01	1.71	12.40	.24	12.64
2000	10.60	.20	10.80	1.80	.01	1.81	12.40	.21	12.61
2001	10.60	.23	10.83	1.80	.01	1.81	12.40	.25	12.65
2002	10.60	.24	10.84	1.80	.02	1.82	12.40	.25	12.65
2003	10.60	.24	10.84	1.80	.02	1.82	12.40	.26	12.66
2004	10.60	.25	10.85	1.80	.02	1.82	12.40	.26	12.66
2005	10.60	.25	10.85	1.80	.02	1.82	12.40	.27	12.67
2006	10.60	.26	10.86	1.80	.02	1.82	12.40	.27	12.67
2007	10.60	.26	10.86	1.80	.02	1.82	12.40	.28	12.68
2010	10.60	.28	10.88	1.80	.02	1.82	12.40	.30	12.70
2015	10.60	.34	10.94	1.80	.02	1.82	12.40	.36	12.76
2020	10.60	.42	11.02	1.80	.02	1.82	12.40	.44	12.84
2025	10.60	.49	11.09	1.80	.03	1.83	12.40	.52	12.92
2030	10.60	.55	11.15	1.80	.03	1.83	12.40	.58	12.98
2035	10.60	.58	11.18	1.80	.03	1.83	12.40	.61	13.01
2040	10.60	.58	11.18	1.80	.03	1.83	12.40	.61	13.01
2045	10.60	.59	11.19	1.80	.03	1.83	12.40	.62	13.02
2050	10.60	.59	11.19	1.80	.03	1.83	12.40	.62	13.02
2055	10.60	.60	11.20	1.80	.03	1.83	12.40	.64	13.04
2060	10.60	.62	11.22	1.80	.03	1.83	12.40	.65	13.05
2065	10.60	.62	11.22	1.80	.03	1.83	12.40	.65	13.05
2070	10.60	.62	11.22	1.80	.03	1.83	12.40	.65	13.05
2075	10.60	.63	11.23	1.80	.03	1.83	12.40	.66	13.06
High Cost:									
1998	10.70	.24	10.94	1.70	.01	1.71	12.40	.25	12.65
1999	10.70	.24	10.94	1.70	.02	1.72	12.40	.26	12.66
2000	10.60	.25	10.85	1.80	.02	1.82	12.40	.27	12.67
2001	10.60	.25	10.85	1.80	.02	1.82	12.40	.27	12.67
2002	10.60	.27	10.87	1.80	.02	1.82	12.40	.29	12.69
2003	10.60	.28	10.88	1.80	.02	1.82	12.40	.30	12.70
2004	10.60	.28	10.88	1.80	.02	1.82	12.40	.30	12.70
2005	10.60	.29	10.89	1.80	.02	1.82	12.40	.31	12.71
2006	10.60	.30	10.90	1.80	.03	1.83	12.40	.32	12.72
2007	10.60	.31	10.91	1.80	.03	1.83	12.40	.33	12.73
2010	10.60	.35	10.95	1.80	.03	1.83	12.40	.38	12.78
2015	10.60	.45	11.05	1.80	.04	1.84	12.40	.49	12.89
2020	10.60	.57	11.17	1.80	.04	1.84	12.40	.61	13.01
2025	10.60	.69	11.29	1.80	.05	1.85	12.40	.74	13.14
2030	10.60	.80	11.40	1.80	.05	1.85	12.40	.85	13.25
2035	10.60	.88	11.48	1.80	.05	1.85	12.40	.94	13.34
2040	10.60	.94	11.54	1.80	.06	1.86	12.40	1.00	13.40
2045	10.60	.99	11.59	1.80	.06	1.86	12.40	1.05	13.45
2050	10.60	1.05	11.65	1.80	.07	1.87	12.40	1.11	13.51
2055	10.60	1.12	11.72	1.80	.07	1.87	12.40	1.19	13.59
2060	10.60	1.20	11.80	1.80	.07	1.87	12.40	1.27	13.67
2065	10.60	1.27	11.87	1.80	.07	1.87	12.40	1.34	13.74
2070	10.60	1.34	11.94	1.80	.07	1.87	12.40	1.41	13.81
2075	10.60	1.40	12.00	1.80	.07	1.87	12.40	1.47	13.87

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

Table II.F18.—Components of Summarized Income Rates and Cost Rates by Trust Fund and Alternative, Calendar Years 1998-2072

[As a percentage of taxable payroll]

Valuation period	Income rate				Cost rate		
	Payroll tax	Taxation of benefits	Beginning fund balance	Total	Disburse-ments	Ending fund balance	Total
OASI:							
Intermediate:							
1998-2022	10.62	0.33	0.87	11.82	10.61	0.46	11.07
1998-2047	10.61	.47	.52	11.61	12.47	.20	12.68
1998-2072	10.61	.54	.42	11.57	13.27	.11	13.38
Low Cost:							
1998-2022	10.62	.30	.85	11.77	9.83	.40	10.23
1998-2047	10.61	.40	.51	11.53	11.04	.17	11.21
1998-2072	10.61	.45	.40	11.46	11.29	.09	11.37
High Cost:							
1998-2022	10.62	.37	.88	11.86	11.53	.52	12.05
1998-2047	10.61	.56	.52	11.70	14.23	.26	14.50
1998-2072	10.61	.69	.42	11.72	15.93	.16	16.09
DI:							
Intermediate:							
1998-2022	1.79	.02	.10	1.91	1.97	.08	2.05
1998-2047	1.80	.03	.06	1.88	2.15	.03	2.19
1998-2072	1.80	.03	.05	1.88	2.24	.02	2.26
Low Cost:							
1998-2022	1.79	.02	.10	1.91	1.63	.06	1.69
1998-2047	1.80	.02	.06	1.88	1.68	.02	1.70
1998-2072	1.80	.02	.05	1.87	1.69	.01	1.70
High Cost:							
1998-2022	1.79	.03	.10	1.92	2.39	.10	2.49
1998-2047	1.80	.04	.06	1.89	2.73	.05	2.77
1998-2072	1.80	.04	.05	1.89	2.92	.02	2.94
OASDI:							
Intermediate:							
1998-2022	12.41	.35	.97	13.73	12.58	.54	13.12
1998-2047	12.41	.50	.58	13.49	14.63	.24	14.86
1998-2072	12.41	.58	.46	13.45	15.50	.13	15.64
Low Cost:							
1998-2022	12.41	.32	.95	13.67	11.45	.46	11.91
1998-2047	12.41	.42	.57	13.40	12.72	.19	12.91
1998-2072	12.41	.47	.45	13.33	12.98	.10	13.08
High Cost:							
1998-2022	12.41	.40	.97	13.78	13.92	.62	14.54
1998-2047	12.41	.60	.58	13.59	16.96	.31	17.27
1998-2072	12.41	.73	.47	13.61	18.84	.18	19.03

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

e. Comparison of Workers to Beneficiaries

The primary reason that the estimated OASDI cost rate increases rapidly after 2010 is that the number of beneficiaries is projected to increase more rapidly than the number of covered workers. This occurs because the relatively large number of persons born during the period of high fertility rates from the end of World War II through the mid-1960s will reach retirement age, and begin to receive benefits, while the relatively small number of persons born during the subsequent period of low fertility rates will comprise the labor force. A comparison of the numbers of covered workers and beneficiaries is shown in table II.F19.

Table II.F19.—Comparison of OASDI Covered Workers and Beneficiaries by Alternative, Calendar Years 1945-2075

Calendar year	Covered workers [1] (in thousands)	Beneficiaries [2] (in thousands)			Covered workers per OASDI beneficiary	Beneficiaries per 100 covered workers
		OASI	DI	OASDI		
Historical data:						
1945	46,390	1,106	—	1,106	41.9	2
1950	48,280	2,930	—	2,930	16.5	6
1955	65,200	7,563	—	7,563	8.6	12
1960	72,530	13,740	522	14,262	5.1	20
1965	80,680	18,509	1,648	20,157	4.0	25
1970	93,090	22,618	2,568	25,186	3.7	27
1975	100,200	26,998	4,125	31,123	3.2	31
1980	113,656	30,384	4,750	35,134	3.2	31
1985	120,562	32,776	3,870	36,646	3.3	30
1986	123,395	33,350	3,972	37,322	3.3	30
1987	126,283	33,917	4,034	37,951	3.3	30
1988	130,146	34,343	4,077	38,420	3.4	30
1989	132,488	34,754	4,105	38,859	3.4	29
1990	133,710	35,266	4,204	39,470	3.4	30
1991	132,989	35,785	4,388	40,173	3.3	30
1992	133,974	36,314	4,716	41,030	3.3	31
1993	135,977	36,758	5,083	41,841	3.2	31
1994	138,192	37,082	5,435	42,517	3.3	31
1995	141,139	37,376	5,731	43,107	3.3	31
1996	143,755	37,521	5,977	43,498	3.3	30
1997	147,090	37,705	6,087	43,792	3.4	30
Intermediate:						
1998	148,454	37,963	6,252	44,215	3.4	30
2000	150,358	38,618	6,645	45,263	3.3	30
2005	155,235	40,696	8,046	48,742	3.2	31
2010	160,905	44,535	9,551	54,086	3.0	34
2015	164,133	50,392	10,569	60,961	2.7	37
2020	165,516	57,661	11,095	68,755	2.4	42
2025	165,902	64,437	11,580	76,017	2.2	46
2030	167,028	69,899	11,749	81,648	2.0	49
2035	169,138	73,238	11,718	84,957	2.0	50
2040	171,245	74,358	11,901	86,259	2.0	50
2045	172,684	75,007	12,433	87,440	2.0	51
2050	173,683	76,224	12,788	89,012	2.0	51
2055	174,443	78,348	13,047	91,396	1.9	52
2060	175,233	80,764	13,046	93,810	1.9	54
2065	176,178	82,705	13,083	95,788	1.8	54
2070	177,077	84,296	13,242	97,538	1.8	55
2075	177,765	85,820	13,450	99,270	1.8	56
Low Cost:						
1998	149,104	37,958	6,229	44,187	3.4	30
2000	152,076	38,585	6,461	45,046	3.4	30
2005	158,702	40,473	7,377	47,850	3.3	30
2010	165,105	43,975	8,333	52,309	3.2	32
2015	168,966	49,514	8,835	58,350	2.9	35
2020	171,350	56,421	9,065	65,486	2.6	38
2025	173,335	62,770	9,360	72,130	2.4	42
2030	176,899	67,673	9,475	77,148	2.3	44
2035	182,095	70,366	9,476	79,842	2.3	44
2040	187,871	70,924	9,674	80,598	2.3	43
2045	193,450	71,229	10,157	81,386	2.4	42
2050	198,941	72,227	10,537	82,764	2.4	42
2055	204,708	74,225	10,883	85,108	2.4	42
2060	210,980	76,475	11,085	87,560	2.4	42
2065	217,807	78,355	11,385	89,740	2.4	41
2070	224,739	80,213	11,817	92,030	2.4	41
2075	231,538	82,452	12,298	94,750	2.4	41

Table II.F19.—Comparison of OASDI Covered Workers and Beneficiaries by Alternative, Calendar Years 1945-2075 (Cont.)

Calendar year	Covered workers [1] (in thousands)	Beneficiaries [2] (in thousands) OASI	DI	OASDI	Covered workers per OASDI beneficiary	Beneficiaries per 100 covered workers
High Cost:						
1998	147,508	37,970	6,292	44,262	3.3	30
2000	147,420	38,662	6,973	45,635	3.2	31
2005	151,848	40,957	9,035	49,992	3.0	33
2010	157,155	45,128	10,788	55,916	2.8	36
2015	159,713	51,341	12,328	63,669	2.5	40
2020	160,094	59,048	13,154	72,202	2.2	45
2025	158,989	66,381	13,836	80,217	2.0	50
2030	158,055	72,624	14,058	86,682	1.8	55
2035	157,572	76,918	13,989	90,907	1.7	58
2040	156,518	78,982	14,150	93,133	1.7	60
2045	154,512	80,395	14,727	95,123	1.6	62
2050	151,922	82,264	15,041	97,305	1.6	64
2055	148,818	84,946	15,175	100,121	1.5	67
2060	145,506	87,949	14,898	102,847	1.4	71
2065	142,190	90,763	14,508	105,271	1.4	74
2070	138,884	92,104	14,335	106,439	1.3	77
2075	135,494	93,333	14,159	107,492	1.3	79

[1] Workers who are paid at some time during the year for employment on which OASDI taxes are due.

[2] Beneficiaries with monthly benefits in current-payment status as of June 30.

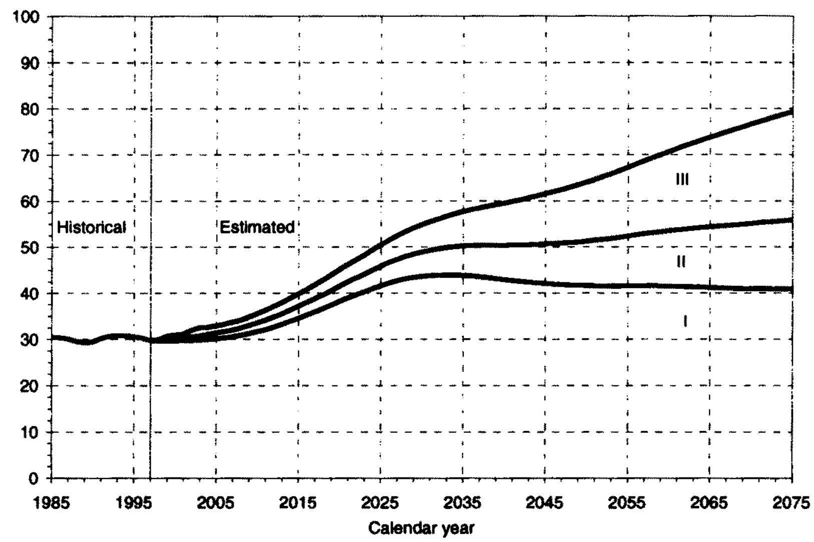
Notes:

1. The numbers of beneficiaries do not include certain uninsured persons, most of whom both attained age 72 before 1968 and have fewer than 3 quarters of coverage, in which cases the costs are reimbursed by the general fund of the Treasury. The number of such uninsured persons was 498 as of June 30, 1997, and is estimated to be fewer than 200 by the turn of the century. Totals do not necessarily equal the sums of rounded components.
2. Historical covered worker data are subject to revision.

Table II.F19 shows that the number of covered workers per beneficiary, which was about 3.4 in 1997, is estimated to decline in the future. Based on the low cost alternative I, for which high fertility rates and small reductions in death rates are assumed, the ratio declines to 2.3 by 2030, and then rises back to a level of 2.4 by 2045. Based on the high cost alternative III, for which low fertility rates and substantial reductions in death rates are assumed, the decline is much greater, reaching 1.3 workers per beneficiary by 2070. Based on the intermediate alternative II, the ratio declines to 1.8 workers per beneficiary by 2065.

The impact of the demographic shifts under the three alternatives on the OASDI cost rates is better understood by considering the projected number of beneficiaries per 100 workers. As compared to the 1997 level of 30 beneficiaries per 100 covered workers, this ratio is estimated to rise by the year 2075 to significantly higher levels, which are 41 under alternative I, 56 under alternative II, and 79 under alternative III. The significance of these numbers can be seen by comparing figure II.F3 to figure II.F5.

Figure II.F5.—Ratios of Estimated OASDI Beneficiaries Per 100 Covered Workers by Alternative, Calendar Years 1985-2075



For each alternative, the shape of the curve in figure II.F5, which shows beneficiaries per 100 covered workers, is strikingly similar to that of the corresponding cost-rate curve in figure II.F3, thereby emphasizing the extent to which the cost of the OASDI program is determined by the age patterns of the population. Because the cost rate is basically the product of the number of beneficiaries and their average benefit, divided by the product of the number of covered workers and their average taxable earnings (and because average benefits rise at about the same rate as average earnings), it is to be expected that the pattern of the annual cost rates is similar to that of the annual ratios of beneficiaries to workers. A graphical presentation of covered workers per beneficiary is shown in section I.G of the Overview.

f. Trust Fund Ratios

Table II.F20 shows, by alternative, the estimated trust fund ratios (without regard to advance tax transfers that would be effected after the end of the 10-year, short-range period) for the separate and combined OASI and DI Trust Funds. Also shown in this table is the first year in which a fund is estimated to be exhausted, reflecting the effect of the provision for advance tax transfers. The patterns of the combined fund ratios, over the 75-year period, are shown graphically in figure II.F6 for all three sets of assumptions.

Based on alternative II, the OASI trust fund ratio rises steadily from 177 percent at the beginning of 1998, reaching a peak of 367 percent at the beginning of 2013. This increase in the OASI trust fund ratio results from the fact that the annual income rate (excluding interest) exceeds annual outgo for several years (see table II.F13). Thereafter, the OASI ratio declines steadily, with the OASI Trust Fund becoming exhausted in 2034. The DI trust fund ratio follows a pattern that is similar but unfolds more rapidly. The DI trust fund ratio is estimated to rise from 131 percent at the beginning of 1998 to a peak of 201 percent in 2004, and to decline thereafter until becoming exhausted in 2019.

The trust fund ratio for the hypothetical combined OASI and DI Trust Funds rises from 171 percent for 1998 to a peak of 324 percent at the beginning of 2012. Thereafter, the ratio declines, with the combined funds becoming exhausted in 2032. Based on the intermediate estimates in last year's report, the peak fund ratio for the combined funds was estimated to be 265 percent in 2011 and the year of exhaustion was estimated to be 2029.

The trust fund ratio for the combined OASDI program begins to decline in 2013, the same year annual expenditures begin to exceed noninterest income. Although the dollar amount of assets will continue to rise through the beginning of 2020, because interest income more than offsets the shortfall in noninterest income, revenue from the general fund of the Treasury will be needed in increasingly large amounts, beginning in 2013, to redeem the trust funds' public-debt obligations due to the cash-flow shortfall. This will differ from the experience of recent years when the trust funds have been net lenders to the general fund. The change in the cash flow between the trust funds and the general fund is expected to have important public policy and economic implications that go well beyond the operation of the OASDI program itself. Discussion of these issues is outside the scope of this report.

Based on the low cost alternative I assumptions, the trust fund ratio for the DI program increases throughout the long-range projection period, reaching the extremely high level of 1,351 percent by 2072. For the OASI program, the trust fund ratio rises to a peak of 509 percent in 2017, dropping thereafter to a level of 201 percent by 2072. For the combined OASDI program, trust fund ratios follow a pattern similar to that for OASI, peaking at 496 percent in 2018, and then falling to 345 percent by 2060, but remaining fairly level thereafter, reaching a level of 346 percent for 2072.

In contrast, under alternative III, the OASI trust fund ratio is estimated to peak at 257 percent in 2009, thereafter declining to fund exhaustion by the end of 2025. The DI trust fund ratio is estimated to begin declining in 2002, becoming depleted in 2009. The combined trust fund ratio is estimated to rise to a peak of 218 percent in 2006, declining thereafter to fund exhaustion by the end of 2022.

The fact that the financing for the DI program is relatively more adequate compared to the financing for the OASI program under low cost assumptions, but relatively less adequate under high cost assumptions is due to the tax rate reallocation enacted in 1994. This reallocation roughly equalized the size of the long-range actuarial deficits of the OASI and DI programs in relation to the summarized cost rates under intermediate assumptions. A smaller reallocation would have been needed to equalize the deficits in this manner under low cost alternative I assumptions, while a larger reallocation would have been needed under high cost alternative III assumptions.

Thus, because of the high ultimate cost rates that are projected under all but the most optimistic assumptions, income will eventually need to be increased and/or program costs will need to be reduced in order to prevent the trust funds from becoming exhausted.

Even under the high cost assumptions, however, the combined OASI and DI funds on hand plus their estimated future income would be able to cover their combined expenditures for 24 years into the future (until 2022). Under the alternative II assumptions the combined starting funds plus estimated future income would be able to cover expenditures for about 34 years into the future (until 2032). The program would be able to cover expenditures for the indefinite future under the more optimistic assumptions in alternative I. In the 1997 report, the combined trust funds were projected to be exhausted in 2018 under alternative III and in 2029 under alternative II.

Table II.F20.—Estimated Trust Fund Ratios by Trust Fund and Alternative, Calendar Years 1998-2075

[In percent]

Calendar year	Intermediate			Low Cost			High Cost		
	OASI	DI	Com-bined	OASI	DI	Com-bined	OASI	DI	Com-bined
1998	177	131	171	177	133	172	177	129	171
1999	198	148	191	199	154	193	196	139	188
2000	217	163	209	220	175	214	208	141	198
2001	234	179	226	241	201	236	217	142	206
2002	250	190	241	263	224	257	224	139	211
2003	266	198	256	285	245	279	230	130	214
2004	282	201	269	308	263	301	236	117	216
2005	296	200	281	331	277	323	241	102	218
2006	310	195	291	355	290	346	247	84	218
2007	323	187	301	380	300	368	251	64	218
2010	353	154	319	444	331	426	257	(1)	206
2015	362	79	316	505	384	487	223	(1)	152
2020	312	(1)	263	500	442	493	136	(1)	55
2025	225	(1)	175	466	491	469	10	(1)	(1)
2030	112	(1)	61	415	544	430	(1)	(1)	(1)
2035	(1)	(1)	(1)	366	628	396	(1)	(1)	(1)
2040	(1)	(1)	(1)	329	715	375	(1)	(1)	(1)
2045	(1)	(1)	(1)	305	786	364	(1)	(1)	(1)
2050	(1)	(1)	(1)	285	864	358	(1)	(1)	(1)
2055	(1)	(1)	(1)	265	952	351	(1)	(1)	(1)
2060	(1)	(1)	(1)	243	1,067	345	(1)	(1)	(1)
2065	(1)	(1)	(1)	223	1,190	343	(1)	(1)	(1)
2070	(1)	(1)	(1)	207	1,306	345	(1)	(1)	(1)
2075	(1)	(1)	(1)	192	1,421	348	(1)	(1)	(1)
Trust fund is estimated to be exhausted in:	2034	2019	2032	(2)	(2)	(2)	2025	2009	2022

[1] The trust fund is estimated to have been exhausted by the beginning of this year. The last line of the table shows the specific year of trust fund exhaustion.

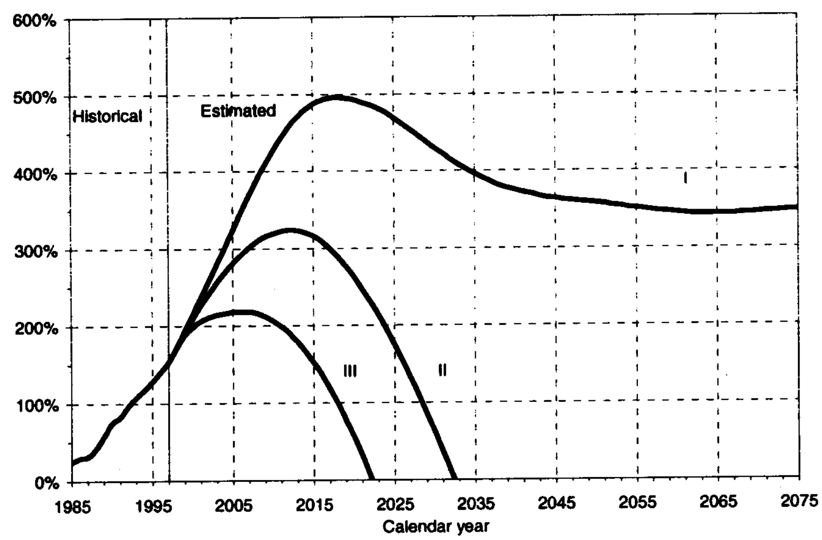
[2] The fund is not estimated to be exhausted within the projection period.

Note: See Glossary for definition of trust fund ratio. The combined ratios shown for years after either the OASI or the DI fund is estimated to be exhausted are theoretical and are shown for informational purposes only.

Actuarial Analysis

A graphic illustration of the trust fund ratios for the combined trust funds is shown in figure II.F6 for each of the alternative sets of assumptions.

Figure II.F6.—Estimated Trust Fund Ratios, for OASI and DI Trust Funds Combined, by Alternative, Calendar Years 1985-2075
[Assets as a percentage of annual expenditures]



g. Reasons for Change in Actuarial Balance From Last Report

Reasons for changes from last year's report to this report in the long-range actuarial balance under the intermediate assumptions are itemized in table II.F21. Also shown are the estimated effects associated with each reason for change.

Table II.F21.—Change in Actuarial Balance Over the Next 75 Years Based on Intermediate Assumptions by Trust Fund and Reason for Change

[As a percentage of taxable payroll]

Item	OASI	DI	Combined
Shown in last year's report:			
Income rate	11.51	1.86	13.37
Cost rate	13.35	2.25	15.60
Actuarial balance	-1.84	-.39	-2.23
Changes in actuarial balance due to changes in:			
Legislation / Regulation	--	--	--
Valuation period	-.07	-.01	-.08
Demographic assumptions	-.04	-.01	-.05
Economic assumptions	+.14	+.02	+.16
Disability assumptions	-.00	+.01	+.01
Methods	-.00	-.00	-.00
Total change in actuarial balance	+.03	+.01	+.04
Shown in this report:			
Actuarial balance	-1.81	-.38	-2.19
Income rate	11.57	1.88	13.45
Cost rate	13.38	2.26	15.64

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

No legislative change was enacted since last year's report, nor was any regulatory change that would affect the estimated long-range OASDI actuarial balance.

In changing from the valuation period of last year's report, which was 1997-2071, to the valuation period of this report, 1998-2072, the relatively large negative annual balance for the year 2072 is included. This results in a decrease in the long-range actuarial balance. (Note that the positive balance for 1997 is, in effect, retained because the funds accumulated during the year are included in the beginning-fund-balance component of the income rate and the actuarial balance for this year's report.)

Several demographic assumptions were modified: (1) projected deaths due to AIDS were modified to represent a separate category of death, and these rates improve slightly faster than rates used in last year's report, reflecting recent experience reported by the National Centers for Health Statistics; (2) projected mortality rates were decreased slightly, reflecting the latest data, which were, on balance, lower than expected for 1995 and 1996; and (3) projected fertility rates were increased slightly through 2010, consistent with recent data that shows higher birth rates than did earlier estimates. These modifications result in a net decrease in the long-range actuarial balance.

Several significant changes were made to economic assumptions for this year's report (see section II.D1). The assumed ultimate real interest rate for long-term United States government securities was increased from 2.7 percent to 2.8 percent. The economy performed better than expected over the past year. Real GDP grew more than 1 percent faster than was expected, as did the average real wage level. The factors contributing to this favorable growth, higher than expected productivity growth, the temporary cessation of the historical decline in average hours worked per employee, and an increase in wages as a portion of GDP, are assumed to persist through much of the short-range period in this report. As a result of both the change in the ultimate real interest rate and the change in short-range economic growth (combined with the favorable recent experience), the actuarial balance is increased slightly for this year's report.

Disabled worker incidence rates experienced since last year's report have been somewhat lower than estimated. Incidence rates are projected to reach the level assumed in last year's report by the end of the short-range period. This modification results in a reduction in the long-range actuarial balance for the DI program.

Several changes in methods were made for this year's report. A correction was made to the estimate in last year's report of the effect of cycling the payment of benefits throughout the month rather than paying all benefits on the third of the month. This correction resulted in a small improvement in the actuarial balance. Other changes were made in computing average benefits and numbers of retired workers that resulted in a small decrease in the actuarial balance. The net effect of all changes in methods is a negligible decrease in the actuarial balance.

The cost of the OASDI program has been discussed in this section in relation to taxable payroll, which is a program-related concept that is very useful in analyzing the financial status of the OASDI program. The cost can also be discussed in relation to broader economic concepts, such as the GDP. OASDI outlays generally rise from a little less than 5 percent of GDP currently to about 6.9 percent of GDP by the end of the 75-year projection period under alternative II. Discussion of both the cost and the taxable payroll of the OASDI program in relation to GDP is presented in appendix C.

G. LONG-RANGE SENSITIVITY ANALYSIS

This section presents estimates which illustrate the sensitivity of the long-range actuarial balance of the OASDI program to changes in selected individual assumptions. The estimates based on the three alternative sets of assumptions (see sections II.D and II.F2) illustrate the effects of varying all of the principal assumptions simultaneously in order to portray a generally more optimistic or pessimistic future, in terms of the financial status of the OASDI program. In the sensitivity analysis presented in this section, the intermediate alternative II is used as the reference point, and one assumption at a time is varied within that alternative. Similar variations in the selected assumptions within the other alternatives would result in similar relative variations in the long-range estimates.

Each table that follows shows the effects of changing a particular assumption on the OASDI summarized income rates, summarized cost rates, and actuarial balances (as defined earlier in this report) for 25-year, 50-year, and 75-year valuation periods. Because the income rate varies only slightly with changes in assumptions, it is not considered in the discussion of the tables. The change in each of the actuarial balances is approximately equal to the change in the corresponding cost rate, but in the opposite direction.

1. Total Fertility Rate

Table II.G1 shows the estimated OASDI income rates, cost rates, and actuarial balances, on the basis of alternative II with various assumptions about the ultimate total fertility rate. These assumptions are that the ultimate total fertility rate will be 1.6, 1.9, and 2.2 children per woman as assumed for alternatives III, II, and I, respectively. The rate is assumed to change gradually from its current level and to reach the various ultimate values in 2022.

Table II.G1.—Estimated OASDI Income Rates, Cost Rates, and Actuarial Balances, Based on Intermediate Estimates With Various Fertility Assumptions
[As a percentage of taxable payroll]

Valuation period	Ultimate total fertility rate [1]		
	1.6	1.9	2.2
Summarized income rate:			
25-year: 1998-2022	13.73	13.73	13.73
50-year: 1998-2047	13.50	13.49	13.48
75-year: 1998-2072	13.48	13.45	13.42
Summarized cost rate:			
25-year: 1998-2022	13.09	13.12	13.15
50-year: 1998-2047	14.96	14.86	14.77
75-year: 1998-2072	16.05	15.64	15.23
Actuarial balance:			
25-year: 1998-2022	+.64	+.61	+.58
50-year: 1998-2047	-1.46	-1.37	-1.29
75-year: 1998-2072	-2.57	-2.19	-1.81

[1] The total fertility rate for any year is the average number of children who would be born to a woman in her lifetime if she were to experience the birth rates by age observed in, or assumed for, the selected year, and if she were to survive the entire childbearing period. The ultimate total fertility rate is assumed to be reached in 2022.

For the 25-year period, the cost rate for the three fertility assumptions varies by only about 0.06 percent of taxable payroll. In contrast, the 75-year cost rate varies over a wide range, decreasing from 16.05 to 15.23 percent, as the assumed ultimate total fertility rate increases from 1.6 to 2.2. Similarly, while the 25-year actuarial balance varies by only 0.06 percent of taxable payroll, the 75-year actuarial balance varies over a much wider range, from -2.57 to -1.81 percent.

During the 25-year period, the very slight effect of changes in fertility on the working population is more than offset by increases in the number of child beneficiaries. Hence, the program cost slightly increases with higher fertility. For the 75-year long-range period, however, changes in fertility have a relatively greater impact on the labor force than on the beneficiary population. As a result, an increase in fertility significantly reduces the cost rate. Each increase of 0.1 in the ultimate total fertility rate increases the long-range actuarial balance by about 0.13 percent of taxable payroll.

2. Death Rates

Table II.G2 shows the estimated OASDI income rates, cost rates, and actuarial balances, on the basis of alternative II with various assumptions about future reductions in death rates. The analysis was developed by varying the percentage decrease assumed to occur during 1997-2072 in the death rates by age, sex, and cause of death. The decreases assumed for this period, summarized as changes in the age-sex-adjusted death rate, are about 16 percent, 35 percent, and 54 percent as assumed for alternatives I, II, and III, respectively. It should be noted that these reductions do not apply uniformly to all ages, as some variation by age was assumed (see section II.H1) consistent with the objective of selecting assumptions for alternatives I and III that are relatively more optimistic and more pessimistic, respectively, in terms of the financing of the OASDI program.

Table II.G2.—Estimated OASDI Income Rates, Cost Rates, and Actuarial Balances, Based on Intermediate Estimates With Various Death-Rate Assumptions

[As a percentage of taxable payroll]

Valuation period	Reduction in death rates [1]		
	16 percent	35 percent	54 percent
Summarized income rate:			
25-year: 1998-2022	13.72	13.73	13.74
50-year: 1998-2047	13.47	13.49	13.51
75-year: 1998-2072	13.42	13.45	13.48
Summarized cost rate:			
25-year: 1998-2022	12.93	13.12	13.30
50-year: 1998-2047	14.42	14.86	15.35
75-year: 1998-2072	14.98	15.64	16.39
Actuarial balance:			
25-year: 1998-2022	+.80	+.61	+.43
50-year: 1998-2047	-.94	-1.37	-1.84
75-year: 1998-2072	-1.56	-2.19	-2.90

[1] The measure of the reduction in death rates is the decrease in the age-sex-adjusted death rate during 1997-2072.

The variation in cost for the 25-year period is less pronounced than the variation for the 75-year period because the decreases in death rates are assumed to occur gradually. The 25-year cost rate increases from 12.93 percent (for 16-percent lower ultimate death rates) to 13.30 percent (for 54-percent lower ultimate rates). The 75-year cost rate increases from 14.98 to 16.39 percent. The actuarial balance decreases from +0.80 to +0.43 percent for the 25-year period, and from -1.56 to -2.90 percent for the 75-year period.

Lower death rates cause both the income (as well as taxable payroll) and the outgo of the OASDI program to be higher than they would otherwise be. The relative increase in outgo, however, exceeds the relative increase in taxable payroll. For any given year, reductions in the death rates for people who have attained the retirement eligibility age of 62 (people whose death rates are the highest) increase the number of retired-worker beneficiaries (and, therefore, the amount of retirement benefits paid) without adding significantly to the number of covered workers (and, therefore, to the taxable payroll). Although reductions for people aged 50 to retirement eligibility age do result in significant increases to the taxable payroll, those increases are not large enough to offset the sum of the additional retirement benefits mentioned above and the disability benefits paid to additional beneficiaries in this pre-retirement age group. At ages under 50, death rates are so low that even substantial reductions would not result in significant increases in the numbers of covered workers or beneficiaries. Consequently, if death rates for all ages are lowered by about the same relative amount, outgo increases at a rate greater than the rate of growth in payroll, thereby resulting in higher cost rates. Each additional 10-percentage-point reduction in the age-sex-adjusted death rate assumed to occur in 1997-2072, relative to the 35-percent reduction assumed for alternative II, decreases the long-range actuarial balance by about 0.35 percent of taxable payroll.

3. Net Immigration

Table II.G3 shows the estimated OASDI income rates, cost rates, and actuarial balances, under alternative II with various assumptions about the magnitude of net immigration. These assumptions are that the annual net immigration will be 750,000 persons, 900,000 persons, and 1,150,000 persons as assumed for alternatives III, II, and I, respectively.

Table II.G3.—Estimated OASDI Income Rates, Cost Rates, and Actuarial Balances, Based on Intermediate Estimates With Various Net-Immigration Assumptions

[As a percentage of taxable payroll]

Valuation period	Net immigration per year		
	750,000	900,000	1,150,000
Summarized income rate:			
25-year: 1998-2022	13.74	13.73	13.72
50-year: 1998-2047	13.50	13.49	13.48
75-year: 1998-2072	13.46	13.45	13.43
Summarized cost rate:			
25-year: 1998-2022	13.15	13.12	13.04
50-year: 1998-2047	14.94	14.86	14.73
75-year: 1998-2072	15.73	15.64	15.48
Actuarial balance:			
25-year: 1998-2022	+.59	+.61	+.67
50-year: 1998-2047	-1.44	-1.37	-1.25
75-year: 1998-2072	-2.27	-2.19	-2.04

For all three periods, the cost rate decreases with increasing rates of net immigration. For the 25-year period, the cost rate decreases from 13.15 percent of taxable payroll (for annual net immigration of 750,000 persons) to 13.04 percent (for annual net immigration of

1,150,000 persons). For the 50-year period, it decreases from 14.94 percent to 14.73 percent, and for the 75-year period, it decreases from 15.73 percent to 15.48 percent. The actuarial balance increases from +0.59 to +0.67 percent for the 25-year period, from -1.44 to -1.25 for the 50-year period, and from -2.27 to -2.04 percent for the 75-year period.

The cost rate decreases with increasing rates of net immigration because immigration occurs at relatively young ages, thereby increasing the numbers of covered workers earlier than the numbers of beneficiaries. Each additional group of 100,000 immigrants relative to the 900,000 net immigration assumed for alternative II, increases the long-range actuarial balance by about 0.06 percent of taxable payroll.

4. Real-Wage Differential

Table II.G4 shows the estimated OASDI income rates, cost rates, and actuarial balances, on the basis of alternative II with various assumptions about the real-wage differential. These assumptions are that the ultimate real-wage differential will be 0.4 percentage point, 0.9 percentage point, and 1.4 percentage points as assumed for alternatives III, II, and I, respectively. In each case, the ultimate annual increase in the CPI is assumed to be 3.5 percent (as assumed for alternative II), yielding ultimate percentage increases in average annual wages in covered employment of 3.9, 4.4, and 4.9 percent under alternatives III, II, and I, respectively.

For the 25-year period, the cost rate decreases from 13.51 percent (for a real-wage differential of 0.4 percentage point) to 12.73 percent (for a differential of 1.4 percentage points). For the 50-year period, it decreases from 15.43 to 14.30 percent, and for the 75-year period it decreases from 16.23 to 15.04 percent. The actuarial balance increases from +0.27 to +0.94 percent for the 25-year period, from -1.86 to -0.88 for the 50-year period, and from -2.70 to -1.66 percent for the 75-year period.

Table II.G4.—Estimated OASDI Income Rates, Cost Rates, and Actuarial Balances, Based on Intermediate Estimates With Various Real-Wage Assumptions

[As a percentage of taxable payroll]

Valuation period	Ultimate percentage increase in wages-CPI [1]		
	3.9-3.5	4.4-3.5	4.9-3.5
Summarized income rate:			
25-year: 1998-2022	13.79	13.73	13.68
50-year: 1998-2047	13.56	13.49	13.42
75-year: 1998-2072	13.53	13.45	13.38
Summarized cost rate:			
25-year: 1998-2022	13.51	13.12	12.73
50-year: 1998-2047	15.43	14.86	14.30
75-year: 1998-2072	16.23	15.64	15.04
Actuarial balance:			
25-year: 1998-2022	+.27	+.61	+.94
50-year: 1998-2047	-1.86	-1.37	-.88
75-year: 1998-2072	-2.70	-2.19	-1.66

[1] The first value in each pair is the assumed ultimate annual percentage increase in average wages in covered employment. The second value is the assumed ultimate annual percentage increase in the Consumer Price Index. The difference between the two values is the real-wage differential.

The cost rate decreases with increasing real-wage differentials, because the higher real-wage levels increase the taxable payroll, while benefit increases are not affected. Although the initial benefit levels are higher because of the higher wages, these increases are more than offset by the increases in the taxable payroll of future workers. Each 0.5-percentage-point increase in the assumed real-wage differential increases the long-range actuarial balance by about 0.53 percent of taxable payroll.

5. Consumer Price Index

Table II.G5 shows the estimated OASDI income rates, cost rates, and actuarial balances, on the basis of alternative II with various assumptions about the rate of increase for the Consumer Price Index (CPI). These assumptions are that the ultimate annual increase in the CPI will be 2.5 percent, 3.5 percent, and 4.5 percent as assumed for alternatives I, II, and III, respectively. In each case, the ultimate real-wage differential is assumed to be 0.9 percentage point (as assumed for alternative II), yielding ultimate percentage increases in average annual wages in covered employment of 3.4, 4.4, and 5.4 percent under alternatives I, II, and III, respectively.

Table II.G5.—Estimated OASDI Income Rates, Cost Rates, and Actuarial Balances, Based on Intermediate Estimates With Various CPI-Increase Assumptions

[As a percentage of taxable payroll]

Valuation period	Ultimate percentage increase in wages-CPI [1] 3.4-2.5	4.4-3.5	5.4-4.5
Summarized income rate:			
25-year: 1998-2022	13.75	13.73	13.71
50-year: 1998-2047	13.51	13.49	13.47
75-year: 1998-2072	13.47	13.45	13.43
Summarized cost rate:			
25-year: 1998-2022	13.27	13.12	12.97
50-year: 1998-2047	15.08	14.86	14.65
75-year: 1998-2072	15.88	15.64	15.40
Actuarial balance:			
25-year: 1998-2022	+.48	+.61	+.74
50-year: 1998-2047	-1.57	-1.37	-1.18
75-year: 1998-2072	-2.41	-2.19	-1.97

[1] The first value in each pair is the assumed ultimate annual percentage increase in average wages in covered employment. The second value is the assumed ultimate annual percentage increase in the Consumer Price Index.

For all three periods, the cost rate decreases with greater assumed rates of increase in the CPI. For the 25-year period, the cost rate decreases from 13.27 (for CPI increases of 2.5 percent) to 12.97 percent (for CPI increases of 4.5 percent). For the 50-year period, it decreases from 15.08 to 14.65 percent, and for the 75-year period, it decreases from 15.88 to 15.40 percent. The actuarial balance increases from +0.48 to +0.74 percent for the 25-year period, from -1.57 to -1.18 for the 50-year period, and from -2.41 to -1.97 percent for the 75-year period.

The patterns described above result primarily from the time lag between the effects of the CPI changes on taxable payroll and on benefit payments. When assuming a greater rate of increase in the CPI (in conjunction with a constant real-wage differential), the effect on taxable payroll of the implied greater rate of increase in average wages is experienced immediately, while the effect on benefits of the greater rate of increase in the CPI is experienced with a lag of about 1 year. In addition, the effect on benefits of the greater rate of increase in average wages is experienced no sooner than 2 years later. Thus, the higher taxable payrolls have a stronger effect than the higher benefits, thereby resulting in lower cost rates. The effect of each 1.0-percentage-point increase in the rate of change assumed for the CPI is an increase in the long-range actuarial balance of about 0.20 percent of taxable payroll.

6. Real Interest Rate

Table II.G6 shows the estimated OASDI income rates, cost rates, and actuarial balances, on the basis of alternative II with various assumptions about the annual real interest rate for special public-debt obligations issuable to the trust funds, which are compounded semiannually. These assumptions are that the ultimate annual real interest rate will be 2.0 percent, 2.8 percent, and 3.5 percent as assumed for alternatives III, II, and I, respectively. In each case, the ultimate annual increase in the CPI is assumed to be 3.5 percent (as assumed for alternative II), resulting in ultimate annual yields of 5.5, 6.3, and 7.0 percent under alternatives III, II, and I, respectively.

Table II.G6.—Estimated OASDI Income Rates, Cost Rates, and Actuarial Balances, Based on Intermediate Estimates With Various Real-Interest Assumptions

[As a percentage of taxable payroll]

Valuation period	Ultimate annual real interest rate		
	2.0 percent	2.8 percent	3.5 percent
Summarized income rate:			
25-year: 1998-2022	13.68	13.73	13.78
50-year: 1998-2047	13.43	13.49	13.54
75-year: 1998-2072	13.40	13.45	13.50
Summarized cost rate:			
25-year: 1998-2022	13.24	13.12	13.02
50-year: 1998-2047	15.21	14.86	14.58
75-year: 1998-2072	16.14	15.64	15.22
Actuarial balance:			
25-year: 1998-2022	+.44	+.61	+.76
50-year: 1998-2047	-1.77	-1.37	-1.03
75-year: 1998-2072	-2.74	-2.19	-1.72

For the 25-year period, the cost rate decreases slightly with increasing real interest rates from 13.24 percent (for an ultimate real interest rate of 2.0 percent) to 13.02 percent (for an ultimate real interest rate of 3.5 percent). For the 50-year period, it decreases from 15.21 to 14.58 percent, and for the 75-year period, it decreases from 16.14 to 15.22 percent. The actuarial balance increases from +0.44 to +0.76 percent for the 25-year period, from -1.77 to -1.03 percent for the 50-year period, and from -2.74 to -1.72 percent for the 75-year period. Each 0.5-percentage-point increase in the assumed real interest rate increases the long-range actuarial balance by about 0.34 percent of taxable payroll.

7. Disability Incidence Rates

Table II.G7 shows the estimated OASDI income rates, cost rates, and actuarial balances, on the basis of alternative II with various assumptions concerning future disability incidence rates. For all three alternatives, incidence rates by age and sex are assumed to vary during the early years of the projection period before attaining ultimate levels in 2012. The ultimate levels attained vary by sex. In comparison to the corresponding annual rates experienced during the base period 1984-86, the ultimate rates for men are about the same for alternative I, about 25 percent higher for alternative II, and about 50 percent higher for alternative III. For women they are higher by about 17 percent for alternative I, 47 percent for alternative II, and 76 percent for alternative III.

Table II.G7.—Estimated OASDI Income Rates, Cost Rates, and Actuarial Balances, Based on Intermediate Estimates With Various Disability Incidence Assumptions
[As a percentage of taxable payroll]

Valuation period	Disability incidence rates based on alternative— I	II	III
Summarized income rate:			
25-year: 1998-2022	13.73	13.73	13.73
50-year: 1998-2047	13.49	13.49	13.49
75-year: 1998-2072	13.45	13.45	13.45
Summarized cost rate:			
25-year: 1998-2022	12.90	13.12	13.33
50-year: 1998-2047	14.58	14.86	15.14
75-year: 1998-2072	15.33	15.64	15.93
Actuarial balance:			
25-year: 1998-2022	+.83	+.61	+.40
50-year: 1998-2047	-1.09	-1.37	-1.65
75-year: 1998-2072	-1.88	-2.19	-2.48

For the 25-year period, the cost rate increases with increasing disability incidence rates from 12.90 percent (for the relatively low rates assumed for alternative I) to 13.33 percent (for the relatively high rates assumed for alternative III). For the 50-year period, it increases from 14.58 to 15.14 percent, and for the 75-year period, it increases from 15.33 to 15.93 percent. The actuarial balance decreases from +0.83 to +0.40 percent for the 25-year period, from -1.09 to -1.65 percent for the 50-year period, and from -1.88 to -2.48 percent for the 75-year period.

8. Disability Termination Rates

Table II.G8 shows the estimated OASDI income rates, cost rates, and actuarial balances, on the basis of alternative II with various assumptions about future disability termination rates.

For alternative II, death-termination rates by age and sex are assumed to decline until they reach levels by the end of the 75-year period that, in comparison to the corresponding annual rates experienced during the base period 1977-80, are lower by about 55 percent for men and 39 percent for women. For the other alternatives, the rates are assumed to spread gradually from the rates for alternative II. By the end of the projection period, for men the rates are 39 percent lower for alternative I and 69 percent lower for alternative III, and for women they are 20 percent lower for alternative I and 58 percent lower for alternative III.

For alternative II, ultimate recovery-termination rates by age and sex are assumed to be attained in 2012; such rates are assumed to be 50 percent of those experienced in the base period, 1977-80. The ultimate rates for alternatives I and III are also assumed to be attained in 2012; they are assumed to be 60 percent and 40 percent, respectively, of those experienced in the base period. In the earlier years, the rates for alternatives I and III are assumed to be about 4 percent higher and lower, respectively, than the rates for alternative II.

Table II.G8.—Estimated OASDI Income Rates, Cost Rates, and Actuarial Balances, Based on Intermediate Estimates With Various Disability Termination Assumptions

[As a percentage of taxable payroll]

Valuation period	Disability termination rates based on alternative—		
	I	II	III
Summarized income rate:			
25-year: 1998-2022	13.73	13.73	13.73
50-year: 1998-2047	13.49	13.49	13.49
75-year: 1998-2072	13.45	13.45	13.45
Summarized cost rate:			
25-year: 1998-2022	13.08	13.12	13.15
50-year: 1998-2047	14.81	14.86	14.91
75-year: 1998-2072	15.57	15.64	15.70
Actuarial balance:			
25-year: 1998-2022	+.65	+.61	+.58
50-year: 1998-2047	-1.32	-1.37	-1.42
75-year: 1998-2072	-2.12	-2.19	-2.25

For the 25-year period, the cost rate increases with decreasing disability termination rates from 13.08 percent (for the relatively high rates assumed for alternative I) to 13.15 percent (for the relatively low rates assumed for alternative III). For the 50-year period, it increases from 14.81 to 14.91 percent, and for the 75-year period, it increases from 15.57 to 15.70 percent. The actuarial balance decreases from +0.65 to +0.58 percent for the 25-year period, from -1.32 to -1.42 percent for the 50-year period, and from -2.12 to -2.25 percent for the 75-year period.

H. ASSUMPTIONS AND METHODS UNDERLYING THE ACTUARIAL ESTIMATES

This section describes the assumptions and methods which underlie the actuarial estimates in this report. Unless specifically stated otherwise, the assumptions and methods were used for each of the three alternatives and for both the short-range and long-range periods. Some of the principal economic and demographic assumptions which vary by alternative are summarized in section II.D. Further details about the assumptions, methods, and actuarial estimates are contained in Actuarial Studies published by the Office of the Chief Actuary, Social Security Administration, which are available upon request. [1]

1. Total Population

Projections were made of the population in the Social Security Area by age, sex, and marital status as of January 1 of each year 1997 through 2080. The starting Social Security Area population for January 1, 1996 was developed from the estimated United States population, including Armed Forces overseas, based on data from the Bureau of the Census, adjusted for net census undercount and increased for other U.S. citizens living abroad and for populations in the geographic areas covered by the OASDI program but not included in the U.S. population. This starting population was then projected using assumed rates of birth, death, marriage, and divorce and assumed levels of migration.

Historically, fertility rates in the United States have fluctuated widely. The total fertility rate is defined to be the average number of children that would be born to a woman in her lifetime if she were to experience the birth rates by age observed in, or assumed for, the selected year, and if she were to survive the entire childbearing period. The total fertility rate decreased from 3.3 children per woman after World War I to 2.1 during the Great Depression, rose to 3.7 in 1957, and then fell to 1.7 in 1976. After 1976, the total fertility rate began to rise again, reaching a level of 2.07 for 1991. Since then, it has declined slightly to a level currently estimated at 2.03 for 1996.

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[1] To obtain copies of this report or studies published by the Office of the Chief Actuary write to: Office of the Chief Actuary, Social Security Administration, Suite 700 Altmeyer Building, 6401 Security Boulevard, Baltimore, Maryland 21235; or call (410)965-3015. This report is also available on the Internet at http://www.ssa.gov/OACT/pubs.html. Other actuarial publications are also available from this address.

These variations in fertility rates have resulted from changes in many factors, including social attitudes, economic conditions, and the use of birth-control methods. Future fertility rates may be expected to remain close to recent levels. The recent historical and projected trends in certain population characteristics are consistent with a continued relatively low fertility rate. These trends include the rising percentages of women who have never married, of women who are divorced, and of young women who are in the labor force. Based on consideration of these factors, ultimate total fertility rates of 2.2, 1.9, and 1.6 children per woman were selected for alternatives I, II, and III, respectively. For each alternative, the total fertility rate is assumed to reach its ultimate level in 2021. A rate of 2.1 would ultimately result in a nearly constant population if net immigration were zero and if death rates were constant.

Historically, death rates in the United States have declined fairly steadily. Historical rates used in preparing this report were calculated using data from the National Center for Health Statistics (NCHS) that are final for 1900-95 (by cause of death starting in 1968) and provisional for 1996. For ages 65 and over, Medicare final data for years 1968 through 1995, and provisional data for 1996 were used. The age-sex-adjusted death rate—which is calculated here as the crude rate that would occur in the enumerated total population as of April 1, 1990, if that population were to experience the death rates by age and sex for the selected year—declined at an average rate of 1.1 percent per year between 1900 and 1995. Between 1968 and 1995, the period for which death rates are available by cause, the age-sex adjusted death rate (for all causes combined) declined at an average rate of 1.2 percent per year. However, since 1982, age-sex adjusted death rates have declined more slowly, at average rates of 0.6 percent between 1982 and 1994.

Reductions in death rates have resulted from many factors, including increased medical knowledge and availability of health-care services, and improvements in personal health-care practices such as diet and exercise. Based on consideration of the expected rate of future progress in these and other areas, three alternative sets of ultimate annual percentage reductions in central death rates by age, sex, and cause of death were selected for 2022 and later. The intermediate set, which is used for alternative II, is considered to be the most likely to occur. Except for those causes of death which primarily affect children and people of working age, the average annual percentage reductions used for alternative I are smaller than those for alternative II, while those used for alternative III are greater.

Between 1995 and 2022, the reductions in central death rates for alternative II are assumed to change gradually from the average annual reductions by age, sex, and cause of death observed between 1968 and 1995, to the ultimate annual percentage reductions by age, sex, and cause of death assumed for 2022 and later. Alternative I reductions are assumed to change gradually from 50 percent of the average annual reductions observed between 1968 and 1995, while alternative III reductions are assumed to change gradually from 150 percent of the average annual reductions observed between 1968 and 1995.

After adjustment for changes in the age-sex distribution of the population, the resulting death rates were projected to decline at an average annual rate of about 0.2 percent, 0.6 percent, and 1.0 percent between 1996 and 2072 for alternatives I, II, and III, respectively.

For calendar years 1996 and 1997, the net legal immigration is estimated to be 683,000 and 660,000 persons per year, respectively. In addition, for these years the net other-than-legal immigration is estimated to be 300,000 persons per year.

The Immigration Act of 1990 increased substantially the number of legal immigrants permitted starting in 1992. Based on changes in immigration categories and limits specified in the 1990 legislation, the estimated level of net legal immigration varies for years through 1999, reaching an assumed ultimate level for 2000 and later. Net immigration for 2000 and later is assumed to be 1,150,000, 900,000, and 750,000 persons per year for alternatives I, II, and III, respectively. Of these net numbers of immigrants, 700,000, 600,000, and 550,000, respectively, are assumed to be legal, and the remaining immigrants under each assumption are assumed to be other-than-legal.

Table II.H1 shows the projected population as of July 1 by broad age group, for the three alternatives. Also shown are tabulated aged dependency ratios (see table footnotes for definitions). Because eligibility for many types of OASDI benefits depends on marital status, the population was projected by marital status, as well as by age and sex. Marriage and divorce rates were based on recent data from NCHS.

Table II.H1.—Social Security Area Population as of July 1 and Dependency Ratios, by Alternative and Broad Age Group, Calendar Years 1950-2075

Calendar year	Population (in thousands)				Dependency ratio	
	Under 20	20-64	65 and over	Total	Aged [1]	Total [2]
Historical data:						
1950	53,895	92,739	12,752	159,386	0.138	0.719
1960	72,989	99,842	17,250	190,081	.173	.904
1965	80,124	104,826	19,092	204,041	.182	.946
1970	80,672	113,184	20,920	214,776	.185	.898
1975	78,428	122,852	23,265	224,545	.189	.828
1980	74,560	134,420	26,148	235,128	.195	.749
1985	73,223	144,860	29,059	247,143	.201	.706
1990	75,125	152,910	31,989	260,024	.209	.701
1995	79,046	159,949	34,257	273,252	.214	.708
Intermediate:						
2000	81,468	168,654	35,429	285,550	.210	.693
2005	81,992	178,012	36,816	296,821	.207	.667
2010	81,783	186,131	39,816	307,729	.214	.653
2015	81,368	191,338	45,714	318,420	.239	.664
2020	82,064	193,290	53,078	328,432	.275	.699
2025	82,924	192,814	61,489	337,228	.319	.749
2030	83,417	192,692	68,489	344,599	.355	.788
2035	83,432	195,034	72,073	350,539	.370	.797
2040	83,438	198,508	73,322	355,268	.369	.790
2045	83,741	201,422	73,964	359,127	.367	.783
2050	84,203	202,852	75,432	362,487	.372	.787
2055	84,634	203,385	77,686	365,705	.382	.798
2060	84,931	203,454	80,620	369,005	.396	.814
2065	85,147	204,510	82,737	372,394	.405	.821
2070	85,394	205,882	84,412	375,688	.410	.825
2075	85,716	206,984	86,004	378,704	.416	.830
Low Cost:						
2000	81,922	169,216	35,391	286,529	.209	.693
2005	83,579	179,487	36,512	299,578	.203	.669
2010	85,152	188,496	39,087	312,735	.207	.659
2015	87,226	194,644	44,495	326,365	.229	.677
2020	91,019	197,744	51,320	340,083	.260	.720
2025	95,161	199,034	59,083	353,278	.297	.775
2030	98,732	201,352	65,321	365,405	.324	.815
2035	101,708	206,786	68,135	376,629	.329	.821
2040	104,663	213,975	68,755	387,394	.321	.810
2045	107,959	221,210	68,996	398,165	.312	.800
2050	111,683	227,379	70,217	409,279	.309	.800
2055	115,451	233,236	72,305	420,993	.310	.805
2060	119,022	239,344	75,045	433,412	.314	.811
2065	122,470	247,007	76,991	446,468	.312	.808
2070	126,014	255,136	78,816	459,967	.309	.803
2075	129,750	263,023	80,974	473,747	.308	.801

Table II.H1.—Social Security Area Population as of July 1 and Dependency Ratios, by Alternative and Broad Age Group, Calendar Years 1950-2075 (Cont.)

	Population (in thousands)				Dependency ratio	
Calendar year	Under 20	20-64	65 and over	Total	Aged [1]	Total [2]
High Cost:						
2000	81,135	168,383	35,484	285,002	0.211	0.693
2005	80,683	177,228	37,152	295,064	.210	.665
2010	78,901	184,801	40,579	304,280	.220	.647
2015	76,255	189,430	46,984	312,669	.248	.651
2020	74,179	190,617	54,958	319,754	.288	.677
2025	72,176	188,788	64,159	325,124	.340	.722
2030	70,103	186,696	72,144	328,943	.386	.762
2035	67,818	186,456	76,806	331,080	.412	.776
2040	65,734	186,749	79,078	331,561	.423	.775
2045	64,085	185,945	80,576	330,606	.433	.778
2050	62,463	183,370	82,760	328,593	.451	.792
2055	60,836	179,504	85,630	325,970	.477	.816
2060	59,224	174,682	89,186	323,092	.511	.850
2065	57,688	170,532	91,863	320,083	.539	.877
2070	56,261	166,807	93,741	316,809	.562	.899
2075	54,938	163,021	95,117	313,077	.583	.920

[1] Population aged 65 and over, divided by population aged 20-64.
[2] Sum of population aged 65 and over, and population under age 20, divided by population aged 20-64.

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

2. Covered Population

The number of covered workers in a year is defined as the number of persons who, at any time during the year, have OASDI taxable earnings. Projections of the number of covered workers were made by applying projected coverage rates to the projected Social Security Area population. The coverage rates—i.e., the number of covered workers in the year, as a percentage of the population as of July 1—were determined by age and sex using projected labor force participation rates and unemployment rates, and their historical relationships to coverage rates. In addition, the coverage rates were adjusted to reflect the increase in coverage of Federal civilian employment as a result of the 1983 Social Security Amendments and changes in the number of other-than-legal aliens estimated to be residing within the Social Security coverage area.

Labor force participation rates were projected by age and sex, taking into account projections of the percentage of the population that is married, the percentage of the population that is disabled, the number of children in the population, the level of retirement benefits, and the state of the economy. For men, the projected age-adjusted labor force participation rates for the year 2075 for alternatives I, II, and III are 1.7, 2.0, and 2.2 percentage points lower, respectively, than the 1996 level of 75.3 percent. For women, the projected age-adjusted labor force participation rates increase for alternatives I and II and decrease for alternative III. The projected age-adjusted rates for 2075 are 1.7, 0.8, and -1.0 percentage points, respectively, different from the 1996 level of 59.3 percent.

The total age-sex-adjusted unemployment rate averaged 5.8 percent for the 30 years 1967-96 and 5.9 percent for the 10 years 1987-96. The ultimate total age-sex-adjusted unemployment rate is assumed to be 5.0, 6.0, and 7.0 percent for alternatives I, II, and III, respectively. Unemployment levels off to the assumed ultimate age-sex-adjusted rate by the year 2008, for each of the three alternatives.

The projected age-adjusted coverage rate for men changes from its 1996 level of 73.9 percent to 72.7, 71.8, and 70.9 percent in 2075 for alternatives I, II, and III, respectively. For women, it changes from its 1996 level of 61.5 percent to 62.4, 61.0, and 58.6 percent for alternatives I, II, and III, respectively.

3. Average Earnings, Inflation, and Real Interest Rate

Future increases in average earnings and in the Consumer Price Index for Urban Wage Earners and Clerical Workers (CPI-W, hereafter denoted as "CPI") will directly affect the OASDI program. Increases in the CPI directly affect the automatic cost-of-living benefit increases, while inflation, in general, affects the nominal levels of average earnings, GDP, and taxable payroll. Average earnings in covered employment for each year have a direct effect on the size of the taxable payroll and on the future level of average benefits. In addition, increases in average wages in the U.S. economy directly affect the indexation, under the automatic-adjustment provisions in the law, of the benefit formulas, the contribution and benefit base, the exempt amounts under the retirement earnings test, the amount of earnings required for a quarter of coverage, and under certain circumstances, the automatic cost-of-living benefit increases.

Increases in average earnings were projected in two components—average earnings of wage-and-salary workers, usually referred to as average wages (and shown for OASDI covered employment in table II.D1 of this report), and average net earnings of self-employed persons. Each of these was subdivided into increases in real average earnings and increases in the CPI. For simplicity, real increases in the average covered wage are sometimes expressed in the form of real-wage differentials—i.e., the percentage increase in the average nominal wage minus the percentage increase in the CPI.

The assumed ultimate increases in average real earnings are based on analysis of trends in productivity gains and the factors linking productivity gains with increases in average real earnings. For the 40 years 1957-96, annual increases in productivity for the total U.S. economy averaged 1.7 percent, the result of average annual increases of 3.1, 2.0, 1.1, and 0.6 percent for the 10-year periods 1957-66, 1967-76, 1977-86 and 1987-96, respectively. Meanwhile, the average annual rate of change in average real earnings for the total U.S. economy was an increase of 0.8 percent for the 40 years 1957-96, the result of average annual changes of 2.3, 0.5, -0.1, and 0.6 percent, respectively, for the aforementioned 10-year periods. The change in the linkages between annual changes in productivity and real earnings averaged -0.9 percent for the 40 years 1957-96, and -0.8, -1.5, -1.2, and 0.0 percent, respectively, for the aforementioned 10-year periods. The change in the linkages reflects changes in such factors as the average number of hours worked per year, labor's share of total output, the proportion of employee compensation paid as wages, and price adjustment reflecting the ratio of the GDP chain weighted price index to the CPI.

The average annual rate of change in the average real wage in OASDI covered employment was 0.9 percent over the 40 years 1957-96. However, the average annual rates of change over the 10-year periods varied considerably. The average annual rates of change for the 10-year periods 1957-66, 1967-76, 1977-86, and 1987-96 were 1.8 percent, 0.7 percent, 0.6 percent and 0.5 percent, respectively.

The ultimate annual increases in productivity for all sectors—wage-and-salary workers, self-employed persons, and the total economy—are assumed to be about 1.6, 1.3, and 1.0 percent for alternatives I, II, and III, respectively. The corresponding ultimate annual rates of change in the linkages for wage-and-salary workers are assumed to be declines of 0.2, 0.4, and 0.6 percent for alternatives I, II, and III, respectively. These linkages are made up of assumed annual decreases of 0.0, 0.1, and 0.2 percent in average hours worked per year, 0.1, 0.2, and 0.3 percent annual declines in wages as a share of compensation for alternatives I, II, and III, respectively, and a difference of 0.1 percentage point between the rates of growth in the CPI and the GDP price index for each alternatives. No ultimate change is assumed for the historically relatively stable ratio of employee compensation to GDP. The resulting ultimate real-wage differentials are 1.4, 0.9, and 0.4 percent for alternatives I, II, and III, respectively.

Ultimate annual declines in the linkages for self-employed persons are smaller because the proportion of reported compensation that is considered earnings remains constant. As a result, ultimate average real-earnings growth rates for the self-employed are assumed to be higher than for wage-and-salary workers. The corresponding ultimate average real-earnings for wage-and-salary workers and self-employed persons, combined, are slightly higher than those assumed for wage-and-salary workers only.

Historically, the CPI has increased, on average, by 4.4 percent for the 40 years 1957-96, 5.3 percent for the 30 years 1967-96, 5.1 percent for the 20 years 1977-96, and 3.6 percent for the 10 years 1987-96. The ultimate average annual CPI increases of 2.5, 3.5, and 4.5 percent for alternatives I, II, and III, respectively, were chosen to include a reasonable range of possible future experience. The GDP price index has increased by 4.2 percent annually for the 40 years 1957-96, 5.0 percent annually for the 30 years 1967-96, 4.6 percent annually for the 20 years 1977-96, and 3.2 percent annually for the 10 years 1987-96. The difference between the growth rates in these price indexes is assumed to decline gradually from 0.2 percentage point during 1997, to the ultimate assumed difference of 0.1 percentage point by 2007.

The ultimate increases in average annual wages in covered employment are assumed to be 3.9, 4.4, and 4.9 percent, for alternatives I, II, and III, respectively. These were obtained, for each alternative, by adding the assumed annual percentage increase in the CPI to the assumed real-wage differential. Ultimate increases in average wages and earnings for the U.S. economy are very similar to those assumed for average wages in covered employment.

The interest rate considered in this report is the nominal interest rate, which is compounded semiannually, for special U.S. government obligations issuable to the trust funds in each of the 12 months of the year. The real interest rate is defined to be the annual (compounded) yield rate for investments in these securities divided by the growth in the CPI.

In developing a reasonable range of assumed future real interest rates for the three alternatives, historical experience was examined for the 40 years, 1957-96, and for each of the 10-year subperiods, 1957-66, 1967-76, 1977-86, and 1987-96. For the 40-year period, the real interest rate averaged 2.5 percent per year. For the four 10-year subperiods, the real interest rates averaged 1.5, 0.6, 3.7, and 4.2 percent per year, respectively. The assumed ultimate real interest rates are 3.5

percent, 2.8 percent, and 2.0 percent for alternatives I, II, and III, respectively. The projected interest rates are assumed to trend toward these ultimate interest rates, attaining the ultimate values after the tenth projection year.

4. Taxable Payroll and Taxes

The taxable payroll for any period is that amount which, when multiplied by the combined employee-employer tax rate, yields the total amount of taxes due from employees, employers, and the self-employed for work during the period. The taxable payroll is important not just in estimating OASDI income, but also in determining income and cost rates, and actuarial balances. These terms are defined in the introduction to the section entitled "Actuarial Estimates."

In practice, the taxable payroll is calculated as a weighted average of the earnings on which employees, employers, and self-employed persons make contributions to the OASDI program. The weighting takes into account the lower 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 tips. For 1983 and later, taxable payroll also includes deemed wage credits for military service. Estimates of taxable earnings for employees, employers, and the self-employed were developed from corresponding estimates of earnings in the U.S. economy, by means of factors which adjust for various differences in these measures. The factors adjust total U.S. earnings by removing earnings from noncovered employment, adding earnings from various outlying areas which are covered by Social Security but are not included in published U.S. data, and removing earnings above the taxable earnings base.

Decreases in the ratio of taxable earnings to earnings in OASDI covered employment since 1984 are due to the increasing proportion of total covered wages earned by very high wage earners. This trend is projected to continue through the first 10 years of the projection period for alternatives II and III. The ratio of taxable wages to wages in covered employment is projected to decline from a level of 0.871 for 1997 to ultimate levels of 0.857 and 0.850, by the end of the tenth projection year for alternatives II, and III, respectively. For alternative I, the ratio is assumed to remain fairly constant at about 0.872. These ultimate ratios of taxable earnings to OASDI covered earnings are about the same as were assumed for last year's report.

The projected levels of the taxable payroll for the intermediate alternative are lower than those projected for last year's report throughout the long-range projection period. This results from lower inflation through 2005 than was assumed for last year's report.

Estimates of taxes collected were developed from the estimates of taxable earnings by applying the employee, employer, or self-employed tax rate, and by taking into account the lag between the time the tax liability is incurred and the time the taxes are collected.

5. Insured Population

There are three basic types of insured status under the OASDI program: fully insured, currently insured, and disability insured. Fully insured status is required of an aged worker for eligibility to a primary retirement benefit and for the eligibility of that worker's spouse and children to auxiliary benefits. Fully insured status is also required of a deceased worker for the eligibility of the worker's survivors to benefits (with the exception of child survivors and parents of eligible child survivors, in which cases the deceased worker is required to have had either currently insured status or fully insured status). Disability insured status, which is more restrictive than fully insured status, is required of a disabled worker for eligibility to a primary disability benefit and for the eligibility of the worker's spouse and children to auxiliary benefits.

Projections of the percentage of the population that is fully insured were made by age and sex, from estimated distributions of workers by accumulated quarters of coverage based on past and projected coverage rates and amounts of earnings required for quarters of coverage. Currently insured status was disregarded for purposes of these estimates, because the number of cases in which eligibility for benefits is based solely on currently insured status is relatively small. Projections of the percentage of fully insured persons who are also disability insured were made by age and sex based on past and projected coverage rates, the requirements for disability insured status, and their historical relationships. Finally, the fully insured and disability insured populations were developed from the projected total population by applying the appropriate percentages.

Under this procedure, the percentage of the Social Security Area population aged 62 and over that is fully insured is projected to increase from its estimated level of 77.4 on December 31, 1993, to 91.0, 90.9, and 90.5 on January 1, 2075, based on alternatives I, II, and III, respectively. The percentage for females is projected to increase significantly, while that for males is projected to increase slightly. Based on alternative II, for example, the percentage for males is projected to increase during this period from 92.1 to 92.5, while that for females is projected to increase from 66.7 to 89.5.

The fully insured population by age and sex was further subdivided by marital status, using the variation in labor force participation rates by marital status to estimate the variation in coverage rates by marital status. These coverage rates were then used to estimate the variation in the fully insured rates by marital status.

6. Old-Age and Survivors Insurance Beneficiaries

The number of OASI beneficiaries was projected for each type of benefit separately, by the sex of the worker on whose earnings the benefits are based, and by the age of the beneficiary. For selected types of benefits, the number of beneficiaries was also projected by marital status.

For the short-range period, the number of retired-worker beneficiaries was developed by applying award rates to the aged fully insured population less those insured persons entitled to retired-worker, disabled-worker, or widow(er)'s benefits, and by applying termination rates to the number of persons already receiving retired-worker benefits. The fraction of entitled beneficiaries that would actually receive benefits was projected to continue increasing at ages 65-69, reflecting the modifications in the retirement earnings test enacted in Public Law 104-121.

For the long-range period, the number of retired-worker beneficiaries not previously converted from disabled-worker beneficiary status was projected as a percentage of the exposed population, i.e., the aged fully insured population less persons entitled to or converted from disability benefits and insured persons entitled to widow(er)'s benefits. The percentage for ages 70 and over was assumed to be nearly 100, because the retirement earnings test and delayed retirement credit do not apply after age 70, but was adjusted for the statistical difference between in-force data and in-current-payment data, and projected increases in the proportion of other-than-legal persons in the population. The percentage for each age 62 through 69 was projected from observed historical and projected short-range trends, with an adjustment for changes in the portion of the primary insurance amount payable at each age of entitlement to the portion payable at age 70 entitlement. As the normal retirement age increases, the number of retired workers as a percentage of the exposed population is gradually adjusted downward at each age 62 through 69, reaching an ultimate level in 2030; these downward adjustments also reflect the effects of scheduled increases in the delayed retirement credits. Concurrently, the percentage for ages 65 through 69 was adjusted for the earnings test provision of Public Law 104-121.

For the long-range period also, the number of retired-worker beneficiaries previously converted from disabled-worker beneficiaries was calculated as an extension beyond normal retirement age of the calculation of disabled-worker beneficiaries.

The number of aged-spouse beneficiaries was estimated from the population projected by age and sex. The benefits of aged-spouse beneficiaries are based on the earnings records of their husbands or wives, who are referred to as "wage earners." In the short-range period, a regression equation was used to project the number of aged-spouse beneficiaries, as a proportion of the aged uninsured female or male population. In the long-range period, aged-spouse beneficiaries were estimated from the population projected by age, sex, and marital status. To the number of spouses aged 62 and over in the population, a series of factors were applied, representing the probabilities that the spouse and the wage earner meet all of the conditions of eligibility—i.e., the probabilities that (1) the wage earner is 62 or over, (2) the wage earner is insured, (3) the wage earner is receiving benefits, (4) the spouse is not receiving a benefit for the care of an entitled child, (5) the spouse is not insured, and (6) the spouse is not eligible to receive a significant government pension based on earnings in noncovered employment. To the resulting number of spouses was applied a projected prevalence rate to calculate the estimated number of aged-spouse beneficiaries.

In addition, the same factors were applied to the number of divorced persons aged 62 and over in the population, with three differences. First, an additional factor is required to reflect the probability that the person's former wage-earner spouse is still alive (otherwise, the person may be entitled to a divorced widow(er)'s benefit). Second, a factor is required to reflect the probability that the marriage to the wage-earner spouse was at least 10 years in duration. Third, factor (3) was not applied because, effective for January 1985, a divorced person generally need not wait to receive benefits until the former wage-earner spouse is receiving benefits.

The projected numbers of children under age 18, and students aged 18, who are eligible for benefits as children of retired-worker beneficiaries, were based on the projected number of children in the population. In the short-range period, the number of entitled children was developed by applying award rates to the number of children in the population where both parents are alive, and by applying termination rates to the number of children already receiving benefits.

In the long-range period, the number of entitled children was projected separately by sex of the wage-earner parent. To the number of children in the population, factors were applied representing the probabilities that the parent is alive, aged 62 or over, insured, and receiving a retired-worker benefit. Another factor was applied representing the probability that the child is not entitled to a benefit based on the other parent's earnings. In addition, a factor was applied to reduce the number of beneficiaries to reflect the more restrictive requirements for entitlement of stepchildren that were enacted in Public Law 104-121. For children aged 18, a factor representing the probability that the child is attending a secondary school was also applied.

The number of disabled children aged 18 and over of retired-worker beneficiaries was projected from the adult population. In the short-range period, award rates were applied to the population, and termination rates were applied to the number of disabled children already receiving benefits. In the long-range period, disabled children were projected in a manner similar to that for children under 18, with the inclusion of a factor representing the probability of being disabled since childhood.

In the short-range period, the number of entitled young-spouse beneficiaries was developed by applying award rates to the number of awards to children of retired workers, where the children are either under age 16 or disabled, and by applying termination rates to the number of young-spouses already receiving benefits. In the long-range period, young-spouse beneficiaries were projected as a proportion of the projected number of child beneficiaries of retired workers, taking into account projected changes in average family size.

The number of aged-widow(er) beneficiaries was projected from the population by age and sex. In the short-range period, insured aged-widow(er) beneficiaries were projected concurrently with the retired-worker beneficiaries. A regression equation projected the number of uninsured aged-widow(er) beneficiaries, as a proportion of the uninsured aged female or male population not receiving any type of benefit. In the long-range period, aged-widow(er) beneficiaries were projected from the population by age, sex, and marital status. Four factors were applied to the number of widow(er)s in the population aged 60 and over. These factors represent the probabilities that (1) the deceased wage earner was fully insured at death, (2) the widow(er) is not receiving a benefit for the care of an entitled child, (3) the widow(er) is not fully insured, and (4) the widow(er)'s benefits are not withheld because of receipt of a significant government pension based on earnings in noncovered employment. In addition, some insured widow(er)s who had not applied for their retired-worker benefits are assumed to receive widow(er) benefits. Also, the same factors were applied to the number of divorced persons aged 60 and over in the population, with additional factors representing the probability that the person's former wage-earner spouse is deceased and that the marriage was at least 10 years in duration.

In the short-range period, the number of disabled-widow(er) beneficiaries was estimated as a proportion of the uninsured female or male population aged 50-64. In the long-range period, the number was projected for each age 50 through 64 as a percentage of the widowed and divorced populations, adjusted for the insured status of the deceased spouse and the prevalence of disability.

The projected numbers of children under age 18, and students aged 18, who are eligible for benefits as survivors of deceased workers, were based on the projected number of children in the population whose mothers or fathers are deceased. In the short-range period, the number of entitled children was developed by applying award rates to the number of orphaned children, and by applying termination rates to the number of children already receiving benefits.

In the long-range period, the number of child-survivor beneficiaries was projected in a manner analogous to that for child beneficiaries of retired workers, with the factor representing the probability that the parent is aged 62 or over replaced by a factor that represented the probability that the parent is deceased.

In the short-range period, the numbers of entitled mother-survivor and father-survivor beneficiaries were developed by applying award rates to the number of awards to child-survivor beneficiaries, where the children are either under age 16 or disabled, and by applying termination rates to the number of mother-survivors and father-survivors already receiving benefits. In the long-range period, mother-survivor and father-survivor beneficiaries were estimated from the number of child-survivor beneficiaries, taking into account projected changes in average family size.

The number of parent-survivor beneficiaries was projected based on the historical pattern of the number of such beneficiaries.

Table II.H2 shows the projected number of beneficiaries under the OASI program by type of benefit. Included among the beneficiaries who receive retired-worker benefits are some persons who also receive a residual benefit consisting of the excess of an auxiliary benefit over their retired-worker benefit. Estimates of the number of such residual payments were made separately for spouses and widow(er)s.

Table II.H2.—OASI Beneficiaries With Monthly Benefits in Current-Payment Status as of December 31 by Alternative, Calendar Years 1945-2075

[In thousands]

	Retired workers and auxiliaries			Survivors				
Calendar year	Worker	Wife-husband	Child	Widow-widower	Mother-father	Child	Parent	Total
Historical data:								
1945	518	159	13	94	121	377	6	1,288
1950	1,771	508	46	314	169	653	15	3,477
1955	4,474	1,192	122	701	292	1,154	25	7,961
1960	8,061	2,269	268	1,544	401	1,577	36	14,157
1965	11,101	2,614	461	2,371	472	2,074	35	19,128
1970	13,349	2,668	546	3,227	523	2,688	29	23,030
1975	16,588	2,867	643	3,888	582	2,919	21	27,508
1980	19,562	3,018	639	4,415	563	2,610	15	30,821
1985	22,432	3,069	456	4,863	372	1,918	10	33,119
1986	22,981	3,088	450	4,932	350	1,878	9	33,687
1987	23,440	3,090	439	4,984	329	1,837	8	34,126
1988	23,858	3,086	421	5,029	318	1,783	7	34,502
1989	24,327	3,093	422	5,071	312	1,782	7	35,012
1990	24,837	3,101	421	5,112	304	1,777	6	35,557
1991	25,289	3,104	425	5,158	301	1,792	6	36,074
1992	25,758	3,112	432	5,205	294	1,808	5	36,614
1993	26,104	3,094	436	5,224	289	1,837	5	36,990
1994	26,408	3,066	440	5,232	283	1,865	4	37,298
1995	26,673	3,026	441	5,226	275	1,884	4	37,528
1996	26,898	2,970	442	5,210	242	1,898	4	37,664
1997	27,274	2,922	441	5,053	230	1,893	3	37,817
Intermediate:								
1998	27,591	2,906	444	5,069	224	1,910	3	38,147
2000	28,242	2,883	449	5,097	215	1,941	3	38,830
2005	30,337	2,851	458	5,225	199	1,977	2	41,048
2010	34,184	2,800	531	5,372	205	1,926	3	45,021
2015	40,394	2,603	607	5,440	190	1,826	3	51,064
2020	47,760	2,512	685	5,494	184	1,779	3	58,417
2025	54,305	2,544	739	5,546	183	1,764	3	65,083
2030	59,550	2,544	767	5,547	181	1,756	3	70,348
2035	62,668	2,501	787	5,531	177	1,742	3	73,409
2040	63,795	2,414	793	5,507	172	1,719	3	74,403
2045	64,540	2,377	800	5,510	167	1,693	3	75,090
2050	65,839	2,396	810	5,505	163	1,669	3	76,384
2055	67,948	2,487	832	5,509	159	1,647	3	78,585
2060	70,265	2,587	850	5,503	155	1,624	3	80,987
2065	72,079	2,660	859	5,524	151	1,600	3	82,877
2070	73,574	2,709	865	5,573	147	1,577	3	84,448
2075	75,014	2,756	872	5,632	144	1,554	3	85,975

Table II.H2.—OASI Beneficiaries With Monthly Benefits in Current-Payment Status as of December 31 by Alternative, Calendar Years 1945-2075 (Cont.)

[In thousands]

	Retired workers and auxiliaries			Survivors				
Calendar year	Worker	Wife-husband	Child	Widow-widower	Mother-father	Child	Parent	Total
Low Cost:								
1998	27,583	2,904	444	5,066	224	1,911	3	38,136
2000	28,198	2,875	449	5,085	214	1,939	3	38,763
2005	30,096	2,811	460	5,169	196	1,957	2	40,691
2010	33,674	2,720	535	5,351	196	1,951	3	44,431
2015	39,534	2,482	616	5,423	183	1,912	3	50,154
2020	46,466	2,356	704	5,497	175	1,935	3	57,136
2025	52,516	2,352	771	5,569	174	1,986	3	63,371
2030	57,121	2,319	816	5,576	174	2,045	3	68,054
2035	59,565	2,247	853	5,541	175	2,093	3	70,477
2040	60,128	2,147	876	5,474	175	2,121	3	70,924
2045	60,531	2,106	904	5,423	176	2,143	3	71,286
2050	61,585	2,121	938	5,370	178	2,175	3	72,370
2055	63,522	2,197	986	5,348	181	2,214	3	74,450
2060	65,600	2,272	1,027	5,342	184	2,254	3	76,682
2065	67,286	2,324	1,060	5,383	187	2,291	3	78,534
2070	68,970	2,367	1,089	5,468	189	2,327	3	80,413
2075	71,013	2,426	1,123	5,583	191	2,364	3	82,702
High Cost:								
1998	27,602	2,907	444	5,070	224	1,910	3	38,161
2000	28,291	2,889	449	5,106	214	1,940	3	38,891
2005	30,572	2,879	456	5,268	199	1,974	2	41,349
2010	34,726	2,888	530	5,377	218	1,903	3	45,646
2015	41,305	2,740	601	5,429	205	1,767	3	52,050
2020	49,166	2,701	671	5,447	198	1,671	3	59,856
2025	56,321	2,791	711	5,466	194	1,601	3	67,088
2030	62,399	2,854	725	5,462	186	1,540	3	73,168
2035	66,459	2,868	726	5,473	175	1,479	3	77,183
2040	68,481	2,823	713	5,509	164	1,420	3	79,113
2045	69,924	2,819	700	5,582	153	1,365	3	80,547
2050	71,833	2,873	686	5,636	143	1,311	3	82,485
2055	74,476	3,014	685	5,668	134	1,257	3	85,236
2060	77,385	3,179	683	5,652	125	1,204	3	88,230
2065	79,681	3,311	677	5,632	116	1,152	3	90,571
2070	81,349	3,394	667	5,626	108	1,103	3	92,250
2075	82,549	3,446	658	5,620	101	1,057	3	93,434

Note: The number of beneficiaries does not include certain uninsured persons, most of whom both attained age 72 before 1968 and have fewer than 3 quarters of coverage, in which case the costs are reimbursed by the general fund of the Treasury. The number of such uninsured persons was 394 as of December 31, 1997, and is estimated to be fewer than 200 by the turn of the century. Totals do not necessarily equal the sums of rounded components.

7. Disability Insurance Beneficiaries

The number of DI beneficiaries was projected for each type of benefit separately, by the sex of the worker on whose earnings the benefits are based, and the age of the beneficiary. The number of disabled-worker beneficiaries was projected from the estimated number of such beneficiaries entitled on December 31, 1997, by adding new entitlements and subtracting terminations. The starting number of entitled disabled-worker beneficiaries was estimated by age, sex, and duration of entitlement, from the tabulated number of disabled-worker beneficiaries in current-payment status on December 31, 1997. The number of new entitlements during each year was projected by applying assumed age-sex specific disability incidence rates to the projected disability insured population (excluding those already entitled to disabled-worker benefits).

The number of terminations was projected by applying assumed termination rates to the disabled-worker population. In the short-range period, the number of terminations was projected by applying assumed termination rates by reason—death, recovery, and all other—and by age and sex, to the entitled disabled-worker population. In the long-range period, the number of terminations was projected by applying assumed death rates and recovery rates, by age, sex, and duration of entitlement, to the entitled disabled-worker population. To this number of terminations was added, in both the short-range and long-range periods, the number of disabled-worker beneficiaries who would be automatically converted to retired-worker beneficiaries upon attainment of the normal retirement age (currently, age 65).

The projection of incidence and termination rates for the DI program begins with an evaluation of historical trends. Incidence rates have varied within a wide range over the past 25 years. From an historically high level of roughly 7.0 awards per thousand insured in 1975, rates declined to roughly 3.0 per thousand by 1982. Following a gradual trend upward, rates increased to roughly 5.6 per thousand by 1992 and have since followed a gradual trend downward to an estimated 4.6 per thousand in 1997.

Projected levels of disability incidence rates for workers are normally determined in two or three steps. Rates are initially estimated from their most recent levels based on past trends and future expectations without regard to the increases in normal retirement age (NRA) scheduled under present law. Next, an adjustment is made to reflect the scheduled increase in NRA; beginning with individuals attaining age 62 in 2000 (the first cohort affected), incidence rates are adjusted upward to account for the anticipated number who may leave the work force and elect to pursue a disability benefit in light of their extended NRA. Finally, incidence rates may be adjusted further to account for recent legislation affecting program dynamics. These adjustments are temporary, as they will be incorporated in step 1 in subsequent projections.

Under intermediate assumptions, gross incidence rates are estimated to increase over the next 10 years, attributable in part to a disability population more heavily weighted toward the higher incidence ages (50-64), and increasing unemployment rates from recent lows. Without regard to scheduled NRA increases, rates are estimated to increase from 4.6 awards per thousand in 1997 to 5.5 per thousand by 2007.

Further increases in incidence rates attributable to the scheduled NRA increases and new ages at which disability benefits may be payable (65-67), result in an additional 0.4 awards per thousand by 2007. These adjustments contribute to the overall rise in the gross incidence rate to 5.9 per thousand by the end of the short-range period. The overall rate continues to increase to 7.2 per thousand by the year 2027, at which time the effects of the scheduled increase in the NRA on the DI program will be complete. This is very close to the ultimate rate of 7.3 per thousand, attained in 2048.

Under the low cost assumptions, the gross disability incidence rate is assumed to decrease slightly to 4.4 per thousand in 1998 before resuming an upward trend back toward the 1997 level of 4.6 per thousand by 2001. The upward trend continues to 5.0 per thousand by 2007. The 2027 gross incidence rate is assumed to be 5.1 per thousand exposed. Under the high cost assumptions, the gross disability incidence rate is assumed to increase by about 37 percent over the next 10 years, to a level comparable to the historical highs experienced in the mid 1970s. The gross incidence rate under the high cost assumptions is assumed to reach about 8.6 per thousand exposed by 2027.

In the short-range period, the age-sex specific termination rates are projected by reason—death, recovery, and all other. Two notable developments that may slightly affect mortality rates among the disabled include a significant reduction in projected awards due to HIV impairments, and the elimination of current and future benefit payments to drug addicts and alcoholics. Both of these categories are assumed to have significantly higher death rates than the overall disability population, but are relatively small in number compared to total disabled workers in current-payment status. The actual impact may not be known for some time. Gross death rates are projected to remain relatively constant at roughly 35.5 deaths per thousand disabled workers. This is down slightly from 38 deaths per thousand as projected under the intermediate set of assumptions from last year's report. The pattern of projected recovery rates is based on workload estimates (supplied by the Social Security Administration's Office of Disability), and budgetary constraints affecting the anticipated number of continuing disability reviews scheduled in the future (supplied by the Social Security Administration's Office of Budget). A spike in recovery rates was experienced in 1997. This was attributable to the one-time elimination of approximately 57,000 drug addicts and alcoholics from the DI rolls, due to a provision of Public Law 104-121 enacted in 1996. Under low cost (high cost) assumptions, terminations due to death, recovery, and other reasons increase (decrease) to levels roughly 10 percent higher (lower) than those under the intermediate assumptions.

In the long-range period, the death rates and recovery rates were projected by age, sex, and duration of entitlement. For 1997, the last year of actual data, exceptionally high recovery rates were experienced, 113 percent of the base period rates for males, and 74 percent of the base period rates for females. They reflect the provision of P.L. 104-121, enacted March 29, 1996, that prohibits drug addiction or alcoholism as a contributing material factor to a finding of disability, and removed from the rolls those individuals whose disability was so based.

For alternative II, death rates reach levels in 2072 approximately 55 percent lower for males and approximately 39 percent lower for females than those experienced by disabled-worker beneficiaries during 1977-80, the most recent period for which detailed data are available. The recovery rates for both males and females, after their patterns during the short-range period, are assumed to increase until 2012, when they attain ultimate levels about 50 percent lower than those experienced during the period 1977-80. Projected increases in recovery rates reflect the estimated effect of the periodic reviews required by provisions of law first enacted in 1980, and amended in 1983, 1984, 1990, and 1996.

For alternative I, the death rates in 2072 are assumed to be roughly 39 percent lower for males and approximately 20 percent lower for females than those experienced by disabled-worker beneficiaries during 1977-80. Recovery rates are assumed to increase from 1996 levels to levels that are about 1.5 times the 1996 level for males, and about 1.4 times the 1996 level for females. These ultimate recovery rates are 40 percent lower than those of the 1977-80 base period. For alternative III, the death rates in 2072 are assumed to be about 70 percent lower for males and 58 percent lower for females than those experienced during 1977-80, and recovery rates are assumed to be 60 percent lower than those experienced during 1977-80.

In the short-range period, the projected numbers of children under age 18, students aged 18, and disabled children aged 18 and over, who are eligible for benefits as children of disabled-worker beneficiaries, were projected by applying quarterly award and termination rates. Awards to the three categories of child beneficiaries were based on the number of awards to disabled-worker beneficiaries.

In the long-range period, the projected numbers of minor child and student beneficiaries were based on the projected number of children in the population by age. To the number of children were applied factors representing the probability that either of their parents is insured and disabled. In addition, a factor was applied to reduce the number of beneficiaries to reflect the more restrictive requirements for entitlement of stepchildren that were enacted in Public Law 104-121. The number of disabled children aged 18 and over was projected as a function of the number of disabled-worker beneficiaries and the size of the adult population.

In the short-range period, the number of young-spouse beneficiaries was projected by applying quarterly award and termination rates, where awards were based on the number of awards to child beneficiaries who are either under age 16 or disabled. The number of aged-spouse beneficiaries was also projected by applying quarterly award and termination rates, where awards were based on the number of awards to disabled-worker beneficiaries.

In the long-range period, the number of young-spouse beneficiaries was projected as a proportion of the projected number of child beneficiaries who are either under age 16 or disabled, taking into account projected changes in family size. The number of aged-spouse beneficiaries was projected as a proportion of the number of disabled-worker beneficiaries, based on recent experience and allowing for projected changes in marriage rates.

Table II.H3 shows the projected number of beneficiaries under the DI program by type of benefit.

Table II.H3.—DI Beneficiaries With Monthly Benefits in Current-Payment Status as of December 31 by Alternative, Calendar Years 1960-2075
[In thousands]

Calendar year	Disabled worker	Auxiliaries		Total
		Wife-husband	Child	
Historical data:				
1960	455	77	155	687
1965	988	193	558	1,739
1970	1,493	283	889	2,665
1975	2,489	453	1,411	4,352
1980	2,859	462	1,359	4,680
1985	2,657	306	945	3,907
1986	2,729	301	965	3,994
1987	2,786	291	968	4,045
1988	2,830	281	963	4,074
1989	2,895	272	962	4,129
1990	3,011	266	989	4,266
1991	3,195	266	1,052	4,513
1992	3,468	271	1,151	4,890
1993	3,726	273	1,255	5,254
1994	3,963	271	1,350	5,584
1995	4,185	264	1,409	5,858
1996	4,386	224	1,463	6,072
1997	4,508	207	1,438	6,153
Intermediate:				
1998	4,692	197	1,445	6,333
2000	5,072	195	1,474	6,741
2005	6,335	219	1,645	8,199
2010	7,732	238	1,706	9,676
2015	8,681	235	1,726	10,642
2020	9,148	244	1,730	11,122
2025	9,604	267	1,764	11,635
2030	9,646	271	1,808	11,725
2035	9,627	268	1,843	11,738
2040	9,813	266	1,866	11,945
2045	10,320	277	1,885	12,482
2050	10,629	284	1,901	12,814
2055	10,851	293	1,923	13,067
2060	10,805	294	1,941	13,040
2065	10,843	293	1,957	13,094
2070	10,996	296	1,971	13,262
2075	11,184	301	1,985	13,469
Low Cost:				
1998	4,641	194	1,431	6,266
2000	4,897	189	1,433	6,519
2005	5,759	200	1,518	7,477
2010	6,698	197	1,500	8,395
2015	7,211	180	1,478	8,869
2020	7,418	176	1,479	9,073
2025	7,685	185	1,529	9,399
2030	7,673	182	1,601	9,457
2035	7,650	178	1,668	9,496
2040	7,816	176	1,720	9,713
2045	8,248	185	1,771	10,204
2050	8,549	191	1,829	10,569
2055	8,816	200	1,899	10,915
2060	8,932	203	1,969	11,104
2065	9,180	207	2,037	11,424
2070	9,547	214	2,102	11,864
2075	9,955	222	2,169	12,346

Table II.H3.—DI Beneficiaries With Monthly Benefits in Current-Payment Status as of December 31 by Alternative, Calendar Years 1960-2075 (Cont.)
[In thousands]

Calendar year	Disabled worker	Auxiliaries: Wife-husband	Auxiliaries: Child	Total
High Cost:				
1998	4,772	201	1,472	6,445
2000	5,371	210	1,562	7,143
2005	7,158	248	1,838	9,244
2010	8,776	291	1,910	10,978
2015	10,173	309	1,959	12,441
2020	10,915	339	1,947	13,201
2025	11,585	381	1,943	13,908
2030	11,699	392	1,937	14,028
2035	11,700	388	1,919	14,008
2040	11,912	383	1,903	14,198
2045	12,498	395	1,885	14,778
2050	12,804	400	1,854	15,058
2055	12,945	409	1,823	15,176
2060	12,669	403	1,787	14,858
2065	12,391	393	1,750	14,534
2070	12,217	386	1,714	14,317
2075	12,076	383	1,681	14,140

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

8. Average Benefits

Average benefits were projected by type of benefit based on recent historical averages, projected average Primary Insurance Amounts (PIAs), and projected ratios of average benefits to average PIAs. Average PIAs were calculated from projected distributions of beneficiaries by duration from year of award, average awarded PIAs, and increases thereto since the year of award, reflecting automatic benefit increases, recomputations to reflect additional covered earnings, and other factors. Average awarded PIAs were calculated from projected earnings histories, which were developed from the actual earnings histories associated with a sample of awards made in 1996. A sample of 1994 awards was used for the 1997 report.

For several types of benefits—retired-worker, aged-spouse, and aged-widow(er) benefits—the percentage of the PIA that is payable depends on the age at initial entitlement to benefits. Projected ratios of average benefits to average PIAs for these types of benefits were based on projections of age distributions at initial entitlement.

9. Benefit Payments

For each type of benefit, benefit payments were calculated as the product of a number of beneficiaries and a corresponding average monthly benefit. In the short-range period, benefit payments were calculated on a quarterly basis. In the long-range period, all benefit payments were calculated on an annual basis, using the number of beneficiaries on December 31. These amounts were adjusted to include retroactive payments to newly awarded beneficiaries, and other amounts not reflected in the regular monthly benefit payments.

Lump-sum death payments were calculated as the product of (1) the number of such payments, which was projected on the basis of the assumed death rates, the projected fully insured population, and the estimated percentage of the fully insured population that would qualify for benefits, and (2) the amount of the lump-sum death payment, which is $255 (not indexed in future years).

10. Administrative Expenses

The projection of administrative expenses through 2007 was based on assumed increases in average wages, increases in the CPI, and increases in the number of beneficiaries. For years after 2007, administrative expenses are assumed to increase because of increases in the number of beneficiaries and increases in the average wage which will more than offset assumed improvements in administrative productivity.

11. Railroad Retirement Financial Interchange

Railroad workers are covered under a separate multi-tiered plan, the first tier being very similar to OASDI coverage. An annual financial interchange between the Railroad Retirement fund and the OASI and DI funds is made reflecting the difference between (1) the amount of OASDI benefits that would be paid to railroad workers and their families if railroad employment had been covered under the OASDI program and (2) the amount of OASDI payroll tax that would be received from railroad workers if they were covered directly under the OASDI program.

The effect of the financial interchange with the Railroad Retirement program was evaluated on the basis of trends similar to those used in estimating the cost of OASDI benefits. The resulting effect was annual short-range costs of about $3-5 billion and a long-range summarized cost of 0.05 percent of taxable payroll to the OASDI program.

12. Benefits to Uninsured Persons

The law provides for special monthly cash payments to certain uninsured persons who attained age 72 before 1968 or who have 3 quarters of coverage for each year after 1966 and before the year of attainment of age 72. The number of such uninsured persons was projected based on an extrapolation of the historical survival rate of the members of that group. The benefit payable to these uninsured persons is a fixed amount which increases by the percentage benefit increase applicable to regular OASDI benefits. These payments are made from the OASI Trust Fund, which is then reimbursed from the general fund of the Treasury for the costs (including administrative expenses and interest) associated with providing payments to those persons with fewer than 3 quarters of coverage. The nonreimbursable payments are assumed to be insignificant after 2000. Neither the reimbursable payments nor the associated reimbursements are reflected in the cost rates or the income rates. These amounts are reflected, however, in tables which show trust fund operations.

13. Military-Service Transfers

As a result of the 1983 amendments, the OASI and DI Trust Funds received lump-sum payments, in May 1983, for the cost (including administrative expenses) of providing additional benefit payments resulting from noncontributory wage credits for military service performed prior to 1957. Adjustments to the payments were made in 1985, 1990, and 1995, and additional adjustments will be made in 2000 and every fifth year thereafter. The adjustments for 2000 were estimated based on the change in interest rates since the determination of the adjustments in 1995. No adjustments after 1995 would be due unless actual interest rates are different from those assumed, or changes are made in the methods used to determine the military-service transfers.

14. Income From Taxation of Benefits

Under present law, the OASI and DI Trust Funds are credited with the additional income taxes attributable to the taxation of the first 50 percent of OASDI benefit payments. (The remainder of the income taxes attributable to the taxation of up to 85 percent of OASDI benefit payments is credited to the HI Trust Fund.) For the short-range period, income to the trust funds from such taxation was estimated by applying the following two factors to total OASI and DI benefit payments: (1) the percentage of benefit payments (limited to 50 percent) that is taxable, and (2) the average tax rate applicable to those benefits. For the long-range period, income to the trust funds from such taxation was estimated by applying projected ratios of such income to total OASI and DI benefit payments. Because the income thresholds used for benefit taxation are, by law, constant in the future, their values in relation to future income and benefit levels will decline. Thus, ratios of income from taxation of benefits to the amount of benefits are projected to increase. These ratios were projected reflecting the results of a model developed by the Office of Tax Analysis, Department of the Treasury, relating OASDI benefit payments to total personal income for a sample of recent tax returns.

III. APPENDICES

A. ACTUARIAL ESTIMATES FOR THE OASDI AND HI PROGRAMS, COMBINED

In this appendix, long-range actuarial estimates for the OASDI and Hospital Insurance (HI) programs are combined to facilitate analysis of the adequacy of the combined income and assets of the trust funds relative to their combined expenditures. Combining cost and income rates as percentages of taxable payroll requires a note of caution. The taxable payrolls for the HI program are larger than those estimated for the OASDI program because (1) a larger maximum taxable amount was established for the HI program in 1991, with the maximum being eliminated altogether for the HI program in 1994, (2) a larger proportion of Federal, State, and local government employees have their wages covered under the HI program, and (3) the earnings of railroad workers are included directly in the HI taxable payroll but not in the OASDI taxable payroll (railroad contributions for the equivalent of OASDI benefits are accounted for in a net interchange that occurs annually between the OASDI and Railroad Retirement programs). As a result, the HI taxable payroll is about 23 percent larger than the OASDI taxable payroll throughout the long-range period. Nonetheless, combined OASDI and HI rates shown in this appendix are computed by adding the separately derived rates for the programs. The resulting combined rates may be interpreted as those applicable to the taxable payroll in the amount of the OASDI payroll, with the separate HI rates being additionally applicable to the excess of the HI payroll over the OASDI payroll.

Long-range estimates are subject to much uncertainty and should not be considered precise forecasts. Instead they should be considered as indicative of the general trend and range of costs that could reasonably be expected to occur. The emphasis in this appendix on combined operations, while significant, should not obscure the analysis of the financial status of the individual trust funds, which are legally separate and cannot be commingled. In addition, the factors which determine the costs of the OASI, DI, and HI programs differ substantially.

As with the OASI and DI Trust Funds, income to the HI Trust Fund comes primarily from contributions paid by employees, employers, and self-employed persons. The combined OASDI and HI contribution rate for employees and their employers is often referred to as the

FICA tax, because it is authorized by the Federal Insurance Contributions Act. Contribution rates for the OASDI and HI programs are shown in table III.A1.

Table III.A1.—Contribution Rates for the OASDI and HI Programs
[In percent]

Calendar years	Employees and employers, each			Self employed		
	OASDI	HI	Combined	OASDI	HI	Combined
1966	3.85	0.35	4.20	5.80	0.35	6.15
1967	3.90	.50	4.40	5.90	.50	6.40
1968	3.80	.60	4.40	5.80	.60	6.40
1969-70	4.20	.60	4.80	6.30	.60	6.90
1971-72	4.60	.60	5.20	6.90	.60	7.50
1973	4.85	1.00	5.85	7.00	1.00	8.00
1974-77	4.95	.90	5.85	7.00	.90	7.90
1978	5.05	1.00	6.05	7.10	1.00	8.10
1979-80	5.08	1.05	6.13	7.05	1.05	8.10
1981	5.35	1.30	6.65	8.00	1.30	9.30
1982-83	5.40	1.30	6.70	8.05	1.30	9.35
1984 [1]	5.70	1.30	7.00	11.40	2.60	14.00
1985	5.70	1.35	7.05	11.40	2.70	14.10
1986-87	5.70	1.45	7.15	11.40	2.90	14.30
1988-89	6.06	1.45	7.51	12.12	2.90	15.02
1990 and later	6.20	1.45	7.65	12.40	2.90	15.30

[1] See footnote 1 under table II.B1 in the section entitled "Description of the Trust Funds" for a description of tax credits allowed against the combined OASDI and HI taxes on net earnings from self-employment in 1984-89.

Table III.A2 shows estimated annual income rates and cost rates for the OASDI program, the HI program, and the combined OASDI and HI programs, based on the low cost, intermediate, and high cost sets of assumptions (alternatives I, II, and III) described earlier in this report. These annual rates are intended to indicate the cash-flow operation of the programs. Therefore, income rates exclude interest earned on trust fund assets and cost rates exclude the cost of accumulating or maintaining target trust fund balances. Table III.A2 also shows the difference between income rates and cost rates, called balances. Estimates shown for the combined trust funds are theoretical because no authority currently exists for transferring assets from one trust fund to another.

Under all three sets of assumptions, combined OASDI and HI cost rates are projected to rise above current levels, with the sharpest increase occurring during the period 2010-30. Under the high cost set of assumptions, alternative III, annual deficits are projected to occur beginning in 2002, and to continue for the remainder of the 75-year projection period. Cost rates are projected to rise to over three times their current level by the end of the projection period. Under the

intermediate assumptions, alternative II, annual deficits begin in the year 2010, with cost rates nearly doubling by the end of the projection period. Under the low cost assumptions, alternative I, cost rates are projected to increase by about 25 percent, with annual deficits beginning by the year 2022.

Table III.A2.—Comparison of Estimated Income Rates and Cost Rates [1] for OASDI and HI by Alternative, Calendar Years 1998-2075

[As a percentage of taxable payroll [1]]

Calendar year	OASDI Income rate	OASDI Cost rate	OASDI Balance	HI Income rate	HI Cost rate	HI Balance	Combined Income rate	Combined Cost rate	Combined Balance
Intermediate:									
1998	12.65	11.18	1.47	3.02	3.40	-0.38	15.67	14.58	1.09
1999	12.65	11.13	1.52	3.03	3.33	-.31	15.67	14.46	1.21
2000	12.63	11.16	1.48	3.03	3.26	-.23	15.66	14.42	1.24
2001	12.66	11.23	1.43	3.03	3.24	-.21	15.69	14.47	1.22
2002	12.66	11.30	1.36	3.03	3.24	-.20	15.70	14.54	1.16
2003	12.67	11.38	1.29	3.04	3.26	-.22	15.71	14.64	1.07
2004	12.68	11.46	1.22	3.04	3.32	-.28	15.72	14.78	.94
2005	12.69	11.55	1.14	3.05	3.38	-.33	15.73	14.93	.81
2006	12.70	11.64	1.06	3.05	3.43	-.38	15.75	15.06	.68
2007	12.70	11.74	.97	3.05	3.48	-.43	15.76	15.22	.54
2010	12.74	12.19	.54	3.07	3.66	-.59	15.81	15.86	-.05
2015	12.82	13.46	-.64	3.10	4.09	-.98	15.92	17.54	-1.62
2020	12.92	15.17	-2.26	3.16	4.62	-1.47	16.07	19.80	-3.72
2025	13.02	16.70	-3.69	3.21	5.30	-2.09	16.22	22.00	-5.78
2030	13.10	17.76	-4.66	3.25	5.93	-2.68	16.35	23.70	-7.34
2035	13.15	18.17	-5.02	3.29	6.41	-3.13	16.44	24.58	-8.14
2040	13.18	18.13	-4.95	3.30	6.72	-3.41	16.48	24.85	-8.37
2045	13.20	18.13	-4.93	3.32	6.91	-3.59	16.51	25.04	-8.52
2050	13.22	18.29	-5.07	3.33	7.02	-3.69	16.56	25.32	-8.76
2055	13.26	18.66	-5.40	3.35	7.14	-3.79	16.61	25.80	-9.19
2060	13.29	19.04	-5.75	3.37	7.32	-3.95	16.66	26.36	-9.70
2065	13.32	19.32	-6.00	3.39	7.54	-4.16	16.71	26.86	-10.16
2070	13.34	19.54	-6.20	3.40	7.79	-4.39	16.74	27.33	-10.59
2075	13.36	19.79	-6.43	3.41	8.03	-4.61	16.77	27.82	-11.04
Low Cost:									
1998	12.65	11.07	1.58	3.02	3.35	-.33	15.67	14.42	1.25
1999	12.64	10.89	1.75	3.02	3.23	-.21	15.67	14.13	1.54
2000	12.61	10.84	1.78	3.02	3.11	-.09	15.64	13.95	1.69
2001	12.65	10.79	1.86	3.02	3.04	-.02	15.67	13.83	1.85
2002	12.65	10.77	1.89	3.03	2.99	.04	15.68	13.76	1.92
2003	12.66	10.75	1.91	3.03	2.97	.06	15.69	13.71	1.97
2004	12.66	10.73	1.93	3.03	2.98	.05	15.69	13.71	1.99
2005	12.67	10.73	1.94	3.03	2.99	.05	15.70	13.71	1.99
2006	12.67	10.71	1.96	3.04	2.99	.04	15.71	13.70	2.01
2007	12.68	10.70	1.98	3.04	3.00	.04	15.72	13.70	2.02
2010	12.70	10.93	1.77	3.05	3.01	.03	15.75	13.95	1.80
2015	12.76	11.87	.89	3.07	3.12	-.05	15.84	14.99	.84
2020	12.84	13.25	-.41	3.11	3.28	-.16	15.96	16.53	-.57
2025	12.92	14.37	-1.45	3.16	3.45	-.29	16.08	17.82	-1.74
2030	12.98	14.98	-2.00	3.19	3.56	-.37	16.17	18.54	-2.38
2035	13.01	14.97	-1.96	3.21	3.62	-.42	16.21	18.59	-2.38
2040	13.01	14.56	-1.55	3.21	3.65	-.44	16.23	18.22	-1.99
2045	13.02	14.22	-1.20	3.22	3.69	-.48	16.23	17.91	-1.68
2050	13.02	14.03	-1.01	3.22	3.75	-.53	16.25	17.79	-1.54
2055	13.04	14.01	-.97	3.23	3.81	-.58	16.27	17.82	-1.55
2060	13.05	13.96	-.91	3.24	3.91	-.67	16.29	17.87	-1.58
2065	13.05	13.83	-.78	3.24	4.03	-.79	16.29	17.86	-1.57
2070	13.05	13.72	-.67	3.25	4.16	-.92	16.30	17.88	-1.58
2075	13.06	13.70	-.64	3.25	4.37	-1.12	16.31	18.07	-1.76

Table III.A2.—Comparison of Estimated Income Rates and Cost Rates [1] for OASDI and HI by Alternative, Calendar Years 1998-2075 (Cont.)

[As a percentage of taxable payroll [1]]

Calendar year	OASDI			HI			Combined		
	Income rate	Cost rate	Balance	Income rate	Cost rate	Balance	Income rate	Cost rate	Balance
High Cost:									
1998	12.65	11.28	1.37	3.03	3.49	-0.46	15.68	14.77	0.91
1999	12.66	11.54	1.11	3.03	3.51	-.48	15.69	15.05	.63
2000	12.67	11.49	1.17	3.03	3.44	-.41	15.70	14.94	.76
2001	12.67	11.69	.98	3.04	3.43	-.39	15.70	15.12	.58
2002	12.69	12.42	.27	3.04	3.56	-.51	15.73	15.98	-.25
2003	12.70	12.51	.19	3.05	3.62	-.57	15.74	16.12	-.38
2004	12.70	12.58	.12	3.05	3.72	-.67	15.75	16.30	-.54
2005	12.71	12.68	.03	3.05	3.83	-.78	15.77	16.52	-.75
2006	12.72	12.83	-.11	3.06	3.95	-.90	15.78	16.79	-1.01
2007	12.73	13.03	-.30	3.06	4.08	-1.02	15.80	17.11	-1.31
2010	12.78	13.66	-.88	3.08	4.50	-1.42	15.87	18.16	-2.29
2015	12.89	15.19	-2.31	3.13	5.47	-2.34	16.02	20.66	-4.65
2020	13.01	17.27	-4.26	3.19	6.74	-3.54	16.20	24.00	-7.80
2025	13.14	19.32	-6.18	3.26	8.46	-5.20	16.39	27.78	-11.39
2030	13.25	20.99	-7.74	3.32	10.26	-6.94	16.57	31.25	-14.68
2035	13.34	22.05	-8.71	3.36	11.75	-8.38	16.70	33.80	-17.10
2040	13.40	22.70	-9.30	3.40	12.78	-9.38	16.80	35.48	-18.68
2045	13.45	23.38	-9.93	3.43	13.37	-9.94	16.88	36.75	-19.87
2050	13.51	24.24	-10.73	3.46	13.61	-10.15	16.98	37.85	-20.88
2055	13.59	25.40	-11.82	3.50	13.83	-10.33	17.09	39.24	-22.15
2060	13.67	26.66	-12.99	3.55	14.18	-10.63	17.21	40.84	-23.63
2065	13.74	27.83	-14.09	3.59	14.62	-11.03	17.33	42.45	-25.12
2070	13.81	28.90	-15.09	3.62	15.10	-11.48	17.43	44.00	-26.57
2075	13.87	29.92	-16.04	3.65	15.59	-11.94	17.52	45.50	-27.98

[1] The taxable payroll for HI is significantly larger than the taxable payroll for OASDI because the HI taxable maximum amount was eliminated beginning 1994, and because HI covers all Federal civilian employees, including those hired before 1984, all State and local government employees hired after April 1, 1986, and railroad employees. Combined OASDI and HI rates are computed as the sum of the separately derived rates for each program.

Notes:

1. The income rate excludes interest income and certain transfers from the general fund of the Treasury.
2. Totals do not necessarily equal the sums of rounded components.

Tables III.A3 and III.A4 show the estimates of summarized OASDI and HI income rates, cost rates and balances for various time periods, based on all three sets of assumptions. In table III.A3 values are summarized over the three 25-year subperiods (excluding the beginning fund balances and the cost of accumulating ending fund targets). In table III.A4 values are summarized over the 25-year, 50-year, and 75-year valuation periods (for which beginning fund balances are included in the summarized income rates, and the costs of accumulating an ending fund balance equal to 100 percent of annual expenditures by the end of the period are included in the summarized cost rates). Estimates shown for the combined trust funds are theoretical because no authority currently exists for transferring assets from one trust fund to another.

Table III.A3.—Comparison of Summarized Income Rates and Cost Rates [1] for 25-Year Subperiods [2], for OASDI and HI by Alternative, Calendar Years 1998-2072

[As a percentage of taxable payroll [1]]

	OASDI			HI			Combined		
Subperiod	Income rate	Cost rate	Balance	Income rate	Cost rate	Balance	Income rate	Cost rate	Balance
Intermediate:									
1998-2022...	12.76	12.58	0.18	3.08	3.77	-0.69	15.84	16.35	-0.51
2023-2047...	13.13	17.71	-4.58	3.27	6.19	-2.92	16.40	23.90	-7.50
2048-2072...	13.29	18.91	-5.62	3.37	7.33	-3.97	16.66	26.24	-9.59
Low Cost:									
1998-2022...	12.73	11.46	1.27	3.06	3.11	-.05	15.78	14.56	1.22
2023-2047...	12.99	14.62	-1.63	3.19	3.59	-.39	16.19	18.21	-2.02
2048-2072...	13.05	13.92	-.87	3.24	3.92	-.68	16.29	17.84	-1.56
High Cost:									
1998-2022...	12.81	13.92	-1.11	3.09	4.71	-1.62	15.90	18.63	-2.73
2023-2047...	13.31	21.50	-8.19	3.35	11.10	-7.76	16.66	32.60	-15.95
2048-2072...	13.66	26.36	-12.71	3.54	14.20	-10.66	17.20	40.56	-23.37

[1] The taxable payroll for HI is significantly larger than the taxable payroll for OASDI because the HI taxable maximum amount was eliminated beginning 1994, and because HI covers all Federal civilian employees, including those hired before 1984, all State and local government employees hired after April 1, 1986, and railroad employees. Combined OASDI and HI rates are computed as the sum of the separately derived rates for each program.

[2] For 25-year subperiods, income rates do not include beginning trust fund balances and cost rates do not include the cost of reaching ending fund targets.

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

Under the high cost alternative III, the combined OASDI and HI system is projected to experience large deficits during the 25-year, 50-year, and 75-year valuation periods (table III.A4, including beginning trust fund balances and the cost of ending fund targets). Deficits are projected to occur during each 25-year subperiod of the 75-year projection period (table III.A3, excluding beginning trust fund balances and the cost of ending fund targets). Under intermediate alternative II assumptions, deficits of smaller magnitude than those for the high cost alternative III are projected to occur for each of the three 25-year subperiods and for each of the three valuation periods. Under the low cost alternative I, the combined OASDI and HI system is projected to show positive balances for the first 25-year subperiod and for the 25-year and 50-year valuation periods. Relatively small deficits are projected for the 75-year valuation period and for the second and third 25-year subperiods.

Table III.A4.—Comparison of Summarized Income Rates and Cost Rates [1] for Valuation Periods [2], for OASDI and HI by Alternative, Calendar Years 1998-2072

[As a percentage of taxable payroll [1]]

	OASDI			HI			Combined		
Valuation period	Income rate	Cost rate	Actuarial balance	Income rate	Cost rate	Actuarial balance	Income rate	Cost rate	Actuarial balance
Intermediate:									
25-years:									
1998-2022 . . .	13.73	13.12	0.61	3.21	3.93	-0.73	16.94	17.05	-0.12
50-years:									
1998-2047 . . .	13.49	14.86	-1.37	3.23	4.85	-1.61	16.72	19.71	-2.98
75-years:									
1998-2072 . . .	13.45	15.64	-2.19	3.26	5.37	-2.10	16.71	21.01	-4.29
Low Cost:									
25-years:									
1998-2022 . . .	13.67	11.91	1.76	3.19	3.22	-.03	16.86	15.13	1.73
50-years:									
1998-2047 . . .	13.40	12.91	.49	3.19	3.35	-.16	16.59	16.26	.33
75-years:									
1998-2072 . . .	13.33	13.08	.25	3.20	3.47	-.27	16.53	16.55	-.02
High Cost:									
25-years:									
1998-2022 . . .	13.78	14.54	-.76	3.23	4.97	-1.74	17.01	19.51	-2.50
50-years:									
1998-2047 . . .	13.59	17.27	-3.68	3.28	7.51	-4.23	16.87	24.78	-7.91
75-years:									
1998-2072 . . .	13.61	19.03	-5.42	3.33	8.86	-5.53	16.94	27.89	-10.95

[1] The taxable payroll for HI is significantly larger than the taxable payroll for OASDI because the HI taxable maximum amount was eliminated beginning 1994, and because HI covers all Federal civilian employees, including those hired before 1984, all State and local government employees hired after April 1, 1986, and railroad employees. Combined OASDI and HI rates are computed as the sum of the separately derived rates for each program.

[2] Income rates include beginning trust fund balances and cost rates include the cost of reaching an ending fund target equal to 100 percent of annual expenditures by the end of the period.

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

B. LONG-RANGE ESTIMATES OF SOCIAL SECURITY TRUST FUND OPERATIONS IN DOLLARS

This appendix presents long-range projections in dollars of the operations of the combined OASI and DI Trust Funds and in some cases the HI Trust Fund. It provides the means to track the progress of the funds during the projection period. Meaningful comparison of current dollar values over long periods of time can be difficult because of the tendency toward inflation. Some means of removing inflation is thus generally desirable. Several economic series, or "indices," are provided to allow current dollars to be adjusted for changes in prices, wages, and certain other aspects of economic growth during the projection period.

The selection of a particular index for adjustment of current dollars depends upon the analyst's decision as to which index provides the most useful standard for adjusting dollar amounts, over time, to create values that are appropriately comparable. Table III.B1 presents five such indices for adjustment.

One of the most common forms of standardization is based on some measure of change in the prices of consumer goods. One such price index is the Consumer Price Index for Urban Wage Earners and Clerical Workers (CPI-W, hereafter referred to as "CPI") which is published by the Bureau of Labor Statistics, Department of Labor. This is the index used to determine annual increases in OASDI monthly benefits payable after the year of initial eligibility. The CPI is assumed to increase ultimately at annual rates of 2.5, 3.5, and 4.5 percent for the low cost, intermediate, and high cost sets of assumptions (alternatives I, II, and III, respectively). Constant-dollar values (those adjusted by the CPI) are provided in table III.B2.

Another type of standardization combines the effects of price inflation and real-wage growth. The wage index presented here is the "SSA average wage index," as defined in section 215(i)(1)(G) of the Social Security Act. This index is used to make annual adjustments to many earnings-related quantities embodied in the Social Security Act, such as the contribution and benefit base. The average annual wage is assumed to increase ultimately by 3.9, 4.4, and 4.9 percent under the low cost, intermediate, and high cost alternatives (I, II, and III), respectively.

The taxable payroll index adjusts for the effects of changes in the number of workers and changes in the proportion of earnings that are taxable, as well as for the effects of price inflation and real-wage growth. The OASDI taxable payroll consists of all earnings subject to OASDI taxation, adjusted for the lower effective tax rate on multiple-employer "excess wages," and including deemed wage credits for military service.

The gross domestic product (GDP) index adjusts for the growth in the aggregate amount of goods and services produced in the United States. Values adjusted by GDP (see appendix C) indicate their relative share of the total output of the economy. No explicit assumptions are made about growth in taxable payroll or GDP. These series are computed reflecting the other more basic economic and demographic assumptions, as discussed in section II.H.

Discounting with interest is another way of adjusting current dollars. The series of interest-rate factors included here is based on the average of the assumed annual interest rates for special public-debt obligations issuable to the trust funds. This series is slightly different from the interest rates used to create summarized values elsewhere in this report, where the actual yield on currently held trust fund assets is used for each year. Ultimate nominal interest rates, which, in practice, are compounded semiannually, are assumed to be approximately 6.0, 6.3, and 6.5 percent for the low cost, intermediate, and high cost alternatives (I, II, and III), respectively.

Table III.B1.—Selected Economic Variables by Alternative, Calendar Years 1997-2075

[GDP and taxable payroll in billions]

Calendar year	Adjusted CPI[1]	SSA average wage index[2]	Taxable payroll[3]	Gross domestic product	Compound interest-rate factor[4]
Intermediate:					
1997	98.62	$27,019.16	$3,285	$8,083	0.9372
1998	100.00	27,894.53	3,426	8,384	1.0000
1999	102.38	28,835.56	3,562	8,735	1.0584
2000	105.01	29,919.10	3,705	9,119	1.1168
2001	107.82	30,988.90	3,855	9,532	1.1801
2002	110.89	32,128.11	4,024	9,981	1.2505
2003	114.33	33,428.05	4,201	10,469	1.3266
2004	118.02	34,870.86	4,399	11,002	1.4085
2005	122.03	36,380.25	4,615	11,579	1.4973
2006	126.28	37,952.99	4,852	12,202	1.5924
2007	130.73	39,613.01	5,104	12,866	1.6952
2010	144.94	45,075.38	5,937	15,000	2.0413
2015	172.14	55,903.87	7,535	19,145	2.7833
2020	204.45	69,333.71	9,427	24,185	3.7952
2025	242.82	85,989.80	11,723	30,368	5.1749
2030	288.40	106,647.19	14,643	38,300	7.0562
2035	342.52	132,267.11	18,398	48,585	9.6214
2040	406.81	164,041.73	23,110	61,621	13.1191
2045	483.16	203,449.59	28,914	77,841	17.8884
2050	573.85	252,324.45	36,082	98,077	24.3915
2055	681.55	312,940.56	44,964	123,399	33.2587
2060	809.47	388,118.47	56,041	155,283	45.3495
2065	961.39	481,356.47	69,907	195,573	61.8358
2070	1,141.84	596,993.13	87,178	246,246	84.3155
2075	1,356.14	740,409.19	108,585	309,673	114.9674
Low Cost:					
1997	98.75	27,080.11	3,288	8,091	.9372
1998	100.00	28,010.39	3,452	8,442	1.0000
1999	102.07	28,950.56	3,613	8,819	1.0579
2000	104.39	30,005.88	3,774	9,224	1.1161
2001	106.89	31,066.56	3,944	9,652	1.1784
2002	109.52	32,215.28	4,127	10,112	1.2486
2003	112.22	33,459.17	4,318	10,595	1.3239
2004	115.04	34,748.83	4,520	11,104	1.4046
2005	117.92	36,064.30	4,735	11,641	1.4901
2006	120.86	37,428.83	4,962	12,211	1.5808
2007	123.87	38,900.10	5,206	12,815	1.6771
2010	133.40	43,631.23	5,989	14,733	2.0025
2015	150.93	52,829.35	7,459	18,368	2.6908
2020	170.76	63,966.57	9,160	22,668	3.6158
2025	193.20	77,451.70	11,222	27,903	4.8588
2030	218.59	93,779.67	13,869	34,654	6.5290
2035	247.31	113,549.81	17,289	43,408	8.7735
2040	279.81	137,487.80	21,602	54,498	11.7894
2045	316.58	166,472.28	26,937	68,288	15.8421
2050	358.18	201,567.09	33,548	85,457	21.2880
2055	405.25	244,060.42	41,806	107,006	28.6059
2060	458.50	295,511.97	52,180	134,204	38.4394
2065	518.75	357,810.28	65,237	168,596	51.6532
2070	586.92	433,242.03	81,520	211,691	69.4094
2075	664.04	524,575.88	101,711	265,398	93.2695

Table III.B1.—Selected Economic Variables by Alternative, Calendar Years 1997-2075 (Cont.)
[GDP and taxable payroll in billions]

Calendar year	Adjusted CPI [1]	SSA average wage index [2]	Taxable payroll [3]	Gross domestic product	Compound interest-rate factor [4]
High Cost:					
1997	98.07	$26,965.76	$3,283	$8,076	0.9372
1998	100.00	27,898.38	3,407	8,341	1.0000
1999	103.80	28,747.62	3,484	8,575	1.0605
2000	109.40	30,668.73	3,713	9,250	1.1263
2001	115.93	32,519.96	3,950	9,899	1.2097
2002	121.28	33,401.18	4,040	10,162	1.3115
2003	126.76	35,524.17	4,293	10,912	1.4224
2004	132.48	37,417.40	4,565	11,651	1.5334
2005	138.46	39,242.15	4,847	12,356	1.6438
2006	144.68	41,124.41	5,123	13,091	1.7591
2007	151.15	43,146.08	5,410	13,871	1.8796
2010	172.49	49,804.41	6,364	16,403	2.2775
2015	214.95	63,262.36	8,229	21,437	3.1336
2020	267.87	80,356.85	10,482	27,708	4.3115
2025	333.81	102,070.55	13,231	35,481	5.9321
2030	415.99	129,651.59	16,717	45,482	8.1618
2035	518.40	164,685.45	21,182	58,467	11.2298
2040	646.02	209,186.05	26,742	74,885	15.4509
2045	805.06	265,711.38	33,553	95,323	21.2586
2050	1,003.26	337,510.75	41,931	120,853	29.2494
2055	1,250.24	428,711.41	52,206	152,648	40.2439
2060	1,558.03	544,555.94	64,878	192,451	55.3710
2065	1,941.58	691,703.44	80,581	242,499	76.1841
2070	2,419.57	878,612.37	100,038	305,418	104.8206
2075	3,015.22	1,116,027.13	124,046	384,206	144.2211

[1] The CPI used to adjust OASDI benefits is the Consumer Price Index for Urban Wage Earners and Clerical Workers (CPI), as defined by the Bureau of Labor Statistics, Department of Labor. The values shown are adjusted by dividing the calendar-year annual average CPI by the analogous value for 1998, and multiplying the result by 100, thereby initializing the CPI at 100 for 1998.

[2] The "SSA average wage index" is defined in section 215(i)(1)(G) of the Social Security Act; it is used in the calculations of initial benefits and the automatic adjustment of the contribution and benefit base and other wage-indexed program amounts.

[3] Taxable payroll consists of total earnings subject to OASDI contribution rates, adjusted to include deemed wages based on military service and to reflect the lower effective contribution rates (compared to the combined employee-employer rate) which apply to multiple-employer "excess wages."

[4] The compound interest-rate factor is based on the average of the assumed annual interest rates for special public-debt obligations issuable to the trust funds in the 12 months of the year, under each alternative.

Table III.B2 shows estimated operations of the combined OASI and DI Trust Funds in constant 1998 dollars (i.e., adjusted by the CPI indexing series as discussed above). Items included in the table are: income excluding interest, interest income, total income, total outgo, and assets at the end of the year. Income excluding interest consists of payroll-tax contributions, income from taxation of benefits, and miscellaneous reimbursements from the general fund of the Treasury. Outgo consists of benefit payments, administrative expenses, net transfers from the OASI and DI Trust Funds to the Railroad Retirement program under the financial-interchange provisions, and payments for vocational rehabilitation services for disabled beneficiaries. These estimates are based on the low cost, intermediate, and high cost sets of assumptions (alternatives I, II, and III).

Table III.B2.—Estimated Operations of the Combined OASI and DI Trust Funds in Constant 1998 Dollars [1] by Alternative, Calendar Years 1998-2075

[In billions]

Calendar year	Income excluding interest	Interest income	Total income	Outgo	Assets at end of year
Intermediate:					
1998	$435.2	$49.1	$484.3	$382.9	$756.9
1999	439.5	52.6	492.0	387.1	844.3
2000	445.6	56.4	501.9	393.7	931.4
2001	452.5	60.6	513.1	401.5	1,018.6
2002	459.0	65.0	524.0	410.2	1,104.3
2003	465.1	69.4	534.5	418.3	1,187.3
2004	471.7	73.9	545.6	427.2	1,268.6
2005	479.4	78.6	558.0	436.9	1,348.1
2006	486.5	83.3	569.8	447.0	1,425.5
2007	495.6	88.0	583.6	458.2	1,502.4
2010	521.4	102.4	623.8	499.5	1,718.6
2015	560.6	118.7	679.2	589.1	1,948.9
2020	595.2	115.0	710.2	699.7	1,847.3
2025	627.9	85.4	713.4	806.4	1,317.6
2030 [2]	664.6	28.5	693.1	901.8	340.1
Low Cost:					
1998	436.9	49.1	486.0	382.0	759.5
1999	446.8	53.0	499.8	385.6	858.4
2000	455.9	57.4	513.2	391.9	960.7
2001	466.6	62.6	529.2	398.1	1,069.3
2002	476.3	68.4	544.7	405.7	1,182.6
2003	486.4	74.8	561.2	413.5	1,301.9
2004	496.6	81.3	577.9	421.6	1,426.3
2005	508.3	88.4	596.7	430.8	1,557.4
2006	519.1	95.9	615.0	439.7	1,694.7
2007	532.5	103.9	636.4	449.8	1,840.2
2010	569.9	130.4	700.4	490.9	2,301.7
2015	630.4	176.1	806.6	586.8	3,079.4
2020	688.7	213.5	902.1	711.0	3,694.1
2025	750.0	236.8	986.8	834.8	4,067.1
2030	822.9	246.4	1,069.3	950.6	4,210.6
2035	908.7	249.3	1,158.0	1,046.4	4,254.1
2040	1,004.0	254.2	1,258.2	1,124.4	4,346.5
2045	1,106.8	266.5	1,373.3	1,210.0	4,565.7
2050	1,219.1	285.1	1,504.2	1,314.4	4,891.8
2055	1,344.0	307.7	1,651.7	1,445.0	5,279.0
2060	1,483.9	332.4	1,816.3	1,588.9	5,704.2
2065	1,640.2	362.2	2,002.4	1,739.2	6,223.6
2070	1,811.9	399.9	2,211.7	1,905.6	6,878.5
2075	1,998.9	444.8	2,443.7	2,098.0	7,655.2
High Cost:					
1998	433.9	49.3	483.2	384.2	754.5
1999	424.4	52.2	476.6	387.4	816.1
2000	429.3	55.6	484.8	390.2	869.0
2001	431.5	60.3	491.8	398.4	913.5
2002	422.1	64.8	486.9	413.7	946.3
2003	429.0	67.7	496.7	423.5	978.6
2004	436.9	69.8	506.6	433.6	1,009.3
2005	444.3	71.4	515.7	444.0	1,037.5
2006	449.3	72.6	521.9	454.4	1,060.3
2007	455.3	73.2	528.6	466.4	1,077.1
2010	471.1	70.3	541.4	504.1	1,076.9
2015	492.8	55.8	548.6	581.6	849.6
2020 [2]	508.7	19.6	528.3	675.8	223.0

[1] The adjustment from current to constant dollars is by the CPI indexing series shown in table III.B1.
[2] Estimates for later years are not shown because the combined OASI and DI Trust Funds are estimated to become exhausted in 2032 under the intermediate assumptions and in 2022 under the high cost assumptions.

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

Figure III.B1 provides a comparison of outgo with total annual income (including interest) and annual income excluding interest, for the OASDI program under intermediate assumptions. All values are expressed in constant dollars, as shown in table III.B2. The difference between the income values for each year is equal to the trust fund interest earnings. Thus the figure illustrates the fact that, under intermediate assumptions, combined OASDI expenditures will be payable from (1) current tax income alone through 2012, (2) current tax income plus a portion of annual interest income for years 2013 through 2020, and (3) current tax income, annual interest income, plus a portion of the principal balance in the trust funds for years 2021 through 2031, i.e., through the year preceding the year of trust fund exhaustion.

Figure III.B1.—Estimated OASDI Income and Outgo in Constant Dollars, Based on Alternative II by Calendar Year
[In billions]

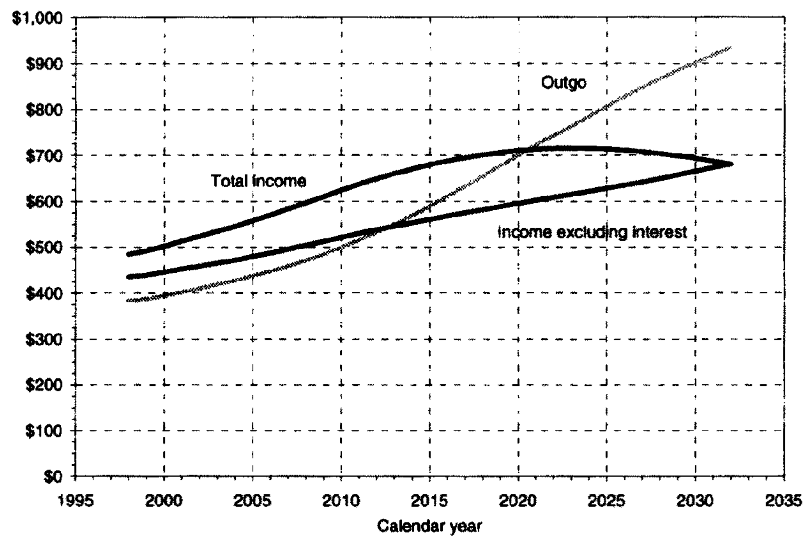

Table III.B3.—Estimated Operations of the Combined OASI and DI Trust Funds in Current Dollars by Alternative, Calendar Years 1998-2075

[In billions]

Calendar year	Income excluding interest	Interest income	Total income	Outgo	Assets at end of year
Intermediate:					
1998	$435.2	$49.1	$484.3	$382.9	$756.9
1999	449.9	53.8	503.7	396.3	864.4
2000	467.9	59.2	527.1	413.4	978.1
2001	487.9	65.3	553.2	433.0	1,098.3
2002	509.0	72.1	581.1	454.8	1,224.6
2003	531.8	79.3	611.1	478.2	1,357.4
2004	556.7	87.3	643.9	504.2	1,497.2
2005	585.0	95.9	680.9	533.1	1,645.0
2006	614.4	105.2	719.6	564.5	1,800.1
2007	647.9	115.0	762.9	599.0	1,964.0
2010	755.7	148.4	904.1	724.0	2,490.9
2015	965.0	204.3	1,169.2	1,014.1	3,354.9
2020	1,216.9	235.1	1,451.9	1,430.5	3,776.8
2025	1,524.8	207.5	1,732.3	1,958.1	3,199.5
2030 [1]	1,916.6	82.2	1,998.8	2,600.7	980.8
Low Cost:					
1998	436.9	49.1	486.0	382.0	759.5
1999	456.1	54.1	510.1	393.5	876.1
2000	475.8	59.9	535.8	409.0	1,002.8
2001	498.7	66.9	565.7	425.5	1,143.0
2002	521.6	75.0	596.6	444.3	1,295.2
2003	545.8	83.9	629.8	464.0	1,461.0
2004	571.2	93.6	664.8	485.1	1,640.8
2005	599.4	104.2	703.7	508.0	1,836.4
2006	627.4	115.9	743.3	531.4	2,048.3
2007	659.7	128.6	788.3	557.2	2,279.5
2010	760.3	174.0	934.3	654.8	3,070.5
2015	951.5	265.8	1,217.3	885.6	4,647.6
2020	1,176.0	364.5	1,540.5	1,214.0	6,308.0
2025	1,449.1	457.5	1,906.5	1,612.7	7,857.5
2030	1,798.8	538.6	2,337.3	2,077.8	9,203.9
2035	2,247.3	616.5	2,863.9	2,587.9	10,520.9
2040	2,809.3	711.4	3,520.7	3,146.3	12,161.9
2045	3,504.0	843.5	4,347.5	3,830.4	14,453.9
2050	4,366.4	1,021.2	5,387.6	4,707.8	17,521.2
2055	5,446.6	1,246.7	6,693.3	5,855.9	21,393.0
2060	6,803.7	1,523.9	8,327.5	7,285.2	26,153.8
2065	8,508.6	1,878.9	10,387.6	9,022.4	32,285.0
2070	10,634.2	2,346.9	12,981.1	11,184.1	40,371.0
2075	13,273.6	2,954.0	16,227.5	13,931.4	50,834.1
High Cost:					
1998	433.9	49.3	483.2	384.2	754.5
1999	440.5	54.2	494.7	402.1	847.1
2000	469.6	60.8	530.4	426.9	950.6
2001	500.3	69.9	570.2	461.8	1,059.0
2002	511.9	78.6	590.5	501.8	1,147.7
2003	543.8	85.8	629.6	536.9	1,240.4
2004	578.8	92.4	671.2	574.4	1,337.2
2005	615.2	98.9	714.0	614.7	1,436.5
2006	650.0	105.0	755.0	657.5	1,534.0
2007	688.2	110.7	798.9	705.0	1,628.0
2010	812.6	121.3	933.9	869.4	1,857.5
2015	1,059.2	119.9	1,179.2	1,250.2	1,826.2
2020 [1]	1,362.7	52.5	1,415.1	1,810.2	597.3

[1] Estimates for later years are not shown because the combined OASI and DI Trust Funds are estimated to become exhausted in 2032 under alternative II and in 2022 under alternative III.

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

Table III.B3 shows estimated operations of the combined OASI and DI Trust Funds in current dollars—that is in dollars unadjusted for price inflation. Items included in the table are: income excluding interest, interest income, total income, total outgo, and assets at the end of the year. These estimates, based on the low cost, intermediate, and high cost sets of economic and demographic assumptions (I, II, and III), are presented to facilitate independent analysis.

Table III.B4 shows, in current dollars, estimated income (excluding interest) and estimated total outgo (excluding the cost of accumulating target trust fund balances) of the combined OASI and DI Trust Funds, of the HI Trust Fund, and of the combined OASI, DI, and HI Trust Funds, based on the low cost, intermediate, and high cost sets of assumptions (alternatives I, II, and III) described earlier in this report. For OASDI, income excluding interest consists of payroll-tax contributions, proceeds from taxation of OASDI benefits, and miscellaneous transfers from the general fund of the Treasury. Outgo consists of benefit payments, administrative expenses, net transfers from the trust funds to the Railroad Retirement program, and payments for vocational rehabilitation services for disabled beneficiaries. For HI, income excluding interest consists of contributions (including contributions from railroad employment), proceeds from the taxation of OASDI benefits, and payments from the general fund of the Treasury for contributions on deemed wage credits for military service. Total outgo consists of outlays (benefits and administrative expenses) for insured beneficiaries. Income and outgo estimates are shown on a cash basis for the OASDI program and on an incurred basis for the HI program.

Table III.B4 also shows the difference between income excluding interest and outgo, which is called the balance. The balance indicates the size of the net cash flow from tax income and expenditures to the funds.

Table III.B4.—Estimated OASDI and HI Income Excluding Interest, Outgo, and Balance in Current Dollars by Alternative, Calendar Years 1998-2075
[In billions]

	OASDI			HI			Combined		
Calendar year	Income excluding interest	Outgo	Balance	Income excluding interest	Outgo	Balance	Income excluding interest	Outgo	Balance
Intermediate:									
1998	$435	$383	$52	$126	$141	-$16	$561	$524	$37
1999	450	396	54	131	144	-13	581	540	40
2000	468	413	54	136	147	-10	604	560	44
2001	488	433	55	142	152	-10	630	585	45
2002	509	455	54	149	159	-10	658	614	44
2003	532	478	54	156	168	-11	688	646	42
2004	557	504	52	164	179	-15	721	683	38
2005	585	533	52	173	191	-19	758	724	33
2006	614	565	50	182	205	-23	796	769	27
2007	648	599	49	192	219	-27	840	818	22
2010	756	724	32	224	267	-43	980	991	-12
2015	965	1,014	-49	287	378	-91	1,252	1,392	-140
2020	1,217	1,430	-214	366	536	-170	1,583	1,967	-384
2025	1,525	1,958	-433	463	765	-302	1,988	2,723	-735
2030	1,917	2,601	-684	587	1,070	-483	2,504	3,671	-1,167
2035	2,418	3,342	-925	745	1,453	-708	3,162	4,795	-1,633
2040	3,043	4,190	-1,147	941	1,913	-972	3,984	6,103	-2,119
2045	3,813	5,243	-1,429	1,182	2,462	-1,280	4,996	7,704	-2,709
2050	4,768	6,600	-1,832	1,483	3,125	-1,642	6,251	9,725	-3,474
2055	5,957	8,390	-2,433	1,859	3,959	-2,100	7,816	12,350	-4,533
2060	7,444	10,673	-3,229	2,332	5,060	-2,728	9,776	15,733	-5,957
2065	9,304	13,505	-4,200	2,923	6,509	-3,586	12,227	20,013	-7,786
2070	11,622	17,037	-5,415	3,660	8,386	-4,726	15,281	25,423	-10,141
2075	14,497	21,488	-6,991	4,576	10,764	-6,189	19,073	32,252	-13,180
Low Cost:									
1998	437	382	55	126	140	-14	563	522	41
1999	456	394	63	132	141	-9	588	535	53
2000	476	409	67	138	142	-4	614	551	63
2001	499	426	73	144	145	-1	643	571	72
2002	522	444	77	151	149	2	673	594	79
2003	546	464	82	158	155	3	704	619	85
2004	571	485	86	166	163	3	737	648	89
2005	599	508	91	174	171	3	773	679	94
2006	627	531	96	182	180	3	810	711	99
2007	660	557	103	192	189	3	851	746	105
2010	760	655	105	221	218	2	981	873	108
2015	951	886	66	277	281	-4	1,228	1,167	62
2020	1,176	1,214	-38	345	363	-18	1,521	1,577	-56
2025	1,449	1,613	-164	429	468	-39	1,878	2,081	-203
2030	1,799	2,078	-279	535	597	-62	2,334	2,675	-341
2035	2,247	2,588	-341	671	758	-87	2,919	3,346	-428
2040	2,809	3,146	-337	841	955	-115	3,650	4,102	-452
2045	3,504	3,830	-326	1,050	1,205	-155	4,554	5,035	-482
2050	4,366	4,708	-341	1,310	1,525	-215	5,676	6,232	-556
2055	5,447	5,856	-409	1,637	1,931	-295	7,083	7,787	-704
2060	6,804	7,285	-482	2,047	2,471	-424	8,851	9,757	-905
2065	8,509	9,022	-514	2,563	3,186	-622	11,072	12,208	-1,136
2070	10,634	11,184	-550	3,206	4,112	-906	13,840	15,296	-1,456
2075	13,274	13,931	-658	4,005	5,387	-1,383	17,278	19,319	-2,041

Table III.B4.—Estimated OASDI and HI Income Excluding Interest, Outgo, and Balance in Current Dollars by Alternative, Calendar Years 1998-2075 (Cont.)
[In billions]

	OASDI			HI			Combined		
Calendar year	Income excluding interest	Outgo	Balance	Income excluding interest	Outgo	Balance	Income excluding interest	Outgo	Balance
High Cost:									
1998	$434	$384	$50	$125	$144	-$19	$559	$528	$31
1999	440	402	38	128	148	-20	569	551	18
2000	470	427	43	138	156	-19	607	583	24
2001	500	462	38	148	167	-19	648	629	19
2002	512	502	10	151	176	-25	663	678	-15
2003	544	537	7	161	191	-30	705	728	-23
2004	579	574	4	172	210	-38	751	784	-33
2005	615	615	(1)	183	230	-47	798	845	-46
2006	650	657	-7	194	251	-57	844	908	-64
2007	688	705	-17	206	274	-68	894	979	-85
2010	813	869	-57	243	355	-112	1,056	1,225	-169
2015	1,059	1,250	-191	319	557	-238	1,378	1,808	-429
2020	1,363	1,810	-447	415	877	-461	1,778	2,687	-909
2025	1,737	2,556	-819	535	1,391	-855	2,272	3,947	-1,675
2030	2,213	3,509	-1,296	689	2,131	-1,442	2,902	5,641	-2,738
2035	2,822	4,671	-1,848	886	3,095	-2,209	3,709	7,766	-4,057
2040	3,580	6,069	-2,490	1,131	4,253	-3,122	4,710	10,322	-5,612
2045	4,510	7,846	-3,336	1,432	5,584	-4,152	5,942	13,430	-7,488
2050	5,661	10,166	-4,504	1,808	7,108	-5,299	7,470	17,273	-9,804
2055	7,087	13,262	-6,175	2,279	8,999	-6,721	9,366	22,262	-12,896
2060	8,860	17,297	-8,437	2,868	11,471	-8,602	11,728	28,768	-17,039
2065	11,065	22,426	-11,361	3,604	14,694	-11,090	14,669	37,120	-22,451
2070	13,804	28,915	-15,110	4,520	18,850	-14,330	18,324	47,765	-29,441
2075	17,194	37,109	-19,915	5,659	24,152	-18,493	22,853	61,261	-38,408

[1] Between $0 and $500 million.

Notes:
1. Annual figures are available from the Office of the Chief Actuary, Social Security Administration.
2. Totals do not necessarily equal the sums of rounded components.

Table III.B5 shows estimated future benefit amounts payable to persons attaining age 65 in various years based on retirement at the normal retirement age and at age 65, for various steady levels of pre-retirement earnings, based on intermediate assumptions. The benefit amount is shown in current dollars, constant dollars (adjusted by the CPI indexing series shown in table III.B1), and as a percentage of earnings in the 12-month period preceding retirement. The normal retirement age is currently 65 and is scheduled to increase to age 66 during the period 2000-05 (at a rate of 2 months per year as workers attain age 62) and to age 67 during the period 2017-22 (also by 2 months per year as workers attain age 62). The pre-retirement earnings levels shown are: low (earnings at 45 percent of the projected SSA average wage index), average (earnings at the amount of the projected SSA average wage index), high (earnings at 160 percent of the projected SSA average wage index), and maximum (earnings at the amount of the projected OASDI contribution and benefit base).

Table III.B5.—Estimated Average Benefit Amount Payable [1] to Retired Workers With Various Steady Pre-Retirement Earnings Levels Based on Intermediate Assumptions, Calendar Years 1998-2075

	Retirement at normal retirement age				Retirement at age 65		
Year attain age 65 [2]	Age at retirement	Current dollars	Constant 1998 dollars [3]	Percent of earnings	Current dollars	Constant 1998 dollars [3]	Percent of earnings
Low earnings: [4]							
1998	65:0	$6,824	$6,824	56.1	$6,824	$6,824	56.1
2000	65:0	7,191	6,848	55.4	7,191	6,848	55.4
2005	65:6	9,146	7,368	57.1	8,689	7,121	55.4
2010	66:0	11,505	7,669	56.7	10,338	7,133	53.2
2015	66:0	14,261	8,004	56.7	12,806	7,439	53.1
2020	66:2	17,784	8,356	56.6	15,694	7,676	52.5
2025	67:0	22,794	8,763	56.4	18,294	7,534	49.4
2030	67:0	28,282	9,155	56.4	22,698	7,870	49.4
2035	67:0	35,070	9,558	56.4	28,150	8,218	49.4
2040	67:0	43,506	9,983	56.5	34,925	8,585	49.4
2045	67:0	53,953	10,424	56.4	43,302	8,962	49.4
2050	67:0	66,927	10,887	56.5	53,712	9,360	49.4
2055	67:0	83,005	11,369	56.5	66,614	9,774	49.4
2060	67:0	102,947	11,872	56.5	82,620	10,207	49.4
2065	67:0	127,679	12,398	56.5	102,478	10,659	49.4
2070	67:0	158,356	12,946	56.5	127,090	11,130	49.4
2075	67:0	196,399	13,519	56.5	157,622	11,623	49.4
Average earnings:							
1998	65:0	11,270	11,270	41.7	11,270	11,270	41.7
2000	65:0	11,870	11,304	41.2	11,870	11,304	41.2
2005	65:6	15,102	12,166	42.4	14,356	11,765	41.2
2010	66:0	19,016	12,676	42.2	17,066	11,775	39.5
2015	66:0	23,576	13,233	42.2	21,146	12,284	39.5
2020	66:2	29,403	13,816	42.1	25,923	12,679	39.0
2025	67:0	37,742	14,510	42.0	30,208	12,440	36.7
2030	67:0	46,816	15,154	42.0	37,477	12,995	36.7
2035	67:0	58,069	15,826	42.1	46,479	13,570	36.7
2040	67:0	72,029	16,529	42.1	57,648	14,171	36.7
2045	67:0	89,323	17,258	42.1	71,488	14,796	36.7
2050	67:0	110,794	18,023	42.1	88,674	15,453	36.7
2055	67:0	137,403	18,820	42.1	109,976	16,136	36.7
2060	67:0	170,415	19,653	42.1	136,393	16,850	36.7
2065	67:0	211,359	20,523	42.1	169,164	17,596	36.7
2070	67:0	262,134	21,431	42.1	209,806	18,374	36.7
2075	67:0	325,102	22,379	42.1	260,209	19,187	36.7
High earnings: [5]							
1998	65:0	14,538	14,538	33.6	14,538	14,538	33.6
2000	65:0	15,393	14,659	33.4	15,393	14,659	33.4
2005	65:6	19,825	15,970	34.8	18,845	15,443	33.8
2010	66:0	25,081	16,719	34.8	22,554	15,561	32.6
2015	66:0	31,075	17,442	34.7	27,946	16,234	32.6
2020	66:2	38,772	18,218	34.7	34,251	16,753	32.2
2025	67:0	49,644	19,085	34.6	39,920	16,440	30.3
2030	67:0	61,571	19,930	34.6	49,512	17,168	30.3
2035	67:0	76,374	20,815	34.6	61,403	17,927	30.3
2040	67:0	94,716	21,735	34.6	76,169	18,723	30.3
2045	67:0	117,473	22,697	34.6	94,462	19,551	30.3
2050	67:0	145,696	23,701	34.6	117,160	20,417	30.3
2055	67:0	180,694	24,749	34.6	145,299	21,319	30.3
2060	67:0	224,116	25,846	34.6	180,212	22,263	30.3
2065	67:0	277,960	26,990	34.6	223,502	23,248	30.3
2070	67:0	344,731	28,184	34.6	277,202	24,277	30.3
2075	67:0	427,544	29,430	34.6	343,792	25,351	30.3

Table III.B5.—Estimated Average Benefit Amount Payable[1] to Retired Workers With Various Steady Pre-Retirement Earnings Levels Based on Intermediate Assumptions, Calendar Years 1998-2075 (Cont.)

	Retirement at normal retirement age				Retirement at age 65		
Year attain age 65[2]	Age at retire-ment	Current dollars	Constant 1998 dollars[3]	Percent of earnings	Current dollars	Constant 1998 dollars[3]	Percent of earnings
Maximum earnings:[6]							
1998	65:0	$16,124	$16,124	24.7	$16,124	$16,124	24.7
2000	65:0	17,269	16,446	24.2	17,269	16,446	24.2
2005	65:6	22,828	18,389	26.4	21,697	17,780	25.6
2010	66:0	29,750	19,832	27.2	26,609	18,359	25.4
2015	66:0	37,537	21,069	27.7	33,662	19,555	25.9
2020	66:2	47,028	22,097	27.8	41,497	20,297	25.8
2025	67:0	60,331	23,194	27.7	48,429	19,944	24.2
2030	67:0	74,833	24,223	27.7	60,079	20,832	24.3
2035	67:0	92,790	25,289	27.7	74,497	21,749	24.3
2040	67:0	114,923	26,371	27.7	92,272	22,682	24.2
2045	67:0	142,398	27,512	27.7	114,321	23,661	24.2
2050	67:0	176,530	28,717	27.6	141,725	24,697	24.2
2055	67:0	218,941	29,988	27.6	175,783	25,792	24.2
2060	67:0	271,533	31,314	27.6	218,002	26,931	24.2
2065	67:0	336,763	32,700	27.6	270,378	28,124	24.2
2070	67:0	417,651	34,145	27.6	335,319	29,367	24.2
2075	67:0	517,975	35,655	27.6	415,869	30,666	24.2

[1] Annual benefit amount is the benefit payable for the 12-month period starting with the month of retirement.

[2] Assumed to attain age 65 in January of the year.

[3] The adjustment from current to constant dollars is made using the CPI indexing series shown in table III.B1.

[4] Earnings equal to 45 percent of average.

[5] Earnings equal to 160 percent of average.

[6] Earnings equal to the OASDI contribution and benefit base.

C. LONG-RANGE ESTIMATES OF SOCIAL SECURITY TRUST FUND OPERATIONS AS A PERCENTAGE OF GROSS DOMESTIC PRODUCT

This appendix presents long-range projections of the operations of the combined Old-Age and Survivors Insurance and Disability Insurance (OASI and DI) Trust Funds and of the Hospital Insurance (HI) Trust Fund expressed as a percentage of gross domestic product (GDP). While expressing these fund operations as a percentage of taxable payroll is the most useful approach for assessing the financial status of the programs (see table II.F13 and appendix A), analyzing them as a percentage of GDP provides an additional perspective on these fund operations in relation to the total value of goods and services produced in the United States.

Table III.C1 shows estimated income excluding interest, total outgo, and the resulting balance of the combined OASI and DI Trust Funds, of the HI Trust Fund, and of the combined OASI, DI, and HI Trust Funds, expressed as percentages of GDP on the basis of each of the three alternative sets of assumptions. The estimated GDP on which these percentages are based is also shown in table III.C1. For OASDI, income excluding interest consists of payroll-tax contributions, proceeds from taxation of benefits, and various reimbursements from the general fund of the Treasury. Total outgo consists of benefit payments, administrative expenses, net transfers from the trust funds to the Railroad Retirement program, and payments for vocational rehabilitation services for disabled beneficiaries. For HI, income excluding interest consists of contributions (including contributions from railroad employment) and payments from the general fund of the Treasury for contributions on deemed wage credits for military service. Total outgo consists of outlays (benefits and administrative expenses) for insured beneficiaries. Both the HI income and outgo are on an incurred basis.

The OASDI balance (income excluding interest, less outgo) as a percentage of GDP is projected to be positive on the basis of the low cost alternative I through 2015, but with decreasing deficits after 2030. The OASDI balance is projected to be positive through 2010 on the basis of the intermediate alternative II and through 2004 on the basis of the high cost alternative III, before becoming permanently negative, with increasing deficits. The projected HI balance as a percentage of GDP, is negative through 2001 on the basis of the low cost alternative I, with positive balances ending by 2015, and increasing deficits thereafter. The HI balance is projected to be negative throughout the long-range period under the intermediate and high cost alternatives, with deficits increasing steadily after 2002. The combined OASDI and HI balance as a percentage of GDP is projected to be positive through 2015 under the low cost alternative I, through 2009 under the intermediate alternative II, and through only 2001 under the high cost alternative III. Between 2010 and about 2030, under all three alternatives, both the OASDI and HI balances as percentages of GDP are projected to decline substantially because the "baby-boom" generation reaches retirement age during these years. After balances cease to be positive under the intermediate and high cost alternatives, the size of annual deficits increases fairly steadily for the OASDI and HI programs, both separately and combined.

By the year 2075, the combined OASDI and HI balances as percentages of GDP, based on the three alternatives, are projected to differ by a relatively large amount: from a deficit of 0.77 percent for the low cost alternative I to a deficit of 10.00 percent for the high cost alternative III. Projected balances differ by a much smaller amount by the year 2007: from a positive balance of 0.82 percent for the low cost alternative I to a deficit of 0.61 percent for the high cost alternative III.

The summarized long-range (75-year) balance as a percentage of GDP for the combined OASDI and HI programs varies by a relatively large amount (from a deficit of 0.05 percent, based on the low cost alternative I, to a deficit of 4.76 percent, based on the high cost alternative III). The 25-year summarized balance varies by a smaller amount (from a positive of 0.71 percent to a deficit of 1.14 percent). Summarized rates are calculated on the present-value basis including the trust fund balances on January 1, 1998 and the cost of reaching and maintaining a target trust fund level equal to 100 percent of annual expenditures by the end of the period. (See section II.F for further explanation.)

Table III.C1.—Estimated OASDI and HI Income Excluding Interest, Outgo, and Balance as a Percentage of GDP by Alternative, Calendar Years 1998-2075

	Percentage of GDP									
	OASDI			HI			Combined			GDP in
Calendar year	Income[1]	Outgo	Balance	Income[1]	Outgo	Balance	Income[1]	Outgo	Balance	dollars (billions)
Intermediate:										
1998	5.19	4.57	0.62	1.50	1.69	-0.19	6.69	6.25	0.44	$8,384
1999	5.15	4.54	.61	1.50	1.65	-.15	6.65	6.18	.46	8,735
2000	5.13	4.53	.60	1.50	1.61	-.11	6.63	6.14	.48	9,119
2001	5.12	4.54	.58	1.49	1.60	-.10	6.61	6.14	.47	9,532
2002	5.10	4.56	.54	1.49	1.59	-.10	6.59	6.15	.44	9,981
2003	5.08	4.57	.51	1.49	1.60	-.11	6.57	6.17	.40	10,469
2004	5.06	4.58	.48	1.49	1.63	-.14	6.55	6.21	.34	11,002
2005	5.05	4.60	.45	1.49	1.65	-.16	6.54	6.26	.29	11,579
2006	5.04	4.63	.41	1.49	1.68	-.19	6.53	6.30	.22	12,202
2007	5.04	4.66	.38	1.49	1.70	-.21	6.53	6.36	.17	12,866
2010	5.04	4.83	.21	1.49	1.78	-.29	6.53	6.61	-.08	15,000
2015	5.04	5.30	-.26	1.50	1.97	-.47	6.54	7.27	-.73	19,145
2020	5.03	5.91	-.88	1.51	2.22	-.70	6.54	8.13	-1.59	24,185
2025	5.02	6.45	-1.43	1.53	2.52	-.99	6.55	8.97	-2.42	30,368
2030	5.00	6.79	-1.79	1.53	2.79	-1.26	6.54	9.58	-3.05	38,300
2035	4.98	6.88	-1.90	1.53	2.99	-1.46	6.51	9.87	-3.36	48,585
2040	4.94	6.80	-1.86	1.53	3.10	-1.58	6.47	9.90	-3.44	61,621
2045	4.90	6.74	-1.84	1.52	3.16	-1.64	6.42	9.90	-3.48	77,841
2050	4.86	6.73	-1.87	1.51	3.19	-1.67	6.37	9.92	-3.54	98,077
2055	4.83	6.80	-1.97	1.51	3.21	-1.70	6.33	10.01	-3.67	123,399
2060	4.79	6.87	-2.08	1.50	3.26	-1.76	6.30	10.13	-3.84	155,283
2065	4.76	6.91	-2.15	1.49	3.33	-1.83	6.25	10.23	-3.98	195,573
2070	4.72	6.92	-2.20	1.49	3.41	-1.92	6.21	10.32	-4.12	246,246
2075	4.68	6.94	-2.26	1.48	3.48	-2.00	6.16	10.41	-4.26	309,673
Summarized rates:[2]										
25-year:										
1998-2022 . .	5.46	5.21	.24	1.56	1.92	-.35	7.02	7.13	-.11	—
50-year:										
1998-2047 . .	5.26	5.80	-.54	1.55	2.32	-.77	6.81	8.12	-1.31	—
75-year										
1998-2072 . .	5.16	6.00	-.84	1.54	2.53	-.99	6.70	8.53	-1.83	—
Low Cost:										
1998	5.17	4.52	.65	1.50	1.66	-.16	6.67	6.19	.49	8,442
1999	5.17	4.46	.71	1.50	1.60	-.10	6.67	6.06	.60	8,819
2000	5.16	4.43	.72	1.50	1.54	-.04	6.65	5.97	.68	9,224
2001	5.17	4.41	.76	1.49	1.50	-.01	6.66	5.91	.75	9,652
2002	5.16	4.39	.76	1.49	1.48	.02	6.65	5.87	.78	10,112
2003	5.15	4.38	.77	1.49	1.46	.03	6.64	5.84	.80	10,595
2004	5.14	4.37	.78	1.49	1.47	.03	6.64	5.84	.80	11,104
2005	5.15	4.36	.79	1.49	1.47	.02	6.64	5.83	.81	11,641
2006	5.14	4.35	.79	1.49	1.47	.02	6.63	5.82	.81	12,211
2007	5.15	4.35	.80	1.49	1.48	.02	6.64	5.82	.82	12,815
2010	5.16	4.44	.72	1.50	1.48	.02	6.66	5.93	.73	14,733
2015	5.18	4.82	.36	1.51	1.53	-.02	6.69	6.35	.34	18,368
2020	5.19	5.36	-.17	1.52	1.60	-.08	6.71	6.96	-.25	22,668
2025	5.19	5.78	-.59	1.54	1.68	-.14	6.73	7.46	-.73	27,903
2030	5.19	6.00	-.81	1.54	1.72	-.18	6.74	7.72	-.98	34,654
2035	5.18	5.96	-.78	1.55	1.75	-.20	6.72	7.71	-.99	43,408
2040	5.15	5.77	-.62	1.54	1.75	-.21	6.70	7.53	-.83	54,498
2045	5.13	5.61	-.48	1.54	1.76	-.23	6.67	7.37	-.71	68,288
2050	5.11	5.51	-.40	1.53	1.78	-.25	6.64	7.29	-.65	85,457
2055	5.09	5.47	-.38	1.53	1.80	-.28	6.62	7.28	-.66	107,006
2060	5.07	5.43	-.36	1.53	1.84	-.32	6.60	7.27	-.67	134,204
2065	5.05	5.35	-.30	1.52	1.89	-.37	6.57	7.24	-.67	168,596
2070	5.02	5.28	-.26	1.51	1.94	-.43	6.54	7.23	-.69	211,691
2075	5.00	5.25	-.25	1.51	2.03	-.52	6.51	7.28	-.77	265,398

Table III.C1.—Estimated OASDI and HI Income Excluding Interest, Outgo, and Balance as a Percentage of GDP by Alternative, Calendar Years 1998-2075 (Cont.)

	Percentage of GDP									
	OASDI			HI			Combined			GDP in dollars (billions)
Calendar year	Income[1]	Outgo	Balance	Income[1]	Outgo	Balance	Income[1]	Outgo	Balance	
Low Cost (Cont.):										
Summarized rates: [2]										
25-year: 1998-2022. .	5.56	4.85	0.72	1.57	1.58	-0.01	7.13	6.43	0.71	—
50-year: 1998-2047. .	5.41	5.21	.20	1.56	1.64	-.09	6.97	6.85	.11	—
75-year 1998-2072. .	5.34	5.24	.10	1.55	1.70	-.15	6.89	6.94	-.05	—
High Cost:										
1998	5.20	4.61	.60	1.50	1.73	-.23	6.70	6.33	.37	$8,341
1999	5.14	4.69	.45	1.49	1.73	-.24	6.63	6.42	.21	8,575
2000	5.08	4.61	.46	1.49	1.69	-.20	6.56	6.30	.26	9,250
2001	5.05	4.67	.39	1.49	1.68	-.19	6.55	6.35	.20	9,899
2002	5.04	4.94	.10	1.48	1.74	-.25	6.52	6.67	-.15	10,162
2003	4.98	4.92	.06	1.47	1.75	-.28	6.46	6.67	-.21	10,912
2004	4.97	4.93	.04	1.48	1.80	-.32	6.45	6.73	-.29	11,651
2005	4.98	4.98	.00	1.48	1.86	-.38	6.46	6.84	-.37	12,356
2006	4.97	5.02	-.06	1.48	1.92	-.43	6.45	6.94	-.49	13,091
2007	4.96	5.08	-.12	1.48	1.98	-.49	6.45	7.06	-.61	13,871
2010	4.95	5.30	-.35	1.48	2.17	-.68	6.44	7.47	-1.03	16,403
2015	4.94	5.83	-.89	1.49	2.60	-1.11	6.43	8.43	-2.00	21,437
2020	4.92	6.53	-1.62	1.50	3.16	-1.66	6.42	9.70	-3.28	27,708
2025	4.89	7.20	-2.31	1.51	3.92	-2.41	6.40	11.12	-4.72	35,481
2030	4.87	7.72	-2.85	1.52	4.69	-3.17	6.38	12.40	-6.02	45,482
2035	4.83	7.99	-3.16	1.52	5.29	-3.78	6.34	13.28	-6.94	58,467
2040	4.78	8.10	-3.32	1.51	5.68	-4.17	6.29	13.78	-7.49	74,885
2045	4.73	8.23	-3.50	1.50	5.86	-4.36	6.23	14.09	-7.86	95,323
2050	4.68	8.41	-3.73	1.50	5.88	-4.39	6.18	14.29	-8.11	120,853
2055	4.64	8.69	-4.05	1.49	5.90	-4.40	6.14	14.58	-8.45	152,648
2060	4.60	8.99	-4.38	1.49	5.96	-4.47	6.09	14.95	-8.85	192,451
2065	4.56	9.25	-4.68	1.49	6.06	-4.57	6.05	15.31	-9.26	242,499
2070	4.52	9.47	-4.95	1.48	6.17	-4.69	6.00	15.64	-9.64	305,418
2075	4.48	9.66	-5.18	1.47	6.29	-4.81	5.95	15.94	-10.00	384,206
Summarized rates: [2]										
25-year: 1998-2022. .	5.37	5.67	-.30	1.55	2.39	-.84	6.92	8.06	-1.14	—
50-year: 1998-2047. .	5.15	6.54	-1.39	1.54	3.61	-2.07	6.69	10.15	-3.46	—
75-year 1998-2072. .	5.03	7.04	-2.01	1.53	4.27	-2.75	6.56	11.31	-4.76	—

[1] Income excludes interest on the trust funds.

[2] Summarized rates are calculated on the present-value basis including the value of the trust funds on January 1, 1998 and the cost of reaching and maintaining a target trust fund level equal to 100 percent of annual expenditures by the end of the period.

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

The difference between trust fund operations expressed as percentages of taxable payroll and those expressed as percentages of GDP can be seen by analyzing the estimated ratios of OASDI taxable payroll to GDP, which are presented in table III.C2. HI taxable payroll is about 23 percent larger than the OASDI taxable payroll throughout the long-range period (see appendix A for a detailed description of the difference). The cost as a percentage of GDP is approximately equal to the cost as a percentage of taxable payroll multiplied by the ratio of taxable payroll to GDP.

Table III.C2.—Ratio of OASDI Taxable Payroll to GDP by Alternative, Calendar Years 1998-2075

Calendar year	Intermediate	Low Cost	High Cost
1998	0.409	0.409	0.408
1999	.408	.410	.406
2000	.406	.409	.401
2001	.404	.409	.399
2002	.403	.408	.398
2003	.401	.407	.393
2004	.400	.407	.392
2005	.399	.407	.392
2006	.398	.406	.391
2007	.397	.406	.390
2010	.396	.406	.388
2015	.394	.406	.384
2020	.390	.404	.378
2025	.386	.402	.373
2030	.382	.400	.368
2035	.379	.398	.362
2040	.375	.396	.357
2045	.371	.394	.352
2050	.368	.393	.347
2055	.364	.391	.342
2060	.361	.389	.337
2065	.357	.387	.332
2070	.354	.385	.328
2075	.351	.383	.323

Projections of GDP for the first several years were based on assumed quarterly changes in real GDP and the GDP implicit price deflator. Thereafter, projections of GDP were based on the projected increases in U.S. employment, labor productivity, and the GDP implicit price deflator. Productivity projections are consistent with assumed changes in the level of average earnings, the ratio of earnings to worker compensation, the ratio of worker compensation to GDP, and average hours worked per year (see section II.H).

Projections of taxable payroll, which are described in detail in section II.H, were based on the projected increases in covered employment and average taxable earnings. Therefore, the projected increases in taxable payroll differ from projected increases in GDP primarily to the extent that average taxable earnings are assumed to increase more slowly than is productivity and to the extent that OASDI program coverage of employment changes over time.

The long-range trend in the ratio of taxable payroll to GDP reflects the assumed trend in the ratio of wages to total employee compensation—i.e., wages plus fringe benefits. The ratio of wages to total employee compensation declined at average annual rates of 0.33 percent for the 40 years 1957-96 and 0.35, 0.64, 0.30, and 0.02 percent for the 10-year periods 1957-66, 1967-76, 1977-86, and 1987-96, respectively. Ultimate future annual rates of decline in the ratio of wages to employee compensation are assumed to be 0.1, 0.2, and 0.3 percent for alternatives I, II, and III, respectively. An additional factor that has made the overall ratio of taxable payroll to GDP decline in recent years is the decline in the ratio of taxable earnings to covered earnings, as a result the relatively greater increases in earnings for persons with earnings above the benefit and contribution base. This decline in the taxable ratio is assumed to continue at a slower pace through the end of this century.

Between 1983 and 2015, however, the tendency toward decreases in the ratio of taxable payroll to GDP, discussed above, is at least partially offset by the gradually expanding OASDI coverage of Federal civilian employment resulting from the 1983 amendments.

For the low cost alternative I, the ratio of taxable payroll to GDP is projected to be nearly constant through the year 2015, and then to decrease for the remainder of the long-range period. For the intermediate and high cost alternatives, the ratio of taxable payroll to GDP is projected to decrease essentially throughout the long-range period.

D. TEN YEAR HISTORY OF ACTUARIAL BALANCE ESTIMATES

This appendix chronicles the recent history of the primary measure of long-range actuarial status, namely the actuarial balance, as shown in the annual reports for 1988 and later. Actuarial balance is defined in detail in section II.F, Actuarial Estimates. Conceptually, the two basic components of actuarial balance are the summarized income rate and the summarized cost rate. Both rates are expressed as percentages of taxable payroll. For any given period, the actuarial balance is the difference between the present value of tax income for the period, and the present value of the outgo for the period, each divided by the present value of taxable payroll for all years in the period. Also included in the calculation of the actuarial balance are:

- The amount of the trust fund balances on hand at the beginning of the valuation period, and
- The present value of a target trust fund balance equal to 100 percent of the amount of annual outgo to be reached and maintained by the end of the valuation period, as shown in the reports for 1991 and later.

It should be noted that the current method of calculating the actuarial balance based on present values, though used prior to the 1973 Annual Report, was not used for the annual reports of 1973-87. Instead, a simpler method that approximates the results of the present-value approach, called the "average-cost" method, was used during that period. Under the average-cost method, the sum of the annual cost rates (which are expressed as percentages of taxable payroll) over the 75-year projection period was divided by the total number of years, 75, to obtain the average cost rate per year. The average income rate was similarly calculated, and the difference between the average income rate and the average cost rate was called the actuarial balance.

In 1973, when the average-cost method was first used, the long-range financing of the program was more nearly on a pay-as-you-go basis. Also, based on the long-range economic and demographic assumptions then being used, the annual rate of growth in taxable payroll was about the same as the annual rate at which the trust funds earned interest. In either situation (i.e., pay-as-you-go financing, where the annual income rate is the same as the annual cost rate, or an annual rate of growth in taxable payroll equal to the annual interest rate), the average-cost method produces the same result as the present-value method. However, by 1988, neither of these situations still existed.

As a result of legislation enacted in 1977 and in 1983, substantial increases in the trust funds were estimated to occur well into the next century, so that the program was partially "advance funded," rather than being funded on a pay-as-you-go basis. Also, because of declines in long-range fertility rates and average real-wage growth that were assumed in the annual reports over the period 1973-87, the annual rate of growth in taxable earnings assumed for the long range became significantly lower than the assumed interest rate. Therefore, during the period 1973-87, the results of the average-cost method and the present-value method began to diverge, and by 1988 they were quite different. While the average-cost method still accounted for most of the effects of the assumed interest rate, it no longer accounted for all of the interest effects. The present-value method, of course, does account for the full effect of the assumed interest rates. So, in 1988, the present-value method of calculating the actuarial balance was resumed.

A positive actuarial balance indicates that estimated income is more than sufficient to meet estimated trust fund obligations for the period as a whole. A negative actuarial balance indicates that estimated income is insufficient to meet estimated trust fund obligations for the entire period. An actuarial balance of zero indicates that the estimated income exactly matches estimated trust fund obligations for the period.

Table III.D1 shows the estimated OASDI actuarial balances, as well as the summarized income and cost rates, for the last 10 annual reports (1988-97), along with the estimates for the current report. The values shown are based on the intermediate alternative II assumptions, or alternative II-B for years prior to 1991.

Table III.D1.—Long-Range Actuarial Balances for the OASDI Program as Shown for the Intermediate Assumptions [1] in the Trustees' Reports Issued in Years 1988-98
[As a percentage of taxable payroll]

Year of report	Summarized income rate	Summarized cost rate	Actuarial balance	Change from previous year
1988	12.94	13.52	-0.58	+0.04
1989	13.02	13.72	-.70	-.13
1990	13.04	13.95	-.91	-.21
1991	13.11	14.19	-1.08	-.17
1992	13.16	14.63	-1.46	-.38
1993	13.21	14.67	-1.46	-.00
1994	13.24	15.37	-2.13	-.66
1995	13.27	15.44	-2.17	-.04
1996	13.33	15.52	-2.19	-.02
1997	13.37	15.60	-2.23	-.03
1998	13.45	15.51	-2.19	+.04

[1] Values shown are based on the intermediate alternative II assumptions for 1991-98, and on the intermediate alternative II-B assumptions for 1988-90.

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

Various changes in assumptions and methods for the 1988 report had roughly offsetting effects on the actuarial balance. In 1989 and 1990, changes in economic assumptions accounted for most of the changes in the estimated actuarial balance. In 1991, the effect of legislation, changes in economic assumptions, and the introduction of the cost of reaching and maintaining an ending trust fund target combined to produce the change in actuarial balance. In 1992, changes in disability assumptions and the method for projecting average benefit levels accounted for most of the change in the actuarial balance. In 1993, numerous small changes in assumptions and methods had offsetting effects on the actuarial balance. In 1994, changes in the real-wage assumption, disability rates, and the earnings sample used for projecting average benefit levels accounted for most of the change in the actuarial balance. In 1995, numerous small changes had largely offsetting effects on the actuarial balance, including a substantial reallocation of the payroll tax rate, which reduced the OASI actuarial balance, but increased the DI actuarial balance. In 1996, a change in the method of projecting dually entitled beneficiaries produced a large increase in the actuarial balance, which almost totally offset decreases produced by changes in the valuation period and in the economic and demographic assumptions. Various changes in assumptions and methods for the 1997 report had roughly offsetting effects on the actuarial balance. Changes affecting the actuarial balance shown for the 1998 report are described in section II.F2g.

E. ACTUARIAL ANALYSIS OF BENEFIT DISBURSEMENTS FROM THE FEDERAL OLD-AGE AND SURVIVORS INSURANCE TRUST FUND WITH RESPECT TO DISABLED BENEFICIARIES

(Required by section 201(c) of the Social Security Act)

Effective January 1957, monthly benefits have been payable from the OASI Trust Fund to disabled children aged 18 and over of retired and deceased workers in those cases for which the disability began before age 18. The age before which disability is required to have begun was subsequently changed to age 22. Effective February 1968, reduced monthly benefits have been payable from this trust fund to disabled widows and widowers at ages 50 and above. Effective January 1991, the requirements for the disability of the widow or widower were made less restrictive.

On December 31, 1997, about 789,000 persons were receiving monthly benefits from the OASI Trust Fund because of their disabilities or the disabilities of children. This total includes 41,000 mothers and fathers (wives or husbands under age 65 of retired-worker beneficiaries and widows or widowers of deceased insured workers) who met all other qualifying requirements and were receiving unreduced benefits solely because they had disabled-child beneficiaries (or disabled children aged 16 or 17) in their care. Benefits paid from this trust fund to the persons described above totaled $4,646 million in calendar year 1997. Table III.E1 shows these and similar figures for selected calendar years during 1960-97, and estimated experience for 1998-2007 based on the intermediate set of assumptions.

Table III.E1.—Benefit Disbursements From the OASI Trust Fund With Respect to Disabled Beneficiaries, Selected Calendar Years 1960-97 and Estimated Future Disbursements During 1998-2007 Based on Intermediate Assumptions

[Beneficiaries in thousands; benefit payments in millions]

	Disabled beneficiaries, end of year			Amount of benefit payments [1]		
Calendar year	Total	Children [2]	Widows-widowers [3]	Total	Children [2]	Widows-widowers [4]
Historical data:						
1960	117	117	—	$59	$59	—
1965	214	214	—	134	134	—
1970	316	281	36	301	260	$41
1975	435	376	58	664	560	104
1980	519	460	59	1,223	1,097	126
1985	594	547	47	2,072	1,885	187
1986	614	565	49	2,219	2,022	197
1987	629	580	49	2,331	2,128	203
1988	640	591	49	2,518	2,307	211
1989	651	602	49	2,680	2,459	221
1990	662	613	49	2,882	2,649	233
1991	687	627	61	3,179	2,875	304
1992	715	643	72	3,459	3,079	380
1993	740	659	81	3,752	3,296	456
1994	758	671	86	3,973	3,481	492
1995	772	681	91	4,202	3,672	531
1996	782	687	94	4,410	3,846	565
1997	789	693	96	4,646	4,050	596
Estimates:						
1998	805	705	101	4,829	4,203	626
1999	816	717	100	4,991	4,356	636
2000	827	729	98	5,217	4,572	646
2001	836	740	96	5,454	4,801	653
2002	845	751	94	5,700	5,044	656
2003	853	763	91	5,963	5,305	659
2004	862	773	88	6,254	5,586	668
2005	870	784	86	6,570	5,888	681
2006	877	794	83	6,895	6,213	683
2007	882	804	78	7,236	6,560	676

[1] Beginning in 1966, includes payments for vocational rehabilitation services.

[2] Also includes certain mothers and fathers (see text).

[3] In 1984 and later years, only disabled widows and widowers aged 50-59 are included because disabled widows and widowers aged 60-64 would be eligible for the same benefit as a nondisabled aged widow or widower; therefore, they are not receiving benefits solely because of a disability.

[4] In 1983 and prior years, reflects the offsetting effect of lower benefits payable to disabled widows and widowers who continue to receive benefits after attaining age 60 (62, for disabled widowers, prior to 1973) as compared to the higher nondisabled widow's and widower's benefits that would otherwise be payable. In 1984 and later years, only benefit payments to disabled widows and widowers aged 50-59 are included (see footnote 3).

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

Total benefit payments from the OASI Trust Fund with respect to disabled beneficiaries are estimated to increase from $4,829 million in calendar year 1998 to $7,236 million in calendar year 2007, based on the intermediate assumptions.

In calendar year 1997, benefit payments (including expenditures for vocational rehabilitation services) with respect to disabled persons from the OASI Trust Fund and from the DI Trust Fund (including payments from the latter fund to all children and spouses of disabled-worker beneficiaries) totaled $50,358 million. Of this amount, $4,646 million or 9.2 percent represented payments from the OASI Trust Fund. These and similar figures for selected calendar years during 1960-97 and estimates for calendar years 1998-2007 are presented in table III.E2.

Table III.E2.—Benefit Disbursements Under the OASDI Program With Respect to Disabled Beneficiaries, by Trust Fund, Selected Calendar Years 1960-97, and Estimated Future Disbursements During 1998-2007 Based on Intermediate Assumptions

[Amounts in millions]

Calendar year	Total [1]	DI Trust Fund [2]	OASI Trust Fund: Amount [3]	OASI Trust Fund: Percentage of total
Historical data:				
1960	$627	$568	$59	9.4
1965	1,707	1,573	134	7.9
1970	3,386	3,085	301	8.9
1975	9,169	8,505	664	7.2
1980	16,738	15,515	1,223	7.3
1985	20,908	18,836	2,072	9.9
1986	22,075	19,856	2,219	10.1
1987	22,858	20,527	2,331	10.2
1988	24,226	21,708	2,518	10.4
1989	25,591	22,911	2,680	10.5
1990	27,717	24,835	2,882	10.4
1991	30,877	27,698	3,179	10.3
1992	34,583	31,124	3,459	10.0
1993	38,378	34,626	3,752	9.8
1994	41,730	37,757	3,973	9.5
1995	45,140	40,937	4,202	9.3
1996	48,615	44,205	4,410	9.1
1997	50,358	45,712	4,646	9.2
Estimates:				
1998	54,106	49,277	4,829	8.9
1999	57,082	52,091	4,991	8.7
2000	60,524	55,307	5,217	8.6
2001	64,718	59,264	5,454	8.4
2002	69,780	64,080	5,700	8.2
2003	75,236	69,273	5,963	7.9
2004	81,523	75,269	6,254	7.7
2005	88,487	81,918	6,570	7.4
2006	96,084	89,188	6,895	7.2
2007	104,423	97,187	7,236	6.9

[1] Beginning in 1966, includes payments for vocational rehabilitation services.

[2] Benefit payments to disabled workers and their children and spouses.

[3] Benefit payments to disabled children aged 18 and over, to certain mothers and fathers (see text), and to disabled widows and widowers (see footnote 4, table III.E1).

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

F. FEDERAL REGISTER NOTICE

Social Security Administration

Office of the Commissioner

1998 Cost-of-Living Increase and Other Determinations

AGENCY: Office of the Commissioner, Social Security Administration

ACTION: Notice.

SUMMARY: The Commissioner has determined—

(1) A 2.1 percent cost-of-living increase in Social Security benefits under title II of the Social Security Act (the Act), effective for December 1997;

(2) An increase in the Federal Supplemental Security Income (SSI) monthly benefit amounts under title XVI of the Act for 1998 to $494 for an eligible individual, $741 for an eligible individual with an eligible spouse, and $247 for an essential person;

(3) The national average wage index for 1996 to be $25,913.90;

(4) The Old-Age, Survivors, and Disability Insurance (OASDI) contribution and benefit base to be $68,400 for remuneration paid in 1998 and self-employment income earned in taxable years beginning in 1998;

(5) For beneficiaries under age 65, the monthly exempt amount under the Social Security retirement earnings test for taxable years ending in calendar year 1998 to be $760;

(6) The dollar amounts ("bend points") used in the benefit formula for workers who become eligible for benefits in 1998 and in the formula for computing maximum family benefits;

(7) The amount of earnings a person must have to be credited with a quarter of coverage in 1998 to be $700;

(8) The "old-law" contribution and benefit base to be $50,700 for 1998;

(9) The monthly amount of substantial gainful activity applicable to statutorily blind individuals in 1998 to be $1,050;

(10) The domestic worker coverage threshold to be $1,100 for 1998; and

(11) The OASDI fund ratio to be 152.9 percent for 1997.

FOR FURTHER INFORMATION CONTACT: Jeffrey L. Kunkel, Office of the Chief Actuary, Social Security Administration, 6401 Security Boulevard, Baltimore, MD 21235, (410) 965-3013. For information on eligibility or claiming benefits, call 1-800-772-1213. A summary of the information in this announcement is available in a recorded message by telephoning (410) 965-3053. Information relating to this announcement is also available on the Internet. The address is http://www.ssa.gov/OACT/COLA/Intro.html.

SUPPLEMENTARY INFORMATION: The Commissioner is required by the Act to publish within 45 days after the close of the third calendar quarter of 1997 the benefit increase percentage and the revised table of "special minimum" benefits (section 215(i)(2)(D)). Also, the Commissioner is required to publish on or before November 1 the national average wage index for 1996 (section 215(a)(1)(D)), the OASDI fund ratio for 1997 (section 215(i)(2)(C)(ii)), the OASDI contribution and benefit base for 1998 (section 230(a)), the amount of earnings required to be credited with a quarter of coverage in 1998 (section 213(d)(2)), the monthly exempt amounts under the Social Security retirement earnings test for 1998 (section 203(f)(8)(A)), the formula for computing a primary insurance amount for workers who first become eligible for benefits or die in 1998 (section 215(a)(1)(D)), and the formula for computing the maximum amount of benefits payable to the family of a worker who first becomes eligible for old-age benefits or dies in 1998 (section 203(a)(2)(C)).

Cost-of-Living Increases

General. The cost-of-living increase is 2.1 percent for benefits under titles II and XVI of the Act.

Under title II, OASDI benefits will increase by 2.1 percent beginning with the December 1997 benefits, which are payable in January 1998. This increase is based on the authority contained in section 215(i) of the Act (42 U.S.C. 415(i)).

Under title XVI, Federal SSI payment levels will also increase by 2.1 percent effective for payments made for the month of January 1998 but paid on December 31, 1997. This is based on the authority contained in section 1617 of the Act (42 U.S.C. 1382f). The percentage increase effective January 1998 is the same as the title II percentage increase and the annual payment amount is rounded, when not a multiple of $12, to the next lower multiple of $12.

Automatic Benefit Increase Computation.

Under section 215(i) of the Act, the third calendar quarter of 1997 is a cost-of-living computation quarter for all the purposes of the Act. The Commissioner is, therefore, required to increase benefits, effective with December 1997, for individuals entitled under section 227 or 228 of the Act, to increase primary insurance amounts of all other individuals entitled under title II of the Act, and to increase maximum benefits payable to a family. For December 1997, the benefit increase is the percentage increase in the Consumer Price Index for Urban Wage Earners and Clerical Workers from the third quarter of 1996 through the third quarter of 1997.

Section 215(i)(1) of the Act provides that the Consumer Price Index for a cost-of-living computation quarter shall be the arithmetic mean of this index for the 3 months in that quarter. The arithmetic mean is rounded, if necessary, to the nearest 0.1. The Department of Labor's Consumer Price Index for Urban Wage Earners and Clerical Workers for each month in the quarter ending September 30, 1996, is: for July 1996, 154.3; for August 1996, 154.5; and for September 1996, 155.1. The arithmetic mean for this calendar quarter is 154.6. The corresponding Consumer Price Index for each month in the quarter ending September 30, 1997, is: for July 1997, 157.5; for August 1997, 157.8; and for September 1997, 158.3. The arithmetic mean for this calendar quarter is 157.9. Thus, because the Consumer Price Index for the calendar quarter ending September 30, 1997, exceeds that for the calendar quarter ending September 30, 1996 by 2.1 percent, a cost-of-living benefit increase of 2.1 percent is effective for benefits under title II of the Act beginning December 1997.

Title II Benefit Amounts . In accordance with section 215(i) of the Act, in the case of insured workers and family members for whom eligibility for benefits (i.e., the worker's attainment of age 62, or disability or death before age 62) occurred before 1998, benefits will increase by 2.1 percent beginning with benefits for December 1997 which are payable in January 1998. In the case of first eligibility after 1997, the 2.1 percent increase will not apply.

For eligibility after 1978, benefits are generally determined by a benefit formula provided by the Social Security Amendments of 1977 (Pub. L. 95-216), as described later in this notice.

For eligibility before 1979, benefits are determined by means of a benefit table. A copy of this table may be obtained by writing to: Social Security Administration, Office of Public Inquiries, 4100 Annex, Baltimore, MD 21235. The table is also available on the Internet at address http://www.ssa.gov/OACT/ProgData/tableForm.html.

Section 215(i)(2)(D) of the Act requires that, when the Commissioner determines an automatic increase in Social Security benefits, the Commissioner shall publish in the Federal Register a revision of the range of the primary insurance amounts and corresponding maximum family benefits based on the dollar amount and other provisions described in section 215(a)(1)(C)(i). These benefits are referred to as "special minimum" benefits and are payable to certain individuals with long periods of relatively low earnings. To qualify for such benefits, an individual must have at least 11 "years of coverage." To earn a year of coverage for purposes of the special minimum, a person must earn at least a certain proportion (25 percent for years before 1991, and 15 percent for years after 1990) of the "old-law" contribution and benefit base. In accordance with section 215(a)(1)(C)(i), the table below shows the revised range of primary insurance amounts and corresponding maximum family benefit amounts after the 2.1 percent benefit increase.

Special Minimum Primary Insurance Amounts and Maximum Family Benefits

Primary insurance amount payable for Dec. 1996	Number of years of coverage	Primary insurance amount payable for Dec. 1997	Family benefit payable for Dec. 1997
$27.10	11	$27.60	$41.70
54.30	12	55.40	83.80
82.00	13	83.70	125.80
109.20	14	111.40	167.70
136.60	15	139.40	209.30
164.10	16	167.50	251.80
191.50	17	195.50	293.90
219.00	18	223.50	335.80
246.40	19	251.50	377.80
273.70	20	279.40	419.70
301.40	21	307.70	462.00
328.60	22	335.50	503.90
356.30	23	363.70	546.50
383.80	24	391.80	588.30
411.10	25	419.70	629.90
438.80	26	448.00	672.70
466.20	27	475.90	714.50
493.50	28	503.80	756.30
520.80	29	531.70	798.50
548.30	30	559.80	840.20

Section 227 of the Act provides flat-rate benefits to a worker who became age 72 before 1969 and was not insured under the usual requirements, and to his or her spouse or surviving spouse. Section 228 of the Act provides similar benefits at age 72 for certain uninsured persons. The current monthly benefit amount of $199.00 for an individual under sections 227 and 228 of the Act is increased by 2.1 percent to obtain the new amount of $203.10. The current monthly benefit amount of $99.50 for a spouse under section 227 is increased by 2.1 percent to $101.50.

Title XVI Benefit Amounts. In accordance with section 1617 of the Act, Federal SSI benefit amounts for the aged, blind, and disabled are increased by 2.1 percent effective January 1998. Therefore, the yearly Federal SSI benefit amounts of $5,808 for an eligible individual, $8,712 for an eligible individual with an eligible spouse, and $2,904 for an essential person, which became effective January 1997, are increased, effective January 1998, to $5,928,

$8,892, and $2,964, respectively, after rounding. The corresponding monthly amounts for 1998 are determined by dividing the yearly amounts by 12, giving $494, $741, and $247, respectively. The monthly amount is reduced by subtracting monthly countable income. In the case of an eligible individual with an eligible spouse, the amount payable is further divided equally between the two spouses.

Fee for Services Performed as a Representative Payee. Sections 205(j)(4)(A)(i) and 1631(a)(2)(D)(i) of the Act permit a qualified organization to collect from an individual a monthly fee for expenses incurred in providing services performed as such individual's representative payee. Currently the fee is limited to the lesser of (1) 10 percent of the monthly benefit involved, or (2) $26 per month ($51 per month in any case in which the individual is entitled to disability benefits and the Commissioner has determined that payment to the representative payee would serve the interest of the individual because the individual has an alcoholism or drug addiction condition and is incapable of managing such benefits). The dollar fee limits are subject to increase by the automatic cost-of-living increase, with the resulting amounts rounded to the nearest whole dollar amount. The current amounts are thus increased by 2.1 percent to $27 and $52 for 1998.

National Average Wage Index for 1996

General. Under various provisions of the Act, several amounts are scheduled to increase automatically for 1998 based on the annual increase in the national average wage index. The amounts are (1) the OASDI contribution and benefit base, (2) the retirement test exempt amount for beneficiaries under age 65, (3) the dollar amounts, or "bend points," in the primary insurance amount and maximum family benefit formulas, (4) the amount of earnings required for a worker to be credited with a quarter of coverage, (5) the "old-law" contribution and benefit base (as determined under section 230 of the Act as in effect before the 1977 amendments), and (6) the substantial gainful activity amount applicable to statutorily blind individuals. Also, section 3121(x) of the Internal Revenue Code requires that the domestic employee coverage threshold be based on changes in the national average wage index.

Computation. The determination of the national average wage index for calendar year 1996 is based on the 1995 national average wage index of $24,705.66 announced in the Federal Register on October 25, 1996 (61 FR 55346), along with the percentage increase in average wages from 1995 to 1996 measured by annual wage data tabulated by the Social Security Administration (SSA). The wage data tabulated by SSA include contributions to deferred compensation plans, as required by section 209(k) of the Act. The average amounts of wages calculated directly from these data were $23,700.11 and $24,859.17 for 1995 and 1996, respectively. To determine the national average wage index for 1996 at a level that is consistent with the national average wage indexing series for 1951 through 1977 (published December 29, 1978, at 43 FR 61016), the 1995 national average wage index of $24,705.66 is multiplied by the percentage increase in average wages from 1995 to 1996 (based on SSA-tabulated wage data) as follows (with the result rounded to the nearest cent):

Amount. The national average wage index for 1996 is $24,705.66 times $24,859.17 divided by $23,700.11, which equals $25,913.90. Therefore, the national average wage index for calendar year 1996 is determined to be $25,913.90.

OASDI Contribution and Benefit Base

General. The OASDI contribution and benefit base is $68,400 for remuneration paid in 1998 and self-employment income earned in taxable years beginning in 1998.

The OASDI contribution and benefit base serves two purposes:

(a) It is the maximum annual amount of earnings on which OASDI taxes are paid. The OASDI tax rate for remuneration paid in 1998 is set by statute at 6.2 percent for employees and employers, each. The OASDI tax rate for self-employment income earned in taxable years beginning in 1998 is 12.4 percent. (The Hospital Insurance tax is due on remuneration, without limitation, paid in 1998, at the rate of 1.45 percent for employees and employers, each, and on self-employment income earned in taxable years beginning in 1998, at the rate of 2.9 percent.)

(b) It is the maximum annual amount used in determining a person's OASDI benefits.

Computation. Section 230(b) of the Act provides the formula used to determine the OASDI contribution and benefit base. Under the formula, the base for 1998 shall be equal to the larger of (1) the 1994 base of $60,600 multiplied by the ratio of the national average wage index for 1996 to that for 1992, or (2) the current base ($65,400). If the amount so determined is not a multiple of $300, it shall be rounded to the nearest multiple of $300.

Amount. The ratio of the national average wage index for 1996, $25,913.90 as determined above, compared to that for 1992, $22,935.42, is 1.1298638. Multiplying the 1994 OASDI contribution and benefit base amount of $60,600 by the ratio of 1.1298638 produces the amount of $68,469.75 which must then be rounded to $68,400. Because $68,400 exceeds the current base amount of $65,400, the OASDI contribution and benefit base is determined to be $68,400 for 1998.

Retirement Earnings Test Exempt Amounts

General. Social Security benefits are withheld when a beneficiary under age 70 has earnings in excess of the retirement earnings test exempt amount. Since 1978, higher exempt amounts have applied to beneficiaries aged 65 through 69 compared to those under age 65. Formulas for determining the monthly exempt amounts are provided in section 203(f)(8)(B) of the Act, as amended by section 102 of the "Senior Citizens' Right to Work Act of 1996," title I of Pub. L. 104-121. This amendment set the annual exempt amount for beneficiaries aged 65 through 69 to $12,500 for 1996, $13,500 for 1997, $14,500 for 1998, $15,500 for 1999, $17,000 for 2000, $25,000 for 2001, and $30,000 for 2002. The corresponding monthly exempt amounts are exactly one-twelfth of the annual amounts. After 2002, the monthly exempt amount for this group of beneficiaries will increase under the applicable formula.

For beneficiaries aged 65 through 69, $1 in benefits is withheld for every $3 of earnings in excess of the annual exempt amount. For beneficiaries under age 65, $1 in benefits is withheld for every $2 of earnings in excess of the annual exempt amount.

Computation. Under the formula applicable to beneficiaries under age 65, the monthly exempt amount for 1998 shall be the larger of (1) the 1994 monthly exempt amount multiplied by the ratio of the national average wage index for 1996 to that for 1992, or (2) the 1997 monthly exempt amount ($720). If the amount so determined is not a multiple of $10, it shall be rounded to the nearest multiple of $10.

Exempt Amount for Beneficiaries Under Age 65. The ratio of the national average wage index for 1996, $25,913.90, compared to that for 1992, $22,935.42, is 1.1298638. Multiplying the 1994 retirement earnings test monthly exempt amount of $670 by the ratio 1.1298638 produces the amount of $757.01. This must then be rounded to $760. Because $760 is larger than the corresponding current exempt amount of $720, the retirement earnings test monthly exempt amount for beneficiaries under age 65 is thus determined to be $760 for 1998. The corresponding retirement earnings test annual exempt amount for these beneficiaries is $9,120.

Computing Benefits After 1978

General. The Social Security Amendments of 1977 provided a method for computing benefits which generally applies when a worker first becomes eligible for benefits after 1978. This method uses the worker's "average indexed monthly earnings" to compute the primary insurance amount. The computation formula is adjusted automatically each year to reflect changes in general wage levels, as measured by the national average wage index.

A worker's earnings are adjusted, or "indexed," to reflect the change in general wage levels that occurred during the worker's years of employment. Such indexation ensures that a worker's future benefits reflect the general rise in the standard of living that occurs during his or her working lifetime. A certain number of years of earnings are needed to compute the average indexed monthly earnings. After the number of years is determined, those years with the highest indexed earnings are chosen, the indexed earnings are summed, and the total amount is divided by the total number of months in those years. The resulting average amount is then rounded down to the next lower dollar amount. The result is the average indexed monthly earnings.

For example, to compute the average indexed monthly earnings for a worker attaining age 62, becoming disabled before age 62, or dying before attaining age 62, in 1998, the national average wage index for 1996, $25,913.90, is divided by the national average wage index for each year prior to 1996 in which the worker had earnings. The actual wages and self-employment income, as defined in section 211(b) of the Act and credited for each year, is multiplied by the corresponding ratio to obtain the worker's indexed earnings for each year before 1996. Any earnings in 1996 or later are considered at face value, without indexing. The average indexed monthly earnings is then computed and used to determine the worker's primary insurance amount for 1998.

Computing the Primary Insurance Amount. The primary insurance amount is the sum of three separate percentages of portions of the average indexed monthly earnings. In 1979 (the first year the formula was in effect), these portions were the first $180, the amount between $180 and $1,085, and the amount over $1,085. The dollar amounts in the formula which govern the portions of the average indexed monthly earnings are frequently referred to as the "bend points" of the formula. Thus, the bend points for 1979 were $180 and $1,085.

The bend points for 1998 are obtained by multiplying the corresponding 1979 bend-point amounts by the ratio between the national average wage index for 1996, $25,913.90, and for 1977, $9,779.44. These results are then rounded to the nearest dollar. For 1998, the ratio is 2.6498348. Multiplying the 1979 amounts of $180 and $1,085 by 2.6498348 produces the amounts of $476.97 and $2,875.07. These must then be rounded to $477 and $2,875. Accordingly, the portions of the average indexed monthly earnings to be used in 1998 are determined to be the first $477, the amount between $477 and $2,875, and the amount over $2,875.

Consequently, for individuals who first become eligible for old-age insurance benefits or disability insurance benefits in 1998, or who die in 1998 before becoming eligible for benefits, their primary insurance amount will be the sum of:

(a) 90 percent of the first $477 of their average indexed monthly earnings, plus

(b) 32 percent of their average indexed monthly earnings over $477 and through $2,875, plus

(c) 15 percent of their average indexed monthly earnings over $2,875.

This amount is then rounded to the next lower multiple of $.10 if it is not already a multiple of $.10. This formula and the rounding adjustment described above are contained in section 215(a) of the Act (42 U.S.C. 415(a)).

Maximum Benefits Payable to a Family

General. The 1977 amendments continued the long established policy of limiting the total monthly benefits that a worker's family may receive based on his or her primary insurance amount. Those amendments also continued the then existing relationship between maximum family benefits and primary insurance amounts but did change the method of computing the maximum amount of benefits that may be paid to a worker's family. The Social Security Disability Amendments of 1980 (Pub. L. 96- 265) established a formula for computing the maximum benefits payable to the family of a disabled worker. This formula is applied to the family benefits of workers who first become entitled to disability insurance benefits after June 30, 1980, and who first become eligible for these benefits after 1978. For disabled workers initially entitled to disability benefits before July 1980, or whose disability began before 1979, the family maximum payable is computed the same as the old-age and survivor family maximum.

Computing the Old-Age and Survivor Family Maximum. The formula used to compute the family maximum is similar to that used to compute the primary insurance amount. It involves computing the sum of four separate percentages of portions of the worker's primary insurance amount. In 1979, these portions were the first $230, the amount between $230 and $332, the amount between $332 and $433, and the amount over $433. The dollar amounts in the formula which govern the portions of the primary insurance amount are frequently referred to as the "bend points" of the family-maximum formula. Thus, the bend points for 1979 were $230, $332, and $433.

The bend points for 1998 are obtained by multiplying the corresponding 1979 bend-point amounts by the ratio between the national average wage index for 1996, $25,913.90, and the average for 1977, $9,779.44. This amount is then rounded to the nearest dollar. For 1998, the ratio is 2.6498348. Multiplying the amounts of $230, $332, and $433 by 2.6498348 produces the amounts of $609.46, $879.75, and $1,147.38. These amounts are then rounded to $609, $880, and $1,147. Accordingly, the portions of the primary insurance amounts to be used in 1998 are determined to be the first $609, the amount between $609 and $880, the amount between $880 and $1,147, and the amount over $1,147.

Consequently, for the family of a worker who becomes age 62 or dies in 1998 before age 62, the total amount of benefits payable to them will be computed so that it does not exceed:

(a) 150 percent of the first $609 of the worker's primary insurance amount, plus

(b) 272 percent of the worker's primary insurance amount over $609 through $880, plus

(c) 134 percent of the worker's primary insurance amount over $880 through $1,147, plus

(d) 175 percent of the worker's primary insurance amount over $1,147.

This amount is then rounded to the next lower multiple of $.10 if it is not already a multiple of $.10. This formula and the rounding adjustment described above are contained in section 203(a) of the Act (42 U.S.C. 403(a)).

Quarter of Coverage Amount

General. The 1998 amount of earnings required for a quarter of coverage is $700. A quarter of coverage is the basic unit for determining whether a worker is insured under the Social Security program. For years before 1978, an individual generally was credited with a quarter of coverage for each quarter in which wages of $50 or more were paid, or an individual was credited with 4 quarters of coverage for every taxable year in which $400 or more of self-employment income was earned. Beginning in 1978, wages generally are no longer reported on a quarterly basis; instead, annual reports are made. With the change to annual reporting, section 352(b) of the Social Security Amendments of 1977 amended section 213(d) of the Act to provide that a quarter of coverage would be credited for each $250 of an individual's total wages and self-employment income for calendar year 1978 (up to a maximum of 4 quarters of coverage for the year).

Computation. Under the prescribed formula, the quarter of coverage amount for 1998 shall be equal to the larger of (1) the 1978 amount of $250 multiplied by the ratio of the national average wage index for 1996 to that for 1976, or (2) the current amount of $670. Section 213(d) further provides that if the amount so determined is not a multiple of $10, it shall be rounded to the nearest multiple of $10.

Quarter of Coverage Amount. The ratio of the national average wage index for 1996, $25,913.90, compared to that for 1976, $9,226.48, is 2.8086443. Multiplying the 1978 quarter of coverage amount of $250 by the ratio of 2.8086443 produces the amount of $702.16, which must then be rounded to $700. Because $700 exceeds the current amount of $670, the quarter of coverage amount is determined to be $700 for 1998.

"Old-Law" Contribution and Benefit Base

General. The 1998 "old-law" contribution and benefit base is $50,700. This is the base that would have been effective under the Act without the enactment of the 1977 amendments. The base is computed under section 230(b) of the Act as it read prior to the 1977 amendments.

The "old-law" contribution and benefit base is used by:

(a) the Railroad Retirement program to determine certain tax liabilities and tier II benefits payable under that program to supplement the tier I payments which correspond to basic Social Security benefits,

(b) the Pension Benefit Guaranty Corporation to determine the maximum amount of pension guaranteed under the Employee Retirement Income Security Act (as stated in section 230(d) of the Social Security Act),

(c) Social Security to determine a year of coverage in computing the special minimum benefit, as described earlier, and

(d) Social Security to determine a year of coverage (acquired whenever earnings equal or exceed 25 percent of the "old-law" base for this purpose only) in computing benefits for persons who are also eligible to receive pensions based on employment not covered under section 210 of the Act.

Computation. The base is computed using the automatic adjustment formula in section 230(b) of the Act as it read prior to the enactment of the 1977 amendments, but with the revised indexing formula introduced by section 321(g) of the "Social Security Independence and Program Improvements Act of 1994." Under the formula, the "old-law" contribution and benefit base shall be the larger of (1) the 1994 "old-law" base ($45,000) multiplied by the ratio of the national average wage index for 1996 to that for 1992, or (2) the current "old-law" base ($48,600). If the amount so determined is not a multiple of $300, it shall be rounded to the nearest multiple of $300.

Amount. The ratio of the national average wage index for 1996, $25,913.90, compared to that for 1992, $22,935.42, is 1.1298638. Multiplying the 1994 "old-law" contribution and benefit base amount of $45,000 by the ratio of 1.1298638 produces the amount of $50,843.87 which must then be rounded to $50,700. Because $50,700 exceeds the current amount of $48,600, the "old-law" contribution and benefit base is determined to be $50,700 for 1998.

Substantial Gainful Activity Amount for Blind Individuals

General. A finding of disability under titles II and XVI of the Act requires that a person be unable to engage in substantial gainful activity (SGA). Under current regulations, a person who is not statutorily blind and who is earning more than $500 a month (net of impairment-related work expenses) is ordinarily considered to be engaging in SGA. The Social Security Amendments of 1977 established a higher SGA amount for statutorily blind individuals by setting their monthly SGA amount to the monthly exempt amount for persons aged 65 through 69 under the retirement earnings test provisions of the Act. Section 102 of Pub. L. 104-121 increased the earnings test exempt amount for persons aged 65 through 69 to specific levels for 1996-2002. Section 102 further provided that the SGA amount for blind individuals be the same as it would have been if section 102 had not been enacted.

Computation. Under the formula in section 203(f)(8)(B) in effect prior to the enactment of Pub. L. 104-121, the monthly SGA amount for statutorily blind individuals for 1998 shall be the larger of (1) such amount for 1994 multiplied by the ratio of the national average wage index for 1996 to that for 1992, or (2) such amount for 1997. Section 203(f)(8)(B) further provides that if the amount so determined is not a multiple of $10, it shall be rounded to the nearest multiple of $10.

SGA Amount for Statutorily Blind Individuals. The ratio of the national average wage index for 1996, $25,913.90, compared to that for 1992, $22,935.42, is 1.1298638. Multiplying the 1994 monthly SGA amount for statutorily blind individuals of $930 by the ratio of 1.1298638 produces the amount of $1,050.77. This must then be rounded to $1,050. Because $1,050 is larger than the current amount of $1,000, the monthly SGA amount for statutorily blind individuals is determined to be $1,050 for 1998.

Domestic Employee Coverage Threshold

General. Section 2 of the "Social Security Domestic Employment Reform Act of 1994" (Pub. L. 103-387) increased the threshold for coverage of a domestic employee's wages paid per employer from $50 per calendar quarter to $1,000 in calendar year 1994. The statute holds the coverage threshold at the $1,000 level for 1995 and then increases the threshold in $100 increments for years after 1995. The formula for increasing the threshold is provided in section 3121(x) of the Internal Revenue Code.

Computation. Under the formula, the domestic employee coverage threshold amount for 1998 shall be equal to the 1995 amount of $1,000 multiplied by the ratio of the national average wage index for 1996 to that for 1993. If the amount so determined is not a multiple of $100, it shall be rounded to the next lower multiple of $100.

Domestic Employee Coverage Threshold Amount. The ratio of the national average wage index for 1996, $25,913.90, compared to that for 1993, $23,132.67, is 1.1202295. Multiplying the 1995 domestic employee coverage threshold amount of $1,000 by the ratio of 1.1202295 produces the amount of $1,120.23, which must then be rounded to $1,100. Accordingly, the domestic employee coverage threshold amount is determined to be $1,100 for 1998.

OASDI Fund Ratio

General. Section 215(i) of the Act provides for automatic cost-of-living increases in OASDI benefit amounts. This section also includes a "stabilizer" provision that can limit the automatic OASDI benefit increase under certain circumstances. If the combined assets of the OASI and DI Trust Funds, as a percentage of annual expenditures, are below a specified threshold, the automatic benefit increase is equal to the lesser of (1) the increase in the national average wage index or (2) the increase in prices. The threshold specified for the OASDI fund ratio is 20.0 percent for benefit increases for December of 1989 and later. The law also provides for subsequent "catch-up" benefit increases for beneficiaries whose previous benefit increases were affected by this provision. "Catch-up" benefit increases can occur only when trust fund assets exceed 32.0 percent of annual expenditures.

Computation. Section 215(i) specifies the computation and application of the OASDI fund ratio. The OASDI fund ratio for 1997 is the ratio of (1) the combined assets of the OASI and DI Trust Funds at the beginning of 1997 to (2) the estimated expenditures of the OASI and DI Trust Funds during 1997, excluding transfer payments between the OASI and DI Trust Funds, and reducing any transfers to the Railroad Retirement Account by any transfers from that account into either trust fund.

Ratio. The combined assets of the OASI and DI Trust Funds at the beginning of 1997 equaled $566,950 million, and the expenditures are estimated to be $370,842 million. Thus, the OASDI fund ratio for 1997 is 152.9 percent, which exceeds the applicable threshold of 20.0 percent. Therefore, the stabilizer provision does not affect the benefit increase for December 1997. Although the OASDI fund ratio exceeds the 32.0-percent threshold for potential "catch-up" benefit increases, no past benefit increase has been reduced under the stabilizer provision. Thus, no "catch-up" benefit increase is required.

(Catalog of Federal Domestic Assistance: Program Nos. 96.001 Social Security-Disability Insurance; 96.002 Social Security-Retirement Insurance; 96.003 Social Security-Special Benefits for Persons Aged 72 and Over; 96.004 Social Security-Survivors Insurance; 96.006 Supplemental Security Income)

Dated: October 22, 1997

Kenneth S. Apfel,

Commissioner, Social Security Administration

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G. GLOSSARY

Actuarial balance. The difference between the summarized income rate and the summarized cost rate over a given valuation period.

Actuarial deficit. A negative actuarial balance.

Adjusted gross income—AGI. Amount of income potentially subject to Federal income taxation, before consideration of exemptions and deductions.

Administrative expenses. Expenses incurred by the Social Security Administration, Department of Health and Human Services, and the Department of the Treasury in administering the OASDI program and the provisions of the Internal Revenue Code relating to the collection of contributions. Such administrative expenses are paid from the OASI and DI Trust Funds.

Advance tax transfers. Amounts representing the estimated total OASDI tax contributions for a given month. From May 1983 through November 1990, such amounts were credited to the OASI and DI Trust Funds at the beginning of each month. Reimbursements were made from the trust funds to the general fund of the Treasury for the associated loss of interest. Advance tax transfers are no longer made unless needed in order to pay benefits.

Alternatives I, II, or III. See "Assumptions."

Annual balance. The difference between the income rate and the cost rate in a given year.

Assets. Treasury notes and bonds, other securities guaranteed by the Federal Government, certain Federally sponsored agency obligations, and cash, held by the trust funds for investment purposes.

Assumptions. Values relating to future trends in certain key factors which affect the balance in the trust funds. Demographic assumptions include fertility, mortality, net immigration, marriage, divorce, retirement patterns, disability incidence and termination rates, and changes in the labor force. Economic assumptions include unemployment, average earnings, inflation, interest rates, and productivity. Three sets of economic assumptions are presented in this report—

- Alternative I is characterized as a "low cost" set—it assumes relatively rapid economic growth, low inflation, and favorable (from the standpoint of program financing) demographic conditions.
- Alternative II is the "intermediate" set of assumptions, and represents the Trustees' "best estimates" of likely future economic and demographic conditions.

- Alternative III, characterized as a "high cost" set, assumes slow economic growth, more rapid inflation, and financially disadvantageous demographic conditions.

See tables II.D1 and II.D2.

Automatic cost-of-living increase. The annual increase in benefits, effective for December, reflecting the increase in the cost of living. The benefit increase equals the percentage increase in the Consumer Price Index for Urban Wage Earners and Clerical Workers measured from the average over July, August, and September of the preceding year to the average for the same 3 months in the current year. If the increase is less than one-tenth of 1 percent, when rounded, there is no automatic increase for the current year; the increase for the next year would reflect the increase in the cost of living over a 2-year period. See table II.E2. If the "stabilizer provision" applies, the increase may be less than the cost of living.

Auxiliary beneficiary. Monthly benefits payable to a spouse or child of a retired or disabled worker, or to a survivor of a deceased worker.

Average indexed monthly earnings—AIME. The amount of earnings used in determining the primary insurance amount (PIA) for most workers who attain age 62, become disabled, or die after 1978. A worker's actual past earnings are adjusted by changes in the "average wage index," in order to bring them up to their approximately equivalent value at the time of retirement or other eligibility for benefits.

Average wage index. The average amount of total wages for each year after 1950, including wages in noncovered employment and wages in covered employment in excess of the OASDI contribution and benefit base. These amounts are used to index the earnings of most workers first becoming eligible for benefits in 1979 or later, and for automatic adjustments in the contribution and benefit base, bend points, earnings test exempt amounts, and other wage-indexed amounts. See tables II.E1, II.E2, and III.B1.

Award. An administrative determination that an individual is entitled to receive a specified type of OASDI benefit. Awards can represent not only new entrants to the benefit rolls but also persons already on the rolls who become entitled to a different type of benefit. Awards usually result in the immediate payment of benefits, although payments may be deferred or withheld depending on the individual's particular circumstances.

Baby boom. The period from the end of World War II through the mid-1960s marked by unusually high birth rates.

Bend points. The dollar amounts defining the AIME or PIA brackets in the benefit formulas. For the bend points for years 1979 and later, see table II.E3.

Beneficiary. A person who has been awarded benefits on the basis of his or her own or another's earnings record. The benefits may be either in current-payment status or withheld.

Benefit award. See "Award."

Benefit payments. The amounts disbursed for OASI and DI benefits by the Department of the Treasury in specified periods.

Benefit termination. See "Termination."

Best estimate assumptions. See "Assumptions."

Board of Trustees. A Board established by the Social Security Act to oversee the financial operations of the Federal Old-Age and Survivors Insurance Trust Fund and the Federal Disability Insurance Trust Fund. The Board is composed of six members, four of whom serve automatically by virtue of their positions in the Federal Government: the Secretary of the Treasury, who is the Managing Trustee, the Secretary of Labor, the Secretary of Health and Human Services, and the Commissioner of Social Security. The other two members are appointed by the President and confirmed by the Senate to serve as public representatives. Stephen G. Kellison and Marilyn Moon began serving 4-year terms on July 20, 1995.

Book value. A bond's value between its price at purchase and its value at maturity. Book value is calculated as par value plus unamortized premium, if purchased at a price above its par value, or less unamortized discount, if purchased below par.

COLA. See "Automatic cost-of-living increase."

Constant dollars. One or more financial amounts adjusted by the CPI to a constant year as a reference point.

Consumer Price Index—CPI. Relative measure of inflation. In this report, all references to the CPI relate to the Consumer Price Index for Urban Wage Earners and Clerical Workers (CPI-W). See table II.D1.

Contribution and benefit base. Annual dollar amount above which earnings in employment covered under the OASDI program are neither taxable nor creditable for benefit computation purposes. (Also referred to as "maximum contribution and benefit base," "annual creditable maximum," "taxable maximum," and "maximum taxable.") See tables II.B1 and II.E2. See also, "HI contribution base."

Contributions. The amount based on a percent of earnings, up to an annual maximum, that must be paid by—

- employers and employees on wages from employment under the Federal Insurance Contributions Act,
- the self-employed on net earnings from self-employment under the Self-Employment Contributions Act, and

- States on the wages of State and local government employees covered under the Social Security Act through voluntary agreements under section 218 of the Act.

Generally, employers withhold contributions from wages, add an equal amount of contributions, and pay both on a current basis. Also referred to as "taxes."

Cost-of-living increase. See "Automatic cost-of-living increase."

Cost rate. The cost rate for a year is the ratio of the cost (also called 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.

Covered earnings. Earnings in employment covered by the OASDI program.

Covered employment. All employment and self-employment creditable for Social Security purposes. Almost every kind of employment and self-employment is covered under the program. In a few employment situations, for example, religious orders under a vow of poverty, foreign affiliates of American employers, or State and local governments, coverage must be elected by the employer. However, effective July 1991, coverage is mandatory for State and local employees who are not participating in a public employee retirement system. In a few situations, for example, ministers or self-employed members of certain religious groups, workers can opt out of coverage.

Covered worker. A person who has earnings creditable for Social Security purposes on the basis of services for wages in covered employment and/or on the basis of income from covered self-employment.

Current-cost financing. See "Pay-as-you-go financing."

Current dollars. Amounts expressed in nominal dollars with no adjustment for inflationary changes in the value of the dollar over time.

Current-payment status. Status of a beneficiary for whom a benefit is being paid for a given month (with or without deductions, provided the deductions add to less than a full month's benefit). A benefit in current-payment status for a month is usually payable on the third day of the following month.

Deemed wage credit. See "Military service wage credits."

Delayed Retirement Credit. Increases the benefit amount for certain individuals who did not receive benefits for months after attainment of the normal retirement age but before age 70. Delayed retirement credit increases apply for benefits beginning January of the year following the year the individual attains the normal retirement age. See table II.E4.

Demographic assumptions. See "Assumptions."

Disability. For Social Security purposes, the inability to engage in substantial gainful activity (see "Substantial gainful activity") by reason of any medically determinable physical or mental impairment that can be expected to result in death or to last for a continuous period of not less than 12 months. Special rules apply for workers age 55 or older whose disability is based on blindness.

The law generally requires that a person be disabled continuously for 5 months before he or she can qualify for a disabled-worker benefit.

Disability incidence rate. The proportion of workers in a given year, insured for but not receiving disability benefits, who apply for and are awarded disability benefits.

Disability Insurance (DI) Trust Fund. See "Trust fund."

Disability termination rate. The proportion of disabled-worker beneficiaries in a given year whose disability benefits terminate as a result of the individual's recovery, death, or attainment of normal retirement age.

Disabled-worker benefit. A monthly benefit payable to a disabled worker under normal retirement age and insured for disability. Before November 1960, disability benefits were limited to disabled workers aged 50-64.

Earnings. Unless otherwise qualified, all wages from employment and net earnings from self-employment, whether or not taxable or covered.

Earnings test. The provision requiring the withholding of benefits if beneficiaries under age 70 have earnings in excess of certain exempt amounts. See table II.E2.

Economic assumptions. See "Assumptions."

Effective interest rate. See "Interest rate."

Excess wages. Wages in excess of the contribution and benefit base on which a worker initially pays taxes (usually as a result of working for more than one employer during a year). Employee taxes on excess wages are refunded to affected employees, while the employer taxes are not refunded.

Federal Insurance Contributions Act—FICA. Provision authorizing taxes on the wages of employed persons to provide for Retirement, Survivors, and Disability Insurance, and for Hospital Insurance. The tax is paid in equal amounts by workers and their employers.

Financial interchange. Provisions of the Railroad Retirement Act providing for transfers between the trust funds and the Social Security Equivalent Benefit Account of the Railroad Retirement program in order to place each trust fund in the same position it would have been in if railroad employment had always been covered under Social Security.

Fiscal year. The accounting year of the United States Government. Since 1976, each fiscal year has begun on October 1 of the prior calendar year and ended the following September 30. For example, fiscal year 1997 began October 1, 1996 and will end September 30, 1997.

Full advance funding. A financing scheme where taxes or contributions are established to match the full cost of future benefits as these costs are incurred through current service. Such financing methods also provide for amortization over a fixed period of any financial liability that is incurred at the beginning of the program (or subsequent modification) as a result of granting credit for past service.

General fund of the Treasury. Funds held by the Treasury of the United States, other than receipts collected for a specific purpose (such as Social Security) and maintained in a separate account for that purpose.

General fund reimbursements. Transfers from the general fund of the Treasury to the trust funds for specific purposes defined in the law, including:

- The costs associated with providing special payments made to uninsured persons who attained age 72 before 1968, and who had fewer than 3 quarters of coverage.
- Payments corresponding to the employee-employer taxes on deemed wage credits for military personnel.
- Interest on checks which are not negotiated 6 months after the month of issue. (For checks issued before October, 1989, the principal was returned to the trust funds as a general fund reimbursement; since that time, the principal amount is automatically returned to the issuing fund when the check is uncashed after a year.)
- Administrative expenses incurred as a result of furnishing information on deferred vested benefits to pension plan participants, as required by the Employee Retirement Income Security Act of 1974 (Public Law 93-406).

Gross Domestic Product—GDP. The total dollar value of all goods and services produced by labor and property located in the United States, regardless of who supplies the labor or property.

Gross National Product—GNP. The total dollar value of all goods and services produced by labor and property supplied by United States residents, regardless of the location in which the production occurs.

HI contribution base. Annual dollar amount above which earnings in employment covered under the HI program are not taxable. (Also referred to as "maximum contribution base," "taxable maximum," and "maximum taxable.") Beginning in 1994, the HI contribution base was eliminated.

High cost assumptions. See "Assumptions."

Hospital Insurance (HI) Trust Fund. See "Trust fund."

Income rate. Ratio of income from tax revenues on a liability basis (payroll-tax contributions and income from the taxation of benefits) to the OASDI taxable payroll for the year.

Inflation. An increase in the volume of money and credit relative to available goods, resulting in an increase in the general price level.

Insured status. The state or condition of having sufficient quarters of coverage to meet the eligibility requirements for retired-worker or disabled-worker benefits, or to permit the worker's spouse and children or survivors to establish eligibility for benefits in the event of his or her disability, retirement, or death. See "Quarters of coverage."

Interest. A payment in exchange for the use of money during a specified period.

Interest rate. Interest rates on new public-debt obligations issuable to Federal trust funds (see "Special public-debt obligation") are determined monthly. Such rates are set equal to the average market yield on all outstanding marketable U.S. securities not due to mature for at least 4 years from the date of the determination. See table II.D1 for historical and assumed future interest rates on new special-issue securities. The "effective" interest rate for a trust fund is the ratio of the interest earned by the fund over a given period of time to the average level of assets held by the fund during the period. The effective rate of interest thus represents a measure of the overall average interest earnings on the fund's portfolio of assets.

Interfund borrowing. The borrowing of assets by a trust fund (OASI, DI, or HI) from another of the trust funds when the first fund is in danger of exhaustion. Interfund borrowing was permitted by the Social Security Act only during 1982 through 1987; all amounts borrowed were to be repaid prior to the end of 1989. The only exercise of this authority occurred in 1982, when the OASI Trust Fund borrowed assets from the DI and HI Trust Funds. The final repayment of borrowed amounts occurred in 1986.

Intermediate assumptions. See "Assumptions."

Long range. The next 75 years. Long-range actuarial estimates are made for this period because it is approximately the maximum remaining lifetime of current Social Security participants.

Low cost assumptions. See "Assumptions."

Lump-sum death benefit. A lump sum, generally $255, payable on the death of a fully or currently insured worker. The lump sum is payable to the surviving spouse of the worker, under most circumstances, or to the worker's children.

Maximum family benefit. The maximum monthly amount that can be paid on a worker's earnings record. Whenever the total of the individual monthly benefits payable to all the beneficiaries entitled on one earnings record exceeds the maximum, each dependent's or survivor's benefit is proportionately reduced to bring the total within the maximum. Benefits payable to divorced spouses or surviving divorced spouses are not reduced under the family maximum provision.

Medicare. A nationwide, Federally administered health insurance program authorized in 1965 to cover the cost of hospitalization, medical care, and some related services for most people over age 65, people receiving Social Security Disability Insurance payments for 2 years, and people with End-Stage Renal Disease. Medicare consists of two separate but coordinated programs— Part A (Hospital Insurance, HI) and Part B (Supplementary Medical Insurance, SMI). All persons entitled to HI are eligible to enroll in the SMI program on a voluntary basis by paying a monthly premium. Health insurance protection is available to Medicare beneficiaries without regard to income.

Military service wage credits. Credits recognizing that military personnel receive wages in kind (such as food and shelter) in addition to their basic pay and other cash payments. Noncontributory wage credits of $160 were provided for each month of active military service from September 16, 1940, through December 31, 1956. For years after 1956, the basic pay of military personnel is covered under the Social Security program on a contributory basis. In addition to the contributory credits for basic pay, noncontributory wage credits of $300 were granted for each calendar quarter, from January 1957 through December 1977, in which a person received pay for military service. In years after 1977, noncontributory wage credits of $100 are granted for each $300 of military wages, up to a maximum credit of $1,200 per calendar year.

National average wage index. See "Average wage index."

Normal retirement age. The age at which a person may first become entitled to unreduced retirement benefits. Currently age 65, but scheduled under present law to increase gradually to 67 for persons reaching that age in 2027 or later, beginning with an increase to 65 years and 2 months for persons reaching age 65 in 2003. See table II.E4.

Old-Age and Survivors Insurance (OASI) Trust Fund. See "Trust fund."

Old-law base. Amount the contribution and benefit base would have been if the discretionary increases in the base under the 1977 amendments had not been enacted. The Social Security Amendments of 1972 provided for automatic annual indexing of the contribution and benefit base. The Social Security Amendments of 1977 provided ad hoc increases to the bases for 1979-81, with subsequent bases updated in accordance with the normal indexing procedure. See table II.E3.

Par value. The value printed on the face of a bond. For both public and special issues held by the trust funds, par value is also the redemption value at maturity.

Partial advance funding. A financing scheme where taxes are scheduled to provide a substantial accumulation of trust fund assets, thereby generating additional interest income to the trust funds and reducing the need for payroll tax increases in periods when costs are relatively high. (Higher general taxes or additional borrowing may be required, however, to support the payment of such interest.) While substantial, the trust fund buildup under partial advance funding is much smaller than it would be with full advance funding.

Pay-as-you-go financing. A financing scheme where taxes are scheduled to produce just as much income as required to pay current benefits, with trust fund assets built up only to the extent needed to prevent exhaustion of the fund by random economic fluctuations.

Payment cycling. Beneficiaries on the rolls before May 1, 1997, are paid on the third of the month. Persons applying for OASDI benefits after April 1997, however, generally are paid on the second, third, or fourth Wednesday of the month following the month for which payment is due. The particular Wednesday payment date is based on the wage earner's date of birth. For those born on the first through tenth, the benefit payment day is the second Wednesday of the month; for those born on the eleventh through the twentieth, the benefit payment day is the third Wednesday of the month; and for those born after the twentieth of the month, the payment day is the fourth Wednesday of the month.

Payroll taxes. A tax levied on the gross wages of workers. See tables II.B1 and III.A1.

Population in the Social Security Area. The population comprised of (i) residents of the 50 States and the District of Columbia (adjusted for net census undercount); (ii) civilian residents of Puerto Rico, the Virgin Islands, Guam, and American Samoa; (iii) Federal civilian employees and persons in the Armed Forces abroad and their dependents; (iv) crew members of merchant vessels; and (v) all other U.S. citizens abroad.

Present value. The equivalent value, at the present time, of a future stream of payments (either income or expenditures). The present value of a future stream of payments may be thought of as the lump-sum amount that, if invested today, together with interest earnings would be just enough to meet each of the payments as they fell due. At the time of the last payment, the invested fund would be exactly zero. For example, a home mortgage of $100,000 represents the present value at 8 percent interest of future monthly payments of $714.40 for the next 30 years. Present values are widely used in calculations involving financial transactions over long periods of time to account for the time value of money (interest) and the changing value of the dollar (inflation).

Primary insurance amount—PIA. The monthly amount payable to a retired worker who begins to receive benefits at normal retirement age or (generally) to a disabled worker. This amount, which is related to the worker's average monthly wage or average indexed monthly earnings, is also the amount used as a base for computing all types of benefits payable on the basis of one individual's earnings record.

Primary insurance amount formula. The mathematical formula relating the PIA to the AIME for workers who attain age 62, become disabled, or die after 1978. The PIA is equal to the sum of 90 percent of AIME up to the first bend point, plus 32 percent of AIME above the first bend point up to the second bend point, plus 15 percent of AIME in excess of the second bend point. Automatic benefit increases are applied beginning with the year of eligibility. See table II.E3 for historical and assumed future bend points and table II.E2 for historical and assumed future benefit increases.

Quarters of coverage. Basic unit of measurement for determining insured status. In 1998, a worker receives one quarter of coverage (up to a total of four) for each $700 of annual covered earnings. The amount of earnings required for a quarter of coverage is subject to annual automatic increases in proportion to increases in average earnings. For amounts applicable for years after 1978, see table II.E3.

Railroad retirement. A Federal insurance program, somewhat similar to Social Security, designed for workers in the railroad industry. The provisions of the Railroad Retirement Act provide for a system of coordination and financial interchange between the Railroad Retirement program and the Social Security program.

Reallocation of tax rates. An increase in the tax rate payable to either the OASI or DI Trust Fund, with a corresponding reduction in the rate for the other fund, so that the total OASDI tax rate is not changed.

Real-wage differential. The difference between the percentage increases in (1) the average annual wage in covered employment and (2) the average annual Consumer Price Index. See table II.D1.

Recession. A period of adverse economic conditions; in particular, two or more successive calendar quarters of negative growth in either Gross Domestic Product, or Gross National Product.

Retired-worker benefit. A monthly benefit payable to a fully insured retired worker aged 62 or older or to a person entitled under the transitionally insured status provision in the law. Retired-worker benefit data do not include special age-72 benefits.

Retirement age. The age at which an individual establishes entitlement to retirement benefits. See also, "Normal retirement age."

Retirement earnings test. See "Earnings test."

Retirement test. See "Earnings test."

Self-employment. Operation of a trade or business by an individual or by a partnership in which an individual is a member.

Self-Employment Contributions Act—SECA. Provision authorizing Social Security taxes on the net earnings of most self-employed persons.

Short range. The next 10 years. Short-range actuarial estimates are prepared for this period because of the short-range test of financial adequacy. The Social Security Act requires estimates for 5 years; estimates are prepared for an additional 5 years to help clarify trends which are only starting to develop in the mandated first 5-year period.

Social Security Act. Provisions of the law governing most operations of the Social Security program. Original Social Security Act is Public Law 74-271, enacted August 14, 1935. With subsequent amendments, the Social Security Act consists of 20 titles, of which four have been repealed. The Old-Age, Survivors, and Disability Insurance program is authorized by Title II of the Social Security Act.

Special public-debt obligation. Securities of the United States Government issued exclusively to the OASI, DI, HI, and SMI Trust Funds and other Federal trust funds. Section 201(d) of the Social Security Act provides that the public-debt obligations issued for purchase by the OASI and DI Trust Funds shall have maturities fixed with due regard for the needs of the funds. The usual practice in the past has been to spread the holdings of special issues, as of each June 30, so that the amounts maturing in each of the next 15 years are approximately equal. Special public-debt obligations are redeemable at par value at any time and carry interest rates determined by law (see "Interest rate"). See also tables II.C2 and II.C4 for a listing of the obligations held by the OASI and DI Trust Funds, respectively.

Stabilizer provision. Section 215(i)(1)(C) of the Act, which provides that if the combined assets of the OASI and DI Trust Funds, as a percentage of estimated annual expenditures, fall below a specified level, automatic benefit increases will be limited to the lower of the increases in wages or prices. The specified level is 20 percent for benefit increases in 1989 and later.

Statutory blindness. Central visual acuity of 20/200 or less in the better eye with the use of a correcting lens or tunnel vision of 20° or less.

Substantial gainful activity. The level of work activity used to establish disability. A finding of disability requires that a person be unable to engage in substantial gainful activity. Under current regulations, a person who is not statutorily blind and is actually earning more than $500 a month (net of impairment-related work expenses) is ordinarily considered to be engaging in substantial gainful activity. A person who is statutorily blind (see "Statutory blindness") is not considered to be engaging in substantial gainful activity, for the purpose of determining a condition of disability, unless the person's earnings are more than $1,050 a month in 1998 (net of impairment-related work expenses). This amount for the blind is subject to adjustment each year to reflect increases in average wage levels.

Summarized balance. The difference between the summarized cost rate and the summarized income rate, expressed as a percentage of taxable payroll.

Summarized cost rate. The ratio of the present value of expenditures to the present value of the taxable payroll for the years in a given period. This ratio can be used as a measure of the relative level of expenditures during the period in question. For purposes of evaluating the financial adequacy of the program, the summarized cost rate is adjusted to include the cost of reaching and maintaining a "target" trust fund level. Because a trust fund level of about 1 year's expenditures is considered to be an adequate reserve for unforeseen contingencies, the targeted trust fund ratio used in determining summarized cost rates is 100 percent of annual expenditures. Accordingly, the adjusted 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 the targeted ending trust fund level, to (b) the present value of the taxable payroll during the projection period.

Summarized income rate. The ratio of the present value of tax income to the present value of taxable payroll for the years in a given period. This ratio can be used as a measure of the relative level of income during the period in question. For purposes of evaluating the financial adequacy of the program, the summarized income rate is adjusted to include assets on hand at the beginning of the period. Accordingly, the adjusted summarized income rate equals 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 from taxes during the period, to (b) the present value of the taxable payroll for the years in the period.

Supplemental Security Income—SSI. A Federally administered program (often with State supplementation) of cash assistance for needy aged, blind, or disabled persons. SSI is funded through the general fund of the Treasury and administered by the Social Security Administration.

Supplementary Medical Insurance (SMI) Trust Fund. See "Trust fund."

Survivor benefit. Benefit payable to a survivor of a deceased worker.

Taxable earnings. Wages and/or self-employment income, in employment covered by the OASDI and/or HI programs, that is under the applicable annual maximum taxable limit. For 1994 and later, no maximum taxable limit applies to the HI program.

Taxable payroll. A weighted average of taxable wages and taxable self-employment income. When multiplied by the combined employee-employer tax rate, it yields the total amount of taxes incurred by employees, employers, and the self-employed for work during the period.

Taxable self-employment income. Net earnings from self-employment, generally above $400 and below the annual taxable and creditable maximum amount for a calendar or other taxable year, less any taxable wages in the same taxable year.

Taxable wages. See "Taxable earnings."

Taxation of benefits. During 1984-93, up to one-half of an individual's or a couple's OASDI benefits was potentially subject to Federal income taxation under certain circumstances. The revenue derived from this provision was allocated to the OASI and DI Trust Funds on the basis of the income taxes paid on the benefits from each fund. Beginning in 1994, the maximum portion of OASDI benefits potentially subject to taxation was increased to 85 percent. The additional revenue derived from taxation of benefits in excess of one-half, up to 85 percent, is allocated to the HI Trust Fund.

Taxes. See "Contributions."

Termination. Cessation of payment of a specific type of benefit because the beneficiary is no longer entitled to receive it. For example, benefits might terminate as a result of the death of the beneficiary, the recovery of a disabled beneficiary, or the attainment of age 18 by a child beneficiary. In some cases, the individual may become immediately entitled to another type of benefit (such as the conversion of a disabled-worker beneficiary at normal retirement age to a retired-worker beneficiary).

Test of Long-Range Close Actuarial Balance. Summarized income rates and cost rates are calculated for each of 66 valuation periods within the full 75-year long-range projection period. The first of these periods consists 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 valuation 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 0 percent for the 10-year period, grading uniformly to 5 percent for the full 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. The test is applied to OASI and DI separately, as well as combined, based on the intermediate (alternative II) set of assumptions.

Test of Short-Range Financial Adequacy. The conditions required to meet this test are as follows:

- If the trust fund ratio for a fund exceeds 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 fund ratio is initially less than 100 percent, it must be projected to reach a level of at least 100 percent within 5 years (and not be depleted at any time during this period) and then remain at or above 100 percent throughout the remainder of the 10-year period.

These conditions apply to each trust fund separately, as well as to the combined funds, and are evaluated based on the intermediate (alternative II) set of assumptions.

Total fertility rate. The average number of children who would be born to a woman in her lifetime if she were to experience the birth rates by age observed in, or assumed for, a specified year, and if she were to survive the entire childbearing period.

Trust fund. Separate accounts in the United States Treasury in which are deposited the taxes received under the Federal Insurance Contributions Act, the Self-Employment Contributions Act, contributions resulting from coverage of State and local government employees; any sums received under the financial interchange with the railroad retirement account; voluntary hospital and medical insurance premiums; and transfers of Federal general revenues. Funds not withdrawn for current monthly or service benefits, the financial interchange, and administrative expenses are invested in interest-bearing Federal securities, as required by law; the interest earned is also deposited in the trust funds.

- **Old-Age and Survivors Insurance (OASI).** The trust fund used for paying monthly benefits to retired-worker (old-age) beneficiaries and their spouses and children and to survivors of deceased insured workers.
- **Disability Insurance (DI).** The trust fund used for paying monthly benefits to disabled-worker beneficiaries and their spouses and children and for providing rehabilitation services to the disabled.
- **Hospital Insurance (HI).** The trust fund used for paying part of the costs of inpatient hospital services and related care for aged and disabled individuals who meet the eligibility requirements.

- **Supplementary Medical Insurance (SMI).** The trust fund used for paying part of the costs of physician's services, outpatient hospital services, and other related medical and health services for voluntarily enrolled aged and disabled individuals.

Trust fund ratio. A measure of the adequacy of the trust fund level. Defined as the assets at the beginning of the year, including advance tax transfers (if any), expressed as a percentage of the outgo during the year. The trust fund ratio represents the proportion of a year's outgo which could be paid with the funds available at the beginning of the year.

Unnegotiated check. A check which has not been cashed 6 months after the end of the month in which the check was issued. When a check has been outstanding for a year (i) the check is administratively cancelled by the Department of the Treasury and (ii) the issuing trust fund is reimbursed separately for the amount of the check and interest for the period the check was outstanding. The appropriate trust fund also receives an interest adjustment for the time the check was outstanding if it is cashed 6-12 months after the month of issue. If a check is presented for payment after it is administratively cancelled, a replacement check is issued.

Valuation period. A period of years which is considered as a unit for purposes of calculating the financial status of a trust fund.

Vocational rehabilitation. Services provided to disabled persons to help enable them to return to gainful employment. Reimbursement from the trust funds for the costs of such services is made only in those cases where the services contributed to the successful rehabilitation of the beneficiaries.

Year of exhaustion. The year in which a trust fund would become unable to pay benefits when due because the assets of the fund were exhausted.

H. STATEMENT OF ACTUARIAL OPINION

It is my opinion that (1) the techniques and methodology used herein to evaluate the financial and actuarial status of the Federal Old-Age and Survivors Insurance and Disability Insurance Trust Funds are generally accepted within the actuarial profession; and (2) the assumptions used and the resulting actuarial estimates are, in the aggregate, reasonable for the purpose of evaluating the financial and actuarial status of the trust funds, taking into consideration the experience and expectations of the program.

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