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THE 2000 ANNUAL REPORT OF THE BOARD OF TRUSTEES OF THE FEDERAL OLD-AGE AND SURVIVORS INSURANCE AND DISABILITY INSURANCE TRUST FUNDS

COMMUNICATION

FROM

THE FISCAL ASSISTANT SECRETARY, THE DEPARTMENT OF THE TREASURY

TRANSMITTING

THE 2000 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)

MARCH 30, 2000.—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., March 30, 2000

The Honorable J. Dennis Hastert
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 2000 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 60th such report), in compliance with section 201(c)(2) of the Social Security Act.

Respectfully,

Lawrence H. Summers, *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.*

William A. Halter, *Deputy Commissioner of Social Security, and 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 have completed serving 4-year terms that began on July 20, 1995. They have continued serving through the issuance of this report under the provision of the Social Security Act that allows a public representative whose term has expired to continue in the position until the earlier of the time at which a successor takes office or the Board's next annual report is issued.

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 2000, is the 60th such report.

B. HIGHLIGHTS

In November 1999, the 1999 Technical Panel on Assumptions and Methods, which was convened by the Social Security Advisory Board, reported its findings and recommendations on economic and demographic issues, investment issues, presentation issues, and methodology and models. The changes in this 2000 Annual Report reflect the consideration of the Technical Panel's recommendations on economic and demographic assumptions by the Board of Trustees and their staffs. Further consideration continues on the Technical Panel's recommendations, especially on presentation issues.

The major findings of this report are summarized below:

Short-Range Results

- The combined OASI and DI Trust Funds, as well as each fund separately, are adequately financed over the next 10 years and meet the short-range test for financial adequacy.
- 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 $896.1 billion at the beginning of calendar year 2000, or 218 percent of estimated expenditures in 2000, to $2,996 billion, or 406 percent of annual expenditures, at the beginning of 2010, based on the intermediate assumptions.
- The assets of the OASI Trust Fund are expected to increase rapidly during the next 10 years, from 226 percent of annual expenditures at the beginning of 2000 to 447 percent of annual expenditures at the beginning of 2010, based on the intermediate assumptions.
- The assets of the DI Trust Fund are expected to increase from 172 percent of annual expenditures at the beginning of 2000 to 243 percent of annual expenditures at the beginning of 2005, based on the intermediate assumptions. While the assets of the fund, in nominal dollars, continue to grow during the subsequent 5 years, assets relative to annual expenditures begin to decline in 2005, becoming 213 percent at the beginning of 2010.

Long-Range Results

- 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 conclusions are the same as those shown in the 1999 Annual Report.

- 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 1.89 percent of taxable payroll based on the intermediate assumptions, which is smaller than the difference of 2.07 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 2037 based on the intermediate assumptions. At that time, the estimates indicate that annual tax revenues would be sufficient to cover 72 percent of annual expenditures.

- The assets of the combined OASI and DI Trust Funds are expected to continue growing over the next 25 years, based on the intermediate assumptions. By the end of 2024, the assets are estimated to reach $6.05 trillion, in nominal dollars. The assets are then estimated to decline until the funds are exhausted in 2037, 3 years later than estimated in last year's 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 income rate and cost rate are estimated to reach 13.3 and 19.5 percent, respectively, under the intermediate assumptions, resulting in an annual deficit of about 6.1 percent. Thus, 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 4.2 percent of gross domestic product (GDP) to 6.8 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, OASDI tax revenues are estimated to exceed expenditures until 2015 (1 year later than estimated in last year's report). Total income (including interest

earnings on the trust funds) will exceed expenditures through 2024. It is estimated that beginning in 2025, trust fund assets would have to be redeemed to cover the difference until the assets of the combined funds are exhausted in 2037, 3 years later than estimated in last year's report.

- The DI Trust Fund is expected to increase until 2012, and then to decline steadily until its assets are exhausted in 2023, 3 years later than estimated in last year's report. 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 on a timely basis to address the DI Trust Fund's actuarial imbalance.

- The assets of the OASI Trust Fund are expected to increase until 2026, and then to decline until they are exhausted in 2039, 3 years later than estimated in last year's report. 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 well before any necessary changes take effect to allow time for phasing in such changes and for workers to adjust their retirement plans accordingly.

Reasons for changes from last year's report to this report in the long-range actuarial balance of the OASDI program, based on the intermediate assumptions, are shown in table I.B1. Also shown is the estimated effect associated with each reason for change. The changes due to assumptions and methods are each the result of several smaller changes. For a more detailed discussion of these changes, see section II.F2g.

Table I.B1.—Change in Actuarial Balance Over the Next 75 Years Based on Intermediate Assumptions by Reason for Change

[As a percentage of taxable payroll]

Item	OASI and DI, combined
Actuarial balance shown in last year's report	-2.07
Changes in actuarial balance due to changes in:	
Valuation period	-.07
Demographic assumptions	-.07
Economic assumptions	+.14
Methods	+.17
Total change in actuarial balance	+.17
Actuarial balance shown in this report	-1.89

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

Key Data for 1999

- During calendar year 1999, OASDI benefits amounting to $385.8 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 1999 was 44.6 million.
- In 1999, an estimated 152 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 $526.6 billion in calendar year 1999, and expenditures were $392.9 billion. The assets of the combined funds, therefore, increased by $133.7 billion, from $762.5 billion at the end of December 1998 to $896.1 billion at the end of December 1999.
- Assets at the beginning of the year, as a percentage of expenditures during the year, increased from 194 percent at the beginning of 1999 to an estimated 218 percent at the beginning of 2000, for the combined OASI and DI Trust Funds.
- Interest earnings on the invested assets of the combined OASI and DI Trust Funds were $55.5 billion in calendar year 1999. This represented an effective annual interest rate of 6.9 percent, earned by the combined assets during calendar year 1999. During the same period, the average interest rate on new securities purchased by the trust funds was 5.9 percent.
- Administrative expenses for the OASDI program were $3.3 billion in calendar year 1999, or about 0.9 percent of benefit payments in the year.
- An automatic benefit increase of 2.4 percent became effective for December 1999. The OASDI contribution and benefit base was increased from $72,600 for 1999, to $76,200 for 2000.

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 1999. Table I.C1 summarizes these transactions.

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

Type of income or expenditure	Amount in calendar year 1999 (in billions)		
	OASI	DI	OASDI
Total income	$457.0	$69.5	$526.6
Payroll taxes	396.4	63.2	459.6
Taxation of benefits	10.9	.7	11.6
Interest	49.8	5.7	55.5
Total expenditures	339.9	53.0	392.9
Benefit payments	334.4	51.4	385.8
Railroad Retirement financial interchange	3.7	.1	3.8
Administrative expenses	1.8	1.5	3.3

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 $72,600 for 1999. Table I.C2 shows the allocation of the OASDI tax rates by program for 1999.

Table I.C2.—Tax Rates for 1999

	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 total tax rates for OASDI are not scheduled to change from their current values under present law although the allocation between the OASI and DI Trust Funds changed slightly beginning in 2000. 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 1999, OASDI payroll tax income amounted to $459.6 billion, representing 87 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 $11.6 billion in 1999. (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 1999 amounted to $55.5 billion. This represented an effective annual interest rate of 6.9 percent, earned by the assets of the trust funds during calendar year 1999. During the same period, the average interest rate on new securities purchased by the trust funds was 5.9 percent.

2. Expenditures

In 1999, benefit payments totaling $385.8 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 $3.8 billion was transferred from the OASI and DI Trust Funds to the Railroad Retirement program in 1999, under provisions of the law requiring a financial interchange between the two programs. The cost of administering the OASDI program in 1999 was $3.3 billion, or about 0.9 percent of total benefits paid during the year.

3. Trust Fund Assets

In 1999, total income was $526.6 billion and total expenditures were $392.9 billion. The assets of the OASI and DI Trust Funds therefore increased by a net total of $133.7 billion during the year, from $762.5 billion to $896.1 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. 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 1999, interest income to the combined OASI and DI Trust Funds represented 10.5 percent of total OASDI income. On a combined basis, interest income in 2009 is estimated under intermediate assumptions to represent 18.7 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.

The actual future income and expenditures of the OASI and DI Trust Funds will depend on many factors, including future economic and demographic conditions. Because of the inherent uncertainty of outcomes 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 regards as their "best estimates," will be shown first followed by the low cost and high cost estimates.

The future income and expenditures of the OASDI program will, of course, also depend on the kinds of future policy changes that may be made in the program. The estimates presented in this report are based on the current OASDI program and, thus, do not reflect the effects of any future legislative changes that have not yet been enacted.

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

Future income from OASDI payroll taxes and other sources, and future expenditures for benefits and administrative expenses, will depend upon a large number of factors: the size and composition of the population 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, inflation, and many other economic and demographic factors.

While it is reasonable to assume that actual future 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 30 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 generally apply by the end of the short-range period. Two exceptions are the ultimate fertility rate, reached in 2024, and 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	4.3	3.8	4.8
Consumer Price Index (CPI)	3.3	2.3	4.3
Real-wage differential (percent)	1.0	1.5	.5
Unemployment rate (percent)	5.5	4.5	6.5
Annual interest rate (percent)	6.3	6.0	6.5
Total fertility rate (children per woman)	1.95	2.2	1.7
Life expectancy at birth in 2075 (combined average for men and women, in years)	83.0	79.6	87.3
Annual net immigration (in thousands)	900.0	1,210.0	655.0

1. Economic Assumptions

Consistent with past practice the Trustees conducted a comprehensive review and examination of all assumptions, as part of the preparation for the 2000 report. In particular, the assumptions in this year's report reflect consideration of the recommendations on economic and demographic assumptions that were made in November 1999 by the 1999 Technical Panel on Assumptions and Methods, which was convened by the Social Security Advisory Board. This year's report also fully reflects the most recently announced changes in the National Income and Product Accounts (NIPA). In light of this year's review, the ultimate values of three important assumptions were changed.

- The assumed ultimate annual productivity growth rate was increased by 0.2 percentage point for each alternative (to 1.2, 1.5, and 1.8 percent for alternatives I, II, and III, respectively).
- For all three alternatives, the assumed ultimate annual price differential (defined as the GDP Chain-Type Price Index growth rate less the CPI growth rate) was altered from -0.1 to -0.2 percentage point.
- Consistent with the first two changes, the assumed ultimate real-wage differential (defined as the growth rate in the average wage in OASDI covered employment less the growth in the CPI) was raised by 0.1 percentage point for each alternative (to 0.5, 1.0, and 1.5 percentage point for alternatives I, II, and III, respectively).

In late October 1999, the Bureau of Economic Analysis (BEA) released a portion of its 1999 Comprehensive Revision of the NIPA that included two improvements that significantly revised the historical path of productivity. First, the BEA revised the pre-1995 NIPA data to include the effects of the new BLS geometric weighting formula. The BLS introduced this improvement to the CPI in January 1999 and estimated that it would lower the future annual growth rate in the CPI by about 0.2 percentage point. The BEA estimates this change to have a 50.0 percent "feed-through" effect on the aggregate annual GDP price index growth rate. Thus, in its NIPA revisions, the BEA lowered the annual historical growth rate in the aggregate GDP price index by about 0.1 percentage point (0.2 * 50%). And, since this improvement does not alter the historical path of nominal GDP, the annual historical growth rate in the real GDP, and therefore productivity, were increased by about 0.1 percentage point. Second, the

revised NIPA data also shifted private business and government investment expenditures on computer software from an intermediate to a final good. This improvement increased both nominal and real GDP growth, and therefore productivity, particularly over the last twenty years. However, this revision also lowered the GDP Chain-Type Price Index growth rate relative to the CPI growth rate.

Revisions to the economic assumptions during the early years of the projection period have a net positive effect on the long-range actuarial balance. The changes reflect both recent actual data, which affect the starting point of the projections, and an assessment that some of the recent favorable economic performance, with low unemployment and faster than expected growth in both GDP and employment, will carry through into the early years of the projection period. Compared to the 1999 report, this year's report generally reflects assumptions of lower unemployment rates, higher productivity gains, faster labor force growth and a higher ratio of wages to total compensation throughout the first 10 years of the projection period. In combination, these changes produce somewhat higher levels of employment, productivity, real wages, and real GDP throughout the balance of the 75-year projection period.

2. Demographic Assumptions

The Trustees' review of the demographic assumptions resulted in some ultimate demographic assumptions being significantly different from those used in the 1999 report.

- The assumed ultimate total fertility rate was increased by 0.05 child per woman (to a level of 1.95) for the intermediate assumptions and by 0.10 child per woman (to a level of 1.7) for the high cost assumptions.
- For all three alternatives, the assumed ultimate annual rates of decline in mortality were increased, on average, by about one-third.
- The assumed ultimate number of net annual immigrants was not changed for the intermediate assumptions (remains as 900,000 persons), but was increased by 60,000 persons (to a level of 1,210,000) for the low cost assumptions and decreased by 95,000 persons (to a level of 655,000) for the high cost assumptions.

Based on recently available data, starting levels of fertility rates are higher than those estimated in last year's report. Because of higher starting levels, the fertility rates during the first 25 years of the pro-

jection period are slightly higher than those used in the 1999 report. For the intermediate and high cost assumptions, the increases in the ultimate total fertility rates additionally contribute to increases in fertility rates during the first 25 years of the projection period.

Based on recently available data, starting levels of mortality rates are generally lower than those estimated in last year's report. Because of increased ultimate rates of decline in mortality and slightly lower starting levels, the mortality rates during the first 25 years of the projection period are lower than those used the 1999 report.

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.

3. Methods

The review of the methods used in preparing the estimates resulted in a number of improvements. Improvements were made in: the projection of the number of workers in covered employment and their future earnings levels, the distribution of the population between widows and spouses, the method of projecting short-term interest rates, and the methods for projecting long-range average benefit levels. The positive effects of these changes were offset by a negative effect due to minor modifications in the methods for projecting the number of new disabled-worker beneficiaries.

F. SHORT-RANGE ACTUARIAL ESTIMATES

The financial status of the OASDI program during the next 10 years (2000-09) 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 can not be meaningfully compared 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 2000 amounted to $896 billion, while assets at the beginning of 1960 were $22 billion. The asset level in 2000 would be sufficient to cover roughly 27 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 contingency reserve of only a slightly lower level.

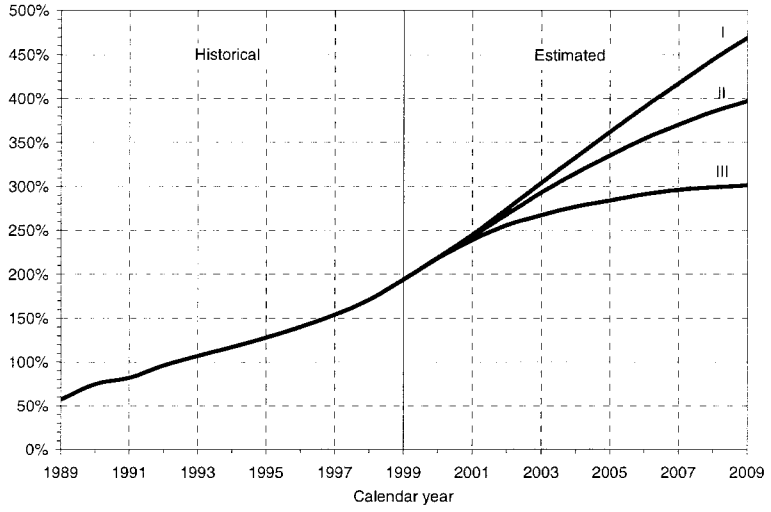
The ratio of trust fund assets at the beginning of a year to expenditures during the year is termed the "trust fund ratio." This ratio serves as the primary measure of the fund's financial adequacy in the short range. It is also used when applying an explicit test of short-range financial adequacy.

1. OASI and DI Trust Funds, Combined

Figure I.F1 presents historical trust fund ratios for the OASI and DI Trust Funds, combined, in 1989-99 and estimated ratios for 2000-09 based on the alternative sets of assumptions.

As shown, the trust fund ratio for OASI and DI on a combined basis is estimated to increase steadily from 218 percent at the beginning of 2000 to 397 percent by 2009, 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 in 2008-09, and begin to decline soon after 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 (The short-range test of financial adequacy is also met under both the low cost and high cost sets of assumptions.).

Figure I.F1.—Trust Fund Ratios for OASI and DI Trust Funds, Combined
[Assets as a percentage of annual expenditures]

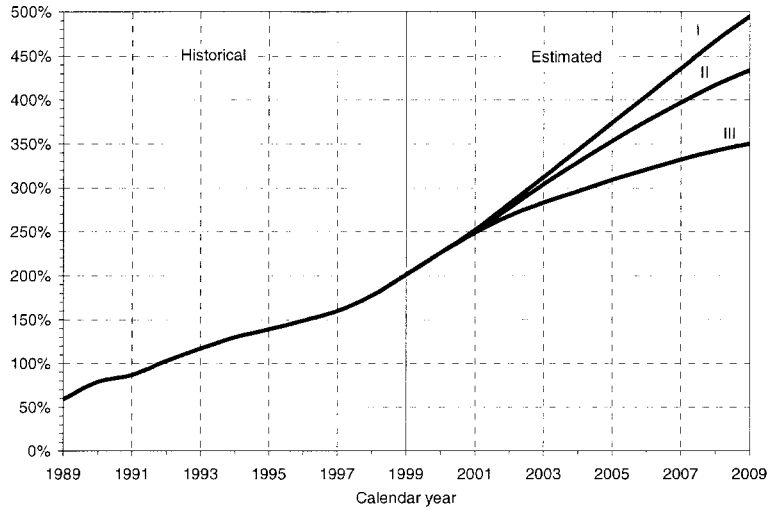


2. OASI Trust Fund

Figure I.F2 summarizes the trust fund ratios for the OASI Trust Fund in the recent past and estimates for the next 10 years.

As shown, the OASI trust fund ratio is estimated to increase from 226 percent at the beginning of 2000 to 434 percent by 2009, 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 titled "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.F2.—OASI Trust Fund Ratios
[Assets as a percentage of annual expenditures]

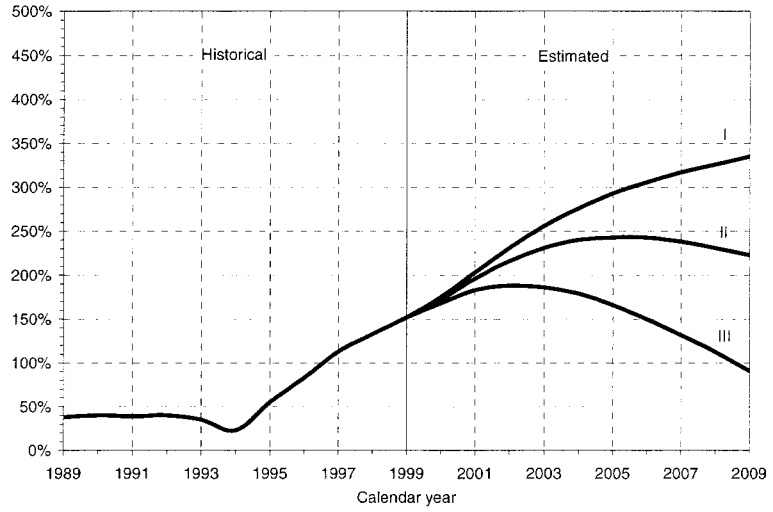


3. DI Trust Fund

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.F3, the DI trust fund ratio is estimated to increase from 172 percent at the beginning of 2000 to 223 percent by 2009, based on the intermediate (alternative II) assumptions. Because DI assets are estimated to exceed 100 percent of annual expenditures throughout the next 10 years, 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.F3, under the high cost assumptions, DI fails to meet the short-range test of financial adequacy because DI assets at the beginning of 2009 fall below 100 percent of estimated outgo for that year. Furthermore, 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 1999 Annual Report.

Figure I.F3.—DI Trust Fund Ratios
[Assets as a percentage of annual expenditures]



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, because 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.

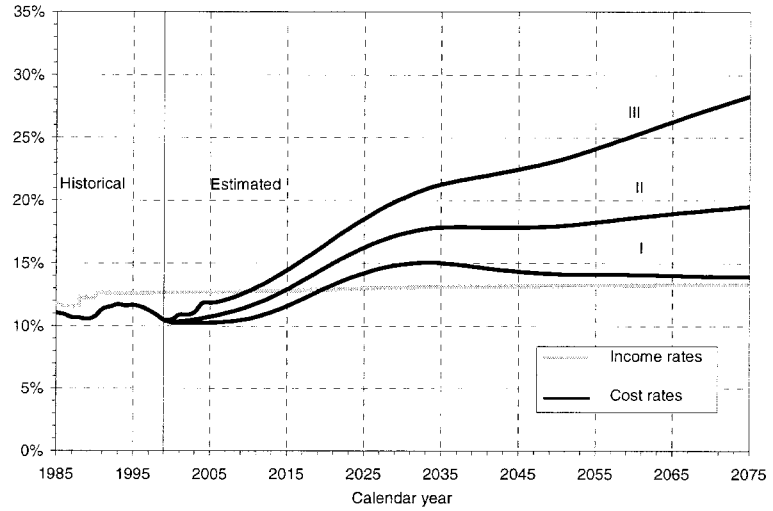
Each year estimates of the financial and actuarial status of the OASDI program are prepared for the next 75 years. Although financial estimates for periods as long as 75 years are inherently uncertain, the results can provide valuable information for policymakers. In particular, such estimates can indicate 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. Another key component of the assessment of the actuarial status of each program is a formal test for long-range "close actuarial balance."

1. Annual Income Rates, Cost Rates, and Balances

A comparison between past and estimated future OASDI income (from payroll taxes on covered earnings and income taxes on OASDI benefits) and annual OASDI expenditures (for benefits and administrative expenses credited to OASI and DI Trust Funds) is presented in figure I.G1. Included are historical data for the past 15 calendar years (1985-99) and estimates for the 75-year long-range projection period (2000-74) 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 2000, the income rate for the OASDI program is estimated to be about 12.65 percent of taxable payroll. This rate is the sum of the combined tax rate payable by employees and employers, 12.40 percent, and 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 13.34 percent of taxable payroll by 2074, under the intermediate, alternative II assumptions. 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.

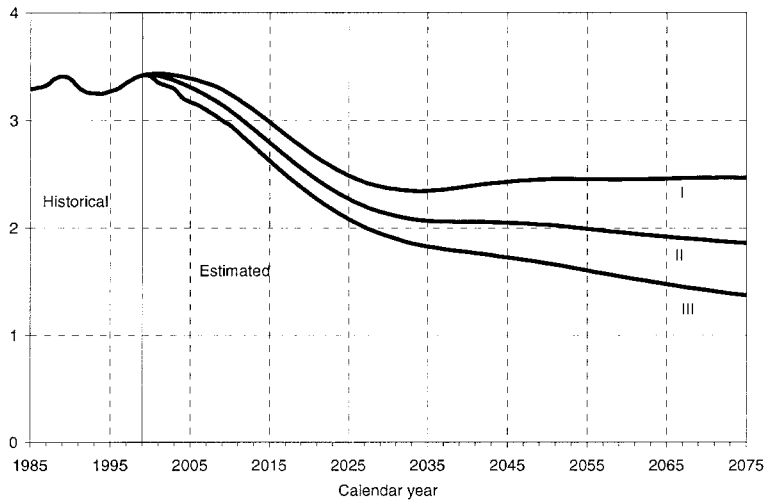
As figure I.G1 indicates, the pattern of the estimated cost rates is much different from that of the estimated income rates. Costs as a percentage of taxable payroll are estimated to rise slowly until about

2010 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 2074 the cost rate is estimated to reach 13.92 percent, 19.47 percent, and 28.10 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 1999, 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 projected number of workers per beneficiary is relatively stable as the "baby-boom" generation diminishes in size. After 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 2035. By the end of the 75-year projection period, the number of workers per beneficiary is projected to decline to 2.5, 1.9, and 1.4 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 (which excludes interest income) 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 through 2019, 2014, and 2009, under alternatives I, II, and III, respectively, resulting in positive annual balances. Thereafter, under the intermediate assumptions, the annual deficit is projected to rise rapidly, reaching 4.26 percent of taxable payroll for 2030 and 6.13 percent for 2074. Under alternative I, annual deficits rise to a peak of 2.05 percent of payroll for 2033, and decline steadily thereafter through 2074, falling below 1 percent by 2063. Under adverse conditions, as assumed in alternative III, the deficit would grow very rapidly, to over 14 percent of taxable payroll by 2074.

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:			
2000-24	12.76	12.30	0.46
2025-49	13.11	17.55	-4.44
2050-74	13.26	18.67	-5.42
Low Cost:			
2000-24	12.73	11.30	1.43
2025-49	12.98	14.65	-1.68
2050-74	13.03	14.04	-1.01
High Cost:			
2000-24	12.81	13.62	-.81
2025-49	13.27	21.11	-7.83
2050-74	13.59	25.40	-11.81

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 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 are projected to 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 end-of-period assets equal to 100 percent of the follow-

ing 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:			
2000-74	13.51	15.40	-1.89
Low Cost:			
2000-74	13.41	13.03	.38
High Cost:			
2000-74	13.65	18.65	-5.00

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 0.38 percent of taxable payroll under the low cost assumptions to a deficit of 5.00 percent under the high cost assumptions. Based on the intermediate assumptions, an actuarial deficit of 1.89 percent is projected, representing the difference between the summarized income rate of 13.51 percent and the corresponding cost rate of 15.40 percent.

The estimated actuarial deficit is smaller than the corresponding deficit of 2.07 percent of payroll in last year's report. If the only change for this year's report had been to change the long-range valuation period from 1999-2073 to 2000-74, the deficit for this year's report would have risen to 2.14 percent of payroll. However, there are a number of other changes that have the net effect of more than offsetting the increase in the deficit which results from the change in valuation period. The principal changes contributing to the improved actuarial balance are: more favorable economic assumptions for the long term, stronger economic growth in the near term than was expected in last year's report, updates and improvements in projection methods, and less favorable demographic assumptions for the long term. 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 1.89 percent under intermediate assumptions were to be addressed by raising scheduled tax rates by 0.95 percent for employees and employers, each, and by 1.90 percent for the self-employed, then OASDI assets at

the beginning of 2000, 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.

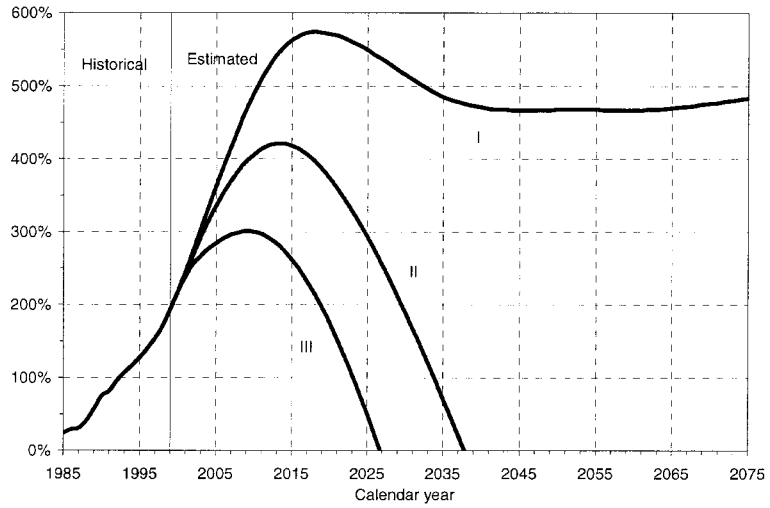
3. Trust Fund Ratios

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 2015, by which time the cost of the program will have already started to increase more rapidly due to the retirement of the "baby-boom" generation. Beginning with 2015, the tax income projected under present law is expected to be insufficient to cover program expenditures, making it necessary to draw upon the trust funds to make up the shortfall. Total income, including interest earnings, is expected to exceed expenditures until 2025. Thus, the amount needed from the trust funds is projected to be less than interest earnings through 2024. After 2024, it will be necessary to draw amounts from the trust funds that exceed interest earnings, thus reducing the dollar level of trust fund assets. If no corrective action is taken, trust fund assets are projected to be exhausted by the end of 2037. At that time, the annual tax revenues of the combined trust funds would be sufficient to cover about 72 percent 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 2000, the combined assets of the OASI and DI Trust Funds represented about 218 percent of combined expenditures

estimated for the year. Based on the intermediate assumptions, assets would accumulate to a peak of 421 percent of expenditures in 2013, and would then decline steadily until exhaustion in 2037. Based on the intermediate estimates in last year's report, the peak fund ratio for the combined funds was estimated to be 364 percent in 2013 and the year of exhaustion was estimated to be 2034.

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 473 and 243 percent, respectively, in this year's report as compared to 415 percent and 213 percent, respectively, in last year's report. The following table presents a summary of the projections in this year's report for OASI, DI, and the combined trust funds under the three sets of assumptions for the period 2000 through 2074.

Table I.G3.—OASDI Trust Fund Ratios

	OASI	DI	Combined
Intermediate:			
Maximum trust fund ratio (percent)	473	243	421
Year attained	2014	2005	2013
Year of exhaustion	2039	2023	2037
Low Cost:			
Maximum trust fund ratio (percent)	597	1,293	574
Year attained	2017	2074	2018
Year of exhaustion	—	—	—
High Cost:			
Maximum trust fund ratio (percent)	357	188	301
Year attained	2011	2002	2009
Year of exhaustion	2029	2012	2026

Under the low cost alternative I assumptions, the combined trust fund ratio rises rapidly until the retirement of the "baby-boom" generation and begins declining during the retirement years of the "baby-boom" generation. However, this decline ceases after 2045 and the ratio rises slowly after 2060, even though annual balances remain negative at a level around 1 percent of payroll. This occurs because the projected trust fund interest earnings are high enough to offset the annual deficits and still keep the trust funds growing nearly as fast as annual outgo. For the high cost alternative III, the combined trust fund is permanently exhausted in 2026.

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.

The excess of OASDI tax income over outgo during the next 15 years, under the intermediate assumptions, will result in a substantial build-up of the combined OASI and DI Trust Funds. This increase in trust fund assets is in turn borrowed by the general fund, resulting in a substantial net cash flow to the general fund. After the next 15 years, increasingly larger amounts of annual interest income must be

used to meet benefit payments and other expenditures and 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 titled "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 smaller than in the 1999 report, and, if the OASI and DI Trust Funds were combined, the year of exhaustion of the funds is now estimated to be 2037, or 3 years later than in the 1999 report. This reduction in the actuarial deficit is largely due to actual and assumed improvements in the economy and to refinements in estimating methods. Economic growth in the near term is stronger than had been assumed in last year's report, and assumed growth in the long term is also higher. Offsetting these favorable effects are changes in demographic assumptions, namely, faster declines in future mortality rates, which in turn are offset somewhat by slightly higher assumed fertility rates in the long term.

1. Short-Term Status

Both the OASI and DI Trust Funds separately meet the short-term solvency test. At the beginning of 2000, the combined assets of the trust funds represented 218 percent of estimated expenditures in 2000. 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 2009 and then declines thereafter.

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 1.89 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 2037 without corrective legislation. At that time, annual tax revenues of the combined trust funds would be less than

expenditures by 4.74 percent of taxable earnings and would be sufficient to cover only 72 percent 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 37 years. Relative to annual expenditures, the combined trust funds would continue to grow during the next 13 years, reaching a peak of about 4.2 times annual expenditures. Considering each fund separately, the OASI Trust Fund would have sufficient funds for the next 39 years, and the DI Trust Fund for the next 23 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 26 years.

For each of the next 15 years, OASDI income from contributions on taxable earnings and from 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 payable 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 2015 through the end of the projection period, with the shortfall reaching 6.13 percent of taxable earnings by 2074, 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 2010, and the shortfall would grow eventually to be 14.32 percent of taxable earnings by 2074. Similarly, based on the low cost estimates, the crossover point is 2020, and the shortfall reaches a peak of 2.05 percent in 2033 and then declines to 0.85 percent by 2074.

Although OASDI annual balances become negative in 2015 in the intermediate case, the availability of interest earnings results in continued trust fund growth until 2025. Because expenditures are estimated to increase faster than assets, however, OASDI assets would decline relative to annual expenditures, from about 4.2 to about 2.9 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 well before any necessary changes take effect, to allow time for phasing in such changes and for workers to adjust their retirement plans to take account of those changes. We believe that recent discussion and analysis of the long-range financing problems of the OASDI program have been useful in providing policy-makers and the public with extensive information on possible options for program financing.

II. ACTUARIAL ANALYSIS

A. SOCIAL SECURITY AMENDMENTS SINCE THE 1999 REPORT

Since the 1999 Annual Report was transmitted to the Congress on March 30, 1999, two laws affecting the OASDI program in a significant way have been enacted. The Foster Care Independence Act of 1999 (Public Law 106-169, enacted on December 14, 1999) included provisions affecting the OASDI program from an actuarial standpoint. One of these provisions makes a representative payee liable for an OASDI overpayment caused by a payment to a beneficiary who has died. Another provision adds a new penalty of nonpayment of benefits for individuals found to have made a statement or representation of material fact for use in determining eligibility for OASDI benefits that the individual knew, or should have known, was false or misleading or omitted a material fact.

The Ticket to Work and Work Incentives Improvement Act of 1999, (Public Law 106-170, enacted on December 17, 1999) includes several provisions that have an effect on the OASDI program's financial status. In general, these provisions authorize the Commissioner of Social Security to establish a Ticket to Work and Self-Sufficiency program which would provide disabled beneficiaries with more vocational rehabilitation services, employment services, and other support services from employment networks, including participating State Vocational Rehabilitation agencies, which provide such aid. Services provided to eligible disabled beneficiaries by the employment networks would be financed by payments from the OASI and DI Trust Funds. The new program becomes effective with the first month following one year after enactment. Another provision in P.L. 106-170 prohibits the use of work activity as a basis for review of benefits that have been paid to disabled individuals for at least 24 months, beginning January 1, 2002. There are several other provisions in P.L. 106-170 that have relatively minor effects on the OASDI Program.

In addition, when this report was ready to be released for printing, the enactment of legislation relating to the elimination of the retirement earnings test was imminent. The legislation eliminates the retirement earnings test for individuals who have reached their normal retirement age. The effects of this amendment (which are negligible over the long-range period as a whole) are not reflected in the estimates in this report.

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 2001 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 2000 is also shown in table II.B1.

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

		Contribution rates (percent)					
		Employees and employers, each			Self-employed		
Calendar years	Contribution and benefit 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			Self-employed		
		OASDI	OASI	DI	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	72,600	6.200	5.350	.850	12.4000	10.7000	1.7000
2000	76,200	6.200	5.300	.900	12.4000	10.6000	1.8000
2001 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 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.

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. Beginning January 1999, in calculating the average market yield rate for this purpose, the Treasury incorporates the yield to the call date when a callable bond's market price is above par.

Although the special issues cannot be bought or sold in the open market, they are nonetheless redeemable at all times at par value and thus bear no risk of fluctuations in principal value due to changes in interest rates. Just as in the case of marketable securities, all of the investments held by the trust funds are backed by the full faith and credit of the U.S. Government.

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 1999

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 1999, 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 1999, total receipts amounted to $447.0 billion, and total disbursements were $337.9 billion. The assets of the OASI Trust Fund thus increased by $109.1 billion during the year, to a total of $762.2 billion on September 30, 1999.

Included in total receipts during fiscal year 1999 were $391.0 billion in payroll tax contributions appropriated to the fund. These contributions were offset by transfers totaling $1.3 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, $0.2 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 1999 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 $389.9 billion, an increase of 6.9 percent over the amount in the preceding year. The increase in OASI tax contributions from fiscal year 1998 to fiscal year 1999 is due to (1) increased earnings, and (2) the increases in the contribution and benefit base that became effective on January 1 of each year 1998 and 1999. (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 $10.2 billion, of which nearly 99 percent represented amounts credited to the trust funds in advance, on an estimated basis. The remaining 1 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 1999

[In thousands]

Total assets, September 30, 1998		$653,108,300
Receipts:		
Contributions:		
Employment taxes	$391,006,823	
Payments from the general fund of the Treasury for:		
Contributions subject to refund	-1,301,040	
Employee-employer contributions on deemed wage credits for military service	227,608	
Net contributions		389,933,391
Income from taxation of benefit payments:		
Withheld from benefit payments to nonresident aliens	136,151	
All other, not subject to withholding	10,036,000	
Total income from taxation of benefits		10,172,151
Reimbursement from the general fund for costs of payments to uninsured persons who attained age 72 before 1968		689
Investment income and interest adjustments:		
Interest on investments	46,847,329	
Interest on transfers to the general fund account for the Supplemental Security Income program due to adjustment in allocation of administrative expenses	1,014	
Interest on interfund transfers due to adjustment in allocation of administrative expenses	733	
Interest on certain reimbursements from the general fund	132	
Total investment income and interest adjustments		46,849,209
Gifts		144
Total receipts		446,955,583
Disbursements:		
Benefit payments:		
Gross benefit payments	333,347,422	
Offset for collected overpayments	-922,792	
Reimbursement from the general fund for unnegotiated checks	-55,441	
Net benefit payments		332,369,190
Transfer to the Railroad Retirement "Social Security Equivalent Benefit Account"		3,681,366
Administrative expenses:		
Social Security Administration	1,574,403	
Department of the Treasury	276,579	
Reimbursement from the general fund for costs of furnishing information on deferred vested pension benefits	-1,932	
Offsetting receipts from sales of supplies, materials, etc.	-2,242	
Reimbursement from the general fund for costs of furnishing information related to the Coal Industry Retiree Health Benefit Act of 1992	-185	
Reimbursement from the general fund for costs associated with union activities	-3,335	
Net administrative expenses		1,843,288
Total disbursements		337,893,844
Net increase in assets		109,061,739
Total assets, September 30, 1999		762,170,038

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 $689,000 was transferred to the OASI Trust Fund in fiscal year 1999, as required by section 228 of the Social Security Act. The reimbursement reflected the costs of payments made in fiscal year 1997.

The OASI Trust Fund was credited with interest netting $46.8 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 on reimbursements to the trust fund for costs associated with union activities and pension reform. The remaining $144,071 of receipts consisted of gifts received under the provisions authorizing the deposit of money gifts or bequests in the trust funds.

Of the $337.9 billion in total disbursements, $332.4 billion was for net benefit payments. The amount of net benefit payments in fiscal year 1999 represents an increase of 2.5 percent over the corresponding amount in fiscal year 1998. This increase is due primarily to (1) the automatic cost-of-living benefit increases of 2.1 percent and 1.3 percent which became effective for December 1997 and December 1998 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 1999.

The remaining $1.8 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 actual experience develops and is 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 1999 amounted to $1,932,451.

The OASI Trust Fund was reimbursed $184,711 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 fund was also reimbursed $3,334,528 for costs associated with union activities, as authorized by Public Law 105-78.

The assets of the OASI Trust Fund at the end of fiscal year 1999 totaled $762.2 billion, consisting of $762.2 billion in U.S. Government obligations and, as an offset, an extension of credit amounting to $56 million. Table II.C2 shows the total assets of the fund and their distribution at the end of each fiscal year 1998 and 1999.

Table II.C2.—Assets of the OASI Trust Fund, by Type, Interest Rate, and Year of Maturity, at End of Fiscal Year, 1998 and 1999

	September 30, 1998	September 30, 1999
Obligations sold only to the trust funds (special issues):		
Certificates of indebtedness:		
5.375 percent, 1999	$16,346,363,000.00	—
5.75 percent, 1999	5,698,144,000.00	—
6.25 percent, 2000	—	$29,588,109,000.00
Bonds:		
5.875 percent, 2000	6,169,272,000.00	—
5.875 percent, 2001	6,169,272,000.00	6,169,272,000.00
5.875 percent, 2002-12	67,862,003,000.00	67,862,003,000.00
5.875 percent, 2013	43,258,869,000.00	43,258,869,000.00
6 percent, 2001	—	6,693,628,000.00
6 percent, 2002-11	—	66,936,270,000.00
6 percent, 2012-13	—	13,387,256,000.00
6 percent, 2014	—	49,952,497,000.00
6.25 percent, 2000	3,150,975,000.00	—
6.25 percent, 2001-06	18,905,850,000.00	18,905,850,000.00
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, 2000	2,431,254,000.00	1,795,524,000.00
6.5 percent, 2001-09	21,881,286,000.00	21,881,286,000.00
6.5 percent, 2010	29,742,844,000.00	29,742,844,000.00
6.875 percent, 2000-03	15,901,080,000.00	15,901,080,000.00
6.875 percent, 2004-09	23,851,626,000.00	23,851,626,000.00
6.875 percent, 2010-11	7,950,544,000.00	7,950,544,000.00
6.875 percent, 2012	37,089,596,000.00	37,089,596,000.00
7 percent,1999	1,452,405,000.00	—
7 percent, 2000-03	13,485,924,000.00	13,485,924,000.00
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, 1999	3,961,556,000.00	—
7.25 percent, 2000-06	27,730,892,000.00	27,730,892,000.00
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, 1999	3,575,473,000.00	—
7.375 percent, 2000	3,575,473,000.00	3,575,473,000.00
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, 1999	3,611,349,000.00	—
8.125 percent, 2000	3,611,349,000.00	3,611,349,000.00
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, 1999	313,295,000.00	—
8.375 percent, 2000	313,295,000.00	313,295,000.00
8.375 percent, 2001	2,370,396,000.00	2,370,396,000.00
8.625 percent, 1999	1,301,731,000.00	—
8.625 percent, 2000-01	2,603,462,000.00	2,603,462,000.00
8.625 percent, 2002	3,672,127,000.00	3,672,127,000.00
8.75 percent, 1999	7,099,802,000.00	—
8.75 percent, 2000	7,099,802,000.00	7,099,802,000.00
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, 1999	2,240,309,000.00	—
9.25 percent, 2000	2,240,309,000.00	2,240,309,000.00
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, 1999	565,186,000.00	—
10.375 percent, 2000	2,057,101,000.00	2,057,101,000.00
13.75 percent, 1999	1,491,915,000.00	—
Total investments	653,281,692,000.00	762,225,947,000.00
Undisbursed balances [1]	-173,392,374.92	-55,908,558.71
Total assets	653,108,299,625.08	762,170,038,441.29

[1] Negative figures represent an 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.

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 1999 was 7.0 percent, as compared to 7.3 percent earned during calendar year 1998. The interest rate on special issues purchased by the trust fund in June 1999 was 6 percent, payable semiannually. Special-issue bonds with a total par value of $143.7 billion were purchased in June 1999.

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 amounts 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, 1999, 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 2000-14.

2. Disability Insurance Trust Fund

A statement of the income and disbursements of the Federal Disability Insurance Trust Fund in fiscal year 1999, 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 1999, total receipts amounted to $67.8 billion, and total disbursements were $52.1 billion. The assets of the trust fund thus increased by $15.7 billion during the year, to a total of $92.7 billion on September 30, 1999.

Actuarial Analysis

Included in total receipts were $62.1 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, $36,346,000 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 1999 if such credits had been considered to be covered wages.

Net contributions thus amounted to $61.9 billion, an increase of 6.8 percent from the amount in the preceding fiscal year. This increase is attributable to the same factors, insofar as they apply to the DI program, that accounted for the change in contributions to the OASI Trust Fund. Income from the taxation of benefit payments amounted to $0.6 billion in fiscal year 1999.

Interest totaling $5.2 billion consisted of interest on the investments of the fund, interest on amounts of interfund transfers, and interest on reimbursements.

Of the $52.1 billion in total disbursements, $50.4 billion was for net benefit payments. This represents an increase of 6.0 percent over the corresponding amount of benefit payments in fiscal year 1998. This increase is due in part to the same factors that resulted in the net increase in benefit payments from the OASI Trust Fund. However, the number of persons receiving benefits from the DI Trust Fund increased more rapidly in 1999, than those receiving benefits from the OASI Trust Fund.

Table II.C3.—Statement of Operations of the DI Trust Fund During Fiscal Year 1999

[In thousands]

Total assets, September 30, 1998		$77,087,107
Receipts:		
Contributions:		
Employment taxes	$62,090,136	
Payments from the general fund of the Treasury for:		
Contributions subject to refund	-205,560	
Employee-employer contributions on deemed wage credits for military service	36,346	
Net contributions		61,920,922
Income from taxation of benefit payments:		
Withheld from benefit payments to nonresident aliens	5,752	
All other, not subject to withholding	625,000	
Total income from taxation of benefits		630,752
Investment income and interest adjustments:		
Interest on investments	5,223,439	
Interest on interfund transfers due to adjustment in allocation of administrative expenses	-382	
Net interest adjustments on disbursement of funds to certain State Disability Determination Services	818	
Interest on reimbursement from the general fund for costs associated with union activity	53	
Net investment income and interest adjustments		5,223,928
Total receipts		67,775,603
Disbursements:		
Benefit payments:		
Gross benefit payments	50,696,917	
Offset for collected overpayments	-268,669	
Reimbursement from the general fund for unnegotiated checks	-17,636	
Net benefit payments		50,410,612
Transfer to the Railroad Retirement "Social Security Equivalent Benefit Account"		134,636
Payment for costs of vocational rehabilitation services for disabled beneficiaries		62,894
Administrative expenses:		
Social Security Administration	1,471,659	
Department of the Treasury	48,090	
Demonstration projects and experiments	219	
Reimbursement from the general fund for costs of furnishing information related to the Coal Industry Retiree Health Benefit Act of 1992	-149	
Reimbursement from the general fund for costs associated with union activities	-2,738	
Net administrative expenses		1,517,080
Total disbursements		52,125,222
Net increase in assets		15,650,381
Total assets, September 30, 1999		92,737,488

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, $134,636,000 was transferred to the Social Security Equivalent Benefit Account from the DI Trust Fund in June 1999.

The remaining disbursements amounted to $1.5 billion for net administrative expenses (including $219,349 for demonstration projects and experiments to test the effect of alternative methods for assisting disabled beneficiaries' attempts to work), and $62,893,718 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 1999 totaled $92.7 billion, consisting of $92.7 billion in U.S. Government obligations and cash totaling $72 million. Table II.C4 shows the total assets of the fund and their distribution at the end of each fiscal year 1998 and 1999.

The effective annual rate of interest earned by the assets of the DI Trust Fund during calendar year 1999 was 6.6 percent, as compared to 6.8 percent earned during calendar year 1998. The interest rate on public-debt obligations issued for purchase by the trust fund in June 1999 was 6 percent, payable semiannually. Special-issue bonds with a total par value of $19.3 billion were purchased in June 1999.

The investment policies and practices described for the OASI Trust Fund also apply 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, 1998 and 1999

	September 30, 1998	September 30, 1999
Investments in public-debt obligations:		
Public issues:		
Treasury bonds:		
3.5 percent, 1998	$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	44,000,000.00
Unamortized premium or discount, net	-189,886.18	-175,752.45
Total investments in public issues at book value	48,810,113.82	43,824,247.55
Obligations sold only to the trust funds (special issues):		
Certificates of indebtedness:		
5.375 percent, 1999	2,526,004,000.00	—
5.75 percent, 1999	406,123,000.00	—
6.25 percent, 2000	—	4,284,031,000.00
Bonds:		
5.875 percent, 2000	916,286,000.00	—
5.875 percent, 2001-12	10,995,432,000.00	10,995,432,000.00
5.875 percent, 2013	5,361,805,000.00	5,361,805,000.00
6 percent, 2001-02	—	3,224,852,000.00
6 percent, 2003	—	1,437,946,000.00
6 percent, 2004-06	—	2,087,895,000.00
6 percent, 2007-12	—	4,175,796,000.00
6 percent, 2013	—	695,967,000.00
6 percent, 2014	—	6,057,772,000.00
6.5 percent, 1999	1,059,081,000.00	—
6.5 percent, 2000-07	17,181,272,000.00	17,181,272,000.00
6.5 percent, 2008	3,064,120,000.00	3,064,120,000.00
6.875 percent, 1999	265,249,000.00	—
6.875 percent, 2000-02	795,747,000.00	795,747,000.00
6.875 percent, 2003	265,252,000.00	265,252,000.00
6.875 percent, 2004-07	1,061,000,000.00	1,061,000,000.00
6.875 percent, 2008-09	530,498,000.00	530,498,000.00
6.875 percent, 2010-12	13,336,560,000.00	13,336,560,000.00
7 percent, 1999	1,116,151,000.00	—
7 percent, 2000-08	10,045,359,000.00	10,045,359,000.00
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)	76,946,527,000.00	92,621,892,000.00
Total investments in public-debt obligations (book value [1])	76,995,337,113.82	92,665,716,247.55
Undisbursed balances	91,770,319.42	71,772,242.16
Total assets (book value [1])	77,087,107,433.24	92,737,488,489.71

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

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 income and disbursements 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 two preceding subsections covering OASI and DI separately.

Table II.C5.—Statement of Operations of the OASI and DI Trust Funds, Combined, During Fiscal Year 1999

[In thousands]

Total assets, September 30, 1998		$730,195,407
Receipts:		
Contributions:		
Employment taxes	$453,096,959	
Payments from the general fund of the Treasury for:		
Contributions subject to refund	-1,506,600	
Employee-employer contributions on deemed wage credits for military service	263,954	
Net contributions		451,854,313
Income from taxation of benefit payments:		
Withheld from benefit payments to nonresident aliens	141,903	
All other, not subject to withholding	10,661,000	
Total income from taxation of benefits		10,802,903
Reimbursement from the general fund for costs of payments to uninsured persons who attained age 72 before 1968		689
Investment income and interest adjustments:		
Interest on investments	52,070,768	
Interest on transfers to the general fund account for the Supplemental Security Income program due to adjustment in allocation of administrative expenses	1,014	
Interest on interfund transfers due to adjustment in allocation of administrative expenses	351	
Interest on certain reimbursements from the general fund	185	
Net interest adjustments on disbursement of funds to certain State Disability Determination Services	818	
Total investment income and interest adjustments		52,073,137
Gifts		144
Total receipts		514,731,186
Disbursements:		
Benefit payments:		
Gross benefit payments	384,044,340	
Offset for collected overpayments	-1,191,461	
Reimbursement from the general fund for unnegotiated checks	-73,077	
Net benefit payments		382,779,802
Transfer to the Railroad Retirement "Social Security Equivalent Benefit Account"		3,816,002
Payment for costs of vocational rehabilitation services for disabled beneficiaries		62,894

Table II.C5.—Statement of Operations of the OASI and DI Trust Funds, Combined, During Fiscal Year 1999 (Cont.)

[In thousands]

Disbursements: (Cont.)		
Administrative expenses:		
Social Security Administration	$3,046,062	
Department of the Treasury	324,669	
Reimbursement from the general fund for costs of furnishing information on deferred vested pension benefits	-1,932	
Offsetting receipts from sales of supplies, materials, etc.	-2,242	
Reimbursement from the general fund for costs of furnishing information related to the Coal Industry Retiree Health Benefit Act of 1992	-334	
Reimbursement from the general fund for costs associated with union activities	-6,073	
Demonstration projects and experiments	219	
Net administrative expenses		$3,360,369
Total disbursements		390,019,066
Net increase in assets		124,712,120
Total assets, September 30, 1999		854,907,527

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 1999, as shown in the 1995-99 Annual Reports, with the corresponding actual amounts in 1999. 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. Estimates of OASI benefit payments were generally close to actual payments in 1999. The actual amount of DI benefit payments in 1999, however, was significantly below estimates in the 1995-97 reports, due to slower-than-expected growth in the number of disabled workers. Estimates of 1999 OASDI contributions in recent Trustees Reports were below the actual levels mostly because of unanticipated strong growth in GDP and wages over the last 5 years.

Table II.C6.—Comparison of Actual and Estimated Operations of the OASI and DI Trust Funds, Fiscal Year 1999

[Amounts in millions]

	Net contributions [1]		Benefit payments [2]	
	Amount	Difference from actual (percent)	Amount	Difference from actual (percent)
OASI Trust Fund:				
Estimate in 1995 report	$377,986	-3.1	$348,287	4.8
Estimate in 1996 report	370,344	-5.0	344,660	3.7
Estimate in 1997 report	370,781	-4.9	342,742	3.1
Estimate in 1998 report	377,585	-3.2	334,206	.6
Estimate in 1999 report	388,420	-.4	333,135	.2
Actual amount	389,933	—	332,369	—
DI Trust Fund:				
Estimate in 1995 report	60,047	-3.0	55,995	10.9
Estimate in 1996 report	58,833	-5.0	54,627	8.2
Estimate in 1997 report	58,907	-4.9	53,886	6.8
Estimate in 1998 report	59,988	-3.1	51,409	1.9
Estimate in 1999 report	61,692	-.4	50,307	-.3
Actual amount	61,921	—	50,474	—
OASI and DI Trust Funds, combined:				
Estimate in 1995 report	438,033	-3.1	404,281	5.6
Estimate in 1996 report	429,177	-5.0	399,288	4.3
Estimate in 1997 report	429,688	-4.9	396,628	3.6
Estimate in 1998 report	437,573	-3.2	385,616	.7
Estimate in 1999 report	450,112	-.4	383,442	.2
Actual amount	451,854	—	382,843	—

[1] "Actual" contributions for 1999 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 1999, about 44.5 million persons were receiving monthly benefits under the OASDI program. Of these persons, about 38.0 million and 6.5 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 0.3 percent and 2.9 percent, respectively, during the fiscal year. The estimated distribution of benefit payments in fiscal years 1998 and 1999, 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 1998 and 1999

[Amounts in millions]

	Fiscal year 1998		Fiscal year 1999	
	Amount	Percentage of total	Amount	Percentage of total
Total OASDI benefit payments	$371,822	100.0	$382,780	100.0
OASI benefit payments	324,256	87.2	332,369	86.8
DI benefit payments	47,565	12.8	50,411	13.2
OASI benefit payments, total	324,256	100.0	332,369	100.0
Monthly benefits:				
Retired workers and auxiliaries	250,564	77.3	257,177	77.4
Retired workers	230,292	71.0	236,805	71.2
Wives and husbands	18,342	5.7	18,395	5.5
Children	1,930	.6	1,978	.6
Survivors of deceased workers	73,472	22.7	74,976	22.6
Aged widows and widowers	58,881	18.2	60,202	18.1
Disabled widows and widowers	1,213	.4	1,257	.4
Parents	29	(1)	28	(1)
Children	11,895	3.7	12,079	3.6
Widowed mothers and fathers caring for child beneficiaries	1,454	.4	1,410	.4
Uninsured persons generally aged 72 before 1968	(2)	(1)	(2)	(1)
Lump-sum death payments	220	.1	216	.1
DI benefit payments, total	47,565	100.0	50,411	100.0
Disabled workers	42,855	90.1	45,594	90.4
Wives and husbands	464	1.0	436	.9
Children	4,246	8.9	4,381	8.7

[1] Less than 0.5 percent.

[2] Less than $500,000.

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 1999 totaled $3.4 billion. This amount represented 0.7 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 1995-99

	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
1995	0.6	0.6	1.6	2.7	0.8	0.9
1996	.6	.6	1.9	2.5	.8	.8
1997	.6	.6	2.2	2.7	.8	.9
1998	.6	.6	2.7	3.3	.9	1.0
1999	.5	.6	2.5	3.0	.7	.9

Actuarial Analysis

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 1998 and 1999. 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 1999. 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 1999

[In thousands]

	OASI Trust Fund	DI Trust Fund	OASI and DI Trust Funds, combined
Invested assets, September 30, 1998	$653,281,692	$76,995,527	$730,277,219
Acquisitions:			
Special issues:			
Certificates of indebtedness	424,497,935	65,372,615	489,870,550
Bonds	143,663,279	19,292,654	162,955,933
Public issues:			
Treasury bonds	—	—	—
Total acquisitions	568,161,214	84,665,269	652,826,483
Dispositions:			
Special issues:			
Certificates of indebtedness	416,954,333	64,020,711	480,975,044
Bonds	42,262,626	4,969,193	47,231,819
Public issues:			
Treasury bonds	—	5,000	5,000
Total dispositions	459,216,959	68,994,904	528,211,863
Net increase in invested assets	108,944,255	15,670,365	124,614,620
Invested assets, September 30, 1999	762,225,947	92,665,892	854,891,839

Note: All investments are shown at par value.

D. PRINCIPAL ECONOMIC AND DEMOGRAPHIC ASSUMPTIONS

The future income and outgo of the OASDI program will 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 projections of these variables are inherently uncertain, estimates are shown in this report on the basis of three plausible 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.

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, there was a particular need for such a review because the BEA introduced significant changes to the NIPA in late October 1999.

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

The values for each of the economic and demographic factors are assumed to move from recently experienced levels or trends, toward long-range ultimate values over the next 5 to 30 years. The ultimate values assumed after the first 5 to 30 years for both the economic and the demographic variables are intended to represent average experi-

ence or growth rates. Actual future values will exhibit fluctuations or cyclical patterns, as in the past.

1. Economic Assumptions

The principal economic assumptions are summarized in table II.D1. Alternatives I, II, and III represent a range of economic assumptions designed to produce variation in Social Security's financial status that should encompass most of the possibilities that might be encountered. The intermediate assumptions (alternative II) reflect 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 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.

a. GDP, Labor Productivity, and Labor Force Growth

For alternative II, the annual growth in real GDP is assumed to average 2.3 percent over the short-range projection period (1999-2009), a slower rate than the 3.0 percent average observed over the most recent historical 10-year period (1989-99). This 0.7 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 2.8 percent over the next 10 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 inflation rate are assumed for the first 3 quarters of 2000. A recession begins in the fourth quarter of 2000, lasts 3 quarters, and results in a total decline in real GDP of 1.1 percent. After 8 quarters of recovery, a second recession, with a total decline in real GDP of 2.9 percent, is assumed to begin in the third quarter of 2003, lasting 4 quarters. After the second recession, a moderate economic recovery is assumed through 2006, with continued modest economic growth thereafter.

After 2009, 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 Trustees assume an intermediate trend growth rate of labor produc-

tivity of 1.5 percent per year, roughly in line with the average rate of growth of productivity over the last 30 years.

The Trustees project a substantial slowing of growth in the working age population in the future as the natural consequence of the "baby-boom" generation approaching retirement and the succeeding lower-birth-rate cohorts reaching working age. The projected slowdown in labor force growth also reflects the cessation of relatively rapid growth in labor force participation rates, particularly for women, by about 2005. The annual rate of growth in total labor force decreased from an average of about 2 percent per year during the 1970s and 1980s to about 1.2 percent from 1991 to 1999. After 1999 the labor force is projected to increase at about 0.9 percent per year, on average, through 2009, and to increase much more slowly thereafter, ultimately reaching 0.2 percent toward the end of the 75-year projection period.

The projected rate of growth for real GDP falls toward the ultimate assumed productivity growth rate because of the Trustees' projected decline in labor force growth over the long term. With productivity growth assumed at 1.5 percent, labor force growth projected to slow to 0.2 percent, and average hours worked assumed to decline by about 0.1 percent per year, projected GDP growth slows to about 1.5 percent by the end of the long-range projection period.

b. Unemployment Rate

Unemployment rates are presented in the most commonly cited form, the civilian rate, which is determined by the difference between aggregate civilian labor force and aggregate civilian employment. For years after 2009, however, total age-sex adjusted rates are presented, with adjustment based on the distribution of the 1999 labor force. These adjusted rates remove the effects of the changing age-sex distribution of the labor force, thus allowing for more meaningful comparisons of unemployment rates across time periods.

Ultimate unemployment rates are the same as the values assumed in the 1999 report. The ultimate age-sex adjusted unemployment rate for each alternative is assumed to be reached by 2009. The ultimate assumed unemployment rates are 4.5, 5.5, and 6.5 for alternatives I, II and III, respectively.

c. Inflation

The annual rate of increase in the CPI (Consumer Price Index for Urban Wage Earners and Clerical Workers) was 2.2 percent for 1999. For alternative II, the annual change in the CPI increases from 3.1 percent for 2000 to the assumed ultimate rate of 3.3 percent reached in 2005. For alternative I, CPI changes range from 2.9 percent for 2000 to the assumed ultimate rate of 2.3 percent reached in 2002. For alternative III, the rate of change in the CPI is projected to increase from 3.4 percent for 2000 to the assumed ultimate rate of 4.3 percent reached in 2006. Ultimate rates of increase in the CPI are the same as shown in the 1999 report. The Trustees also project GDP price inflation, as measured by the GDP chain-type price index, to be 0.2 percentage point lower than CPI-measured inflation, based primarily on methodological differences in the construction of the two indices.

d. Growth in Wages

For alternative II, the annual rate of change in the average wage in OASDI covered employment is assumed to drop from the estimated 5.2 percent increase for 1999, to a projected rate of 4.6 percent for 2000, and then to average about 4.2 percent for the period 2001 through 2009. Growth in the average wage reaches its ultimate assumed average rate of 4.3 percent after 2008.

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 3.0 percent in 1999, based on preliminary data. The assumed real-wage differential in the future is directly related to the assumed rates of change in several economic factors, including productivity growth and inflation. After 1999, under the intermediate assumptions, the real-wage differential is projected to be between 0.9 and 1.5 percentage points for the years 2000 through 2009, and thereafter remain at the ultimate assumed differential of 1.0 percentage point—4.3 percent nominal wage growth less 3.3 percent CPI inflation.

For the low cost alternative I, the real-wage differential is assumed to be in the range of 1.3 percentage points to 1.8 percentage points between 2000 and 2009, remaining at the ultimate assumed real-wage differential of 1.5 percentage points thereafter. For the high cost alternative III, the real-wage differential for the short-range period is

projected to fluctuate between -2.1 and 1.8 percentage points, eventually stabilizing at 0.5 percentage point in 2008 and later.

e. Trust Fund Interest Rate

The average annual nominal interest rate for securities newly issued to the trust funds increased from 5.6 percent in 1998 to 5.9 percent in 1999. Under the intermediate assumptions, it is projected to rise to 6.7 percent for 2000 and 2001, reflecting a higher projected rate of inflation. During 2002 and 2003, the reduction in the nominal interest rate follows from the decline in the rate of growth in GDP, as the economy moves toward the long-range sustainable growth path. Thereafter, the nominal interest rate rises gradually, reaching the ultimate assumed level of 6.3 percent in 2006, following the increase in the annual rate of inflation. For the low cost alternative I assumptions, the average annual nominal interest rate is assumed to reach an ultimate level of 6.0 percent in 2003. In the high cost alternative III, it is assumed to peak at 7.2 percent for 2003 and 2004, and then decline to an ultimate rate of 6.5 percent in 2007.

The assumed ultimate nominal interest rates are based on assumed annual real yields of 3.0 percent for the intermediate assumptions, and 3.7 percent and 2.2 percent for alternatives I and III, respectively. These annual real yields are the same as those assumed in the 1999 report.

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	4.2	3.4	1.3	2.1	3.7	5.7	1.3
1965-69	4.7	5.3	3.4	2.0	5.2	3.8	2.0
1970-74	2.8	6.3	6.1	.2	6.7	5.4	2.6
1975	-.3	6.7	9.1	-2.4	7.4	8.5	2.0
1976	5.2	8.5	5.7	2.8	7.1	7.7	2.5
1977	4.5	6.8	6.5	.3	7.1	7.0	2.9
1978	5.7	11.6	7.7	3.9	8.2	6.1	3.3
1979	3.4	9.8	11.4	-1.6	9.1	5.8	2.7
1980	.0	6.7	13.4	-6.7	11.0	7.2	1.9
1981	2.5	10.8	10.3	.6	13.3	7.6	1.6
1982	-1.9	6.3	6.0	.3	12.8	9.7	1.4
1983	4.2	4.2	3.0	1.2	11.0	9.6	1.2
1984	7.3	6.0	3.5	2.5	12.4	7.5	1.8
1985	3.9	6.0	3.5	2.6	10.8	7.2	1.7
1986	3.4	4.6	1.6	3.0	8.0	7.0	2.1
1987	3.5	4.6	3.6	1.0	8.4	6.2	1.7
1988	4.2	5.3	3.9	1.4	8.8	5.5	1.5
1989	3.5	3.9	4.9	-.9	8.7	5.3	1.8
1990	1.7	5.1	5.2	-.1	8.6	5.6	1.6
1991	-.2	3.0	4.1	-1.1	8.0	6.8	.4
1992	3.3	4.9	2.9	2.0	7.1	7.5	1.4
1993	2.4	1.9	2.8	-.9	6.1	6.9	.8
1994	4.0	3.4	2.5	1.0	7.1	6.1	1.4
1995	2.7	[7] 4.0	2.9	1.1	6.9	5.6	1.0
1996	3.7	[7] 4.5	2.9	1.6	6.6	5.4	1.2
1997	4.5	[7] 5.7	2.3	3.4	6.6	4.9	1.8
1998	4.3	[7] 5.6	1.3	4.3	5.6	4.5	1.0
1999	[7] 4.0	[7] 5.2	2.2	3.0	5.9	4.2	1.2
Intermediate:							
2000	3.5	4.6	3.1	1.5	6.7	4.1	1.3
2001	2.7	4.4	3.0	1.4	6.7	4.2	1.2
2002	2.3	4.2	3.0	1.2	6.2	4.4	1.0
2003	2.0	4.1	3.1	1.0	6.0	4.7	.8
2004	2.0	4.1	3.2	.9	6.1	4.9	.8
2005	2.0	4.2	3.3	1.0	6.2	5.1	.8
2006	2.0	4.2	3.3	.9	6.3	5.2	.8
2007	2.0	4.3	3.3	1.0	6.3	5.3	.8
2008	2.0	4.2	3.3	.9	6.3	5.4	.8
2009	2.1	4.3	3.3	1.0	6.3	5.5	.7
2010	2.1	4.3	3.3	1.0	6.3	5.5	.7
2020	1.7	4.3	3.3	1.0	6.3	5.5	.3
2030	1.7	4.3	3.3	1.0	6.3	5.5	.3
2040	1.7	4.3	3.3	1.0	6.3	5.5	.3
2050	1.6	4.3	3.3	1.0	6.3	5.5	.2
2060	1.6	4.3	3.3	1.0	6.3	5.5	.2
2070	1.6	4.3	3.3	1.0	6.3	5.5	.2
2075	1.5	4.3	3.3	1.0	6.3	5.5	.2

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 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]
Low Cost:							
2000	3.9	4.8	2.9	1.8	6.8	4.0	1.3
2001	3.1	4.1	2.5	1.6	6.8	4.0	1.3
2002	2.6	3.7	2.3	1.4	6.3	4.1	1.1
2003	2.5	3.6	2.3	1.3	6.0	4.2	1.0
2004	2.6	3.7	2.3	1.4	6.0	4.3	1.0
2005	2.7	3.7	2.3	1.4	6.0	4.3	1.0
2006	2.7	3.7	2.3	1.4	6.0	4.4	1.0
2007	2.7	3.8	2.3	1.5	6.0	4.4	1.0
2008	2.6	3.7	2.3	1.4	6.0	4.4	.9
2009	2.7	3.8	2.3	1.5	6.0	4.5	.9
2010	2.6	3.9	2.3	1.5	6.0	4.5	.8
2020	2.2	3.8	2.3	1.5	6.0	4.5	.4
2030	2.3	3.8	2.3	1.5	6.0	4.5	.5
2040	2.4	3.8	2.3	1.5	6.0	4.5	.6
2050	2.4	3.8	2.3	1.5	6.0	4.5	.6
2060	2.4	3.8	2.3	1.5	6.0	4.5	.6
2070	2.4	3.8	2.3	1.5	6.0	4.5	.6
2075	2.4	3.8	2.3	1.5	6.0	4.5	.6
High Cost:							
2000	1.9	3.4	3.4	.1	6.8	4.4	1.2
2001	-.5	2.5	3.8	-1.3	6.8	5.6	.8
2002	2.9	6.8	5.3	1.5	6.9	5.6	.8
2003	1.4	6.5	5.9	.6	7.2	5.5	.9
2004	-1.6	1.9	4.0	-2.1	7.2	7.0	.4
2005	3.3	5.9	4.1	1.8	6.7	6.9	.6
2006	2.6	5.9	4.3	1.6	6.3	6.4	.9
2007	1.7	5.1	4.3	.8	6.5	6.4	.8
2008	1.6	4.8	4.3	.5	6.5	6.5	.7
2009	1.6	4.8	4.3	.5	6.5	6.5	.6
2010	1.5	4.8	4.3	.5	6.5	6.5	.5
2020	1.2	4.8	4.3	.5	6.5	6.5	.2
2030	1.1	4.8	4.3	.5	6.5	6.5	.1
2040	1.0	4.8	4.3	.5	6.5	6.5	-.0
2050	.8	4.8	4.3	.5	6.5	6.5	-.2
2060	.7	4.8	4.3	.5	6.5	6.5	-.3
2070	.7	4.8	4.3	.5	6.5	6.5	-.3
2075	.7	4.8	4.3	.5	6.5	6.5	-.3

[1] The real GDP (gross domestic product) is the value of total output of goods and services, expressed in 1996 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 the average annual wage in covered employment, and 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] Unadjusted civilian unemployment rates are shown through 2009. Thereafter, the rates are adjusted to the age-sex distribution of the civilian labor force in 1999.

[6] The U.S. civilian labor force concept is used here.

[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. Real GDP for 1999 is subject to revision.

2. Demographic Assumptions

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

a. Fertility Rate

For the intermediate projection, the assumed ultimate total fertility rate of 1.95 children per woman is attained in 2024 after a gradual decline from the preliminary estimate for 1999 of 2.06 children per woman. Under 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 2024. For the high cost alternative III, the total fertility rate is assumed to decrease to an ultimate level of 1.7 children per woman by 2024.

The ultimate total fertility rates for the intermediate and high cost assumptions, as shown in table II.D2, are increased from the rates of 1.9 and 1.6 children per woman, respectively, shown in last year's report. The ultimate total fertility rate for the low cost assumptions is unchanged from the rate shown in last year's report. The increase in the ultimate total fertility rates for the intermediate and high cost assumptions is based primarily on the persistently high level of total fertility rates in recent years and the evolving trends in age-specific birth rates. The total fertility rate rose above 2.0 in 1989 and has remained above that level through 1998. In addition, recent trends in age-specific birth rates provide no clear evidence that the total fertility rate will decline in the near future. After dropping dramatically between 1960 and 1976, birth rates for women who were ages 20-29 have remained quite stable between 1976 and 1997. Because much of the decline in birth rates for women who were ages 20-29 was understood to represent a desire to defer births, the gradual increases in birth rates for women who were ages 30-39 for 10 to 15 years after 1976 were expected. However, birth rates for women who were ages 30-39 have continued to increase now for over 20 years since 1976. This has led to increases in the average number of births for a woman between ages 20 and 40 in recent years. In fact, the total fertility rate would have been rising since 1991, if it were not for the fact that birth rates for women at ages 15-19 have been declining significantly.

b. Death Rate and Life Expectancy

Under the intermediate assumptions, the age-sex-adjusted death rate is assumed to decrease steadily during the entire projection period, with a total reduction of 41 percent from the 1999 level by 2074. Life expectancies at birth are 81.0 years for men and 85.1 years for women based on mortality projected for 2075, compared to 73.7 and 79.5 years, respectively, based on 1999 mortality. Life expectancies at age 65 for 2075 mortality are projected to be 19.9 years for men and 22.7 years for women, compared to 15.8 and 19.1 years, respectively, for 1999 mortality.

The age-sex-adjusted death rate for the low cost alternative I is assumed to decrease more slowly than for the intermediate alternative II, with the total reduction from the 1999 level being 18 percent by 2074. Life expectancies at birth based on mortality projected for 2075 are 77.5 years for men and 81.7 years for women, while at age 65 they are 17.2 and 20.0 years, respectively.

For the high cost alternative III, the age-sex-adjusted death rate is assumed to decrease more rapidly than for alternative II, with the total reduction from the 1999 level being 61 percent by 2074. Life expectancies at birth for 2075 mortality are 85.5 years for men and 89.2 years for women, while at age 65 they are 23.3 and 26.1 years, respectively.

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 a group of persons at that age were to experience the mortality rates by age observed in, or assumed for, that year over the course of their remaining life. As such, these "period" life expectancies represent a useful measure of the level of mortality in each year. These "period" life expectancies should not be confused with life expectancies based on the concept of a "cohort" life table. Such "cohort" life expectancies represent the expected average future lifetime of a group of persons at a given age in a year reflecting mortality rates observed in, or assumed for, each later year of that cohort's remaining lifetime.

Projected death rates shown in table II.D2 are lower than the death rates in last year's report. The associated life expectancies are higher than in last year's report. These changes result from updating the starting levels of mortality to reflect the most recent data and, to a much greater degree, from substantially increasing the assumed ulti-

mate rates of decline in mortality for this report. The assumed ultimate rates of decline in mortality have been increased for all ages, to levels that are, on average, about one-third higher than the assumed rates of decline in death rates used in last year's report.

The ages for which death rates are the most critical to the future financing of the OASDI program are ages 65 and over, because the vast majority of all deaths occur at these ages and because changes in mortality at these ages directly affect how long retirement benefits will be paid. In the 1900s mortality at ages 65 and over has declined at a fast rate, averaging about 0.75 percent per year. However, this rate of decline has slowed substantially in more recent years, averaging only about 0.56 percent per year since 1982. Based on this historical trend, and consideration of potential future changes in health care and life style, the assumed ultimate rate of decline in mortality under the intermediate assumptions for ages 65 and over has been increased from 0.50 percent per year in last year's report to 0.65 percent for this year's report.

There is currently a wide range of opinion among experts on the likely rate of future decline in mortality. For example, the 1999 Technical Panel on Assumptions and Methods appointed by the Social Security Advisory Board expected ultimate rates of decline in mortality that are considerably higher than the rates of decline assumed for this report. Others believe that biological and social factors may slow future rates of decline in mortality. Evolving mortality trends and developments in health care and life style will be monitored closely to determine what further modifications to the assumed ultimate rates of decline in mortality may be warranted for future reports.

c. Immigration

Total net immigration is assumed to be 900,000 persons per year for the intermediate projection. The 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, total net immigration is assumed to be 1,210,000 persons per year. The assumed level of net annual immigration is the combination of 760,000 net legal immigrants and 450,000 net other-than-legal immigrants. Under the high cost alternative III, total net immigration is assumed to be 655,000 persons per year, the combination of 455,000 net legal immigrants per year and 200,000 net other-than-legal immigrants.

The assumed level of net immigration is increased by 60,000 persons per year for the low cost assumptions and decreased by 95,000 persons per year for the high cost assumptions from the level assumed in last year's report. The changes increase the range in the assumed level of net immigration provided by the high and low cost alternatives. The increased range in assumed levels of net immigration reflect an increased sense of uncertainty about the level of immigration that might actually occur based on present immigration laws.

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)	Period life expectancy [3]			
			At birth		At age 65	
			Male	Female	Male	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	67.2	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	13.8	18.1
1977	1.80	981.8	69.4	77.2	13.9	18.3
1978	1.76	976.3	69.6	77.3	14.0	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	865.8	71.8	78.9	15.0	19.0
1991	2.07	854.8	71.9	79.0	15.1	19.1
1992	2.06	843.7	72.2	79.2	15.2	19.2
1993	2.04	863.5	72.0	78.9	15.1	19.0
1994	2.04	852.5	72.2	79.0	15.3	19.0
1995	2.02	850.1	72.4	79.0	15.3	19.0
1996	2.03	837.1	72.8	79.1	15.4	19.0
1997	2.04	822.6	73.3	79.3	15.5	19.1
1998 [4]	2.06	796.1	73.9	79.4	16.0	19.1
1999 [4]	2.06	803.0	73.7	79.5	15.8	19.1
Intermediate:						
2000	2.05	796.3	73.9	79.6	15.9	19.2
2005	2.03	767.0	74.7	80.0	16.1	19.3
2010	2.01	744.2	75.4	80.4	16.4	19.4
2015	1.99	720.1	75.9	80.7	16.6	19.6
2020	1.97	692.7	76.4	81.1	16.9	19.8
2025	1.95	665.9	76.9	81.6	17.2	20.1
2030	1.95	640.6	77.4	82.0	17.5	20.4
2035	1.95	617.0	77.9	82.4	17.8	20.7
2040	1.95	594.8	78.3	82.7	18.1	21.0
2045	1.95	574.0	78.7	83.1	18.3	21.2
2050	1.95	554.5	79.1	83.5	18.6	21.5
2055	1.95	536.1	79.5	83.8	18.9	21.8
2060	1.95	518.7	79.9	84.1	19.1	22.0
2065	1.95	502.3	80.3	84.5	19.4	22.3
2070	1.95	486.9	80.7	84.8	19.6	22.5
2075	1.95	472.2	81.0	85.1	19.9	22.7

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)	Period life expectancy [3] At birth Male	At birth Female	At age 65 Male	At age 65 Female
Low Cost:						
2000	2.07	802.6	73.8	79.5	15.8	19.1
2005	2.09	799.9	74.2	79.5	15.8	18.9
2010	2.12	801.9	74.5	79.5	15.9	18.8
2015	2.14	796.3	74.8	79.6	15.9	18.7
2020	2.17	783.2	75.0	79.8	16.0	18.8
2025	2.20	769.2	75.3	80.0	16.1	18.9
2030	2.20	755.7	75.6	80.2	16.3	19.1
2035	2.20	742.7	75.8	80.4	16.4	19.2
2040	2.20	730.3	76.0	80.6	16.5	19.3
2045	2.20	718.3	76.3	80.8	16.6	19.4
2050	2.20	706.9	76.5	81.0	16.7	19.5
2055	2.20	695.9	76.7	81.1	16.8	19.6
2060	2.20	685.3	76.9	81.3	16.9	19.7
2065	2.20	675.2	77.1	81.4	17.0	19.8
2070	2.20	665.4	77.3	81.6	17.1	19.9
2075	2.20	656.0	77.5	81.7	17.2	20.0
High Cost:						
2000	2.04	790.3	74.0	79.7	15.9	19.2
2005	1.97	735.6	75.2	80.5	16.4	19.7
2010	1.90	692.5	76.2	81.2	16.9	20.0
2015	1.83	651.4	77.0	81.8	17.3	20.4
2020	1.76	608.6	77.9	82.5	17.9	20.9
2025	1.70	568.1	78.7	83.3	18.4	21.5
2030	1.70	531.0	79.5	84.0	19.0	22.0
2035	1.70	497.1	80.2	84.6	19.5	22.5
2040	1.70	466.2	81.0	85.3	20.0	23.0
2045	1.70	437.8	81.7	85.9	20.5	23.5
2050	1.70	411.8	82.4	86.5	21.0	23.9
2055	1.70	387.9	83.1	87.1	21.5	24.4
2060	1.70	365.9	83.7	87.6	22.0	24.8
2065	1.70	345.7	84.3	88.2	22.4	25.3
2070	1.70	327.0	84.9	88.7	22.9	25.7
2075	1.70	309.8	85.5	89.2	23.3	26.1

[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 2024.

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

[4] Preliminary or estimated.

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 a number 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 2009. 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 2.4 percent, effective for December 1999, was announced in October 1999, 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 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 other eligibility, and these indexed values are used to calculate the worker's benefit. The average wage index is also used to adjust most

[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 increase 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.

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 1998.

Table II.E1.—Average Wage Index, Calendar Years 1951-98

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	1997	27,426.00
1958	3,673.80	1978	10,556.03	1998	28,861.44
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 2000 was determined to be $76,200.

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 (see table II.E4) 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 1975-99 and assumed increases through 2009. The table also shows historical year-to-year percentage increases in the average wage index for 1975-98 and assumed increases through 2009. 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 this 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, 1975-2009

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	4.9	62,700	8,280	12,500
1997	2.1	5.8	65,400	8,640	13,500
1998	1.3	5.2	68,400	9,120	14,500
1999	2.4	[6] 5.0	72,600	9,600	15,500
Intermediate:					
2000	3.1	4.6	[7] 76,200	[7] 10,080	17,000
2001	3.0	4.3	80,100	10,680	25,000
2002	3.0	4.2	83,700	11,160	30,000
2003	3.1	4.0	87,300	11,640	31,320
2004	3.2	4.1	90,900	12,120	32,640
2005	3.3	4.2	94,800	12,600	33,960
2006	3.3	4.2	98,400	13,080	35,280
2007	3.3	4.2	102,600	13,680	36,840
2008	3.3	4.2	107,100	14,160	38,280
2009	3.3	4.3	111,600	14,760	39,960

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, 1975-2009 (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:					
2000	2.9	4.8	[7] $76,200	[7] $10,080	$17,000
2001	2.4	4.1	80,400	10,680	25,000
2002	2.3	3.7	84,000	11,160	30,000
2003	2.3	3.6	87,600	11,640	31,200
2004	2.3	3.7	90,900	12,000	32,400
2005	2.3	3.7	94,200	12,480	33,600
2006	2.3	3.7	97,500	12,960	34,800
2007	2.3	3.8	101,100	13,440	36,120
2008	2.3	3.7	104,700	13,920	37,440
2009	2.3	3.8	108,900	14,400	38,760
High Cost:					
2000	3.4	3.5	[7] 76,200	[7] 10,080	17,000
2001	3.8	2.5	80,100	10,560	25,000
2002	5.6	6.6	82,800	11,040	30,000
2003	5.8	6.4	84,900	11,280	30,720
2004	3.8	2.1	90,600	12,000	32,760
2005	4.2	5.7	96,300	12,720	34,920
2006	4.3	5.8	98,100	13,080	35,640
2007	4.3	5.1	103,800	13,800	37,680
2008	4.3	4.8	109,800	14,520	39,840
2009	4.3	4.8	115,500	15,360	41,880

[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 $30,298.80 for 1999.

[7] Actual amount, as determined and announced in October 1999.

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 2000, and also shows projected amounts under the intermediate assumptions through 2009. 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 2000 is:

90 percent of the first $531 of AIME, plus
32 percent of AIME in excess of $531
but not in excess of $3,202, plus
15 percent of AIME in excess of $3,202.

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 2000:

150 percent of the first $679 of PIA, plus
272 percent of the PIA in excess of $679
but not in excess of $980, plus
134 percent of the PIA in excess of $980
but not in excess of $1,278, plus
175 percent of the PIA in excess of $1,278.

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

[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 1978-2000, and Projected Future Amounts, Calendar Years 2001-09, on the Basis of the Intermediate Set of Assumptions

Calendar year	AIME "bend points" in PIA formula		PIA "bend points" in maximum-family-benefit formula			Earnings required for a quarter of coverage[2]	"Old law" contribution and benefit base[3]
	First	Second	First	Second	Third		
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
1999	505	3,043	645	931	1,214	740	53,700
2000	531	3,202	679	980	1,278	780	56,700
Estimates:							
2001	558	3,362	713	1,029	1,342	820	59,400
2002	583	3,515	745	1,076	1,403	860	62,100
2003	609	3,668	778	1,122	1,464	900	64,800
2004	634	3,821	810	1,169	1,525	930	67,500
2005	660	3,976	843	1,216	1,587	970	70,200
2006	686	4,138	877	1,266	1,651	1,010	73,200
2007	715	4,311	914	1,319	1,720	1,050	76,200
2008	745	4,492	952	1,374	1,793	1,100	79,500
2009	777	4,682	992	1,433	1,868	1,140	82,800

[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, 1999, is presented in section II.C of this report. Estimates of the operations and status of the trust funds during fiscal years 2000-09 are presented in this section. In addition, similar estimates for calendar years 2000-09 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. The actuarial balance, and summarized income and cost rates, which are described in detail below, provide summary measures of the adequacy of expected future income plus current trust fund assets for the purpose of meeting expected future costs of the program over the long-range period. Other measures indicate the projected pattern of income, costs, and trust fund levels throughout the long-range period. 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. In addition, when financing is projected to be adequate for the long-range period (as indicated by a positive or zero actuarial balance), the trend in the size of future trust fund accumulations relative to annual expenditures toward the end of the long-range period can provide an indication of the likely stability of this adequacy for future reports. Estimates of all these measures are presented in this section or in the appendices of this report.

Short-Range Financial Measures

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 income exceeds disbursements, the trust funds serve to help fund a portion of the Social Security program's accruing financial obligations in advance. 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.

Long-Range Financial Measures

Basic to the consideration 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 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

[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.

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 expen-

ditures, 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.

When financing is projected to be adequate over the long-range period as a whole (as indicated by exact or positive actuarial balance), the likely stability of this projection of adequate long-range financing for future Trustees Reports is an important consideration in the actuarial

status of the program. If projected trust fund ratios for the last several years of the long-range period are at the same level (or rising), then it is likely that subsequent Trustees Reports will continue to project that long-range financing is adequate. However, it is important to note that, as in the past, projections for subsequent Trustees Reports are subject to change based on changes in expectations for future conditions, and on the evolving experience of economic and demographic parameters in the future.

It was noted earlier in this section that a number of financial measures are 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, 1999, to December 31, 2009

This subsection presents estimates of the operations and financial status of the OASI and DI Trust Funds for the period October 1, 1999, to December 31, 2009, based on the assumptions described in the preceding two sections. No changes are assumed to occur in the present statutory provisions and regulations under which the OASDI program operates. [1]

These estimates indicate that the assets of the OASI Trust Fund would continue to increase rapidly throughout the next 10 years under all three sets of 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 in 2012 under the high cost assumptions.

[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 1998 would normally have been delivered on January 3, 1999; 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, 1998. The annual benefit figures are shown as if those benefit checks were delivered on the usual date. Whenever this situation occurs, 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.

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.

a. OASI Trust Fund Operations

Estimates of the operations and status of the OASI Trust Fund during calendar years 2000-09 are shown in table II.F1 based on each of the three alternative sets of assumptions. Actual operations for calendar year 1999 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 2009 (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 152 million during calendar year 1999 to about 167 million, 164 million, and 161 million, respectively, in 2009. The total annual amount of taxable earnings is projected to increase from $3,765 billion in 1999 to $6,025 billion, $6,091 billion, and $6,227 billion, in 2009, on the basis of alternatives I, II, and III, respectively. (In 1999 dollars—taking account of assumed increases in the CPI from 1999 to 2009 under each alternative—the estimated amounts of taxable earnings in 2009 are $4,660 billion, $4,362 billion, and $3,976 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 2000-09 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 2009, interest income to the OASI Trust Fund is projected to be about 20 percent of total trust fund income on the basis of the intermediate assumptions, as compared to 10.9 percent in 1999.

Table II.F1.—Estimated Operations of the OASI Trust Fund by Alternative, Calendar Years 1999-2009

[Amounts in billions]

Calendar year	Income	Expenditures	Net increase in fund	Fund at end of year	Trust fund Amount [1]	Trust fund Ratio [2]
1999 [3]	$457.0	$339.9	$117.2	$798.8	$681.6	201
Intermediate:						
2000	487.0	353.8	133.2	932.0	798.8	226
2001	519.5	371.1	148.3	1,080.4	932.0	251
2002	549.9	389.5	160.4	1,240.8	1,080.4	277
2003	580.5	408.7	171.8	1,412.6	1,240.8	304
2004	613.5	429.7	183.8	1,596.4	1,412.6	329
2005	650.4	452.7	197.7	1,794.1	1,596.4	353
2006	688.2	477.7	210.5	2,004.6	1,794.1	376
2007	730.3	504.8	225.5	2,230.1	2,004.6	397
2008	773.7	534.7	239.0	2,469.1	2,230.1	417
2009	820.6	568.9	251.7	2,720.8	2,469.1	434
Low Cost:						
2000	488.0	353.6	134.4	933.2	798.8	226
2001	521.8	369.9	151.9	1,085.2	933.2	252
2002	551.9	385.5	166.5	1,251.7	1,085.2	282
2003	582.8	401.2	181.6	1,433.2	1,251.7	312
2004	615.4	418.0	197.4	1,630.6	1,433.2	343
2005	651.5	436.2	215.3	1,845.9	1,630.6	374
2006	688.5	455.5	233.0	2,078.9	1,845.9	405
2007	729.8	476.4	253.4	2,332.3	2,078.9	436
2008	772.0	499.6	272.4	2,604.7	2,332.3	467
2009	818.0	526.3	291.8	2,896.4	2,604.7	495
High Cost:						
2000	482.6	354.0	128.7	927.5	798.8	226
2001	501.5	372.7	128.7	1,056.2	927.5	249
2002	538.5	394.6	143.9	1,200.1	1,056.2	268
2003	579.8	424.7	155.1	1,355.2	1,200.1	283
2004	600.0	457.9	142.1	1,497.4	1,355.2	296
2005	643.3	485.2	158.1	1,655.5	1,497.4	309
2006	687.5	516.0	171.5	1,827.0	1,655.5	321
2007	732.7	549.7	183.1	2,010.0	1,827.0	332
2008	778.7	586.9	191.8	2,201.8	2,010.0	342
2009	827.1	629.5	197.5	2,399.4	2,201.8	350

[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 1999 represent actual experience.

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

Rising expenditures during 2000-09 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 1999 were equal to 201 percent of the fund's expenditures in 1999. 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 1999, income exceeded disbursements by $117.2 billion. As a result, the trust fund ratio increased to about 226 percent at the beginning of 2000.

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 226 percent at the beginning of 2000 to the range of 350-495 percent at the beginning of 2009 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 can be used to meet various Federal outlays or to reduce the amount of publicly-held Federal debt. 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 is borrowed by the general fund, resulting in a substantial net cash flow to the general fund. As shown in the follow-

ing subsection, this cash flow will reverse sometime in the next 10-20 years; as increasingly larger amounts of annual interest income are used 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 2009. 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.

b. DI Trust Fund Operations

The estimated operations and financial status of the DI Trust Fund during calendar years 2000-09 under the three sets of assumptions are shown in table II.F2, together with figures on actual experience in

1999. Income is generally projected to increase steadily under each alternative, reflecting most of the same factors described previously in connection with the OASI Trust Fund. Interest income was 8.2 percent of overall income to the DI Trust Fund in 1999; it is projected to increase to roughly 13 percent of annual trust fund income by 2009 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, 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 4.3 percent over the period 1999-2009. 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, before increasing slightly in 1998-99.

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, titled "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 changes 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 1999 disability incidence rate (calculated on an age-sex-adjusted basis) was 4.70 awards per 1,000 insured workers. This figure was about 4.5 percent lower than the average incidence rate of 4.92 per thousand that was experienced during the period 1975-99. Under the intermediate assumptions, incidence rates are assumed to decrease by less than 1 percent in 2000 and then to increase gradually for the remainder of the short-range projection period, to only slightly above the average level experienced over that 25-year historical period. Under the low cost alternative, incidence rates decline by about 9 percent during 2000-09, staying under the 1975-99 average over the next 10 years. The high cost alternative assumes that incidence rates increase by 24 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. However, some recent program changes and health trends have also led to improved mortality experience among the DI disabled workers. These changes include legislation to eliminate drug addicts and alcoholics from the DI rolls; the rapidly diminishing impact of AIDS on DI; continued increases in mental-impairment disabilities; and a rising number of awards to older workers, which are based on vocational factors. 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 1999-2009

[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]
1999 [3]	$69.5	$53.0	$16.5	$97.3	$80.8	152
Intermediate:						
2000	78.7	56.5	22.2	119.5	97.3	172
2001	84.3	61.1	23.2	142.7	119.5	196
2002	89.3	66.1	23.2	165.9	142.7	216
2003	94.2	71.9	22.3	188.2	165.9	231
2004	99.3	78.6	20.7	208.9	188.2	240
2005	104.8	85.9	19.0	227.9	208.9	243
2006	110.2	93.8	16.4	244.2	227.9	243
2007	115.9	102.4	13.5	257.7	244.2	238
2008	121.5	111.3	10.2	267.9	257.7	231
2009	127.3	120.3	7.0	275.0	267.9	223
Low Cost:						
2000	79.0	55.6	23.3	120.7	97.3	175
2001	84.8	59.4	25.3	146.0	120.7	203
2002	89.8	63.2	26.6	172.7	146.0	231
2003	95.0	67.5	27.4	200.1	172.7	256
2004	100.3	72.5	27.8	227.9	200.1	276
2005	106.0	77.9	28.1	256.0	227.9	293
2006	111.7	83.6	28.1	284.1	256.0	306
2007	117.9	89.7	28.2	312.3	284.1	317
2008	124.0	95.7	28.3	340.6	312.3	326
2009	130.6	101.7	28.9	369.5	340.6	335
High Cost:						
2000	77.8	57.8	20.0	117.3	97.3	168
2001	81.1	64.1	16.9	134.2	117.3	183
2002	86.9	71.2	15.7	149.9	134.2	188
2003	93.1	80.5	12.7	162.5	149.9	186
2004	95.4	91.0	4.4	166.9	162.5	179
2005	101.2	100.7	.5	167.4	166.9	166
2006	106.8	111.5	-4.7	162.8	167.4	150
2007	112.0	123.0	-10.9	151.8	162.8	132
2008	116.8	134.9	-18.1	133.7	151.8	113
2009	121.3	147.1	-25.8	107.9	133.7	91

[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 1999 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 decline gradually from the current experience levels. Projected levels of recovery terminations for this year's report remain consistent with last year's report after adjusting for (1) 1999 actual experience and (2) the somewhat higher numbers of disabled workers expected to return to work and leave the DI rolls as

a result of the provisions enacted in Public Law 106-170. The overall termination rate (reflecting all causes) is projected to either remain level (under alternative I) or decline gradually (under alternatives II and III) during 2000-02. The overall rate then declines in 2003 due largely to the increase in the normal retirement age cited above.

At the beginning of calendar year 1999, the assets of the DI Trust Fund represented 152 percent of annual expenditures. During 1999, DI income exceeded DI expenditures by $16.5 billion, with the result that the trust fund ratio for the beginning of 2000 increased to about 172 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 152 percent at the beginning of 1999 to 172 percent at the beginning of 2000, and the further increase to 243 percent at the beginning of 2005 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 223 percent at the beginning of 2009 is an early warning of trouble for the DI Trust Fund not long after the short-range period.

Under the low cost assumptions, the trust fund ratio would increase rapidly to 335 percent at the beginning of 2009. Under the high cost assumptions, the assets of the DI Trust Fund would increase through 2005, decline steadily thereafter, and would be exhausted in 2012.

Because DI assets were greater than 1 year's expenditures at the beginning of 2000 and would remain above that level in 2001 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. Nevertheless, the DI trust fund ratio, based on the high cost assumptions, increased from 77 percent at the beginning of 2008 in last year's report to 91 percent at the beginning of 2009 in this report.

c. Combined OASI and DI Trust Fund Operations

The estimated operations and status of the OASI and DI Trust Funds, combined, during calendar years 2000-09 on the basis of the three alternatives, are shown in table II.F3, together with figures on actual experience in 1999. 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 1999-2009

[Amounts in billions]

Calendar year	Income	Expen-ditures	Net increase in funds	Funds at end of year	Trust fund Amount [1]	Trust fund Ratio [2]
1999 [3]	$526.6	$392.9	$133.7	$896.1	$762.5	194
Intermediate:						
2000	565.7	410.3	155.4	1,051.5	896.1	218
2001	603.7	432.2	171.5	1,223.0	1,051.5	243
2002	639.2	455.6	183.6	1,406.7	1,223.0	268
2003	674.8	480.6	194.1	1,600.8	1,406.7	293
2004	712.8	508.2	204.5	1,805.3	1,600.8	315
2005	755.3	538.6	216.7	2,022.0	1,805.3	335
2006	798.4	571.5	226.8	2,248.8	2,022.0	354
2007	846.2	607.2	239.0	2,487.8	2,248.8	370
2008	895.2	646.0	249.2	2,737.0	2,487.8	385
2009	947.9	689.2	258.8	2,995.8	2,737.0	397
Low Cost:						
2000	567.0	409.2	157.8	1,053.9	896.1	219
2001	606.6	429.3	177.3	1,231.2	1,053.9	245
2002	641.8	448.7	193.1	1,424.3	1,231.2	274
2003	677.7	468.7	209.0	1,633.3	1,424.3	304
2004	715.7	490.5	225.1	1,858.5	1,633.3	333
2005	757.5	514.1	243.4	2,101.9	1,858.5	362
2006	800.2	539.1	261.1	2,362.9	2,101.9	390
2007	847.7	566.1	281.6	2,644.6	2,362.9	417
2008	896.0	595.3	300.7	2,945.3	2,644.6	444
2009	948.6	627.9	320.7	3,265.9	2,945.3	469
High Cost:						
2000	560.4	411.8	148.6	1,044.8	896.1	218
2001	582.5	436.9	145.7	1,190.4	1,044.8	239
2002	625.4	465.8	159.6	1,350.0	1,190.4	256
2003	672.9	505.2	167.8	1,517.8	1,350.0	267
2004	695.4	548.9	146.5	1,664.3	1,517.8	277
2005	744.4	585.8	158.6	1,822.9	1,664.3	284
2006	794.3	627.4	166.8	1,989.7	1,822.9	291
2007	844.8	672.7	172.1	2,161.9	1,989.7	296
2008	895.5	721.9	173.6	2,335.5	2,161.9	299
2009	948.4	776.7	171.7	2,507.3	2,335.5	301

[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 1999 represent actual experience.

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

At the beginning of 1999, the trust fund ratio for the OASI and DI Trust Funds combined was 194 percent, as shown in table II.F3. During 1999, total income to the two trust funds was $133.7 billion higher than total expenditures. As a result of this increase, combined OASDI assets at the beginning of 2000 represented about 218 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 397 percent by 2009. The ratio would grow at an even faster rate under the low cost assumptions, reaching 469 percent at the beginning of 2009. Under the high cost assump-

tions, assets would grow more slowly, reaching 301 percent at the beginning of 2009.

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 2009. 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 2000-09 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 2000-09, based on the three sets of assumptions (together with actual assets at the end of each year 1989-99). 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 2000, and estimates for 2000-09 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 1989-2009
[In billions]

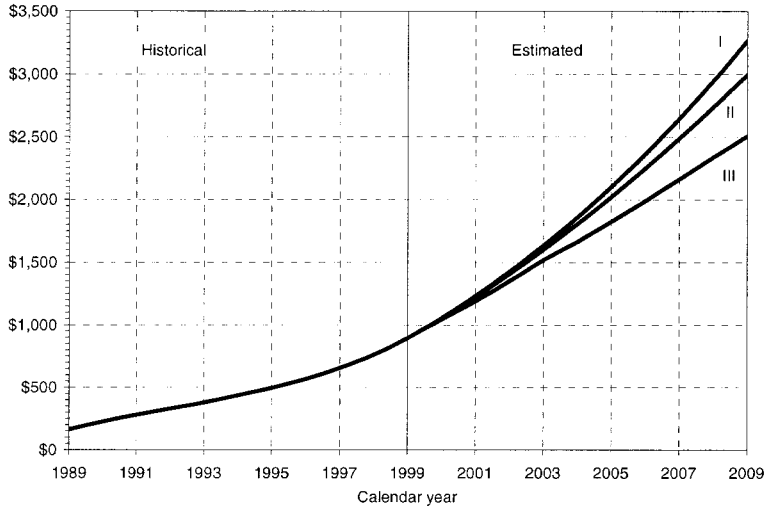


Figure II.F2.—Estimated Trust Fund Ratios, for OASI and DI Trust Funds Combined, by Alternative, Calendar Years 1989-2009
[Assets as a percentage of annual expenditures]

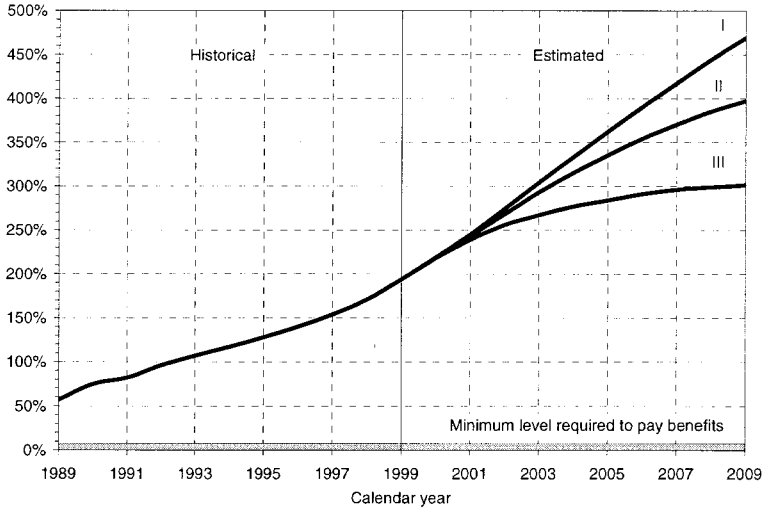


Table II.F4.—Trust Fund Ratios [1] by Trust Fund, Selected Calendar Years 1950-99, and Estimated Future Ratios by Alternative, Calendar Years 2000-09

[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	79	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
1998	177	133	171
1999	201	152	194
Intermediate:			
2000	226	172	218
2001	251	196	243
2002	277	216	268
2003	304	231	293
2004	329	240	315
2005	353	243	335
2006	376	243	354
2007	397	238	370
2008	417	231	385
2009	434	223	397
Low Cost:			
2000	226	175	219
2001	252	203	245
2002	282	231	274
2003	312	256	304
2004	343	276	333
2005	374	293	362
2006	405	306	390
2007	436	317	417
2008	467	326	444
2009	495	335	469
High Cost:			
2000	226	168	218
2001	249	183	239
2002	268	188	256
2003	283	186	267
2004	296	179	277
2005	309	166	284
2006	321	150	291
2007	332	132	296
2008	342	113	299
2009	350	91	301

[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.

Actuarial Analysis

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 1999 Annual Report, the trust fund ratio for OASI was estimated to reach 374 percent at the beginning of 2008—the tenth projection year from that report. The corresponding ratio shown in this report for the tenth projection year (2009) is 434 percent. If there had been no changes to the projections, then the estimated ratio at the beginning of 2009 would have been 13 percentage points higher than at the beginning of 2008. 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 44 percentage points by the beginning of 2009. In addition, the tenth year trust fund ratio showed a small net change due to the effects of (1) revised population projections, (2) revised assumptions regarding future average benefit levels and projected numbers of old-age and survivor beneficiaries, and (3) legislation enacted since last year's report as described earlier.

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.

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 2008	374	188	342
Change in trust fund ratio due to changes in:			
Valuation period	13	-12	8
Demographic assumptions	2	(1)	1
Economic assumptions	44	41	43
Programmatic assumptions	1	5	3
Legislation	(1)	1	(1)
Total change in trust fund ratio	60	35	55
Trust fund ratio shown in this report for calendar year 2009	434	223	397

[1] Between -0.5 and 0.5 percent.

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

Table II.F6 shows that total expenditures in calendar year 1999 from the OASI and DI Trust Funds decreased to 10.47 percent of taxable payroll for the year—2.24 percentage points less than the income rate of 12.71 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 decline for a few years before increasing gradually during the remainder of the short-range projection period, to 11.35 percent in 2009. Based on the low cost assumptions, the cost rate is estimated to decline for a few years before increasing gradually, reaching 10.46 percent in 2009. The high cost alternative indicates a significant increase, to 12.51 percent in 2009.

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 1950-99, and Estimated Rates by Alternative, Calendar years 2000-09

[As a percentage of taxable payroll]

Calendar year	OASI Trust Fund			DI Trust Fund			OASI and DI, combined		
	Income rate [1]	Cost rate	Balance	Income rate [1]	Cost rate	Balance	Income rate [1]	Cost rate	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	10.71	9.92	.79	1.07	1.13	-.06	11.79	11.05	.73
1990	11.32	9.66	1.66	1.17	1.09	.09	12.49	10.74	1.75
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	1.03	1.21	1.35	-.14	12.61	11.73	.88
1994	10.70	10.22	.48	1.89	1.40	.49	12.59	11.62	.97
1995	10.70	10.22	.48	1.88	1.44	.44	12.59	11.66	.93
1996	10.73	10.05	.68	1.89	1.48	.41	12.62	11.53	1.10
1997	10.93	9.81	1.11	1.71	1.43	.28	12.64	11.25	1.39
1998	10.96	9.49	1.47	1.72	1.43	.29	12.68	10.92	1.76
1999	10.99	9.06	1.93	1.72	1.41	.30	12.71	10.47	2.24
Intermediate:									
2000	10.83	8.91	1.92	1.82	1.42	.39	12.65	10.34	2.31
2001	10.85	8.89	1.96	1.82	1.46	.35	12.67	10.36	2.31
2002	10.85	8.91	1.94	1.82	1.51	.30	12.67	10.42	2.25
2003	10.85	8.94	1.91	1.82	1.57	.24	12.67	10.51	2.16
2004	10.86	8.98	1.88	1.82	1.64	.18	12.68	10.62	2.06
2005	10.87	9.02	1.84	1.82	1.71	.11	12.68	10.74	1.95
2006	10.87	9.09	1.79	1.82	1.79	.04	12.69	10.87	1.82
2007	10.88	9.16	1.72	1.82	1.86	-.04	12.70	11.02	1.69
2008	10.89	9.25	1.64	1.82	1.93	-.10	12.71	11.17	1.54
2009	10.90	9.37	1.53	1.82	1.98	-.16	12.73	11.35	1.37
Low Cost:									
2000	10.82	8.88	1.94	1.81	1.40	.42	12.63	10.27	2.36
2001	10.85	8.82	2.03	1.82	1.42	.40	12.66	10.24	2.43
2002	10.85	8.79	2.06	1.82	1.44	.37	12.66	10.23	2.43
2003	10.85	8.76	2.09	1.82	1.47	.34	12.66	10.23	2.43
2004	10.85	8.73	2.12	1.82	1.51	.30	12.67	10.24	2.43
2005	10.86	8.71	2.15	1.82	1.55	.26	12.67	10.26	2.41
2006	10.86	8.69	2.17	1.82	1.60	.22	12.68	10.29	2.39
2007	10.87	8.69	2.18	1.82	1.64	.18	12.69	10.33	2.36
2008	10.88	8.71	2.16	1.82	1.67	.15	12.69	10.38	2.31
2009	10.88	8.76	2.12	1.82	1.69	.13	12.70	10.46	2.25
High Cost:									
2000	10.86	9.03	1.82	1.82	1.48	.34	12.67	10.51	2.16
2001	10.86	9.29	1.57	1.82	1.60	.22	12.68	10.89	1.79
2002	10.86	9.23	1.64	1.82	1.66	.15	12.68	10.89	1.79
2003	10.86	9.32	1.54	1.82	1.77	.05	12.68	11.09	1.59
2004	10.88	9.86	1.02	1.82	1.96	-.14	12.71	11.82	.88
2005	10.89	9.81	1.08	1.82	2.04	-.21	12.71	11.85	.86
2006	10.90	9.81	1.08	1.82	2.12	-.30	12.72	11.93	.79
2007	10.90	9.87	1.03	1.83	2.21	-.38	12.73	12.08	.65
2008	10.91	9.98	.94	1.83	2.29	-.47	12.74	12.27	.47
2009	10.93	10.14	.78	1.83	2.37	-.54	12.76	12.51	.24

[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.

Actuarial Estimates

Estimates of the operations of the trust funds during calendar years 2000-09 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 2000-04 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 (2005-09) and on a calendar-year basis for 2000-09.

Data on the actual operations of the OASI Trust Fund for selected years during 1940-99, and estimates of the expected operations of the trust fund during 2000-09 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, 1993, 1998, 1999, and 2009 are adjusted to reflect 12 months of benefit payments in each year.

Table II.F7.—Operations of the OASI Trust Fund During Selected Fiscal Years 1940-99 and Estimated Future Operations During Fiscal Years 2000-09, on the Basis of the Intermediate Set of Assumptions

[In millions]

Fiscal year [1]	Income				
	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
1998	415,666	364,871	8,595	2	42,198
1999	446,956	389,933	10,172	1	46,849
Estimates:					
2000	482,575	417,634	11,365	(5)	53,575
2001	508,891	436,956	10,371	-811	62,375
2002	540,613	457,886	10,898	(5)	71,829
2003	570,276	477,931	11,450	(5)	80,895
2004	601,273	498,825	12,196	(5)	90,252
2005	641,619	527,735	13,102	(5)	100,782
2006	676,266	549,884	14,130	(5)	112,252
2007	717,134	577,000	15,274	(5)	124,860
2008	758,844	603,833	16,540	(5)	138,471
2009	803,606	632,511	17,984	(5)	153,111

[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 1940-99 and Estimated Future Operations During Fiscal Years 2000-09, on the Basis of the Intermediate Set of Assumptions (Cont.)

[In millions]

	Expenditures				Assets	
Fiscal year	Total	Benefit payments [1]	Administrative 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
1998	329,953	324,256	2,034	3,662	85,713	653,108
1999	337,894	332,369	1,843	3,681	109,062	762,170
Estimates:						
2000	350,098	344,475	2,010	3,613	132,477	894,647
2001	366,665	361,035	2,152	3,478	142,226	1,036,873
2002	384,904	379,198	2,130	3,576	155,709	1,192,583
2003	403,880	398,098	2,180	3,603	166,396	1,358,978
2004	424,330	418,476	2,216	3,637	176,943	1,535,922
2005	446,866	440,943	2,249	3,674	194,753	1,730,675
2006	471,368	465,468	2,279	3,621	204,898	1,935,573
2007	497,943	491,870	2,307	3,765	219,192	2,154,765
2008	526,954	520,777	2,332	3,845	231,890	2,386,655
2009	559,995	553,710	2,357	3,928	243,612	2,630,266

[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 1940-99 and Estimated Future Operations During Calendar Years 2000-09, 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:					
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
1998	424,848	371,207	9,149	1	44,491
1999	457,040	396,352	10,899	(4)	49,789
Estimates:					
2000	486,978	419,859	10,025	-811	57,905
2001	519,456	441,908	10,495	(4)	67,053
2002	549,928	462,511	11,033	(4)	76,384
2003	580,535	483,457	11,591	(4)	85,488
2004	613,459	505,676	12,403	(4)	95,381
2005	650,444	530,705	13,340	(4)	106,400
2006	688,196	555,337	14,398	(4)	118,461
2007	730,282	583,143	15,572	(4)	131,567
2008	773,669	611,090	16,875	(4)	145,703
2009	820,578	641,596	18,370	(4)	160,611

[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 1940-99 and Estimated Future Operations During Calendar Years 2000-09, on the Basis of the Intermediate Set of Assumptions (Cont.)

[In millions]

	Expenditures				Assets	
Calendar year	Total	Benefit payments [1]	Administrative 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
1998	332,324	326,762	1,899	3,662	92,524	681,645
1999	339,874	334,383	1,809	3,681	117,167	798,812
Estimates:						
2000	353,768	348,009	2,146	3,613	133,210	932,022
2001	371,121	365,498	2,146	3,478	148,335	1,080,357
2002	389,512	383,792	2,144	3,576	160,416	1,240,773
2003	408,721	402,928	2,190	3,603	171,815	1,412,587
2004	429,671	423,808	2,226	3,637	183,788	1,596,375
2005	452,701	446,769	2,258	3,674	197,743	1,794,118
2006	477,718	471,810	2,287	3,621	210,478	2,004,597
2007	504,791	498,711	2,315	3,765	225,491	2,230,088
2008	534,665	528,481	2,339	3,845	239,004	2,469,091
2009	568,865	562,574	2,364	3,928	251,712	2,720,804

[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 1960-99 and Estimated Future Operations During Fiscal Years 2000-09, 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
1998	62,943	57,982	526	—	4,434
1999	67,776	61,921	631	—	5,224
Estimates:					
2000	76,864	69,915	676	—	6,272
2001	82,628	74,209	639	-7	7,787
2002	87,777	77,752	692	—	9,333
2003	92,619	81,158	752	—	10,709
2004	97,510	84,709	833	—	11,969
2005	103,723	89,617	929	—	13,178
2006	108,718	93,382	1,039	—	14,298
2007	114,433	97,981	1,161	—	15,291
2008	119,937	102,538	1,294	—	16,106
2009	125,559	107,407	1,433	—	16,719

[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 1960-99 and Estimated Future Operations During Fiscal Years 2000-09, on the Basis of the Intermediate Set of Assumptions (Cont.)

[In millions]

Fiscal year	Expenditures				Assets	
	Total	Benefit payments [1]	Administrative 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
1998	49,338	47,619	1,563	157	13,604	77,087
1999	52,125	50,474	1,517	135	15,650	92,737
Estimates:						
2000	55,579	53,964	1,467	147	21,285	114,023
2001	59,944	58,228	1,595	121	22,684	136,707
2002	64,794	63,011	1,626	157	22,983	159,690
2003	70,405	68,498	1,738	168	22,214	181,903
2004	76,876	74,852	1,840	184	20,635	202,538
2005	84,008	81,866	1,944	198	19,716	222,254
2006	91,804	89,555	2,052	196	16,915	239,169
2007	100,274	97,876	2,168	230	14,158	253,327
2008	109,115	106,579	2,287	249	10,822	264,149
2009	118,125	115,441	2,415	269	7,434	271,583

[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 1960-99 and Estimated Future Operations During Calendar Years 2000-09, 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
1998	64,357	58,966	558	—	4,832
1999	69,541	63,203	661	—	5,677
Estimates:					
2000	78,690	71,075	606	-7	7,016
2001	84,272	75,051	651	—	8,570
2002	89,275	78,526	706	—	10,043
2003	94,220	82,099	769	—	11,352
2004	99,309	85,873	855	—	12,581
2005	104,824	90,121	954	—	13,749
2006	110,184	94,309	1,067	—	14,808
2007	115,928	99,022	1,193	—	15,713
2008	121,526	103,770	1,327	—	16,428
2009	127,347	108,950	1,467	—	16,930

[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 1960-99 and Estimated Future Operations During Calendar Years 2000-09, on the Basis of the Intermediate Set of Assumptions (Cont.)

[In millions]

Calendar year	Expenditures				Assets	
	Total	Benefit payments [1]	Administrative expenses	Transfers to Railroad Retirement program	Net increase during year	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
1998	49,931	48,207	1,567	157	14,425	80,815
1999	53,035	51,381	1,519	135	16,507	97,321
Estimates:						
2000	56,509	54,881	1,481	147	22,182	119,503
2001	61,089	59,365	1,603	121	23,183	142,686
2002	66,081	64,270	1,654	157	23,194	165,880
2003	71,927	69,995	1,764	168	22,293	188,173
2004	78,564	76,515	1,866	184	20,745	208,918
2005	85,861	83,692	1,971	198	18,963	227,881
2006	93,829	91,552	2,081	196	16,355	244,235
2007	102,440	100,012	2,197	230	13,488	257,723
2008	111,337	108,769	2,319	249	10,189	267,912
2009	120,305	117,588	2,448	269	7,042	274,954

[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.

Table II.F11.—Operations of the OASI and DI Trust Funds, Combined, During Selected Fiscal Years 1960-99 and Estimated Future Operations During Fiscal Years 2000-09, 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
1998	478,608	422,853	9,121	2	46,632
1999	514,731	451,854	10,803	1	52,073
Estimates:					
2000	559,438	487,549	12,042	(5)	59,847
2001	591,519	511,165	11,010	-818	70,162
2002	628,390	535,638	11,590	(5)	81,162
2003	662,895	559,089	12,202	(5)	91,604
2004	698,783	583,534	13,029	(5)	102,221
2005	745,343	617,352	14,031	(5)	113,960
2006	784,985	643,266	15,169	(5)	126,550
2007	831,567	674,981	16,436	(5)	140,151
2008	878,782	706,371	17,834	(5)	154,576
2009	929,165	739,918	19,417	(5)	169,830

[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 1960-99 and Estimated Future Operations During Fiscal Years 2000-09, on the Basis of the Intermediate Set of Assumptions (Cont.)

[In millions]

Fiscal year	Expenditures				Assets	
	Total	Benefit payments [1]	Administrative 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
1998	379,291	371,875	3,597	3,819	99,318	730,195
1999	390,019	382,843	3,360	3,816	124,712	854,908
Estimates:						
2000	405,676	398,439	3,477	3,760	153,762	1,008,670
2001	426,609	419,263	3,747	3,599	164,910	1,173,580
2002	449,698	442,209	3,756	3,733	178,692	1,352,272
2003	474,286	466,596	3,918	3,771	188,610	1,540,882
2004	501,205	493,328	4,056	3,821	197,578	1,738,460
2005	530,874	522,809	4,193	3,872	214,469	1,952,929
2006	563,172	555,023	4,331	3,817	221,813	2,174,741
2007	598,217	589,746	4,475	3,996	233,350	2,408,091
2008	636,069	627,356	4,619	4,094	242,712	2,650,804
2009	678,119	669,151	4,772	4,197	251,045	2,901,849

[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 1960-99 and Estimated Future Operations During Calendar Years 2000-09, 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	$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
1998	489,204	430,174	9,707	1	49,323
1999	526,582	459,556	11,559	(4)	55,466
Estimates:					
2000	565,669	490,934	10,631	-818	64,921
2001	603,728	516,959	11,146	(4)	75,623
2002	639,203	541,037	11,739	(4)	86,427
2003	674,755	565,556	12,359	(4)	96,840
2004	712,768	591,549	13,257	(4)	107,962
2005	755,268	620,826	14,293	(4)	120,149
2006	798,380	649,646	15,466	(4)	133,269
2007	846,210	682,165	16,765	(4)	147,280
2008	895,195	714,860	18,203	(4)	162,132
2009	947,924	750,546	19,837	(4)	177,541

[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 1960-99 and Estimated Future Operations During Calendar Years 2000-09, on the Basis of the Intermediate Set of Assumptions (Cont.)

[In millions]

Calendar year	Expenditures				Assets	
	Total	Benefit payments [1]	Administrative 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
1998	382,255	374,969	3,467	3,819	106,950	762,460
1999	392,908	385,765	3,328	3,816	133,673	896,133
Estimates:						
2000	410,277	402,890	3,627	3,760	155,392	1,051,525
2001	432,210	424,863	3,748	3,599	171,518	1,223,043
2002	455,593	448,061	3,798	3,733	183,610	1,406,653
2003	480,647	472,922	3,954	3,771	194,108	1,600,760
2004	508,235	500,323	4,091	3,821	204,533	1,805,293
2005	538,562	530,461	4,229	3,872	216,706	2,021,999
2006	571,548	563,362	4,368	3,817	226,833	2,248,832
2007	607,231	598,723	4,512	3,996	238,979	2,487,811
2008	646,002	637,250	4,658	4,094	249,192	2,737,003
2009	689,171	680,161	4,812	4,197	258,754	2,995,757

[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

As discussed earlier in this section, full assessment of the actuarial status of the OASDI program requires consideration of several financial measures. These include the actuarial balance, annual balances, and trust fund ratios. These measures address both the adequacy of financing for projected future costs over the long-range period as a whole, and the likely stability of this projected adequacy for future Trustees Reports.

Historically, the actuarial balance (described earlier in this section) has been used as the principal summary measure of the adequacy of financing provided for the OASDI program over a long period of time. Actuarial balances have traditionally been computed for the 25-year valuation period (encompassing 2000-24 for this report), the 50-year valuation period (covering 2000-49 for this report), and the entire long-range (75-year) valuation period (2000-74 for this report).

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.

This section begins by presenting the series of projected annual balances (that is, the differences between the projected annual income rates and annual cost rates). In assessing the financial condition of the program, particular attention should be 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. Later in this section the pattern of projected trust fund ratios is presented. Particular attention should be paid to the amount and year of maximum trust fund ratio, to the year of exhaustion of the funds, and to stability of the trust fund ratio in cases where the ratio remains positive at the end of the long-range period. These measures 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 6 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 alterna-

tives 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 4 years, and then rise, reaching the current level around 2009 and a peak of 15.05 percent of payroll for 2033. Cost rates then decline gradually, reaching a level of 13.92 percent of payroll for 2072. For the high cost alternative III, cost rates rise generally, throughout the 75-year period. They rise at a relatively fast pace over 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 28.10 percent of payroll for 2074, the last year of the long-range period.

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 2014) and are negative thereafter. This annual deficit rises rapidly, reaching over 2 percent of taxable payroll by 2021, and continues rising thereafter, to a level of 6.13 percent of taxable payroll for 2074.

Under alternative I projected OASDI annual balances are positive for 20 years (through 2019) and thereafter are negative. Deficits under alternative I rise to a peak of 2.05 percent of taxable payroll for 2033, but decline thereafter, as the effect of the "baby-boom" generation diminishes and the assumed higher fertility rates increase the size of the work force. Deficits under alternative I decline thereafter, reaching 0.85 percent of payroll by 2074. Under the more pessimistic alternative III, however, the OASDI balances are projected to be positive for only 10 years (through 2009) and to be negative thereafter, with

deficits of 3.51 percent for 2020, 9.72 percent for 2050, and 14.32 percent of payroll for 2074.

Table II.F13.—Comparison of Estimated Income Rates and Cost Rates by Trust Fund and Alternative, Calendar Years 2000-75

[As a percentage of taxable payroll]

Calendar year	OASI			DI			Combined		
	Income rate [1]	Cost rate	Balance	Income rate [1]	Cost rate	Balance	Income rate [1]	Cost rate	Balance
Intermediate:									
2000	10.83	8.91	1.92	1.82	1.42	0.39	12.65	10.34	2.31
2001	10.85	8.89	1.96	1.82	1.46	.35	12.67	10.36	2.31
2002	10.85	8.91	1.94	1.82	1.51	.30	12.67	10.42	2.25
2003	10.85	8.94	1.91	1.82	1.57	.24	12.67	10.51	2.16
2004	10.86	8.98	1.88	1.82	1.64	.18	12.68	10.62	2.06
2005	10.87	9.02	1.84	1.82	1.71	.11	12.68	10.74	1.95
2006	10.87	9.09	1.79	1.82	1.79	.04	12.69	10.87	1.82
2007	10.88	9.16	1.72	1.82	1.86	-.04	12.70	11.02	1.69
2008	10.89	9.25	1.64	1.82	1.93	-.10	12.71	11.17	1.54
2009	10.90	9.37	1.53	1.82	1.98	-.16	12.73	11.35	1.37
2010	10.91	9.53	1.38	1.82	2.02	-.20	12.74	11.55	1.18
2015	10.98	10.74	.25	1.83	2.17	-.34	12.81	12.91	-.10
2020	11.08	12.40	-1.32	1.83	2.26	-.43	12.91	14.66	-1.75
2025	11.17	13.86	-2.69	1.83	2.38	-.54	13.00	16.24	-3.24
2030	11.25	14.94	-3.69	1.84	2.41	-.57	13.08	17.35	-4.26
2035	11.30	15.48	-4.18	1.84	2.38	-.54	13.14	17.86	-4.72
2040	11.32	15.46	-4.14	1.84	2.41	-.57	13.16	17.87	-4.71
2045	11.34	15.35	-4.01	1.84	2.51	-.66	13.18	17.85	-4.67
2050	11.36	15.40	-4.04	1.85	2.56	-.72	13.21	17.96	-4.76
2055	11.39	15.67	-4.28	1.85	2.60	-.75	13.24	18.27	-5.03
2060	11.42	16.04	-4.62	1.85	2.58	-.74	13.27	18.63	-5.36
2065	11.45	16.36	-4.91	1.85	2.59	-.74	13.30	18.95	-5.65
2070	11.47	16.63	-5.16	1.85	2.60	-.75	13.32	19.24	-5.92
2075	11.49	16.89	-5.40	1.85	2.63	-.78	13.34	19.53	-6.18
Low Cost:									
2000	10.82	8.88	1.94	1.81	1.40	.42	12.63	10.27	2.36
2001	10.85	8.82	2.03	1.82	1.42	.40	12.66	10.24	2.43
2002	10.85	8.79	2.06	1.82	1.44	.37	12.66	10.23	2.43
2003	10.85	8.76	2.09	1.82	1.47	.34	12.66	10.23	2.43
2004	10.85	8.73	2.12	1.82	1.51	.30	12.67	10.24	2.43
2005	10.86	8.71	2.15	1.82	1.55	.26	12.67	10.26	2.41
2006	10.86	8.69	2.17	1.82	1.60	.22	12.68	10.29	2.39
2007	10.87	8.69	2.18	1.82	1.64	.18	12.69	10.33	2.36
2008	10.88	8.71	2.16	1.82	1.67	.15	12.69	10.38	2.31
2009	10.88	8.76	2.12	1.82	1.69	.13	12.70	10.46	2.25
2010	10.89	8.88	2.01	1.82	1.70	.12	12.71	10.58	2.13
2015	10.95	9.87	1.08	1.82	1.71	.11	12.77	11.58	1.19
2020	11.02	11.28	-.26	1.82	1.72	.10	12.84	13.01	-.16
2025	11.09	12.42	-1.33	1.82	1.78	.04	12.92	14.20	-1.29
2030	11.15	13.12	-1.97	1.83	1.78	.04	12.98	14.90	-1.93
2035	11.18	13.27	-2.09	1.83	1.75	.08	13.01	15.01	-2.01
2040	11.19	12.92	-1.73	1.83	1.75	.08	13.01	14.67	-1.66
2045	11.19	12.54	-1.35	1.83	1.80	.03	13.02	14.33	-1.32
2050	11.19	12.33	-1.13	1.83	1.81	.02	13.02	14.14	-1.11
2055	11.20	12.29	-1.09	1.83	1.81	.02	13.04	14.11	-1.07
2060	11.22	12.31	-1.09	1.83	1.78	.05	13.05	14.09	-1.04
2065	11.22	12.24	-1.01	1.83	1.78	.06	13.05	14.01	-.96
2070	11.23	12.15	-.92	1.83	1.79	.05	13.06	13.94	-.88
2075	11.23	12.11	-.88	1.83	1.80	.03	13.06	13.92	-.85

Table II.F13.—Comparison of Estimated Income Rates and Cost Rates by Trust Fund and Alternative, Calendar Years 2000-75 (Cont.)

[As a percentage of taxable payroll]

Calendar year	OASI			DI			Combined		
	Income rate [1]	Cost rate	Balance	Income rate [1]	Cost rate	Balance	Income rate [1]	Cost rate	Balance
High Cost:									
2000	10.86	9.03	1.82	1.82	1.48	0.34	12.67	10.51	2.16
2001	10.86	9.29	1.57	1.82	1.60	.22	12.68	10.89	1.79
2002	10.86	9.23	1.64	1.82	1.66	.15	12.68	10.89	1.79
2003	10.86	9.32	1.54	1.82	1.77	.05	12.68	11.09	1.59
2004	10.88	9.86	1.02	1.82	1.96	-.14	12.71	11.82	.88
2005	10.89	9.81	1.08	1.82	2.04	-.21	12.71	11.85	.86
2006	10.90	9.81	1.08	1.82	2.12	-.30	12.72	11.93	.79
2007	10.90	9.87	1.03	1.83	2.21	-.38	12.73	12.08	.65
2008	10.91	9.98	.94	1.83	2.29	-.47	12.74	12.27	.47
2009	10.93	10.14	.78	1.83	2.37	-.54	12.76	12.51	.24
2010	10.94	10.34	.61	1.83	2.44	-.61	12.77	12.78	-.01
2015	11.03	11.72	-.70	1.84	2.71	-.88	12.86	14.43	-1.57
2020	11.14	13.63	-2.49	1.84	2.85	-1.01	12.98	16.49	-3.51
2025	11.26	15.48	-4.22	1.85	3.05	-1.20	13.10	18.52	-5.42
2030	11.36	17.05	-5.69	1.85	3.12	-1.27	13.21	20.17	-6.96
2035	11.44	18.15	-6.70	1.85	3.12	-1.27	13.30	21.27	-7.97
2040	11.50	18.69	-7.19	1.85	3.19	-1.34	13.35	21.88	-8.53
2045	11.54	19.09	-7.55	1.86	3.38	-1.52	13.40	22.47	-9.07
2050	11.59	19.67	-8.08	1.86	3.50	-1.64	13.46	23.17	-9.72
2055	11.65	20.51	-8.86	1.87	3.61	-1.74	13.52	24.12	-10.60
2060	11.72	21.56	-9.84	1.87	3.62	-1.75	13.59	25.18	-11.59
2065	11.79	22.62	-10.83	1.87	3.63	-1.77	13.66	26.26	-12.60
2070	11.85	23.65	-11.79	1.87	3.66	-1.79	13.72	27.31	-13.58
2075	11.91	24.59	-12.68	1.87	3.69	-1.82	13.79	28.29	-14.50

[1] Income rates for 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. 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 2015 for the OASI program, but only through 2006 for the DI program.

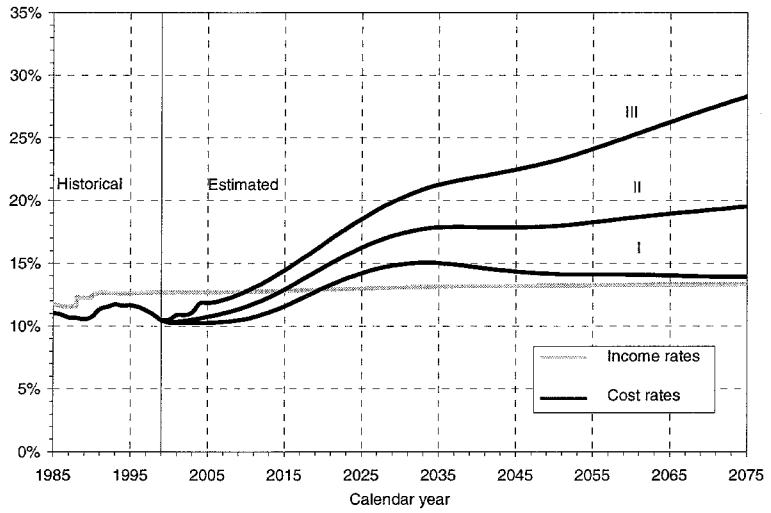
Figure II.F3 shows in graphical form the patterns of the OASDI annual income rates and cost rates. The income rates are shown only for alternative II in order to simplify the graphical presentation and because, as shown in table II.F13, the variation in the income rates by alternative is very small. 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 annual income rates for alternatives I and III for the year 2035 differ by less than 0.3 percent of taxable payroll. By 2074, the annual income rates under alternatives I and III differ by 0.71 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 consideration of potential 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 adequacy of financing for the program over the period as a whole under present law and under 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 shown in table II.F13 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 assets of the trust 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 total 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 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 2000-74

[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:									
2000-24.....	10.94	10.34	0.60	1.82	1.97	-0.14	12.76	12.30	0.46
2025-49.....	11.27	15.12	-3.84	1.84	2.43	-.59	13.11	17.55	-4.44
2050-74.....	11.41	16.08	-4.67	1.85	2.59	-.75	13.26	18.67	-5.42
Low Cost:									
2000-24.....	10.91	9.67	1.24	1.82	1.64	.18	12.73	11.30	1.43
2025-49.....	11.15	12.88	-1.73	1.83	1.78	.05	12.98	14.65	-1.68
2050-74.....	11.20	12.25	-1.05	1.83	1.79	.04	13.03	14.04	-1.01
High Cost:									
2000-24.....	10.98	11.23	-.25	1.83	2.39	-.56	12.81	13.62	-.81
2025-49.....	11.42	17.91	-6.49	1.85	3.20	-1.34	13.27	21.11	-7.83
2050-74.....	11.72	21.79	-10.07	1.87	3.61	-1.75	13.59	25.40	-11.81

[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 the summarized 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 2000-74

[As a percentage of taxable payroll]

Valuation period	OASI			DI			Combined		
	Income rate	Cost rate	Actuarial balance	Income rate	Cost rate	Actuarial balance	Income rate	Cost rate	Actuarial balance
Intermediate:									
25 years:									
2000-24	11.94	10.80	1.14	1.94	2.04	-0.10	13.88	12.84	1.04
50 years:									
2000-49	11.67	12.45	-.77	1.90	2.18	-.28	13.58	14.63	-1.06
75 years:									
2000-74	11.62	13.15	-1.53	1.89	2.26	-.37	13.51	15.40	-1.89
Low Cost:									
25 years:									
2000-24	11.92	10.07	1.85	1.94	1.69	.25	13.86	11.77	2.09
50 years:									
2000-49	11.62	11.11	.51	1.90	1.72	.18	13.51	12.82	.69
75 years:									
2000-74	11.53	11.31	.22	1.88	1.73	.16	13.41	13.03	.38
High Cost:									
25 years:									
2000-24	11.98	11.75	.23	1.95	2.50	-.54	13.93	14.25	-.32
50 years:									
2000-49	11.75	14.21	-2.46	1.91	2.77	-.86	13.66	16.98	-3.32
75 years:									
2000-74	11.75	15.72	-3.98	1.90	2.93	-1.03	13.65	18.65	-5.00

[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 2.09 percent of taxable payroll under alternative I, 1.04 percent under alternative II, and -0.32 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 0.69 percent under alternative I, but would have deficits of 1.06 percent under alternative II and 3.32 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 0.38 percent of taxable payroll under alternative I, -1.89 percent under alternative II, and -5.00 percent under alternative III.

As may be concluded from tables II.F14 and II.F15, the financial condition of the DI program is substantially 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 more nearly 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 39 years, under the intermediate alternative II estimates. For valuation periods of length greater than 39 years, the estimated actuarial balance is less than the minimum allowable. For the full 75-year long-range period the estimated actuarial balance reaches -11.61 percent of the summarized cost rate, for a shortfall of 6.61 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 19 years under the intermediate alternative II estimates. For valuation periods of length greater than 19 years, the estimated actuarial balance is less than the minimum allowable. For the full 75-year long-range period the estimated actuarial balance reaches -16.31 percent of the summarized cost rate, for a shortfall of 11.31 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 much less adequate than for the OASI program during the first 25 years even

though long-range actuarial deficits are more comparable over the entire 75-year period. This occurs because much more of the increase in the long-range cost occurs earlier 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 later in the long-range period.

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 37 years. For valuation periods of length greater than 37 years, the estimated actuarial balance is below the minimum allowable balance. The size of the shortfall from the minimum allowable balance rises gradually, reaching 7.30 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.

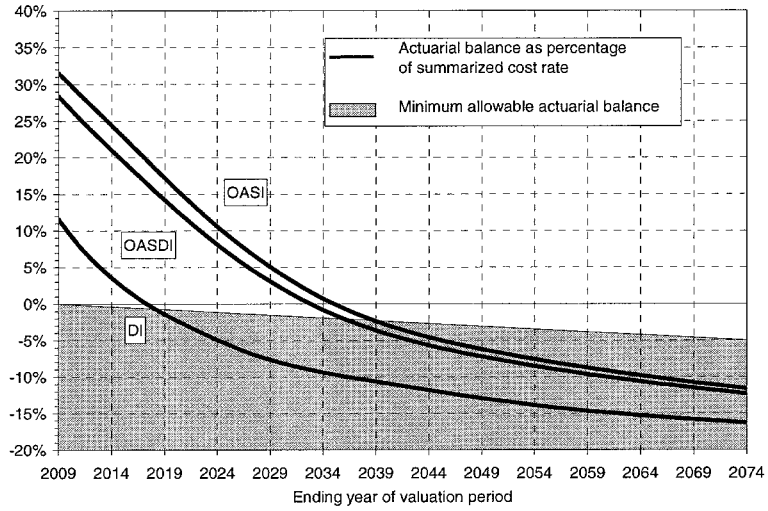
The OASI and DI programs, both separate and combined, were also found to be out of close actuarial balance in last year's report. The estimated deficits for the OASI, DI, and combined OASDI programs in this report are similar to those shown in last year's report.

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

Valuation period	Rates (percentage of taxable payroll)			Values expressed as a percentage of cost rate	
	Summarized income rate	Summarized cost rate	Actuarial balance	Actuarial balance	Minimum allowable actuarial balance
OASI:					
10 years: 2000-09	13.10	9.96	3.14	31.53	0.00
15 years: 2000-14	12.43	9.99	2.44	24.39	-.38
20 years: 2000-19	12.11	10.33	1.78	17.22	-.77
25 years: 2000-24	11.94	10.80	1.14	10.57	-1.15
30 years: 2000-29	11.84	11.27	.57	5.06	-1.54
35 years: 2000-34	11.77	11.69	.09	.74	-1.92
40 years: 2000-39	11.73	12.02	-.28	-2.37	-2.31
45 years: 2000-44	11.70	12.26	-.56	-4.56	-2.69
50 years: 2000-49	11.67	12.45	-.77	-6.21	-3.08
55 years: 2000-54	11.66	12.61	-.95	-7.57	-3.46
60 years: 2000-59	11.64	12.76	-1.12	-8.76	-3.85
65 years: 2000-64	11.63	12.90	-1.27	-9.82	-4.23
70 years: 2000-69	11.63	13.03	-1.40	-10.77	-4.62
75 years: 2000-74	11.62	13.15	-1.53	-11.61	-5.00
DI:					
10 years: 2000-09	2.09	1.87	.22	11.63	.00
15 years: 2000-14	2.01	1.94	.07	3.56	-.38
20 years: 2000-19	1.97	2.00	-.03	-1.42	-.77
25 years: 2000-24	1.94	2.04	-.10	-4.91	-1.15
30 years: 2000-29	1.93	2.09	-.16	-7.65	-1.54
35 years: 2000-34	1.92	2.12	-.20	-9.37	-1.92
40 years: 2000-39	1.91	2.14	-.23	-10.63	-2.31
45 years: 2000-44	1.91	2.16	-.26	-11.82	-2.69
50 years: 2000-49	1.90	2.18	-.28	-12.93	-3.08
55 years: 2000-54	1.90	2.20	-.31	-13.89	-3.46
60 years: 2000-59	1.90	2.22	-.33	-14.68	-3.85
65 years: 2000-64	1.89	2.24	-.34	-15.30	-4.23
70 years: 2000-69	1.89	2.25	-.36	-15.83	-4.62
75 years: 2000-74	1.89	2.26	-.37	-16.31	-5.00
OASDI:					
10 years: 2000-09	15.20	11.84	3.36	28.38	.00
15 years: 2000-14	14.44	11.93	2.51	21.01	-.38
20 years: 2000-19	14.08	12.33	1.75	14.20	-.77
25 years: 2000-24	13.88	12.84	1.04	8.11	-1.15
30 years: 2000-29	13.77	13.36	.41	3.07	-1.54
35 years: 2000-34	13.69	13.80	-.11	-.81	-1.92
40 years: 2000-39	13.64	14.15	-.51	-3.62	-2.31
45 years: 2000-44	13.60	14.42	-.81	-5.65	-2.69
50 years: 2000-49	13.58	14.63	-1.06	-7.22	-3.08
55 years: 2000-54	13.55	14.81	-1.26	-8.51	-3.46
60 years: 2000-59	13.54	14.98	-1.44	-9.64	-3.85
65 years: 2000-64	13.53	15.13	-1.61	-10.63	-4.23
70 years: 2000-69	13.52	15.28	-1.76	-11.51	-4.62
75 years: 2000-74	13.51	15.40	-1.89	-12.30	-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 2000-75

[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:									
2000	10.60	0.23	10.83	1.80	0.02	1.82	12.40	0.25	12.65
2001	10.60	.25	10.85	1.80	.02	1.82	12.40	.27	12.67
2002	10.60	.25	10.85	1.80	.02	1.82	12.40	.27	12.67
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	.28	12.68
2006	10.60	.27	10.87	1.80	.02	1.82	12.40	.29	12.69
2007	10.60	.28	10.88	1.80	.02	1.82	12.40	.30	12.70
2008	10.60	.29	10.89	1.80	.02	1.82	12.40	.31	12.71
2009	10.60	.30	10.90	1.80	.02	1.82	12.40	.33	12.73
2010	10.60	.31	10.91	1.80	.02	1.82	12.40	.34	12.74
2015	10.60	.38	10.98	1.80	.03	1.83	12.40	.41	12.81
2020	10.60	.48	11.08	1.80	.03	1.83	12.40	.51	12.91
2025	10.60	.57	11.17	1.80	.03	1.83	12.40	.60	13.00
2030	10.60	.65	11.25	1.80	.04	1.84	12.40	.68	13.08
2035	10.60	.70	11.30	1.80	.04	1.84	12.40	.74	13.14
2040	10.60	.72	11.32	1.80	.04	1.84	12.40	.76	13.16
2045	10.60	.74	11.34	1.80	.04	1.84	12.40	.78	13.18
2050	10.60	.76	11.36	1.80	.05	1.85	12.40	.81	13.21
2055	10.60	.79	11.39	1.80	.05	1.85	12.40	.84	13.24
2060	10.60	.82	11.42	1.80	.05	1.85	12.40	.87	13.27
2065	10.60	.85	11.45	1.80	.05	1.85	12.40	.90	13.30
2070	10.60	.87	11.47	1.80	.05	1.85	12.40	.92	13.32
2075	10.60	.89	11.49	1.80	.05	1.85	12.40	.94	13.34

Table II.F17.—Components of Annual Income Rates by Trust Fund and Alternative, Calendar Years 2000-75 (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:									
2000	10.60	0.22	10.82	1.80	0.01	1.81	12.40	0.23	12.63
2001	10.60	.25	10.85	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	.26	12.66
2004	10.60	.25	10.85	1.80	.02	1.82	12.40	.27	12.67
2005	10.60	.26	10.86	1.80	.02	1.82	12.40	.27	12.67
2006	10.60	.26	10.86	1.80	.02	1.82	12.40	.28	12.68
2007	10.60	.27	10.87	1.80	.02	1.82	12.40	.29	12.69
2008	10.60	.28	10.88	1.80	.02	1.82	12.40	.29	12.69
2009	10.60	.28	10.88	1.80	.02	1.82	12.40	.30	12.70
2010	10.60	.29	10.89	1.80	.02	1.82	12.40	.31	12.71
2015	10.60	.35	10.95	1.80	.02	1.82	12.40	.37	12.77
2020	10.60	.42	11.02	1.80	.02	1.82	12.40	.44	12.84
2025	10.60	.49	11.09	1.80	.02	1.82	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	.59	11.19	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	.63	11.23	1.80	.03	1.83	12.40	.66	13.06
2075	10.60	.63	11.23	1.80	.03	1.83	12.40	.66	13.06
High Cost:									
2000	10.60	.26	10.86	1.80	.02	1.82	12.40	.27	12.67
2001	10.60	.26	10.86	1.80	.02	1.82	12.40	.28	12.68
2002	10.60	.26	10.86	1.80	.02	1.82	12.40	.28	12.68
2003	10.60	.26	10.86	1.80	.02	1.82	12.40	.28	12.68
2004	10.60	.28	10.88	1.80	.02	1.82	12.40	.31	12.71
2005	10.60	.29	10.89	1.80	.02	1.82	12.40	.31	12.71
2006	10.60	.30	10.90	1.80	.02	1.82	12.40	.32	12.72
2007	10.60	.30	10.90	1.80	.03	1.83	12.40	.33	12.73
2008	10.60	.31	10.91	1.80	.03	1.83	12.40	.34	12.74
2009	10.60	.33	10.93	1.80	.03	1.83	12.40	.36	12.76
2010	10.60	.34	10.94	1.80	.03	1.83	12.40	.37	12.77
2015	10.60	.43	11.03	1.80	.04	1.84	12.40	.46	12.86
2020	10.60	.54	11.14	1.80	.04	1.84	12.40	.58	12.98
2025	10.60	.66	11.26	1.80	.05	1.85	12.40	.70	13.10
2030	10.60	.76	11.36	1.80	.05	1.85	12.40	.81	13.21
2035	10.60	.84	11.44	1.80	.05	1.85	12.40	.90	13.30
2040	10.60	.90	11.50	1.80	.05	1.85	12.40	.95	13.35
2045	10.60	.94	11.54	1.80	.06	1.86	12.40	1.00	13.40
2050	10.60	.99	11.59	1.80	.06	1.86	12.40	1.06	13.46
2055	10.60	1.05	11.65	1.80	.07	1.87	12.40	1.12	13.52
2060	10.60	1.12	11.72	1.80	.07	1.87	12.40	1.19	13.59
2065	10.60	1.19	11.79	1.80	.07	1.87	12.40	1.26	13.66
2070	10.60	1.25	11.85	1.80	.07	1.87	12.40	1.32	13.72
2075	10.60	1.31	11.91	1.80	.07	1.87	12.40	1.39	13.79

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 2000-74

[As a percentage of taxable payroll]

Valuation period	Income rate: Payroll tax	Income rate: Taxation of benefits	Income rate: Beginning fund balance	Income rate: Total	Cost rate: Disbursements	Cost rate: Ending fund balance	Cost rate: Total
OASI:							
Intermediate:							
2000-24	10.59	0.35	1.00	11.94	10.34	0.46	10.80
2000-49	10.59	.48	.60	11.67	12.25	.20	12.45
2000-74	10.59	.55	.48	11.62	13.03	.11	13.15
Low Cost:							
2000-24	10.59	.32	1.01	11.92	9.67	.41	10.07
2000-49	10.59	.42	.61	11.62	10.94	.16	11.11
2000-74	10.59	.46	.48	11.53	11.22	.09	11.31
High Cost:							
2000-24	10.59	.39	1.01	11.98	11.23	.53	11.75
2000-49	10.59	.57	.60	11.75	13.95	.26	14.21
2000-74	10.59	.69	.47	11.75	15.56	.16	15.72
DI:							
Intermediate:							
2000-24	1.80	.02	.12	1.94	1.97	.08	2.04
2000-49	1.80	.03	.07	1.90	2.15	.03	2.18
2000-74	1.80	.03	.06	1.89	2.24	.02	2.26
Low Cost:							
2000-24	1.80	.02	.12	1.94	1.64	.06	1.69
2000-49	1.80	.02	.07	1.90	1.69	.02	1.72
2000-74	1.80	.02	.06	1.88	1.71	.01	1.73
High Cost:							
2000-24	1.80	.03	.12	1.95	2.39	.10	2.50
2000-49	1.80	.04	.07	1.91	2.72	.05	2.77
2000-74	1.80	.05	.06	1.90	2.90	.02	2.93
OASDI:							
Intermediate:							
2000-24	12.39	.38	1.12	13.88	12.30	.54	12.84
2000-49	12.39	.51	.67	13.58	14.40	.24	14.63
2000-74	12.39	.59	.54	13.51	15.27	.13	15.40
Low Cost:							
2000-24	12.39	.34	1.13	13.86	11.30	.47	11.77
2000-49	12.39	.44	.68	13.51	12.63	.19	12.82
2000-74	12.39	.48	.54	13.41	12.93	.10	13.03
High Cost:							
2000-24	12.39	.42	1.13	13.93	13.62	.63	14.25
2000-49	12.38	.61	.67	13.66	16.67	.31	16.98
2000-74	12.38	.73	.53	13.65	18.47	.18	18.65

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 com-

parison 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) OASI	DI	OASDI	Covered workers per OASDI beneficiary	Beneficiaries per 100 covered workers
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	4,734	35,118	3.2	31
1985	120,565	32,776	3,874	36,650	3.3	30
1986	123,400	33,350	3,972	37,322	3.3	30
1987	126,287	33,917	4,034	37,951	3.3	30
1988	130,142	34,343	4,077	38,420	3.4	30
1989	132,478	34,754	4,105	38,859	3.4	29
1990	133,692	35,266	4,204	39,470	3.4	30
1991	132,994	35,785	4,388	40,173	3.3	30
1992	133,915	36,314	4,716	41,030	3.3	31
1993	136,127	36,758	5,083	41,841	3.3	31
1994	138,212	37,082	5,435	42,517	3.3	31
1995	141,087	37,376	5,731	43,107	3.3	31
1996	143,455	37,521	5,977	43,498	3.3	30
1997	146,659	37,705	6,087	43,792	3.3	30
1998	149,499	37,826	6,250	44,076	3.4	29
1999	151,780	37,934	6,433	44,367	3.4	29
Intermediate:						
2000	153,560	38,193	6,626	44,819	3.4	29
2005	159,274	40,150	7,991	48,141	3.3	30
2010	164,900	43,926	9,396	53,322	3.1	32
2015	169,123	50,057	10,479	60,536	2.8	36
2020	171,935	57,566	11,238	68,803	2.5	40
2025	173,948	64,760	11,857	76,617	2.3	44
2030	176,126	70,557	12,149	82,705	2.1	47
2035	178,801	74,288	12,281	86,569	2.1	48
2040	181,619	75,737	12,605	88,341	2.1	49
2045	184,019	76,677	13,232	89,909	2.0	49
2050	186,120	78,147	13,633	91,780	2.0	49
2055	187,997	80,486	13,966	94,453	2.0	50
2060	189,904	83,278	14,043	97,320	2.0	51
2065	191,803	85,840	14,217	100,057	1.9	52
2070	193,613	88,171	14,455	102,625	1.9	53
2075	195,274	90,404	14,738	105,143	1.9	54
Low Cost:						
2000	153,711	38,190	6,591	44,781	3.4	29
2005	161,201	40,029	7,508	47,536	3.4	29
2010	168,444	43,583	8,361	51,944	3.2	31
2015	173,738	49,411	8,806	58,217	3.0	34
2020	177,586	56,531	9,163	65,694	2.7	37
2025	180,936	63,207	9,536	72,742	2.5	40
2030	184,907	68,290	9,731	78,021	2.4	42
2035	189,989	71,198	9,860	81,057	2.3	43
2040	195,832	71,918	10,172	82,090	2.4	42
2045	201,804	72,407	10,724	83,131	2.4	41
2050	207,786	73,598	11,123	84,721	2.5	41
2055	213,979	75,768	11,505	87,273	2.5	41
2060	220,671	78,323	11,739	90,062	2.5	41
2065	227,818	80,607	12,106	92,714	2.5	41
2070	235,145	82,816	12,571	95,387	2.5	41
2075	242,484	85,281	13,085	98,366	2.5	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:						
2000	153,130	38,196	6,689	44,886	3.4	29
2005	155,437	40,252	8,778	49,029	3.2	32
2010	161,599	44,250	10,441	54,692	3.0	34
2015	164,960	50,687	12,179	62,866	2.6	38
2020	166,948	58,623	13,345	71,969	2.3	43
2025	167,904	66,426	14,209	80,635	2.1	48
2030	168,517	73,093	14,586	87,679	1.9	52
2035	169,088	77,878	14,709	92,587	1.8	55
2040	169,304	80,362	15,028	95,391	1.8	56
2045	168,651	82,107	15,718	97,825	1.7	58
2050	167,464	84,220	16,091	100,312	1.7	60
2055	165,745	87,061	16,328	103,389	1.6	62
2060	163,771	90,374	16,164	106,539	1.5	65
2065	161,518	93,447	16,029	109,477	1.5	68
2070	159,092	96,125	15,895	112,020	1.4	70
2075	156,559	98,333	15,806	114,139	1.4	73

[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:

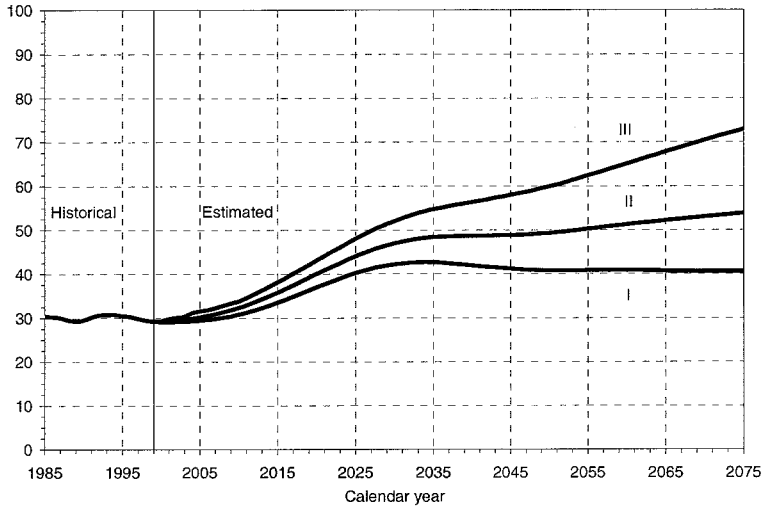
1. The number of beneficiaries does not include certain uninsured persons, most of whom both attained age 72 before 1968 and have fewer than 3 quarters of coverage, in which cases the costs are reimbursed by the general fund of the Treasury. The number of such uninsured persons was 179 as of June 30, 1999. 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 1999, 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 2032, and then rises back to a level of 2.4 by 2037, and 2.5 by 2050. Based on the high cost alternative III, for which low fertility rates and large reductions in death rates are assumed, the decline is much greater, reaching 1.8 by 2034, and 1.4 workers per beneficiary by 2068. Based on the intermediate alternative II, the ratio declines to 2.1 by 2029, and 1.9 workers per beneficiary by 2061.

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 1999 level of 29 beneficiaries per 100 covered workers, this ratio is estimated to rise by 2075 to significantly higher levels, which are 41 under alternative I, 54 under alternative II, and 73 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 as a percentage of taxable payroll is determined by the age distribution 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 figure I.G2 of the Overview.

f. Trust Fund Ratios

Trust fund ratios are useful indicators of the adequacy of the financial resources of the Social Security program at any point in time. For any year in which the projected trust fund ratio is positive (i.e., the trust fund holds assets at the beginning of the year), but is not positive for the following year, the trust fund is projected to become exhausted

during the year. Under present law, the OASI and DI Trust Funds do not currently have the authority to borrow. Therefore, exhaustion of the assets in either fund during a year, would mean there are no longer sufficient funds to cover the full amount of benefits payable under present law.

The trust fund ratio also serves an additional important purpose in assessing the actuarial status of the program. When the financing is adequate for the timely payment of full benefits throughout the long-range period, the stability of the trust fund ratio toward the end of the period indicates the likelihood that this projected adequacy will continue for subsequent Trustees Reports. If trust fund ratios toward the end of the period are level (or increasing) then projected adequacy for the long-range period is likely to continue for subsequent reports.

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 226 percent at the beginning of 2000, reaching a peak of 473 percent at the beginning of 2014. This increase in the OASI trust fund ratio results from the fact that the annual income rate (which excludes interest) exceeds annual outgo for several years (see table II.F13). Thereafter, the OASI trust fund ratio declines steadily, with the OASI Trust Fund becoming exhausted in 2039. 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 172 percent at the beginning of 2000 to a peak of 243 percent in 2005, and to decline thereafter until becoming exhausted in 2023.

The trust fund ratio for the hypothetical combined OASI and DI Trust Funds rises from 218 percent for 2000 to a peak of 421 percent at the beginning of 2013. Thereafter, the ratio declines, with the combined funds becoming exhausted in 2037. Based on the intermediate estimates in last year's report, the peak fund ratio for the combined funds was estimated to be 364 percent in 2013 and the year of exhaustion was estimated to be 2034.

The trust fund ratio for the combined OASDI program first declines for 2014, 1 year before annual expenditures begin to exceed noninterest income. This occurs because the increases in trust fund assets during 2013 and 2014, reflecting interest income and small excesses of noninterest income over cost, occur at a slower rate than does the annual cost of the program.

After 2014, the dollar amount of assets is projected to continue to rise through the beginning of 2025, 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 2015, to redeem the trust funds' special 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 1,293 percent for 2074. At the end of the long-range period, the DI trust fund ratio is rising by 20 percentage points per year. Thus, projected adequacy of financing for the DI program is likely to be reported in subsequent reports. For the OASI program, the trust fund ratio rises to a peak of 597 percent for 2017, dropping thereafter to a level of 361 percent by 2074. At the end of the period the OASI trust fund ratio is declining by 2 percentage points per year. For the combined OASDI program, trust fund ratios follow a pattern similar to that for OASI, peaking at 574 percent for 2018, and then falling to 467 percent for 2044. However, after 2044 the combined OASI and DI trust fund ratio rises slowly, reaching 482 percent for 2074, with an annual increase at a rate of 2 percentage points. Thus, due to the size of the trust fund ratios and their near stability, the projected adequacy of financing over the long-range period for the OASI and the combined OASI and DI programs is likely to continue for subsequent Trustees Reports. A stable trust fund ratio at the end of the valuation period indicates that the actuarial balance for Trustees Reports in subsequent years can be expected to remain about the same as long as assumptions are realized.

In contrast, under the high cost alternative III, the OASI trust fund ratio is estimated to peak at 357 percent for 2011, thereafter declining to fund exhaustion by the end of 2029. The DI trust fund ratio is estimated to peak at 188 percent for 2002, thereafter declining to fund exhaustion by the end of 2012. The combined OASDI trust fund ratio is estimated to rise to a peak of 301 percent for 2009, declining thereafter to fund exhaustion by the end of 2026.

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 26 years into the future (until 2026). Under the alternative II assumptions the combined starting funds plus estimated future income would be able to cover expenditures for about 37 years into the future (until 2037). The program would be able to cover expenditures for the indefinite future under the more optimistic assumptions in alternative I. In the 1999 report, the combined trust funds were projected to be exhausted in 2024 under alternative III and in 2034 under alternative II.

Table II.F20.—Estimated Trust Fund Ratios by Trust Fund and Alternative, Calendar Years 2000-75

[In percent]

	Intermediate			Low Cost			High Cost		
Calendar year	OASI	DI	Combined	OASI	DI	Combined	OASI	DI	Combined
2000	226	172	218	226	175	219	226	168	218
2001	251	196	243	252	203	245	249	183	239
2002	277	216	268	282	231	274	268	188	256
2003	304	231	293	312	256	304	283	186	267
2004	329	240	315	343	276	333	296	179	277
2005	353	243	335	374	293	362	309	166	284
2006	376	243	354	405	306	390	321	150	291
2007	397	238	370	436	317	417	332	132	296
2008	417	231	385	467	326	444	342	113	299
2009	434	223	397	495	335	469	350	91	301
2010	447	213	406	518	346	491	355	67	300
2015	472	152	418	590	406	563	339	(1)	262
2020	428	71	373	587	469	571	261	(1)	175
2025	348	(1)	293	553	520	549	143	(1)	50
2030	244	(1)	189	507	574	515	(1)	(1)	(1)
2035	126	(1)	71	463	652	485	(1)	(1)	(1)
2040	(1)	(1)	(1)	436	727	471	(1)	(1)	(1)
2045	(1)	(1)	(1)	422	782	467	(1)	(1)	(1)
2050	(1)	(1)	(1)	412	847	468	(1)	(1)	(1)
2055	(1)	(1)	(1)	401	920	468	(1)	(1)	(1)
2060	(1)	(1)	(1)	387	1,019	467	(1)	(1)	(1)
2065	(1)	(1)	(1)	376	1,119	470	(1)	(1)	(1)
2070	(1)	(1)	(1)	367	1,216	476	(1)	(1)	(1)
2075	(1)	(1)	(1)	359	1,312	483	(1)	(1)	(1)
Trust fund is estimated to be exhausted in:	2039	2023	2037	(2)	(2)	(2)	2029	2012	2026

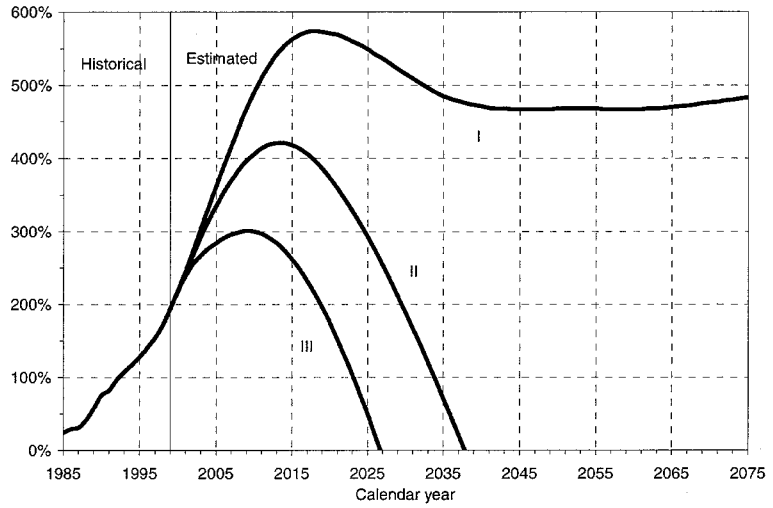
[1] The trust fund is estimated to have been exhausted by the beginning of this year. The last line of the table shows the specific year of trust fund exhaustion.

[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 the DI fund is estimated to be exhausted are theoretical and are shown for informational purposes only.

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	11.60	1.88	13.49
Cost rate	13.31	2.25	15.56
Actuarial balance	-1.70	-.36	-2.07
Changes in actuarial balance due to changes in:			
Legislation / Regulation	.00	.00	.00
Valuation period	-.06	-.01	-.07
Demographic assumptions	-.06	-.01	-.07
Economic assumptions	+.12	+.02	+.14
Disability assumptions	.00	.00	.00
Methods	+.18	-.01	+.17
Total change in actuarial balance	+.18	-.01	+.17
Shown in this report:			
Actuarial balance	-1.53	-.37	-1.89
Income rate	11.62	1.89	13.51
Cost rate	13.15	2.26	15.40

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

Two legislative changes have been enacted since the last report. The "Ticket to Work and Work Incentives Improvement Act of 1999" was signed into law on December 17, 1999. The effects of this legislation are largely on the Disability Insurance program. The "Foster Care Independence Act of 1999" was signed into law on December 14, 1999. The effects of this legislation are largely on the Supplemental Security Income program. These new laws are estimated to increase the size of the OASDI actuarial deficit by a negligible amount (i.e., less than 0.005 percent of payroll). In addition, when this report was finalized for printing, the enactment of legislation relating to the elimination of the retirement earnings test was imminent. The legislation eliminates the retirement earnings test for individuals who have reached their normal retirement age. The effects of this amendment (which are negligible over the long-range period as a whole) are not reflected in the estimates in this report.

In changing from the valuation period of last year's report, which was 1999-2073, to the valuation period of this report, 2000-74, the relatively large negative annual balance for 2074 is included. This results in a larger long-range actuarial deficit. (Note that the fund balance at

the end of 1999, i.e., at the beginning of the projection period, is included in the 75-year actuarial balance.)

Ultimate assumptions for two demographic parameters were modified substantially: (1) the ultimate total fertility rate was raised to 1.95 children per woman from the level of 1.90 used in last year's report and (2) the ultimate rate of decline in mortality was increased by about one-third from the level assumed for last year's report. The increase in the assumed ultimate rate of decline in mortality increases the size of the estimated actuarial deficit substantially. The change in ultimate total fertility rate, combined with higher birth rates in the near term (reflecting higher than expected birth rates in the past year), reduce the estimated long-range actuarial deficit. The effect from changes in fertility partly offset the effect from mortality reductions. (See section II.D.2 for further details on these changes.) In addition, the assumed future marriage and divorce rates were reduced slightly for this report reflecting recent lower rates. This change had a negligible effect on the actuarial balance.

Several significant changes were made to economic assumptions for this year's report (see discussion in section II.D1). In total, these changes reduced the actuarial deficit by 0.14 percent of taxable payroll. Recent economic performance and changes in the short-range economic assumptions based on this performance accounted for a reduction in the actuarial deficit of 0.04 percent of taxable payroll, while changes in the ultimate economic assumptions (increasing the ultimate real-wage differential) accounted for the remaining reduction in the actuarial deficit of 0.10 percent of taxable payroll.

Disability incidence and recovery termination rates were not modified for this report. Disabled worker death termination rates were reduced in line with changes in assumed mortality for the population in general, as discussed above. The effects of changes in disabled worker mortality are thus included in the effect indicated for general population mortality.

Several changes in methods were made for this year's report. (1) The methods for projecting the number of workers in covered employment were refined, resulting in an increase in the size of covered employment, particularly for females at ages 65 and over. This change, combined with an associated improvement in the method for projecting future earnings levels of workers prior to benefit entitlement resulted in a net reduction in the actuarial deficit. (2) Historical data on the distribution of the population by marital status resulted in a starting

population with fewer widows and widowers than estimated in last year's report. This change resulted in a reduction in the number of aged surviving spouse beneficiaries in the future and an increase in the number of spouse beneficiaries. Because benefits for surviving spouses are generally higher than for spouse beneficiaries, this change resulted in a reduction in the actuarial deficit. (3) A modification in the method for projecting real interest rates over the short-range period resulted in somewhat higher real rates than used in last year's report, thus reducing the estimated actuarial deficit. (4) The methods for projecting long-range average benefit levels were improved substantially. A new, much larger data sample of worker earnings histories was used and a number of refinements were made in the way the data are projected. These changes resulted in a small net reduction in the estimates of the actuarial deficit. (5) Minor modifications in the methods for projecting the number of new disabled worker beneficiaries resulted in a small increase in the estimated actuarial deficit. The combined effect of these changes in methods since last year's report was to reduce the estimated actuarial deficit by 0.17 percent of taxable payroll.

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 about 4.2 percent of GDP currently to about 6.8 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 1.7, 1.95, 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 2024.

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]		
	1.7	1.95	2.2
Summarized income rate:			
25-year: 2000-24	13.88	13.88	13.89
50-year: 2000-49	13.58	13.58	13.57
75-year: 2000-74	13.54	13.51	13.48
Summarized cost rate:			
25-year: 2000-24	12.83	12.84	12.86
50-year: 2000-49	14.72	14.63	14.55
75-year: 2000-74	15.72	15.40	15.10
Actuarial balance:			
25-year: 2000-24	+1.06	+1.04	+1.03
50-year: 2000-49	-1.13	-1.06	-0.99
75-year: 2000-74	-2.19	-1.89	-1.62

[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 2024.

For the 25-year period, the cost rate for the three fertility assumptions varies by only about 0.03 percent of taxable payroll. In contrast, the 75-year cost rate varies over a wide range, decreasing from 15.72 to 15.10 percent, as the assumed ultimate total fertility rate increases from 1.7 to 2.2. Similarly, while the 25-year actuarial balance varies by only 0.03 percent of taxable payroll, the 75-year actuarial balance varies over a much wider range, from -2.19 to -1.62 percent.

During the 25-year period, the very slight increases in the working population resulting from increases in fertility are more than offset by decreases in the female labor force and 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 0.11 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 1999-2074 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 18 percent, 41 percent, and 61 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]		
	18 percent	41 percent	61 percent
Summarized income rate:			
25-year: 2000-24	13.88	13.88	13.89
50-year: 2000-49	13.56	13.58	13.59
75-year: 2000-74	13.48	13.51	13.54
Summarized cost rate:			
25-year: 2000-24	12.65	12.84	13.03
50-year: 2000-49	14.14	14.63	15.16
75-year: 2000-74	14.68	15.40	16.22
Actuarial balance:			
25-year: 2000-24	+1.23	+1.04	+0.86
50-year: 2000-49	-0.58	-1.06	-1.57
75-year: 2000-74	-1.20	-1.89	-2.68

[1] The measure of the reduction in death rates is the decrease in the age-sex-adjusted death rate during 1999-2074.

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 12.65 percent (for 18-percent lower ultimate death rates) to 13.03 percent (for 61-percent lower ultimate rates). The 75-year cost rate increases from 14.68 to 16.22 percent. The actuarial balance decreases from +1.23 to +0.86 percent for the 25-year period, and from -1.20 to -2.68 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 1999-2074, relative to the 41-percent reduction assumed for alternative II, decreases the long-range actuarial balance by about 0.34 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 655,000 persons, 900,000 persons, and 1,210,000 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		
	655,000	900,000	1,210,000
Summarized income rate:			
25-year: 2000-24	13.90	13.88	13.87
50-year: 2000-49	13.59	13.58	13.56
75-year: 2000-74	13.53	13.51	13.49
Summarized cost rate:			
25-year: 2000-24	12.91	12.84	12.76
50-year: 2000-49	14.75	14.63	14.48
75-year: 2000-74	15.54	15.40	15.23
Actuarial balance:			
25-year: 2000-24	+0.99	+1.04	+1.11
50-year: 2000-49	-1.16	-1.06	-0.92
75-year: 2000-74	-2.01	-1.89	-1.75

For all three periods, the cost rate decreases with increasing rates of net immigration. For the 25-year period, the cost rate decreases from 12.91 percent of taxable payroll (for annual net immigration of

655,000 persons) to 12.76 percent (for annual net immigration of 1,210,000 persons). For the 50-year period, it decreases from 14.75 percent to 14.48 percent, and for the 75-year period, it decreases from 15.54 percent to 15.23 percent. The actuarial balance increases from +0.99 to +1.11 percent for the 25-year period, from -1.16 to -0.92 for the 50-year period, and from -2.01 to -1.75 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 0.05 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 0.5 percentage point, 1.0 percentage point, and 1.5 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 3.3 percent (as assumed for alternative II), yielding ultimate percentage increases in average annual wages in covered employment of 3.8, 4.3, and 4.8 percent under alternatives III, II, and I, respectively.

For the 25-year period, the cost rate decreases from 13.22 percent (for a real-wage differential of 0.5 percentage point) to 12.47 percent (for a differential of 1.5 percentage points). For the 50-year period, it decreases from 15.19 to 14.08 percent, and for the 75-year period it decreases from 15.99 to 14.81 percent. The actuarial balance increases from +0.73 to +1.35 percent for the 25-year period, from -1.53 to -0.58 for the 50-year period, and from -2.39 to -1.38 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]		
	3.8-3.3	4.3-3.3	4.8-3.3
Summarized income rate:			
25-year: 2000-24	13.95	13.88	13.82
50-year: 2000-49	13.66	13.58	13.49
75-year: 2000-74	13.60	13.51	13.42
Summarized cost rate:			
25-year: 2000-24	13.22	12.84	12.47
50-year: 2000-49	15.19	14.63	14.08
75-year: 2000-74	15.99	15.40	14.81
Actuarial balance:			
25-year: 2000-24	+0.73	+1.04	+1.35
50-year: 2000-49	-1.53	-1.06	-0.58
75-year: 2000-74	-2.39	-1.89	-1.38

[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, although the initial benefit levels are higher because of the higher wages, they are more than offset by the effect of those wages on the taxable payroll. In addition, benefit increases are not affected by changes in wages, but only in prices. Each 0.5-percentage-point increase in the assumed real-wage differential increases the long-range actuarial balance by about 0.50 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 2.3 percent, 3.3 percent, and 4.3 percent as assumed for alternatives I, II, and III, respectively. In each case, the ultimate real-wage differential is assumed to be 1.0 percentage point (as assumed for alternative II), yielding ultimate percentage increases in average annual wages in covered employment of 3.3, 4.3, and 5.3 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]		
	3.3-2.3	4.3-3.3	5.3-4.3
Summarized income rate:			
25-year: 2000-24	13.91	13.88	13.86
50-year: 2000-49	13.60	13.58	13.55
75-year: 2000-74	13.53	13.51	13.49
Summarized cost rate:			
25-year: 2000-24	12.99	12.84	12.70
50-year: 2000-49	14.85	14.63	14.42
75-year: 2000-74	15.65	15.40	15.16
Actuarial balance:			
25-year: 2000-24	+0.92	+1.04	+1.16
50-year: 2000-49	-1.25	-1.06	-0.87
75-year: 2000-74	-2.12	-1.89	-1.67

[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 12.99 (for CPI increases of 2.3 percent) to 12.70 percent (for CPI increases of 4.3 percent). For the 50-year period, it decreases from 14.85 to 14.42 percent, and for the 75-year period, it decreases from 15.65 to 15.16 percent. The actuarial balance increases from +0.92 to +1.16 percent for the 25-year period, from -1.25 to -0.87 for the 50-year period, and from -2.12 to -1.67 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 initial 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 0.22 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 2.2 percent, 3.0 percent, and 3.7 percent as assumed for alternatives III, II, and I, respectively. In each case, the ultimate annual increase in the CPI is assumed to be 3.3 percent (as assumed for alternative II), resulting in ultimate annual yields of 5.6, 6.4, and 7.1 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		
	2.2 percent	3.0 percent	3.7 percent
Summarized income rate:			
25-year: 2000-24	13.82	13.88	13.94
50-year: 2000-49	13.51	13.58	13.64
75-year: 2000-74	13.44	13.51	13.58
Summarized cost rate:			
25-year: 2000-24	12.98	12.84	12.73
50-year: 2000-49	14.99	14.63	14.33
75-year: 2000-74	15.91	15.40	14.98
Actuarial balance:			
25-year: 2000-24	+0.84	+1.04	+1.21
50-year: 2000-49	-1.48	-1.06	-0.69
75-year: 2000-74	-2.47	-1.89	-1.40

For the 25-year period, the cost rate decreases slightly with increasing real interest rates from 12.98 percent (for an ultimate real interest rate of 2.2 percent) to 12.73 percent (for an ultimate real interest rate of 3.7 percent). For the 50-year period, it decreases from 14.99 to 14.33 percent, and for the 75-year period, it decreases from 15.91 to 14.98 percent. The actuarial balance increases from +0.84 to +1.21 percent for the 25-year period, from -1.48 to -0.69 percent for the 50-year period, and from -2.47 to -1.40 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 0.36 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 2014. 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: 2000-24	13.88	13.88	13.89
50-year: 2000-49	13.57	13.58	13.58
75-year: 2000-74	13.51	13.51	13.51
Summarized cost rate:			
25-year: 2000-24	12.62	12.84	13.06
50-year: 2000-49	14.35	14.63	14.91
75-year: 2000-74	15.10	15.40	15.70
Actuarial balance:			
25-year: 2000-24	+1.26	+1.04	+0.83
50-year: 2000-49	-0.77	-1.06	-1.33
75-year: 2000-74	-1.59	-1.89	-2.19

For the 25-year period, the cost rate increases with increasing disability incidence rates from 12.62 percent (for the relatively low rates assumed for alternative I) to 13.06 percent (for the relatively high rates assumed for alternative III). For the 50-year period, it increases from 14.35 to 14.91 percent, and for the 75-year period, it increases from 15.10 to 15.70 percent. The actuarial balance decreases from +1.26 to +0.83 percent for the 25-year period, from -0.77 to -1.33 percent for the 50-year period, and from -1.59 to -2.19 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, for men and women, respectively, are about 41 percent and 51 percent of those experienced during the base period 1977-80. 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 alternatives I and III, respectively, the rates for men are about 59 percent and 25 percent of those experienced during the base period; for women the corresponding rates are about 71 percent and 32 percent of those experienced during the base period.

For alternative II, ultimate recovery-termination rates by age and sex are assumed to be attained in 2014; 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 2014; they are assumed to be 60 percent and 40 percent, respectively, of those experienced in the base period.

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: 2000-24	13.88	13.88	13.89
50-year: 2000-49	13.58	13.58	13.58
75-year: 2000-74	13.51	13.51	13.51
Summarized cost rate:			
25-year: 2000-24	12.81	12.84	12.88
50-year: 2000-49	14.58	14.63	14.68
75-year: 2000-74	15.34	15.40	15.46
Actuarial balance:			
25-year: 2000-24	+1.08	+1.04	+1.01
50-year: 2000-49	-1.00	-1.06	-1.11
75-year: 2000-74	-1.83	-1.89	-1.95

For the 25-year period, the cost rate increases with decreasing disability termination rates from 12.81 percent (for the relatively high rates assumed for alternative I) to 12.88 percent (for the relatively low rates

assumed for alternative III). For the 50-year period, it increases from 14.58 to 14.68 percent, and for the 75-year period, it increases from 15.34 to 15.46 percent. The actuarial balance decreases from +1.08 to +1.01 percent for the 25-year period, from -1.00 to -1.11 percent for the 50-year period, and from -1.83 to -1.95 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 1999 through 2080. The starting Social Security Area population for January 1, 1998 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

[1] To obtain copies of this report or studies and notes 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/TR/TR00/index.html. This Internet site also presents year-by-year values for the long-range projections over the next 75 years which are only shown every fifth year in the printed version of this report. Other actuarial publications are also available from this address.

has remained fairly stable, reaching a level estimated at 2.06 for 1998.

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, 1.95, and 1.7 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 2024. 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 1900-97 (by cause of death starting in 1968) and provisional for 1998. For ages 65 and over, Medicare final data for years 1968 through 1997, and provisional data for 1998 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 1997. Between 1968 and 1997, 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 an average rate of 0.7 percent between 1982 and 1997. Historically, however, death rates have declined much more rapidly for younger ages than for older ages.

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 2024 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 1997 and 2024, 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 1997, to the ultimate annual percentage reductions by age, sex, and cause of death assumed for 2024 and later. Alternative I reductions are assumed to change gradually from 50 percent of the average annual reductions observed between 1968 and 1997, while alternative III reductions are assumed to change gradually from 150 percent of the average annual reductions observed between 1968 and 1997.

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, 0.7 percent, and 1.2 percent between 1997 and 2074 for alternatives I, II, and III, respectively. Future assumed rates of decline are greater for younger ages than for older ages, but to a lesser degree than in the past.

Annual legal immigration increased after World War II to around 300,000 persons per year and remained around that level until shortly after 1960. With the Immigration Act of 1965 and other related changes, annual legal immigration increased to about 400,000. Between 1977 and 1990, legal immigration once again increased averaging about 580,000 per year. The Immigration Act of 1990, which took effect in fiscal year 1992, restructured the immigration categories and increased significantly the number or immigrants who may legally enter the United States.

For calendar years 1998 and 1999, legal immigration is estimated to be 660,000 persons per year. Net legal immigration (after considering emigration) is estimated to be 495,000 persons per year. In addition, for these years the net other-than-legal immigration is estimated to be 300,000 persons per year.

The total level of net immigration (legal and illegal, combined) under alternative II is assumed to be 840,000 persons in 2000 and 900,000 persons for each year after 2000. Under alternative I, net immigration is assumed to rise from a level of 1,050,000 persons in 2000 to an ultimate level of 1,210,000 persons for each year 2002 and later.

Under alternative III, net immigration for 2000 and later is assumed to be 655,000 persons per year. Of these ultimate total levels of net immigration, the numbers that are assumed to be net legal immigration are 760,000, 600,000, and 455,000, under alternatives I, II, and III, respectively, with the remaining net immigration under each assumption 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 and total 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 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

	Population (in thousands)				Dependency ratio	
Calendar year	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	80,134	104,833	19,093	204,059	.182	.947
1970	80,685	113,194	20,921	214,800	.185	.898
1975	78,438	122,862	23,266	224,566	.189	.828
1980	74,570	134,431	26,149	235,150	.195	.749
1985	73,248	144,897	29,065	247,210	.201	.706
1990	75,167	152,963	32,021	260,150	.209	.701
1995	79,176	159,767	34,427	273,370	.215	.711
Intermediate:						
2000	81,766	168,228	35,482	285,475	.211	.697
2005	82,740	177,708	36,770	297,218	.207	.673
2010	83,041	185,947	39,728	308,716	.214	.660
2015	83,238	191,285	45,626	320,149	.239	.674
2020	84,361	193,694	53,103	331,158	.274	.710
2025	85,576	193,849	61,762	341,188	.319	.760
2030	86,459	194,396	69,096	349,951	.355	.800
2035	86,895	197,486	73,050	357,431	.370	.810
2040	87,290	201,863	74,642	363,796	.370	.802
2045	87,977	205,596	75,774	369,347	.369	.796
2050	88,854	207,937	77,653	374,444	.373	.801
2055	89,687	209,490	80,297	379,475	.383	.811
2060	90,373	210,677	83,634	384,683	.397	.826
2065	90,971	212,655	86,441	390,066	.406	.834
2070	91,601	214,880	88,910	395,391	.414	.840
2075	92,310	216,895	91,238	400,443	.421	.846

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.)

Calendar year	Population (in thousands)				Dependency ratio	
	Under 20	20-64	65 and over	Total	Aged [1]	Total [2]
Low Cost:						
2000	81,836	168,290	35,477	285,603	0.211	0.697
2005	83,667	178,698	36,602	298,966	.205	.673
2010	85,366	187,963	39,205	312,534	.209	.663
2015	87,523	194,372	44,628	326,523	.230	.680
2020	91,199	197,951	51,530	340,681	.260	.721
2025	95,343	199,709	59,455	354,506	.298	.775
2030	99,104	202,435	65,882	367,420	.325	.815
2035	102,296	208,247	68,879	379,422	.331	.822
2040	105,424	215,867	69,635	390,927	.323	.811
2045	108,803	223,412	70,213	402,428	.314	.801
2050	112,565	229,956	71,787	414,308	.312	.802
2055	116,450	236,150	74,241	426,842	.314	.808
2060	120,196	242,561	77,354	440,111	.319	.814
2065	123,812	250,364	79,823	453,999	.319	.813
2070	127,482	258,712	82,093	468,286	.317	.810
2075	131,323	266,946	84,563	482,833	.317	.809
High Cost:						
2000	81,700	168,172	35,486	285,358	.211	.697
2005	81,906	176,888	36,931	295,725	.209	.672
2010	80,924	184,325	40,231	305,481	.218	.657
2015	79,269	188,827	46,602	314,698	.247	.667
2020	78,000	190,330	54,700	323,030	.287	.697
2025	76,581	189,178	64,199	329,958	.339	.744
2030	74,998	187,864	72,603	335,465	.386	.786
2035	73,214	188,555	77,744	339,514	.412	.801
2040	71,524	190,054	80,472	342,050	.423	.800
2045	70,250	190,428	82,527	343,205	.433	.802
2050	69,091	189,101	85,105	343,297	.450	.815
2055	67,844	186,655	88,297	342,796	.473	.837
2060	66,537	183,393	92,154	342,084	.502	.865
2065	65,264	180,504	95,529	341,298	.529	.891
2070	64,095	177,781	98,378	340,255	.553	.914
2075	63,023	174,974	100,714	338,711	.576	.936

[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. Labor Force, Unemployment Rate, and Covered Workers

The total labor force is projected as the sum of components that subdivide the population by age, sex, marital status and presence of children. The projected labor force for each of these components is the product of expected population levels and labor force participation rates specific to the category. Projections of the labor force participation rates take into account a lagged cohort effect, the percentages of the population that are disabled or in the military, the levels of retirement benefits, and the state of the economy. For men, the projected age-adjusted labor force participation rates for 2075 for alternatives I, II, and III are 1.2, 1.2, and 1.0 percentage points lower, respectively, than the 1999 level of 74.7 percent. For women, the projected age-adjusted labor force participation rates for 2075 for alternatives I, II,

and III are 0.8, 0.7, and 0.6 percentage points higher, respectively, than the 1999 level of 60.0 percent.

The total unemployment rate is a weighted average of projected age-sex specific components. Each component is projected based on an Okun's Law-type of specification relating the changes in the unemployment rate to the changes in the business cycle, as measured by the ratio of the actual to potential GDP. For each alternative, the total unemployment rate is projected to rise as the economy moves toward the long-range sustainable growth path. By 2009, the age-sex adjusted unemployment rates stabilize at their assumed ultimate levels of 4.5, 5.5, and 6.5 percent for alternatives I, II, and III, respectively.

The total labor force and unemployment rate are based on BLS definitions from the Current Population Survey (CPS), and thus represent the average weekly number of employed and unemployed persons, aged 16 and over, in the U.S. in a calendar year. Total covered workers in a year are the number of persons who have any OASDI covered earnings at any time during the year. For those aged 16 and over, projected covered employment is the sum of age-sex components each of which is projected as a percentage of the CPS concept of employment. For those under age 16, projected covered employment is the sum of age-sex components each of which is projected as a percentage of the Social Security area population. The projection methodology accounts for changes in the business cycle, the quarterly pattern of growth in employment within each year, changes in non-OASDI covered employment, 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.

Defining covered worker rates as the ratio of OASDI covered workers to the Social Security area population, the projected age-adjusted coverage rate for men changes from its 1999 level of 75.8 percent to 73.4, 72.8, and 72.4 percent for 2075 for alternatives I, II, and III, respectively. For women, it changes from its 1999 level of 64.1 percent to 64.2, 63.6, and 63.0 percent for 2075 for alternatives I, II, and III, respectively.

3. Average Earnings, Inflation, and Real Interest Rate

Future increases in average earnings levels 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 the level of 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 the level of 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 1959-98, annual increases in productivity for the total U.S. economy averaged 1.9 percent, the result of average annual increases of 3.0, 1.8, 1.3, and 1.4 percent for the 10-year periods 1959-68, 1969-78, 1979-88 and 1989-98, respectively. Meanwhile, the average annual rate of change in average real earnings for the total U.S. economy was an increase of 1.0 percent for the 40 years 1959-98, the result of average annual changes of 2.5, 0.2, 0.2, and 1.0 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 1959-98, and -0.5, -1.6, -1.1, and -0.4 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 price index to the CPI.

The average annual rate of change in the average real wage in OASDI covered employment was 1.1 percent over the 40 years 1959-98. 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 1959-68, 1969-78, 1979-88, and 1989-98 were 2.3 percent, 0.6 percent, 0.4 percent and 1.0 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 1.8, 1.5, and 1.2 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 0.3, 0.5, and 0.7 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 0.2 percentage point between the rates of growth in the CPI and the GDP price index for each alternative. No ultimate change is assumed for the historically relatively stable ratio of employee compensation to GDP. The resulting ultimate real-wage differentials are 1.5, 1.0, and 0.5 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 1959-98, 5.2 percent for the 30 years 1969-98, 4.6 percent for the 20 years 1979-98, and 3.2 percent for the 10 years 1989-98. The ultimate average annual CPI increases of 2.3, 3.3, and 4.3 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 4.0 percent annually for the 40 years 1959-98, 4.6 percent annually for the 30 years 1969-98, 3.8 percent annually for the 20 years 1979-98, and 2.5 percent annually for the 10 years 1989-98. The difference between the growth rates in these price indices is assumed

to decline gradually from 0.8 percentage point during 2000, to the ultimate assumed difference of 0.2 percentage point by 2003.

The ultimate increases in the level of average annual wages in covered employment are assumed to be 3.8, 4.3, and 4.8 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 annual rate of 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, 1959-98, and for each of the 10-year subperiods, 1959-68, 1969-78, 1979-88, and 1989-98. For the 40-year period, the real interest rate averaged 2.7 percent per year. For the four 10-year subperiods, the real interest rates averaged 1.9, 0.3, 4.5, and 4.3 percent per year, respectively. The assumed ultimate real interest rates are 3.7 percent, 3.0 percent, and 2.2 percent for alternatives I, II, and III, respectively. The projected interest rates are assumed to reach these levels in 2003 for alternatives I and II, and in 2007 for alternative III.

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 titled "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 all three alternatives. The ratio of taxable wages to wages in covered employment for 1999 is 0.859 for both alternatives I and II and 0.858 for alternative III. The ratio falls by 2009 to the ultimate levels of 0.857, 0.851, and 0.845 for alternatives I, II, and III, respectively.

The projected levels of taxable payroll for the intermediate assumptions are higher than in last year's report in every year. The starting levels of many important economic variables (e.g., GDP and wages) are higher than last year, as is the ultimate annual growth rate in productivity.

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 77.6 for December 31, 1995, to 91.0, 90.9, and 90.5 for December 31, 2074, 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 91.6 to 92.7, while that for females is projected to increase from 67.4 to 89.4.

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 trends, with an adjustment for changes in the portion of the primary insurance amount that is payable at each age of entitlement. As the normal retirement age increases, the number of retired worker-beneficiaries 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. The percentage for ages 65 through 69 was also 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 sta-

tus. 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	16,589	2,867	643	3,888	582	2,919	21	27,509
1980	19,564	3,018	639	4,415	563	2,610	15	30,823
1985	22,435	3,069	456	4,863	372	1,918	10	33,123
1986	22,985	3,088	450	4,931	350	1,878	9	33,691
1987	23,444	3,090	439	4,984	329	1,837	8	34,130
1988	23,862	3,086	432	5,029	318	1,809	7	34,543
1989	24,331	3,093	422	5,071	312	1,782	6	35,017
1990	24,841	3,101	421	5,111	304	1,777	6	35,562
1991	25,293	3,104	425	5,158	301	1,792	5	36,078
1992	25,762	3,112	431	5,205	294	1,808	5	36,618
1993	26,109	3,094	436	5,224	289	1,837	5	36,994
1994	26,412	3,066	440	5,232	283	1,865	4	37,303
1995	26,679	3,026	441	5,226	275	1,884	4	37,534
1996	26,905	2,970	442	5,210	242	1,898	4	37,671
1997	27,282	2,922	441	5,053	230	1,893	3	37,825
1998	27,518	2,864	439	4,990	221	1,884	3	37,918
1999	27,784	2,811	442	4,944	212	1,885	3	38,081
Intermediate:								
2000	28,138	2,790	445	4,938	206	1,887	3	38,407
2005	30,357	2,727	453	4,890	182	1,871	2	40,482
2010	34,176	2,740	494	5,052	170	1,819	3	44,454
2015	40,526	2,635	566	5,110	158	1,747	3	50,745
2020	48,104	2,563	656	5,178	152	1,695	3	58,352
2025	55,090	2,575	722	5,200	151	1,676	3	65,418
2030	60,753	2,548	753	5,173	149	1,669	3	71,047
2035	64,277	2,494	771	5,154	145	1,657	3	74,501
2040	65,699	2,416	775	5,142	141	1,635	3	75,811
2045	66,688	2,418	783	5,149	136	1,611	3	76,788
2050	68,185	2,470	795	5,149	132	1,589	3	78,323
2055	70,503	2,579	819	5,153	128	1,566	3	80,751
2060	73,208	2,679	840	5,155	125	1,543	3	83,553
2065	75,637	2,767	855	5,183	121	1,519	3	86,086
2070	77,831	2,841	865	5,239	117	1,498	3	88,395
2075	79,941	2,917	877	5,299	114	1,479	3	90,629
Low Cost:								
2000	28,131	2,790	445	4,937	206	1,888	3	38,399
2005	30,229	2,714	455	4,872	183	1,880	2	40,334
2010	33,809	2,683	497	5,043	170	1,881	3	44,086
2015	39,820	2,532	572	5,107	160	1,871	3	50,065
2020	46,944	2,415	668	5,197	153	1,888	3	57,268
2025	53,347	2,386	743	5,244	152	1,933	3	63,808
2030	58,216	2,322	785	5,230	151	1,990	3	68,696
2035	60,889	2,237	818	5,197	150	2,037	3	71,332
2040	61,590	2,137	838	5,150	150	2,066	3	71,934
2045	62,149	2,124	865	5,110	149	2,083	3	72,484
2050	63,363	2,162	899	5,069	150	2,107	3	73,754
2055	65,475	2,251	946	5,055	152	2,136	3	76,017
2060	67,868	2,329	987	5,063	154	2,165	3	78,569
2065	69,944	2,395	1,022	5,115	155	2,195	3	80,828
2070	71,943	2,458	1,052	5,206	156	2,224	3	83,044
2075	74,199	2,537	1,086	5,314	157	2,254	3	85,550

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
High Cost:								
2000	28,144	2,791	445	4,939	206	1,887	3	38,414
2005	30,464	2,741	451	4,908	180	1,858	2	40,605
2010	34,528	2,799	492	5,049	172	1,760	3	44,802
2015	41,209	2,747	562	5,091	158	1,641	3	51,411
2020	49,273	2,734	647	5,127	149	1,532	3	59,465
2025	56,936	2,800	704	5,108	145	1,457	3	67,153
2030	63,547	2,828	724	5,053	137	1,397	3	73,688
2035	68,138	2,830	727	5,033	128	1,340	3	78,198
2040	70,564	2,800	715	5,045	118	1,283	3	80,527
2045	72,311	2,843	705	5,087	109	1,232	3	82,290
2050	74,423	2,929	696	5,117	100	1,184	3	84,452
2055	77,247	3,072	698	5,126	93	1,136	3	87,374
2060	80,525	3,207	700	5,097	85	1,088	3	90,704
2065	83,531	3,320	699	5,068	78	1,042	3	93,741
2070	86,134	3,404	694	5,060	72	1,001	3	96,368
2075	88,284	3,474	690	5,051	67	963	3	98,532

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 143 as of December 31, 1999. 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, 1999, 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, 1999. 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 (after 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 (NRA).

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 3.6 per thousand by 1982. Following a gradual trend upward, rates increased to roughly 5.7 per thousand by 1992 and have since followed a gradual trend downward to an estimated 4.7 per thousand in 1997-99.

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 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 additional eligible workers who are expected to file for disability benefits rather than for reduced retirement benefits that are even more reduced when the NRA is greater than age 65.

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). Without regard to scheduled NRA increases, rates are estimated to increase from 4.8 awards per thousand in 1999 to 5.7 per thousand by 2009.

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 0.2 awards per thousand by 2009. 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 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 2071.

Under the low cost assumptions, the gross disability incidence rate is assumed to decrease slightly to 4.5 per thousand in 2000 before

resuming an upward trend back toward the 1999 level of 4.8 per thousand by 2004. The upward trend continues to 5.0 per thousand by 2009. The gross incidence rate for 2027 is estimated to be 5.7 per thousand exposed. Under the high cost assumptions, the gross disability incidence rate is assumed to increase by about 44 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 estimated 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 33.6 deaths per thousand disabled workers. This is about the same as 33.5 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). 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 1999, the last year of actual data, recovery rates were 64 percent of the base period rates for males, and 63 percent of the base period rates for females. Death rates for 1999 were 74 percent of the base period for males, and 73 percent of the base period rates for females.

For alternative II, death rates reach levels in 2074 approximately 59 percent lower for males and approximately 49 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 remain approximately constant, when they sustain ultimate levels that are 50 percent lower than those experienced during the period 1977-80. Projected 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 2074 are estimated to be roughly 41 percent lower for males and approximately 29 percent lower for females than those experienced by disabled-worker beneficiaries during 1977-80. Recovery rates are assumed to increase to ultimate levels that are about 7 percent lower than the 1999 level for both males and females. These ultimate recovery rates are 40 percent lower than those of the 1977-80 base period for both males and females. For alternative III, the death rates in 2074 are estimated to be about 75 percent lower for males and 68 percent lower for females than those experienced during 1977-80. Recovery rates are assumed to decrease to ultimate levels that are about 36 percent lower than the 1999 levels for males, and about 35 percent lower than the 1999 levels for females. These ultimate recovery rates are 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: Wife-husband	Auxiliaries: Child	Total
Historical data:				
1960	455	77	155	687
1965	988	193	558	1,739
1970	1,493	283	889	2,665
1975	2,488	453	1,411	4,351
1980	2,856	462	1,359	4,677
1985	2,653	306	945	3,904
1986	2,725	301	965	3,991
1987	2,782	291	968	4,041
1988	2,826	281	963	4,070
1989	2,891	271	962	4,124
1990	3,007	266	989	4,261
1991	3,191	266	1,052	4,509
1992	3,464	271	1,151	4,886
1993	3,721	273	1,255	5,249
1994	3,958	271	1,350	5,579
1995	4,179	264	1,409	5,852
1996	4,378	224	1,463	6,065
1997	4,501	207	1,438	6,146
1998	4,691	190	1,446	6,327
1999	4,870	176	1,468	6,514
Intermediate:				
2000	5,054	170	1,485	6,709
2005	6,321	165	1,654	8,140
2010	7,459	180	1,874	9,514
2015	8,435	178	1,971	10,584
2020	9,040	193	2,046	11,278
2025	9,579	216	2,131	11,926
2030	9,707	220	2,213	12,139
2035	9,816	218	2,274	12,309
2040	10,133	219	2,316	12,668
2045	10,699	233	2,354	13,286
2050	11,044	239	2,389	13,672
2055	11,313	248	2,429	13,990
2060	11,340	247	2,466	14,053
2065	11,488	250	2,498	14,236
2070	11,702	254	2,527	14,483
2075	11,950	259	2,556	14,765

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
Low Cost:				
2000	5,005	168	1,470	6,643
2005	5,904	154	1,551	7,609
2010	6,587	154	1,665	8,406
2015	7,050	139	1,669	8,857
2020	7,328	140	1,710	9,177
2025	7,642	149	1,792	9,583
2030	7,685	147	1,893	9,724
2035	7,758	143	1,986	9,886
2040	8,025	142	2,061	10,228
2045	8,495	151	2,126	10,773
2050	8,808	156	2,200	11,164
2055	9,088	163	2,286	11,537
2060	9,228	165	2,374	11,767
2065	9,518	170	2,460	12,147
2070	9,903	176	2,542	12,621
2075	10,327	183	2,626	13,135
High Cost:				
2000	5,139	174	1,517	6,830
2005	6,975	185	1,831	8,992
2010	8,337	212	2,086	10,635
2015	9,842	228	2,269	12,339
2020	10,792	260	2,360	13,412
2025	11,575	301	2,423	14,299
2030	11,800	311	2,462	14,574
2035	11,954	312	2,471	14,737
2040	12,323	313	2,463	15,099
2045	12,984	329	2,462	15,775
2050	13,345	334	2,447	16,125
2055	13,567	341	2,427	16,335
2060	13,413	334	2,400	16,147
2065	13,311	330	2,370	16,011
2070	13,222	327	2,337	15,886
2075	13,160	327	2,308	15,795

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 1998. A sample of 1997 awards was used for the 1999 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 2009 was based on assumed increases in average wages, increases in the CPI, and increases in the number of beneficiaries. For years after 2009, 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 pro-

gram 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 0.04 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 25 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 titled "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 differences 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 2008, 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 by 2015, 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 30 percent, with annual deficits beginning by 2025.

Table III.A2.—Comparison of Estimated Income Rates and Cost Rates [1] for OASDI and HI by Alternative, Calendar Years 2000-75

[As a percentage of taxable payroll [1]]

	OASDI			HI			Combined		
Calendar year	Income rate [2]	Cost rate	Balance	Income rate	Cost rate	Balance	Income rate [2]	Cost rate	Balance
Intermediate:									
2000	12.65	10.34	2.31	3.04	2.77	0.27	15.69	13.11	2.58
2001	12.67	10.36	2.31	3.04	2.77	.28	15.71	13.12	2.59
2002	12.67	10.42	2.25	3.05	2.78	.27	15.72	13.20	2.52
2003	12.67	10.51	2.16	3.05	2.79	.26	15.72	13.31	2.42
2004	12.68	10.62	2.06	3.05	2.83	.23	15.73	13.45	2.28
2005	12.68	10.74	1.95	3.06	2.88	.18	15.74	13.61	2.13
2006	12.69	10.87	1.82	3.06	2.93	.13	15.76	13.81	1.95
2007	12.70	11.02	1.69	3.07	2.98	.08	15.77	14.00	1.77
2008	12.71	11.17	1.54	3.07	3.03	.04	15.79	14.20	1.58
2009	12.73	11.35	1.37	3.08	3.07	.01	15.81	14.43	1.38
2010	12.74	11.55	1.18	3.08	3.11	-.03	15.82	14.67	1.15
2015	12.81	12.91	-.10	3.11	3.33	-.22	15.92	16.24	-.32
2020	12.91	14.66	-1.75	3.15	3.67	-.53	16.05	18.33	-2.28
2025	13.00	16.24	-3.24	3.20	4.17	-.97	16.20	20.41	-4.21
2030	13.08	17.35	-4.26	3.24	4.70	-1.46	16.32	22.04	-5.72
2035	13.14	17.86	-4.72	3.27	5.14	-1.87	16.41	23.00	-6.59
2040	13.16	17.87	-4.71	3.29	5.44	-2.15	16.45	23.31	-6.85
2045	13.18	17.85	-4.67	3.30	5.63	-2.33	16.48	23.48	-7.00
2050	13.21	17.96	-4.76	3.32	5.74	-2.42	16.52	23.70	-7.18
2055	13.24	18.27	-5.03	3.33	5.83	-2.50	16.57	24.10	-7.53
2060	13.27	18.63	-5.36	3.35	5.98	-2.63	16.62	24.61	-7.99
2065	13.30	18.95	-5.65	3.37	6.20	-2.83	16.67	25.15	-8.48
2070	13.32	19.24	-5.92	3.38	6.45	-3.06	16.70	25.68	-8.98
2075	13.34	19.53	-6.18	3.40	6.68	-3.28	16.74	26.21	-9.47
Low Cost:									
2000	12.63	10.27	2.36	3.04	2.72	.31	15.67	13.00	2.67
2001	12.66	10.24	2.43	3.04	2.68	.36	15.71	12.92	2.79
2002	12.66	10.23	2.43	3.05	2.64	.40	15.71	12.87	2.84
2003	12.66	10.23	2.43	3.05	2.60	.45	15.71	12.83	2.88
2004	12.67	10.24	2.43	3.05	2.59	.46	15.72	12.83	2.89
2005	12.67	10.26	2.41	3.05	2.59	.47	15.73	12.85	2.88
2006	12.68	10.29	2.39	3.05	2.59	.47	15.73	12.88	2.86
2007	12.69	10.33	2.36	3.06	2.59	.47	15.74	12.91	2.83
2008	12.69	10.38	2.31	3.06	2.58	.48	15.76	12.96	2.79
2009	12.70	10.46	2.25	3.07	2.57	.50	15.77	13.02	2.75
2010	12.71	10.58	2.13	3.07	2.55	.52	15.78	13.13	2.65
2015	12.77	11.58	1.19	3.09	2.48	.60	15.85	14.06	1.79
2020	12.84	13.01	-.16	3.12	2.49	.62	15.96	15.50	.46
2025	12.92	14.20	-1.29	3.16	2.57	.59	16.07	16.77	-.70
2030	12.98	14.90	-1.93	3.19	2.65	.54	16.16	17.55	-1.39
2035	13.01	15.01	-2.01	3.21	2.71	.50	16.21	17.72	-1.51
2040	13.01	14.67	-1.66	3.21	2.74	.48	16.23	17.41	-1.18
2045	13.02	14.33	-1.32	3.22	2.76	.46	16.23	17.09	-.86
2050	13.02	14.14	-1.11	3.22	2.80	.42	16.25	16.93	-.69
2055	13.04	14.11	-1.07	3.23	2.84	.39	16.27	16.95	-.68
2060	13.05	14.09	-1.04	3.24	2.92	.32	16.29	17.01	-.72
2065	13.05	14.01	-.96	3.24	3.02	.22	16.30	17.04	-.74
2070	13.06	13.94	-.88	3.25	3.14	.10	16.31	17.08	-.77
2075	13.06	13.92	-.85	3.25	3.25	.00	16.32	17.17	-.86

Table III.A2.—Comparison of Estimated Income Rates and Cost Rates [1] for OASDI and HI by Alternative, Calendar Years 2000-75 (Cont.)

[As a percentage of taxable payroll [1]]

Calendar year	OASDI Income rate [2]	OASDI Cost rate	OASDI Balance	HI Income rate	HI Cost rate	HI Balance	Combined Income rate [2]	Combined Cost rate	Combined Balance
High Cost:									
2000	12.67	10.51	2.16	3.04	2.85	0.19	15.71	13.36	2.36
2001	12.68	10.89	1.79	3.05	2.94	.11	15.73	13.83	1.90
2002	12.68	10.89	1.79	3.05	2.97	.08	15.73	13.86	1.87
2003	12.68	11.09	1.59	3.06	3.01	.05	15.74	14.10	1.64
2004	12.71	11.82	.88	3.07	3.17	-.10	15.78	14.99	.78
2005	12.71	11.85	.86	3.07	3.26	-.19	15.78	15.11	.67
2006	12.72	11.93	.79	3.07	3.37	-.30	15.79	15.30	.49
2007	12.73	12.08	.65	3.08	3.50	-.42	15.81	15.58	.23
2008	12.74	12.27	.47	3.08	3.62	-.54	15.83	15.90	-.07
2009	12.76	12.51	.24	3.09	3.74	-.65	15.85	16.26	-.41
2010	12.77	12.78	-.01	3.10	3.87	-.77	15.87	16.64	-.77
2015	12.86	14.43	-1.57	3.13	4.54	-1.41	16.00	18.98	-2.98
2020	12.98	16.49	-3.51	3.18	5.51	-2.33	16.16	22.00	-5.84
2025	13.10	18.52	-5.42	3.25	6.89	-3.64	16.35	25.41	-9.06
2030	13.21	20.17	-6.96	3.30	8.47	-5.16	16.51	28.63	-12.12
2035	13.30	21.27	-7.97	3.35	9.90	-6.55	16.65	31.17	-14.52
2040	13.35	21.88	-8.53	3.39	10.96	-7.58	16.74	32.85	-16.11
2045	13.40	22.47	-9.07	3.41	11.64	-8.23	16.82	34.11	-17.29
2050	13.46	23.17	-9.72	3.44	11.94	-8.49	16.90	35.11	-18.21
2055	13.52	24.12	-10.60	3.48	12.13	-8.65	17.00	36.25	-19.25
2060	13.59	25.18	-11.59	3.52	12.44	-8.92	17.11	37.62	-20.51
2065	13.66	26.26	-12.60	3.56	12.89	-9.34	17.22	39.15	-21.93
2070	13.72	27.31	-13.58	3.59	13.41	-9.81	17.32	40.71	-23.39
2075	13.79	28.29	-14.50	3.63	13.87	-10.24	17.41	42.16	-24.74

[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 for 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. 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 2000-74

[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:									
2000-24.....	12.76	12.30	0.46	3.10	3.22	-0.12	15.86	15.52	0.34
2025-49.....	13.11	17.55	-4.44	3.27	5.10	-1.83	16.38	22.65	-6.27
2050-74.....	13.26	18.67	-5.42	3.35	6.08	-2.73	16.61	24.75	-8.15
Low Cost:									
2000-24.....	12.73	11.30	1.43	3.08	2.56	.52	15.81	13.86	1.95
2025-49.....	12.98	14.65	-1.68	3.20	2.70	.50	16.18	17.35	-1.17
2050-74.....	13.03	14.04	-1.01	3.24	2.97	.27	16.27	17.01	-.74
High Cost:									
2000-24.....	12.81	13.62	-.81	3.12	4.22	-1.10	15.92	17.84	-1.91
2025-49.....	13.27	21.11	-7.83	3.35	9.82	-6.47	16.62	30.93	-14.30
2050-74.....	13.59	25.40	-11.81	3.52	12.64	-9.12	17.11	38.04	-20.93

[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 the second and third 25-year subperiods, and for the 50-year and the 75-year valuation periods. Positive balances are projected for the first 25-year subperiod and for the 25-year valuation period. 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 each of the three valuation periods. Relatively small deficits are projected 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 2000-74

[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:									
2000-24	13.88	12.84	1.04	3.24	3.36	-0.12	17.12	16.20	0.92
50-years:									
2000-49	13.58	14.63	-1.06	3.25	4.06	-.81	16.82	18.69	-1.87
75-years:									
2000-74	13.51	15.40	-1.89	3.27	4.49	-1.21	16.78	19.89	-3.10
Low Cost:									
25-years:									
2000-24	13.86	11.77	2.09	3.22	2.64	.58	17.08	14.41	2.67
50-years:									
2000-49	13.51	12.82	.69	3.21	2.65	.56	16.72	15.47	1.25
75-years:									
2000-74	13.41	13.03	.38	3.22	2.71	.50	16.63	15.74	.89
High Cost:									
25-years:									
2000-24	13.93	14.25	-.32	3.26	4.45	-1.19	17.19	18.70	-1.50
50-years:									
2000-49	13.66	16.98	-3.32	3.30	6.71	-3.41	16.96	23.69	-6.73
75-years:									
2000-74	13.65	18.65	-5.00	3.34	7.94	-4.60	16.99	26.59	-9.60

[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. Adjustment of any series of values is accomplished by dividing the value for each year by the corresponding index values for the year. This adjustment removes the inflation in the index from the series of values.

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 2.3, 3.3, and 4.3 percent for the low cost, intermediate, and high cost sets of assumptions (alternatives I, II, and III, respectively). Constant-dollar values (those adjusted by dividing by the CPI) indicate the relative "purchasing power" of the values over time. Constant-dollar values 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 3.8, 4.3, and 4.8 percent under the low cost, intermediate, and high cost alternatives (I, II, and III),

respectively. Wage-indexed values indicate the level of a series relative to the "standard-of-living" of workers over time.

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. Values adjusted by dividing by the taxable payroll indicate the percentage of payroll that each value represents, and thus the extent to which the series of values increases or decreases as a percent of payroll over time.

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 for each year. 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 1999-2075

[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:					
1999	97.06	$30,298.80	$3,753	$9,249	0.9438
2000	100.00	31,685.40	3,969	9,781	1.0000
2001	103.00	33,063.31	4,173	10,296	1.0680
2002	106.08	34,441.54	4,371	10,809	1.1356
2003	109.34	35,832.70	4,571	11,340	1.2047
2004	112.79	37,292.92	4,785	11,909	1.2792
2005	116.47	38,854.34	5,017	12,524	1.3596
2006	120.32	40,484.28	5,257	13,174	1.4459
2007	124.28	42,199.59	5,511	13,858	1.5377
2008	128.39	43,952.53	5,781	14,573	1.6353
2009	132.61	45,821.25	6,071	15,340	1.7391
2010	136.99	47,791.56	6,380	16,141	1.8504
2015	161.13	58,989.24	8,097	20,641	2.5232
2020	189.54	72,810.55	10,175	26,169	3.4407
2025	222.94	89,870.23	12,721	33,022	4.6917
2030	262.24	110,927.03	15,924	41,741	6.3976
2035	308.46	136,917.49	19,999	52,936	8.7238
2040	362.82	168,997.58	25,128	67,157	11.8958
2045	426.77	208,594.10	31,468	84,917	16.2211
2050	502.00	257,468.18	39,304	107,100	22.1192
2055	590.48	317,793.57	49,008	134,843	30.1618
2060	694.55	392,253.34	61,119	169,803	41.1286
2065	816.97	484,159.20	76,235	213,861	56.0831
2070	960.96	597,598.82	95,057	269,260	76.4750
2075	1,130.34	737,617.60	118,421	338,707	104.2816
Low Cost:					
1999	97.18	30,374.60	3,755	9,251	.9438
2000	100.00	31,827.68	3,983	9,811	1.0000
2001	102.50	33,143.31	4,193	10,322	1.0692
2002	104.87	34,363.68	4,384	10,800	1.1381
2003	107.28	35,606.65	4,582	11,305	1.2078
2004	109.74	36,908.40	4,790	11,842	1.2813
2005	112.26	38,268.26	5,009	12,412	1.3593
2006	114.84	39,677.81	5,239	13,012	1.4421
2007	117.49	41,169.02	5,482	13,644	1.5299
2008	120.19	42,677.79	5,733	14,294	1.6231
2009	122.95	44,290.78	6,005	14,983	1.7220
2010	125.78	45,973.83	6,289	15,698	1.8268
2015	140.92	55,398.43	7,841	19,633	2.4544
2020	157.89	66,755.06	9,675	24,328	3.2978
2025	176.91	80,439.80	11,887	30,034	4.4309
2030	198.21	96,929.89	14,652	37,216	5.9534
2035	222.07	116,800.44	18,171	46,389	7.9991
2040	248.82	140,744.45	22,600	57,987	10.7476
2045	278.78	169,596.95	28,087	72,423	14.4406
2050	312.34	204,364.19	34,862	90,335	19.4024
2055	349.95	246,258.69	43,262	112,650	26.0692
2060	392.09	296,741.53	53,764	140,677	35.0267
2065	439.31	357,573.32	66,902	175,901	47.0621
2070	492.20	430,875.57	83,249	219,939	63.2330
2075	551.47	519,204.73	103,489	274,736	84.9602

Table III.B1.—Selected Economic Variables by Alternative, Calendar Years 1999-2075 (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:					
1999	96.78	$30,260.27	$3,751	$9,246	0.9438
2000	100.00	31,325.07	3,919	9,653	1.0000
2001	103.82	32,113.87	4,011	9,930	1.0690
2002	109.33	34,232.92	4,278	10,726	1.1445
2003	115.73	36,421.35	4,555	11,484	1.2288
2004	120.38	37,175.91	4,642	11,735	1.3188
2005	125.28	39,308.92	4,944	12,592	1.4083
2006	130.66	41,577.06	5,259	13,445	1.4983
2007	136.29	43,683.89	5,567	14,232	1.5967
2008	142.14	45,783.63	5,881	15,052	1.7021
2009	148.26	47,969.02	6,207	15,918	1.8146
2010	154.63	50,271.54	6,547	16,824	1.9342
2015	190.86	63,551.90	8,470	22,029	2.6618
2020	235.58	80,340.58	10,856	28,616	3.6632
2025	290.78	101,564.37	13,831	36,966	5.0412
2030	358.91	128,394.91	17,597	47,710	6.9376
2035	443.00	162,313.34	22,392	61,587	9.5474
2040	546.80	205,192.10	28,423	79,297	13.1390
2045	674.91	259,398.25	35,855	101,467	18.0816
2050	833.05	327,924.19	45,034	129,278	24.8836
2055	1,028.23	414,552.82	56,351	164,093	34.2444
2060	1,269.15	524,066.36	70,412	207,970	47.1266
2065	1,566.51	662,510.39	87,865	263,222	64.8548
2070	1,933.55	837,527.57	109,551	332,850	89.2520
2075	2,386.58	1,058,779.50	136,473	420,500	122.8270

[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 2000, and multiplying the result by 100, thereby initializing the CPI at 100 for 2000.

[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 2000 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 2000 Dollars [1] by Alternative, Calendar Years 2000-75

[In billions]

Calendar year	Income excluding interest	Interest income	Total income	Outgo	Assets at end of year
Intermediate:					
2000	$500.7	$64.9	$565.7	$410.3	$1,051.5
2001	512.7	73.4	586.2	419.6	1,187.4
2002	521.1	81.5	602.5	429.5	1,326.0
2003	528.6	88.6	617.1	439.6	1,464.1
2004	536.2	95.7	631.9	450.6	1,600.5
2005	545.3	103.2	648.5	462.4	1,736.1
2006	552.8	110.8	663.6	475.0	1,869.1
2007	562.4	118.5	680.9	488.6	2,001.8
2008	571.0	126.3	697.3	503.2	2,131.8
2009	580.9	133.9	714.8	519.7	2,259.0
2010	591.5	141.6	733.1	538.1	2,381.8
2015	642.0	174.1	816.1	648.6	2,879.8
2020	691.1	185.8	876.9	786.9	3,027.7
2025	740.0	168.7	908.7	926.6	2,694.8
2030	792.4	120.6	912.9	1,053.4	1,855.6
2035 [2]	849.5	44.2	893.7	1,157.9	560.4
Low Cost:					
2000	502.0	65.0	567.0	409.2	1,053.9
2001	517.6	74.2	591.8	418.8	1,201.2
2002	528.6	83.4	612.0	427.8	1,358.2
2003	539.7	92.0	631.8	436.9	1,522.5
2004	551.3	100.8	652.1	447.0	1,693.5
2005	564.5	110.2	674.7	457.9	1,872.3
2006	576.7	120.1	696.8	469.5	2,057.5
2007	591.0	130.5	721.5	481.8	2,250.9
2008	604.0	141.5	745.5	495.3	2,450.6
2009	618.7	152.8	771.5	510.7	2,656.3
2010	633.8	164.6	798.4	529.1	2,865.9
2015	708.5	223.6	932.1	644.2	3,916.3
2020	785.0	277.8	1,062.8	797.1	4,820.0
2025	865.8	317.3	1,183.1	954.3	5,467.1
2030	956.8	342.3	1,299.1	1,101.8	5,873.1
2035	1,061.5	359.3	1,420.9	1,228.6	6,155.9
2040	1,179.1	378.8	1,557.9	1,332.6	6,499.0
2045	1,308.1	407.9	1,716.1	1,444.1	7,012.7
2050	1,449.9	447.2	1,897.1	1,577.8	7,698.0
2055	1,607.4	494.4	2,101.8	1,743.9	8,512.8
2060	1,784.5	547.4	2,331.9	1,931.9	9,426.7
2065	1,983.0	608.6	2,591.5	2,134.2	10,486.6
2070	2,203.0	681.2	2,884.2	2,357.2	11,745.5
2075	2,445.4	766.1	3,211.5	2,611.8	13,214.8
High Cost:					
2000	495.7	64.7	560.4	411.8	1,044.8
2001	489.5	71.6	561.1	420.8	1,146.6
2002	494.8	77.2	572.0	426.1	1,234.8
2003	498.4	83.1	581.5	436.5	1,311.5
2004	488.4	89.3	577.7	456.0	1,382.6
2005	500.2	94.0	594.2	467.6	1,455.0
2006	510.3	97.5	607.9	480.2	1,522.8
2007	518.9	100.9	619.9	493.6	1,586.2
2008	525.6	104.4	630.0	507.9	1,643.1
2009	532.3	107.4	639.7	523.9	1,691.2
2010	539.0	109.6	648.6	541.1	1,729.0
2015	569.1	109.0	678.1	640.5	1,715.5
2020	596.5	82.9	679.4	759.8	1,245.8
2025 [2]	621.4	21.4	642.8	881.0	202.2

[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 2037 under the intermediate assumptions and in 2026 under the high cost assumptions.

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

Figure III.B1 provides a comparison of annual 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 2014, (2) current tax income plus amounts from the trust funds that are less than annual interest income for years 2015 through 2024, and (3) current tax income plus amounts from the trust funds that are greater than annual interest income for years 2025 through 2036, 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]

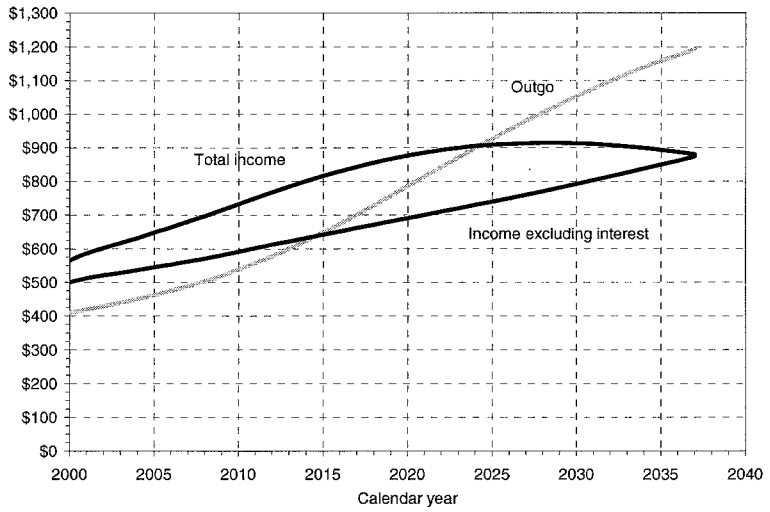


Table III.B3 shows estimated operations of the combined OASI and DI Trust Funds in current dollars—that is in dollars unadjusted for price inflation. Items included in the table are: income excluding interest, interest income, total income, total outgo, and assets at the end of the year. These estimates, 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.B3.—Estimated Operations of the Combined OASI and DI Trust Funds in Current Dollars by Alternative, Calendar Years 2000-75

[In billions]

Calendar year	Income excluding interest	Interest income	Total income	Outgo	Assets at end of year
Intermediate:					
2000	$500.7	$64.9	$565.7	$410.3	$1,051.5
2001	528.1	75.6	603.7	432.2	1,223.0
2002	552.8	86.4	639.2	455.6	1,406.7
2003	577.9	96.8	674.8	480.6	1,600.8
2004	604.8	108.0	712.8	508.2	1,805.3
2005	635.1	120.1	755.3	538.6	2,022.0
2006	665.1	133.3	798.4	571.5	2,248.8
2007	698.9	147.3	846.2	607.2	2,487.8
2008	733.1	162.1	895.2	646.0	2,737.0
2009	770.4	177.5	947.9	689.2	2,995.8
2010	810.3	194.0	1,004.3	737.2	3,262.9
2015	1,034.5	280.5	1,315.0	1,045.2	4,640.4
2020	1,309.9	352.2	1,662.1	1,491.5	5,738.7
2025	1,649.8	376.0	2,025.9	2,065.7	6,007.7
2030	2,077.9	316.2	2,394.0	2,762.4	4,866.2
2035 [1]	2,620.4	136.3	2,756.6	3,571.7	1,728.6
Low Cost:					
2000	502.0	65.0	567.0	409.2	1,053.9
2001	530.5	76.0	606.6	429.3	1,231.2
2002	554.3	87.5	641.8	448.7	1,424.3
2003	579.0	98.7	677.7	468.7	1,633.3
2004	605.0	110.6	715.7	490.5	1,858.5
2005	633.7	123.7	757.5	514.1	2,101.9
2006	662.3	137.9	800.2	539.1	2,362.9
2007	694.4	153.4	847.7	566.1	2,644.6
2008	725.9	170.1	896.0	595.3	2,945.3
2009	760.7	187.9	948.6	627.9	3,265.9
2010	797.2	207.0	1,004.2	665.5	3,604.7
2015	998.5	315.1	1,313.6	907.8	5,519.1
2020	1,239.5	438.6	1,678.1	1,258.6	7,610.5
2025	1,531.7	561.3	2,092.9	1,688.3	9,671.7
2030	1,896.4	678.5	2,574.9	2,183.8	11,641.0
2035	2,357.4	798.0	3,155.4	2,728.3	13,670.6
2040	2,933.7	942.5	3,876.2	3,315.7	16,170.5
2045	3,646.7	1,137.2	4,784.0	4,025.7	19,549.8
2050	4,528.7	1,396.8	5,925.6	4,928.2	24,044.2
2055	5,625.2	1,730.2	7,355.4	6,102.9	29,791.0
2060	6,997.1	2,146.3	9,143.4	7,574.9	36,961.6
2065	8,711.3	2,673.5	11,384.7	9,375.6	46,068.4
2070	10,843.4	3,352.7	14,196.1	11,602.1	57,812.0
2075	13,485.7	4,225.0	17,710.6	14,403.5	72,876.0
High Cost:					
2000	495.7	64.7	560.4	411.8	1,044.8
2001	508.2	74.3	582.5	436.9	1,190.4
2002	541.0	84.4	625.4	465.8	1,350.0
2003	576.8	96.2	672.9	505.2	1,517.8
2004	587.9	107.5	695.4	548.9	1,664.3
2005	626.7	117.7	744.4	585.8	1,822.9
2006	666.8	127.4	794.3	627.4	1,989.7
2007	707.2	137.6	844.8	672.7	2,161.9
2008	747.1	148.4	895.5	721.9	2,335.5
2009	789.2	159.2	948.4	776.7	2,507.3
2010	833.5	169.4	1,003.0	836.7	2,673.6
2015	1,086.2	208.0	1,294.2	1,222.5	3,274.2
2020	1,405.2	195.3	1,600.4	1,789.9	2,934.9
2025 [1]	1,806.9	62.2	1,869.1	2,561.7	588.0

[1] Estimates for later years are not shown because the combined OASI and DI Trust Funds are estimated to become exhausted in 2037 under the intermediate assumptions and in 2026 under the high cost assumptions.

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

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 payroll-tax 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 2000-75

[In billions]

Calendar year	OASDI			HI			Combined		
	Income excluding interest	Outgo	Balance	Income excluding interest	Outgo	Balance	Income excluding interest	Outgo	Balance
Intermediate:									
2000	$501	$410	$90	$149	$136	$13	$650	$546	$104
2001	528	432	96	157	143	14	685	575	110
2002	553	456	97	165	150	15	717	606	112
2003	578	481	97	173	158	15	750	638	112
2004	605	508	97	181	167	13	786	676	110
2005	635	539	97	190	179	11	825	717	108
2006	665	572	94	200	191	8	865	763	102
2007	699	607	92	210	204	6	909	812	97
2008	733	646	87	221	218	3	954	864	90
2009	770	689	81	232	232	(1)	1,003	921	82
2010	810	737	73	245	247	-3	1,055	984	71
2015	1,034	1,045	-11	313	336	-22	1,348	1,381	-33
2020	1,310	1,491	-182	399	465	-67	1,709	1,957	-248
2025	1,650	2,066	-416	507	660	-154	2,156	2,726	-570
2030	2,078	2,762	-684	643	932	-289	2,721	3,694	-973
2035	2,620	3,572	-951	816	1,281	-465	3,436	4,852	-1,416
2040	3,299	4,491	-1,191	1,030	1,703	-672	4,330	6,194	-1,864
2045	4,138	5,618	-1,481	1,296	2,209	-913	5,433	7,827	-2,394
2050	5,177	7,060	-1,883	1,626	2,814	-1,188	6,803	9,874	-3,071
2055	6,470	8,954	-2,484	2,039	3,567	-1,528	8,509	12,521	-4,012
2060	8,089	11,384	-3,295	2,558	4,565	-2,006	10,647	15,948	-5,301
2065	10,111	14,444	-4,334	3,208	5,902	-2,694	13,319	20,346	-7,028
2070	12,630	18,286	-5,656	4,018	7,656	-3,638	16,648	25,942	-9,294
2075	15,762	23,123	-7,361	5,026	9,888	-4,862	20,788	33,011	-12,223
Low Cost:									
2000	502	409	93	149	134	15	651	543	108
2001	531	429	101	157	139	19	688	568	120
2002	554	449	106	164	143	22	719	591	127
2003	579	469	110	172	147	25	751	616	135
2004	605	491	115	180	153	27	785	643	142
2005	634	514	120	188	160	29	822	674	148
2006	662	539	123	197	167	30	860	706	153
2007	694	566	128	207	175	32	901	741	160
2008	726	595	131	217	183	34	943	778	165
2009	761	628	133	228	190	37	988	818	170
2010	797	665	132	239	198	40	1,036	864	172
2015	999	908	91	299	241	58	1,298	1,149	149
2020	1,239	1,259	-19	373	298	75	1,612	1,557	56
2025	1,532	1,688	-157	464	377	87	1,996	2,066	-70
2030	1,896	2,184	-287	578	480	98	2,474	2,664	-189
2035	2,357	2,728	-371	721	609	112	3,079	3,337	-258
2040	2,934	3,316	-382	899	765	134	3,833	4,081	-248
2045	3,647	4,026	-379	1,119	961	158	4,766	4,987	-221
2050	4,529	4,928	-399	1,392	1,209	183	5,921	6,137	-216
2055	5,625	6,103	-478	1,733	1,525	207	7,358	7,628	-270
2060	6,997	7,575	-578	2,159	1,945	214	9,156	9,520	-364
2065	8,711	9,376	-664	2,692	2,509	183	11,403	11,884	-481
2070	10,843	11,602	-759	3,354	3,248	106	14,198	14,850	-652
2075	13,486	14,404	-918	4,176	4,179	-3	17,662	18,583	-921

Table III.B4.—Estimated OASDI and HI Income Excluding Interest, Outgo, and Balance in Current Dollars by Alternative, Calendar Years 2000-75 (Cont.)

[In billions]

Calendar year	OASDI			HI			Combined		
	Income excluding interest	Outgo	Balance	Income excluding interest	Outgo	Balance	Income excluding interest	Outgo	Balance
High Cost:									
2000	$496	$412	$84	$147	$138	$9	$643	$550	$93
2001	508	437	71	151	145	5	659	582	77
2002	541	466	75	162	158	4	703	623	79
2003	577	505	72	174	171	3	751	676	74
2004	588	549	39	177	183	-6	765	732	33
2005	627	586	41	189	200	-12	815	786	29
2006	667	627	39	202	222	-20	869	849	20
2007	707	673	35	215	244	-29	922	917	5
2008	747	722	25	227	267	-40	974	989	-14
2009	789	777	13	240	291	-50	1,030	1,068	-38
2010	834	837	-3	254	317	-63	1,088	1,154	-66
2015	1,086	1,223	-136	333	483	-150	1,419	1,705	-286
2020	1,405	1,790	-385	433	750	-317	1,838	2,540	-702
2025	1,807	2,562	-755	563	1,194	-631	2,370	3,756	-1,386
2030	2,318	3,549	-1,231	730	1,869	-1,139	3,048	5,417	-2,370
2035	2,969	4,762	-1,793	942	2,781	-1,839	3,911	7,544	-3,633
2040	3,785	6,220	-2,435	1,208	3,912	-2,703	4,993	10,131	-5,138
2045	4,793	8,056	-3,263	1,537	5,240	-3,703	6,330	13,296	-6,966
2050	6,044	10,435	-4,391	1,948	6,751	-4,802	7,992	17,186	-9,194
2055	7,599	13,592	-5,993	2,463	8,587	-6,124	10,062	22,180	-12,117
2060	9,544	17,726	-8,182	3,112	11,006	-7,893	12,657	28,732	-16,075
2065	11,971	23,070	-11,098	3,926	14,231	-10,304	15,898	37,301	-21,403
2070	14,999	29,913	-14,914	4,945	18,450	-13,505	19,944	48,363	-28,419
2075	18,768	38,604	-19,836	6,217	23,772	-17,555	24,984	62,376	-37,391

[1] Between -$500 million and $500 million.

Note: 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 65 for individuals who reached age 62 before 2000 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 Annual Benefit Amount Payable [1] to Retired Workers With Various Steady Pre-Retirement Earnings Levels Based on Intermediate Assumptions, Calendar Years 2000-75

	Retirement at normal retirement age				Retirement at age 65		
Year attain age 65 [2]	Age at retirement	Current dollars	Constant 2000 dollars [3]	Percent of earnings	Current dollars	Constant 2000 dollars [3]	Percent of earnings
Low earnings: [4]							
2000	65:0	$7,194	$7,194	52.8	$7,194	$7,194	52.8
2005	65:6	9,674	8,172	56.5	9,205	7,903	54.9
2010	66:0	12,178	8,606	56.6	10,962	8,002	53.2
2015	66:0	14,993	9,007	56.5	13,501	8,379	53.1
2020	66:2	18,606	9,452	56.4	16,461	8,685	52.4
2025	67:0	23,693	9,959	56.2	19,096	8,565	49.3
2030	67:0	29,252	10,453	56.2	23,573	8,989	49.3
2035	67:0	36,099	10,967	56.2	29,096	9,433	49.3
2040	67:0	44,570	11,512	56.2	35,918	9,900	49.3
2045	67:0	55,015	12,080	56.2	44,330	10,387	49.3
2050	67:0	67,903	12,676	56.2	54,726	10,902	49.3
2055	67:0	83,822	13,303	56.2	67,553	11,440	49.3
2060	67:0	103,460	13,959	56.2	83,376	12,004	49.3
2065	67:0	127,718	14,650	56.2	102,918	12,598	49.3
2070	67:0	157,632	15,372	56.2	127,032	13,219	49.3
2075	67:0	194,573	16,131	56.2	156,801	13,872	49.3
Average earnings:							
2000	65:0	11,875	11,875	39.2	11,875	11,875	39.2
2005	65:6	15,992	13,509	42.0	15,209	13,058	40.8
2010	66:0	20,143	14,234	42.2	18,109	13,219	39.5
2015	66:0	24,787	14,891	42.0	22,285	13,830	39.4
2020	66:2	30,756	15,624	41.9	27,182	14,341	38.9
2025	67:0	39,227	16,489	41.9	31,526	14,141	36.6
2030	67:0	48,421	17,304	41.9	38,915	14,840	36.6
2035	67:0	59,768	18,158	41.9	48,036	15,573	36.6
2040	67:0	73,775	19,055	41.9	59,298	16,343	36.6
2045	67:0	91,066	19,997	41.9	73,185	17,148	36.6
2050	67:0	112,412	20,985	41.9	90,343	17,997	36.6
2055	67:0	138,740	22,019	41.9	111,509	18,885	36.6
2060	67:0	171,242	23,105	41.9	137,633	19,816	36.6
2065	67:0	211,384	24,247	41.9	169,893	20,796	36.6
2070	67:0	260,911	25,444	41.9	209,687	21,821	36.6
2075	67:0	322,040	26,699	41.9	258,830	22,898	36.6
High earnings: [5]							
2000	65:0	15,387	15,387	31.7	15,387	15,387	31.7
2005	65:6	20,996	17,737	34.5	19,963	17,140	33.5
2010	66:0	26,557	18,767	34.7	23,934	17,471	32.7
2015	66:0	32,682	19,634	34.6	29,445	18,274	32.5
2020	66:2	40,566	20,607	34.6	35,919	18,951	32.2
2025	67:0	51,609	21,694	34.4	41,659	18,686	30.2
2030	67:0	63,702	22,765	34.4	51,429	19,612	30.2
2035	67:0	78,623	23,887	34.4	63,474	20,578	30.2
2040	67:0	97,046	25,066	34.4	78,347	21,594	30.2
2045	67:0	119,788	26,304	34.4	96,709	22,660	30.2
2050	67:0	147,861	27,603	34.4	119,368	23,779	30.2
2055	67:0	182,504	28,965	34.4	147,344	24,953	30.2
2060	67:0	225,258	30,393	34.4	181,867	26,185	30.2
2065	67:0	278,047	31,894	34.4	224,487	27,478	30.2
2070	67:0	343,193	33,468	34.4	277,072	28,833	30.2
2075	67:0	423,610	35,120	34.4	342,002	30,257	30.2

Table III.B5.—Estimated Annual Benefit Amount Payable [1] to Retired Workers With Various Steady Pre-Retirement Earnings Levels Based on Intermediate Assumptions, Calendar Years 2000-75 (Cont.)

Year attain age 65 [2]	Retirement at normal retirement age				Retirement at age 65		
	Age at retirement	Current dollars	Constant 2000 dollars [3]	Percent of earnings	Current dollars	Constant 2000 dollars [3]	Percent of earnings
Maximum earnings: [6]							
2000	65:0	$17,241	$17,241	23.7	$17,241	$17,241	23.7
2005	65:6	24,119	20,375	26.0	22,935	19,692	25.2
2010	66:0	31,454	22,227	27.1	28,181	20,572	25.3
2015	66:0	39,420	23,683	27.5	35,413	21,977	25.8
2020	66:2	49,134	24,960	27.6	43,452	22,926	25.6
2025	67:0	62,668	26,342	27.5	50,502	22,653	24.2
2030	67:0	77,384	27,654	27.5	62,367	23,783	24.1
2035	67:0	95,494	29,012	27.5	76,976	24,955	24.1
2040	67:0	117,719	30,405	27.5	94,893	26,154	24.1
2045	67:0	145,310	31,908	27.5	117,130	27,445	24.1
2050	67:0	179,316	33,475	27.5	144,552	28,795	24.1
2055	67:0	221,311	35,124	27.5	178,402	30,213	24.1
2060	67:0	273,161	36,857	27.5	220,204	31,705	24.1
2065	67:0	337,176	38,677	27.5	271,801	33,270	24.1
2070	67:0	416,173	40,585	27.5	335,480	34,911	24.1
2075	67:0	513,677	42,587	27.5	414,091	36,634	24.1

[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.

Percentage of GDP

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 payroll-tax contributions (including contributions from railroad employment), proceeds from taxation of 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. 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 2019, but with decreasing deficits after 2033. The OASDI balance is projected to be positive through 2014 on the basis of the intermediate alternative II and through 2009 on the basis of the high cost alternative III, before becoming permanently negative, with generally increasing deficits. The projected HI balance as a percentage of GDP, is positive throughout the projection period on the basis of the low cost alternative I. The HI balance is projected to become negative from 2010 under the intermediate alternative and

from 2004 under the high cost alternative, with deficits increasing steadily thereafter. The combined OASDI and HI balance as a percentage of GDP is projected to be positive through 2022 under the low cost alternative I, through 2013 under the intermediate alternative II, and through only 2007 under the high cost alternative III. Between 2010 and about 2035, 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 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 0.34 percent for the low cost alternative I to a deficit of 8.89 percent for the high cost alternative III. Projected balances differ by a much smaller amount by the tenth year, 2009, from a positive balance of 1.13 percent for the low cost alternative I to a deficit of 0.24 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 positive 0.40 percent, based on the low cost alternative I, to a deficit of 3.96 percent, based on the high cost alternative III). The 25-year summarized balance varies by a smaller amount (from a positive 1.13 percent to a deficit of 0.70 percent). Summarized rates are calculated on the present-value basis including the trust fund balances on January 1, 2000 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.)

Percentage of GDP

Table III.C1.—Estimated OASDI and HI Income Excluding Interest, Outgo, and Balance as a Percentage of GDP by Alternative, Calendar Years 2000-75

	Percentage of GDP									
	OASDI			HI			Combined			GDP in dollars (billions)
Calendar year	Income[1]	Outgo	Balance	Income[1]	Outgo	Balance	Income[1]	Outgo	Balance	
Intermediate:										
2000	5.12	4.19	0.92	1.52	1.39	0.14	6.64	5.58	1.06	$9,781
2001	5.13	4.20	.93	1.52	1.38	.14	6.65	5.58	1.07	10,296
2002	5.11	4.21	.90	1.52	1.39	.14	6.64	5.60	1.03	10,809
2003	5.10	4.24	.86	1.52	1.39	.13	6.62	5.63	.99	11,340
2004	5.08	4.27	.81	1.52	1.41	.11	6.60	5.67	.92	11,909
2005	5.07	4.30	.77	1.52	1.43	.09	6.59	5.73	.86	12,524
2006	5.05	4.34	.71	1.52	1.45	.06	6.56	5.79	.77	13,174
2007	5.04	4.38	.66	1.51	1.47	.04	6.56	5.86	.70	13,858
2008	5.03	4.43	.60	1.51	1.49	.02	6.54	5.93	.62	14,573
2009	5.02	4.49	.53	1.52	1.51	(2)	6.54	6.01	.53	15,340
2010	5.02	4.57	.45	1.52	1.53	-.02	6.54	6.10	.44	16,141
2015	5.01	5.06	-.05	1.52	1.63	-.11	6.53	6.69	-.16	20,641
2020	5.01	5.70	-.69	1.52	1.78	-.25	6.53	7.48	-.95	26,169
2025	5.00	6.26	-1.26	1.53	2.00	-.47	6.53	8.26	-1.73	33,022
2030	4.98	6.62	-1.64	1.54	2.23	-.69	6.52	8.85	-2.33	41,741
2035	4.95	6.75	-1.80	1.54	2.42	-.88	6.49	9.17	-2.68	52,936
2040	4.91	6.69	-1.77	1.53	2.54	-1.00	6.45	9.22	-2.78	67,157
2045	4.87	6.62	-1.74	1.53	2.60	-1.08	6.40	9.22	-2.82	84,917
2050	4.83	6.59	-1.76	1.52	2.63	-1.11	6.35	9.22	-2.87	107,100
2055	4.80	6.64	-1.84	1.51	2.65	-1.13	6.31	9.29	-2.98	134,843
2060	4.76	6.70	-1.94	1.51	2.69	-1.18	6.27	9.39	-3.12	169,803
2065	4.73	6.75	-2.03	1.50	2.76	-1.26	6.23	9.51	-3.29	213,861
2070	4.69	6.79	-2.10	1.49	2.84	-1.35	6.18	9.63	-3.45	269,260
2075	4.65	6.83	-2.17	1.48	2.92	-1.44	6.14	9.75	-3.61	338,707
Summarized rates:[3]										
25-year:										
2000-24 ...	5.49	5.08	.41	1.59	1.65	-.06	7.08	6.73	.35	—
50-year:										
2000-49 ...	5.27	5.68	-.41	1.57	1.96	-.39	6.84	7.64	-.80	—
75-year										
2000-74 ...	5.16	5.88	-.72	1.55	2.13	-.58	6.71	8.01	-1.30	—
Low Cost:										
2000	5.12	4.17	.95	1.52	1.37	.16	6.64	5.54	1.10	9,811
2001	5.14	4.16	.98	1.52	1.34	.18	6.66	5.50	1.16	10,322
2002	5.13	4.15	.98	1.52	1.32	.20	6.66	5.47	1.18	10,800
2003	5.12	4.15	.98	1.52	1.30	.22	6.64	5.45	1.20	11,305
2004	5.11	4.14	.97	1.52	1.29	.23	6.63	5.43	1.20	11,842
2005	5.11	4.14	.96	1.52	1.29	.23	6.62	5.43	1.20	12,412
2006	5.09	4.14	.95	1.52	1.29	.23	6.61	5.43	1.18	13,012
2007	5.09	4.15	.94	1.52	1.28	.23	6.61	5.43	1.17	13,644
2008	5.08	4.16	.91	1.52	1.28	.24	6.60	5.44	1.15	14,294
2009	5.08	4.19	.89	1.52	1.27	.25	6.60	5.46	1.13	14,983
2010	5.08	4.24	.84	1.52	1.26	.26	6.60	5.50	1.10	15,698
2015	5.09	4.62	.46	1.53	1.23	.30	6.61	5.85	.76	19,633
2020	5.09	5.17	-.08	1.53	1.23	.31	6.63	6.40	.23	24,328
2025	5.10	5.62	-.52	1.54	1.26	.29	6.64	6.88	-.23	30,034
2030	5.10	5.87	-.77	1.55	1.29	.26	6.65	7.16	-.51	37,216
2035	5.08	5.88	-.80	1.55	1.31	.24	6.64	7.19	-.56	46,389
2040	5.06	5.72	-.66	1.55	1.32	.23	6.61	7.04	-.43	57,987
2045	5.04	5.56	-.52	1.55	1.33	.22	6.58	6.89	-.30	72,423
2050	5.01	5.46	-.44	1.54	1.34	.20	6.55	6.79	-.24	90,335
2055	4.99	5.42	-.42	1.54	1.35	.18	6.53	6.77	-.24	112,650
2060	4.97	5.38	-.41	1.53	1.38	.15	6.51	6.77	-.26	140,677
2065	4.95	5.33	-.38	1.53	1.43	.10	6.48	6.76	-.27	175,901
2070	4.93	5.28	-.34	1.53	1.48	.05	6.46	6.75	-.30	219,939
2075	4.91	5.24	-.33	1.52	1.52	(2)	6.43	6.76	-.34	274,736

Table III.C1.—Estimated OASDI and HI Income Excluding Interest, Outgo, and Balance as a Percentage of GDP by Alternative, Calendar Years 2000-75 (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: [3]										
25-year:										
2000-24 . . .	5.56	4.72	0.84	1.60	1.31	0.29	7.16	6.03	1.13	—
50-year:										
2000-49 . . .	5.37	5.09	.27	1.58	1.30	.28	6.94	6.39	.55	—
75-year										
2000-74 . . .	5.28	5.13	.15	1.57	1.32	.25	6.85	6.45	.40	—
High Cost:										
2000	5.13	4.27	.87	1.52	1.43	.10	6.66	5.69	.97	$9,653
2001	5.12	4.40	.72	1.52	1.46	.06	6.63	5.86	.77	9,930
2002	5.04	4.34	.70	1.51	1.47	.04	6.55	5.81	.74	10,726
2003	5.02	4.40	.62	1.52	1.49	.02	6.54	5.89	.65	11,484
2004	5.01	4.68	.33	1.51	1.56	-.05	6.52	6.24	.28	11,735
2005	4.98	4.65	.32	1.50	1.59	-.09	6.48	6.24	.23	12,592
2006	4.96	4.67	.29	1.51	1.65	-.15	6.47	6.32	.15	13,445
2007	4.97	4.73	.24	1.51	1.71	-.21	6.48	6.44	.04	14,232
2008	4.96	4.80	.17	1.51	1.77	-.26	6.47	6.57	-.10	15,052
2009	4.96	4.88	.08	1.51	1.83	-.32	6.47	6.71	-.24	15,918
2010	4.95	4.97	-.02	1.51	1.88	-.37	6.46	6.86	-.39	16,824
2015	4.93	5.55	-.62	1.51	2.19	-.68	6.44	7.74	-1.30	22,029
2020	4.91	6.25	-1.34	1.51	2.62	-1.11	6.42	8.88	-2.45	28,616
2025	4.89	6.93	-2.04	1.52	3.23	-1.71	6.41	10.16	-3.75	36,966
2030	4.86	7.44	-2.58	1.53	3.92	-2.39	6.39	11.36	-4.97	47,710
2035	4.82	7.73	-2.91	1.53	4.52	-2.99	6.35	12.25	-5.90	61,587
2040	4.77	7.84	-3.07	1.52	4.93	-3.41	6.30	12.78	-6.48	79,297
2045	4.72	7.94	-3.22	1.51	5.16	-3.65	6.24	13.10	-6.87	101,467
2050	4.68	8.07	-3.40	1.51	5.22	-3.71	6.18	13.29	-7.11	129,278
2055	4.63	8.28	-3.65	1.50	5.23	-3.73	6.13	13.52	-7.38	164,093
2060	4.59	8.52	-3.93	1.50	5.29	-3.80	6.09	13.82	-7.73	207,970
2065	4.55	8.76	-4.22	1.49	5.41	-3.91	6.04	14.17	-8.13	263,222
2070	4.51	8.99	-4.48	1.49	5.54	-4.06	5.99	14.53	-8.54	332,850
2075	4.46	9.18	-4.72	1.48	5.65	-4.17	5.94	14.83	-8.89	420,500
Summarized rates: [3]										
25-year:										
2000-24 . . .	5.41	5.54	-.12	1.58	2.16	-.58	6.99	7.69	-.70	—
50-year:										
2000-49 . . .	5.16	6.41	-1.25	1.56	3.17	-1.61	6.71	9.58	-2.86	—
75-year										
2000-74 . . .	5.03	6.87	-1.84	1.54	3.66	-2.12	6.57	10.53	-3.96	—

[1] Income excludes interest on the trust funds.

[2] Between -0.005 and 0.005 percent of GDP.

[3] Summarized rates are calculated on the present-value basis including the value of the trust funds on January 1, 2000 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 understood by analyzing the estimated ratios of OASDI taxable payroll to GDP, which are presented in table III.C2. HI taxable payroll is about 25 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 2000-75

Calendar year	Intermediate	Low Cost	High Cost
2000	0.406	0.406	0.406
2001	.405	.406	.404
2002	.404	.406	.399
2003	.403	.405	.397
2004	.402	.404	.396
2005	.401	.404	.393
2006	.399	.403	.391
2007	.398	.402	.391
2008	.397	.401	.391
2009	.396	.401	.390
2010	.395	.401	.389
2015	.392	.399	.384
2020	.389	.398	.379
2025	.385	.396	.374
2030	.382	.394	.369
2035	.378	.392	.364
2040	.374	.390	.358
2045	.371	.388	.353
2050	.367	.386	.348
2055	.363	.384	.343
2060	.360	.382	.339
2065	.356	.380	.334
2070	.353	.379	.329
2075	.350	.377	.325

Projections of GDP are based on the projected increases in U.S. employment, labor productivity, average hours worked, and the GDP implicit price deflator. Projections of taxable payroll reflect the projected growth in GDP, along with assumed changes in the ratio of worker compensation to GDP, the ratio of earnings to worker compensation, the ratio of OASDI covered earnings to total earnings, and the ratio of taxable to total covered earnings.

Over the long-range projection period, projected increases in taxable payroll differ from projected increases in GDP primarily due to 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 an average annual rate of 0.27 percent for the 40 years 1959-98. For the 10-year periods 1959-68, 1969-78, 1979-88 the ratio declined by 0.32, 0.70, and 0.17 percent, respectively. For the 10-year period 1989-98 the ratio increased by 0.13 percent. 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

of 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 2009.

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 1990 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 (1990-99), along with the estimates for the current report. The values shown are based on the intermediate alternative II assumptions, or alternative II-B for 1990.

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 1990-2000

[As a percentage of taxable payroll]

Year of report	Summarized income rate	Summarized cost rate	Actuarial balance	Change from previous year
1990	13.04	13.95	-0.91	-0.21
1991	13.11	14.19	-1.08	-.17
1992	13.16	14.63	-1.46	-.38
1993	13.21	14.67	-1.46	(2)
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	15.64	-2.19	+.04
1999	13.49	15.56	-2.07	+.12
2000	13.51	15.40	-1.89	+.17

[1] Values shown are based on the intermediate alternative II assumptions for 1991-2000, and on the intermediate alternative II-B assumptions for 1990.

[2] Between -0.005 and 0.005 percent of taxable payroll.

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

In 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. In 1998, increases caused by changes in the economic assumptions, although partially offset by decreases produced by changes in the valuation period and in the demographic assumptions, accounted for most of the changes in the estimated actuarial balance. In 1999, increases caused by changes in the economic assumptions related to improvements in the CPI by the Bureau of Labor Statistics accounted for most of the changes in the estimated

actuarial balance. Changes affecting the actuarial balance shown for the 2000 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 over. Effective January 1991, the requirements for the disability of the widow or widower were made less restrictive.

On December 31, 1999, about 805,000 persons were receiving monthly benefits from the OASI Trust Fund because of their disabilities or the disabilities of children. This total includes 38,000 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 $4,991 million in calendar year 1999. Table III.E1 shows these and similar figures for selected calendar years during 1960-99, and estimated experience for 2000-09 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 1960-99 and Estimated Future Disbursements During 2000-09 Based on Intermediate Assumptions

[Beneficiaries in thousands; benefit payments in millions]

Calendar year	Disabled beneficiaries, end of year			Amount of benefit payments [1]		
	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
1998	797	698	99	4,838	4,210	627
1999	805	702	102	4,991	4,336	655
Estimates:						
2000	819	712	107	5,224	4,526	697
2001	830	720	109	5,506	4,764	742
2002	835	728	107	5,767	5,009	759
2003	840	736	104	6,031	5,262	769
2004	845	744	102	6,316	5,530	786
2005	850	751	100	6,614	5,806	808
2006	854	757	97	6,920	6,100	820
2007	856	764	93	7,235	6,409	827
2008	858	770	89	7,566	6,733	833
2009	860	776	84	7,903	7,073	830

[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 $5,224 million in calendar year 2000 to $7,903 million in calendar year 2009, based on the intermediate assumptions.

In calendar year 1999, 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 $56,390 million. Of this amount, $4,991 million or 8.9 percent represented payments from the OASI Trust Fund. These and similar figures for selected calendar years during 1960-99 and estimates for calendar years 2000-09 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 1960-99, and Estimated Future Disbursements During 2000-09 Based on Intermediate Assumptions

[Amounts in millions]

Calendar year	Total [1]	DI Trust Fund [2]	OASI Trust Fund	
			Amount [3]	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
1998	53,062	48,224	4,838	9.1
1999	56,390	51,399	4,991	8.9
Estimates:				
2000	60,123	54,900	5,224	8.7
2001	64,892	59,386	5,506	8.5
2002	70,060	64,293	5,767	8.2
2003	76,050	70,020	6,031	7.9
2004	82,857	76,542	6,316	7.6
2005	90,335	83,721	6,614	7.3
2006	98,504	91,584	6,920	7.0
2007	107,282	100,047	7,235	6.7
2008	116,373	108,808	7,566	6.5
2009	125,532	117,629	7,903	6.3

[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; Cost-of-Living Increase and Other Determinations for the year 2000

AGENCY: Social Security Administration.

ACTION: Notice.

SUMMARY: The Commissioner has determined—

(1) A 2.4 percent cost-of-living increase in Social Security benefits under title II of the Social Security Act (the Act), effective for December 1999;

(2) An increase in the Federal Supplemental Security Income (SSI) monthly benefit amounts under title XVI of the Act for 2000 to $512 for an eligible individual, $769 for an eligible individual with an eligible spouse, and $257 for an essential person;

(3) The national average wage index for 1998 to be $28,861.44;

(4) The Old-Age, Survivors, and Disability Insurance (OASDI) contribution and benefit base to be $76,200 for remuneration paid in 2000 and self-employment income earned in taxable years beginning in 2000;

(5) For beneficiaries under age 65, the monthly exempt amount under the Social Security retirement earnings test for taxable years ending in calendar year 2000 to be $840;

(6) The dollar amounts ("bend points") used in the benefit formula for workers who become eligible for benefits in 2000 to be $531 and $3,202;

(7) The dollar amounts ("bend points") used in the formula for computing maximum family benefits for workers who become eligible for benefits in 2000 to be $679, $980, and $1,278;

(8) The amount of earnings a person must have to be credited with a quarter of coverage in 2000 to be $780;

(9) The "old-law" contribution and benefit base to be $56,700 for 2000;

(10) The monthly amount of substantial gainful activity applicable to statutorily blind individuals in 2000 to be $1,170;

(11) Coverage thresholds for 2000 to be $1,200 for domestic workers and $1,100 for election workers; and

(12) The OASDI fund ratio to be 193.6 percent for 1999.

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/index.html.

SUPPLEMENTARY INFORMATION: The Commissioner is required by the Act to publish within 45 days after the close of the third calendar quarter of 1999 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 1998 (section 215(a)(1)(D)), the OASDI fund ratio for 1999 (section 215(i)(2)(C)(ii)), the OASDI contribution and benefit base for 2000 (section 230(a)), the amount of earnings required to be credited with a quarter of coverage in 2000 (section 213(d)(2)), the monthly exempt amounts under the Social Security retirement earnings test for 2000 (section 203(f)(8)(A)), the formula for computing a primary insurance amount for workers who first become eligible for benefits or die in 2000 (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 2000 (section 203(a)(2)(C)).

Cost-of-Living Increases

General.

The cost-of-living increase is 2.4 percent for benefits under titles II and XVI of the Act.

Under title II, OASDI benefits will increase by 2.4 percent beginning with December 1999 benefits, payable in January 2000. 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 2.4 percent effective for payments made for the month of January 2000 but paid on December 30, 1999. This is based on the authority contained in section 1617 of the Act (42 U.S.C. 1382f).

Automatic Benefit Increase Computation.

Under section 215(i) of the Act, the third calendar quarter of 1999 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 1999, 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 1999, the benefit increase is the percentage increase in the Consumer Price

Index for Urban Wage Earners and Clerical Workers from the third quarter of 1998 through the third quarter of 1999.

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, 1998, is: for July 1998, 159.8; for August 1998, 160.0; and for September 1998, 160.2. The arithmetic mean for this calendar quarter is 160.0. The corresponding Consumer Price Index for each month in the quarter ending September 30, 1999, is: for July 1999, 163.3; for August 1999, 163.8; and for September 1999, 164.7. The arithmetic mean for this calendar quarter is 163.9. Thus, because the Consumer Price Index for the calendar quarter ending September 30, 1999, exceeds that for the calendar quarter ending September 30, 1998 by 2.4 percent, a cost-of-living benefit increase of 2.4 percent is effective for benefits under title II of the Act beginning December 1999.

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 2000, benefits will increase by 2.4 percent beginning with benefits for December 1999 which are payable in January 2000. In the case of first eligibility after 1999, the 2.4 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 2.4 percent benefit increase.

Special Minimum Primary Insurance Amounts and Maximum Family Benefits

Primary insurance amount payable for Dec. 1998	Number of years of coverage	Primary insurance amount payable for Dec. 1999	Family benefit payable for Dec. 1999
$27.90	11	$28.50	$43.20
56.10	12	57.40	86.80
84.70	13	86.70	130.40
112.80	14	115.50	173.80
141.20	15	144.50	217.00
169.60	16	173.60	261.10
198.00	17	202.70	304.80
226.40	18	231.80	348.20
254.70	19	260.80	391.80
283.00	20	289.70	435.30
311.70	21	319.10	479.20
339.80	22	347.90	522.60
368.40	23	377.20	566.80
396.80	24	406.30	610.20
425.10	25	435.30	653.30
453.80	26	464.60	697.70
482.00	27	493.50	741.00
510.30	28	522.50	784.40
538.60	29	551.50	828.20
567.00	30	580.60	871.50

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 $205.70 for an individual under sections 227 and 228 of the Act is increased by 2.4 percent to obtain the new amount of $210.60. The current monthly benefit amount of $102.80 for a spouse under section 227 is increased by 2.4 percent to $105.20.

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 2.4 percent effective January 2000. For 1999, the monthly benefit amounts for an eligible individual, an eligible individual with an eligi-

ble spouse, and for an essential person—$500, $751, and $250, respectively—were derived from corresponding yearly unrounded Federal SSI benefit amounts of $6,010.02, $9,014.01, and $3,011.89. For 2000, these yearly unrounded amounts are increased by 2.4 percent to $6,154.26, $9,230.35, and $3,084.18, respectively. Each of these resulting amounts must be rounded, when not a multiple of $12, to the next lower multiple of $12. Accordingly, the corresponding annual amounts, effective for 2000, are $6,144, $9,228, and $3,084. The corresponding monthly amounts for 2000 are determined by dividing the yearly amounts by 12, giving $512, $769, and $257, 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) $27 per month ($53 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 2.4 percent to $28 and $54 for 2000.

National Average Wage Index for 1998

General.

Under various provisions of the Act, several amounts are scheduled to increase automatically for 2000 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); (6) the substantial gainful activity amount applicable to statutorily blind individuals, and (7) the coverage threshold for election officials and election workers. 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 1998 is based on the 1997 national average wage index of $27,426.00 announced in the **Federal Register** on October 30, 1998 (63 FR 58446), along with the percentage increase in average wages from 1997 to 1998 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 $26,309.73 and $27,686.75 for 1997 and 1998, respectively. To determine the national average wage index for 1998 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 1997 national average wage index of $27,426.00 is multiplied by the percentage increase in average wages from 1997 to 1998 (based on SSA-tabulated wage data) as follows (with the result rounded to the nearest cent):

Amount.

The national average wage index for 1998 is $27,426.00 times $27,686.75 divided by $26,309.73, which equals $28,861.44. Therefore, the national average wage index for calendar year 1998 is determined to be $28,861.44.

OASDI Contribution and Benefit Base

General.

The OASDI contribution and benefit base is $76,200 for remuneration paid in 2000 and self-employment income earned in taxable years beginning in 2000.

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 2000 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 2000 is 12.4 percent. (The Hospital Insurance tax is due on remuneration, without limitation, paid in 2000, at the rate of 1.45 percent for employees and employers, each, and on self-employment income earned in taxable years beginning in 2000, 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 2000 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 1998 to that for 1992; or (2) the current base ($72,600). 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 1998, $28,861.44 as determined above, compared to that for 1992, $22,935.42, is 1.2583785. Multiplying the 1994 OASDI contribution and benefit base amount of $60,600 by the ratio of 1.2583785 produces the amount of $76,257.74 which must then be rounded to $76,200. Because $76,200 exceeds the current base amount of $72,600, the OASDI contribution and benefit base is determined to be $76,200 for 2000.

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 2000 shall be the larger of: (1) the 1994 monthly exempt amount multiplied by the ratio of the national average wage index for 1998 to that for 1992; or (2) the 1999 monthly exempt amount ($800). 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 1998, $28,861.44, compared to that for 1992, $22,935.42, is 1.2583785. Multiplying the 1994 retirement earnings test monthly exempt amount of $670 by the ratio 1.2583785 produces the amount of $843.11. This must then be rounded to $840. Because $840 is larger than the corresponding current exempt amount of $800, the retirement earnings test monthly exempt amount for beneficiaries under age 65 is thus determined to be $840 for 2000. The corresponding retirement earnings test annual exempt amount for these beneficiaries is $10,080.

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 2000, the national average wage index for 1998, $28,861.44, is divided by the national average wage index for each year prior to 1998 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 1998. Any earnings in 1998 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 2000.

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 2000 are obtained by multiplying the corresponding 1979 bend-point amounts by the ratio between the national average wage index for 1998, $28,861.44, and for 1977, $9,779.44. These results are then rounded to the nearest dollar. For 2000, the ratio is 2.9512365. Multiplying the 1979 amounts of $180 and $1,085 by 2.9512365 produces the amounts of $531.22 and $3,202.09. These must then be rounded to $531 and $3,202. Accordingly, the portions of the average indexed monthly earnings to be used in 2000 are determined to be the first $531, the amount between $531 and $3,202, and the amount over $3,202.

Consequently, for individuals who first become eligible for old-age insurance benefits or disability insurance benefits in 2000, or who die in 2000 before becoming eligible for benefits, their primary insurance amount will be the sum of:

(a) 90 percent of the first $531 of their average indexed monthly earnings, plus

(b) 32 percent of their average indexed monthly earnings over $531 and through $3,202, plus

(c) 15 percent of their average indexed monthly earnings over $3,202.

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 2000 are obtained by multiplying the corresponding 1979 bend-point amounts by the ratio between the national average wage index for 1998, $28,861.44, and the average for 1977, $9,779.44. This amount is then rounded to the nearest dollar. For 2000, the ratio is 2.9512365. Multiplying the amounts of $230, $332, and $433 by 2.9512365 produces the amounts of $678.78, $979.81, and $1,277.89. These amounts are then rounded to $679, $980, and $1,278. Accordingly, the portions of the primary insurance amounts to be used in 2000 are determined to be the first $679, the amount between $679 and $980, the amount between $980 and $1,278, and the amount over $1,278.

Consequently, for the family of a worker who becomes age 62 or dies in 2000 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 $679 of the worker's primary insurance amount, plus

(b) 272 percent of the worker's primary insurance amount over $679 through $980, plus

(c) 134 percent of the worker's primary insurance amount over $980 through $1,278, plus

(d) 175 percent of the worker's primary insurance amount over $1,278.

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 amount of earnings required for a quarter of coverage in 2000 is $780. 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 2000 shall be equal to the larger of: (1) the 1978 amount of $250 multiplied by the ratio of the national average wage index for 1998 to that for 1976; or (2) the current amount of $740. 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 1998, $28,861.44, compared to that for 1976, $9,226.48, is 3.1281095. Multiplying the 1978 quarter of coverage amount of $250 by the ratio of 3.1281095 produces the amount of $782.03, which must then be rounded to $780. Because $780 exceeds the current amount of $740, the quarter of coverage amount is determined to be $780 for 2000.

"Old-Law" Contribution and Benefit Base

General.

The "old-law" contribution and benefit base for 2000 is $56,700. 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 "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 1998 to that for 1992; or (2) the current "old-law" base ($53,700). 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 1998, $28,861.44, compared to that for 1992, $22,935.42, is 1.2583785. Multiplying the 1994 "old-law" contribution and benefit base amount of $45,000 by the ratio of 1.2583785 produces the amount of $56,627.03 which must then be rounded to $56,700. Because $56,700 exceeds the current amount of $53,700, the "old-law" contribution and benefit base is determined to be $56,700 for 2000.

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 $700 a month (net of impairment-related work expenses) is ordinarily considered to be engaging in SGA. Section 223(d)(4)(A) of the Act specifies a higher SGA amount for statutorily blind individuals. This higher SGA amount increases in accordance with increases in the national average wage index.

Computation.

The monthly SGA amount for statutorily blind individuals for 2000 shall be the larger of: (1) such amount for 1994 multiplied by the ratio of the national average wage index for

1998 to that for 1992; or (2) such amount for 1999. 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 1998, $28,861.44, compared to that for 1992, $22,935.42, is 1.2583785. Multiplying the 1994 monthly SGA amount for statutorily blind individuals of $930 by the ratio of 1.2583785 produces the amount of $1,170.29. This must then be rounded to $1,170. Because $1,170 is larger than the current amount of $1,110, the monthly SGA amount for statutorily blind individuals is determined to be $1,170 for 2000.

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 per annum in calendar year 1994. The statute held the coverage threshold at the $1,000 level for 1995 and then increased the threshold in $100 increments for years after 1995. Section 3121(x) of the Internal Revenue Code provides the formula for increasing the threshold.

Computation.

Under the formula, the domestic employee coverage threshold amount for 2000 shall be equal to the 1995 amount of $1,000 multiplied by the ratio of the national average wage index for 1998 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 1998, $28,861.44, compared to that for 1993, $23,132.67, is 1.2476485. Multiplying the 1995 domestic employee coverage threshold amount of $1,000 by the ratio of 1.2476485 produces the amount of $1,247.65, which must then be rounded to $1,200. Accordingly, the domestic employee coverage threshold amount is determined to be $1,200 for 2000.

Election Worker Coverage Threshold

General.

Section 303(b) of Pub. L. 103-296, the "Social Security Independence and Program Improvements Act of 1994," increased from $100 a year to $1,000 a year the amount an election official or election worker must be paid for the earnings to be covered under Social Security or Medicare, effective January 1, 1995. Beginning in the year 2000, the coverage threshold increases automatically with increases in the national average wage index.

Computation.

Under the formula, the election worker coverage threshold amount for 2000 shall be equal to the 1999 amount of $1,000 multiplied by the ratio of the national average wage index for 1998 to that for 1997. If the amount so determined is not a multiple of $100, it shall be rounded to the nearest multiple of $100.

Election Worker Coverage Threshold Amount.

The ratio of the national average wage index for 1998, $28,861.44, compared to that for 1997, $27,426.00, is 1.0523387. Multiplying the 1999 election worker coverage threshold amount of $1,000 by the ratio of 1.0523387 produces the amount of $1,052.34, which must then be rounded to $1,100. Accordingly, the election worker coverage threshold amount is determined to be $1,100 for 2000.

OASDI Fund Ratio

General.

In addition to providing an annual automatic cost-of-living increase in OASDI benefits, section 215(i) of the Act also includes a "stabilizer" provision that can limit such 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 1999 is the ratio of: (1) the combined assets of the OASI and DI Trust Funds at the beginning of 1999 to (2) the estimated expenditures of the OASI and DI Trust Funds during 1999, 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 1999 equaled $762,460 million, and the expenditures are estimated to be $393,826 million. Thus, the OASDI fund ratio for 1999 is 193.6 percent, which exceeds the applicable threshold of

20.0 percent. Therefore, the stabilizer provision does not affect the benefit increase for December 1999. 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 20, 1999.

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 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 increase.

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. (See Title 20, Chapter III, section 404.211(c) of the Code of Federal Regulations for a more precise definition.) These average wage 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.

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. Amounts adjusted by the CPI to the value of the dollar in a particular year.

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 "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 to 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—SGA") 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 at ages 55 and over 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, a fiscal year is the 12-month period ending September 30. For

example, fiscal year 2000 began October 1, 1999 and will end September 30, 2000.

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, such as:

- 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.

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."

Non-Accelerating Inflation Rate of Unemployment. The rate of unemployment associated with no upward or downward pressure on the rate of inflation.

Normal retirement age. The age at which a person may first become entitled to unreduced retirement benefits. For persons reaching age 62 before 2000, the normal retirement age is 65. It will 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 2000, a worker receives one quarter of coverage (up to a total of four) for each $780 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 wages. 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 Gross Domestic 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 "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 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—SGA. 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 $700 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 $1,170 a month in 2000 (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. The maximum amount of net earnings from self employment by an earner which, when added to any taxable wages, does not exceed the contribution and benefit base. For HI beginning in 1994, all of net earnings from self employment.

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, individually and 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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