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FEDERAL OLD-AGE AND SURVIVORS INSURANCE AND DISABILITY INSURANCE TRUST FUNDS

COMMUNICATION

FROM

THE BOARD OF TRUSTEES

OF THE

FEDERAL OLD-AGE AND SURVIVORS INSURANCE AND DISABILITY INSURANCE TRUST FUND

TRANSMITTING

THE 1992 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).

APRIL 3, 1992.—Referred to the Committee on Ways and Means and ordered to be printed

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1992 ANNUAL REPORT OF THE BOARD OF TRUSTEES OF THE FEDERAL OLD-AGE AND SURVIVORS INSURANCE AND DISABILITY INSURANCE TRUST FUNDS

COMMUNICATION

FROM

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

TRANSMITTING

THE 1992 ANNUAL REPORT OF THE BOARD, PURSUANT TO SECTION 201(c)(2) OF THE SOCIAL SECURITY ACT, AS AMENDED

LETTER OF TRANSMITTAL

BOARD OF TRUSTEES OF THE
FEDERAL OLD-AGE AND SURVIVORS INSURANCE
AND DISABILITY INSURANCE TRUST FUNDS,
Washington, D.C., April 2, 1992

HONORABLE THOMAS S. FOLEY
Speaker of the House of Representatives
Washington, D.C.

HONORABLE DAN QUAYLE
President of the Senate
Washington, D.C.

GENTLEMEN: We have the honor of transmitting to you the 1992 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 52d such report), in compliance with section 201(c)(2) of the Social Security Act.

Respectfully,

NICHOLAS F. BRADY, *Secretary of the Treasury, and Managing Trustee of the Trust Funds.*

LYNN MARTIN, *Secretary of Labor, and Trustee.*

LOUIS W. SULLIVAN, M.D., *Secretary of Health and Human Services, and Trustee.*

STANFORD G. ROSS, *Trustee.*

DAVID M. WALKER, *Trustee.*

GWENDOLYN S. KING, *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. Under the Old-Age and Survivors Insurance (OASI) program, monthly benefits are paid to retired workers and their families, and to survivors of deceased workers. Under the Disability Insurance (DI) program, monthly benefits are paid to workers who become disabled and to their families.

The Social Security Act establishes a Board of Trustees 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 five members, three of whom serve automatically by virtue of their positions in the Federal Government: the Secretary of the Treasury, the Secretary of Labor, and the Secretary of Health and Human Services. The other two members are appointed by the President and confirmed by the Senate to serve as public representatives: Stanford G. Ross and David M. Walker are currently serving 4-year terms that began on October 2, 1990.

The Social Security Act requires, among other duties, that the Board report annually to the Congress on the financial and actuarial status of the OASI and DI Trust Funds. This annual report, for 1992, is the 52d such report.

B. HIGHLIGHTS

This section summarizes the more important developments since the 1991 Annual Report was issued and describes the major features of this report.

- At the end of December 1991, 40.6 million people were receiving monthly benefits under the OASDI program. During 1991, an estimated 132 million people worked in jobs covered by the OASDI program and paid OASDI taxes on their earnings. The following table summarizes the financial transactions of the OASI and DI Trust Funds in fiscal year 1991 which ended September 30, 1991 (in billions):

	OASI	DI	Combined
Assets at beginning of year	$203.4	$11.5	$214.9
Income	293.3	29.3	322.6
Expenditures	241.3	27.8	269.1
Net increase in assets	52.0	1.5	53.5
Assets at end of year	255.4	13.0	268.4

- The invested assets of the OASI and DI Trust Funds, combined, earned interest amounting to $19.8 billion during fiscal year 1991. The effective annual rate of interest earned by the combined assets during the 12 months ending June 30, 1991, was 9.2 percent. (This period is used, rather than the fiscal year, because interest on special issues is paid semiannually on June 30 and December 31.) During the same period, the average interest rate on new securities purchased by the trust funds was 8.4 percent.

- Administrative expenses for the OASDI program during fiscal year 1991 were $2.5 billion, which is equal to 1.0 percent of benefit payments for the year.

- An automatic benefit increase of 3.7 percent became effective for December 1991. Effective for 1992, the OASDI "contribution and benefit base" was increased from $53,400 to $55,500. In addition, the annual exempt amounts under the "retirement earnings test" were raised from $7,080 to $7,440 for beneficiaries under age 65, and from $9,720 to $10,200 for beneficiaries aged 65 to 69. (The retirement earnings test does not apply to beneficiaries aged 70 and over.)

- The appointment of an Advisory Council on Social Security was announced by the Secretary of Health and Human Services in June 1989. Under the Social Security Act, the Advisory Council was to study and review the status of the OASDI and Medicare programs. An Interim Report on Social Security and the Federal Budget was issued by the Council in July 1990. The Council submitted its final report and recommendations to the Secretary of Health and Human Services in December 1991.

  The Advisory Council also commissioned a Social Security Technical Panel, to review the estimates of the financial status of the OASDI program that were presented in the 1990 Annual Report. (A Health Technical Panel was also established to review the estimates for the Medicare program.) The Trustees have received and considered the report of the Advisory Council's Social Security Technical Panel and have adopted certain of the recommendations and incorporated them beginning in the 1991 report. Other recommendations are continuing to be considered by the Trustees.

To evaluate the financial status of the OASDI program under a broad range of possible future conditions, actuarial estimates are prepared under three alternative sets of economic and demographic assumptions. Alternative II is the "intermediate" set of assumptions, and represents the Trustees' "best estimates" of future economic and demographic conditions. Alternative I is characterized as a more "optimistic" set—it assumes relatively rapid economic growth, low inflation, and favorable (from the standpoint of program financing) demographic conditions. Alternative III is more "pessimistic," with slower economic growth, more rapid inflation, and financially disadvantageous demographic conditions.

The Trustees prepare both "short-range" and "long-range" estimates of the financial and actuarial status of the trust funds. Short-range estimates are prepared for the next 10 years (1992-2001). Long-range estimates cover the next 75 years, in keeping with the long-term financial obligations incurred by the OASDI program. Specific tests are applied to evaluate the overall actuarial status of the program. There is a short-range test of financial adequacy and a long-range test of close actuarial balance. The following statements summarize the actuarial estimates:

- Over the next 10 years, the assets of the OASI and DI Trust Funds, combined, are estimated to increase substantially. At the beginning of calendar year 1992, OASDI assets amounted to $280.7

billion or 96 percent of annual OASDI expenditures. By the year 2001, the assets are estimated to increase to $998 billion, or 206 percent of annual expenditures, based on the intermediate assumptions. In the 1991 Annual Report, based on the intermediate assumptions, assets were estimated to increase to 229 percent of annual expenditures by the year 2000.

The OASI and DI Trust Funds, on a combined basis, pass the short-range test of financial adequacy by a wide margin.

- The assets of the OASI Trust Fund grow steadily under all three sets of assumptions during 1992 to 2001. OASI assets are estimated to increase from their current level of $267.8 billion, or 103 percent of annual expenditures, to $1,026 billion, or 245 percent of annual expenditures at the beginning of the year 2001, based on the intermediate assumptions.

  The OASI Trust Fund passes the short-range test of financial adequacy by a wide margin.

- The assets of the DI Trust Fund are estimated to decline steadily from $12.9 billion at the beginning of 1992 until the fund is exhausted in 1997, based on the intermediate assumptions. Based on alternative I, the DI Trust Fund would grow to 72 percent of annual expenditures by 2001. However, under the more pessimistic assumptions of alternative III, the DI Trust Fund would become exhausted in 1995.

  The DI Trust Fund fails to meet the short-range test of financial adequacy.

- In the long range, income and expenditures are generally expressed as a percentage of the total amount of earnings subject to taxation under the OASDI program (referred to as "taxable payroll"). Income from OASDI payroll taxes, for example, represents 12.4 percent of taxable payroll—made up of the 6.2 percent tax rate paid by employees and a matching amount paid by their employers. (Self-employed workers pay OASDI taxes at the combined employee-employer rate.) Since these tax rates are not scheduled to change in the future under present law, OASDI payroll tax income as a percentage of taxable payroll remains constant at 12.4 percent.

Up to one-half of a beneficiary's OASDI benefits may be subject to Federal income taxation. The income tax revenues from this provision are transferred to the OASI and DI Trust Funds and are currently equivalent to about 0.2 percent of taxable payroll. Adding these income sources together yields a total "income rate" of 12.6 percent. This rate is estimated to increase gradually to 13.2 percent of taxable payroll by the end of the 75-year projection period based on the intermediate assumptions. The growth is attributable, in part, to the increasing proportion of beneficiaries who will pay income taxes on their OASDI benefits in the future.

- OASDI expenditures for benefit payments and administrative expenses currently represent about 11.5 percent of taxable payroll. This "cost rate" is estimated to remain below the corresponding income rate for the next 24 years, based on the intermediate assumptions. Under alternatives I and III, the estimated cost rate is lower than the income rate for the next 32 and the next 10 years, respectively. 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, OASDI cost rates are estimated to reach 12.5 percent, 18.2 percent, and 27.4 percent of taxable payroll under alternatives I, II, and III, respectively.

- Under the intermediate assumptions, the excess of OASDI tax revenues over expenditures for the next 24 years, together with interest earnings on the trust funds, will result in a rapid accumulation of assets for the combined OASDI Trust Funds during this period. However, total income is estimated to fall short of expenditures in 2024 and later, under the intermediate assumptions. In this circumstance, trust fund assets would be redeemed to cover the difference. The assets of the combined OASI and DI Trust Funds are estimated to be depleted under present law in 2036 based on the intermediate assumptions. Under the more favorable conditions assumed in alternative I, the combined OASI and DI assets would continue growing throughout the long-range projection period, reaching about 10 times annual expenditures. Under the more pessimistic assumptions in alternative III, the combined assets are estimated to be exhausted in 2019.

  Because the assets of the trust funds are generally invested in special securities of the U.S. Treasury, the initial accumulation of assets will result in a substantial cash flow from the trust funds to

the general fund of the Treasury. The subsequent redemption of securities will cause this cash flow to reverse. The magnitude and pattern of these cash flows have important public policy and economic implications that extend beyond the operation of the OASDI program itself.

- Overall, for the period 1992-2066, the difference between the "summarized" income and cost rates is a deficit of 1.46 percent of taxable payroll based on the intermediate alternative II assumptions. Based on alternative I the difference is a positive actuarial balance of 1.09 percent of taxable payroll; and based on alternative III, the difference is a deficit of 4.89 percent of taxable payroll.

  On a combined basis, the OASDI program does not meet the requirements for the long-range test of close actuarial balance. Individually, the OASI and DI Trust Funds also fail the long-range test.

- Because the short-range test of financial adequacy is not met by the DI Trust Fund, and the fund is expected to be exhausted in 1997, legislative action is promptly needed to strengthen the financing of the DI Trust Fund, after a review of the DI program.

- Because the long-range test of close actuarial balance is not met by either the OASI or DI Trust Funds, nor by the two funds, combined, appropriate options to strengthen the long-range financing of the program should be developed.

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 fiscal year 1991. The following table summarizes these transactions.

Type of transaction	Amount of transaction in fiscal year 1991 (in billions)
Sources of income:	
Payroll taxes	$299.8
Taxation of benefits	5.9
General fund reimbursements[1]	-2.9
Interest	19.8
Categories of expenditures:	
Benefit payments	263.1
Railroad Retirement financial interchange	3.5
Administrative expenses	2.5

[1] This income category is normally positive, indicating a transfer from the general fund of the Treasury to the OASI and DI Trust funds. See text concerning nature of transfer in 1991.

1. Income

Most OASDI income consists of the taxes paid by employees, employers, and the self-employed on earnings in employment covered by the OASDI program. These taxes represent a portion of the Social Security payroll taxes collected under the Federal Insurance Contributions Act (FICA) and the Self-Employment Contributions Act (SECA). The balance of the Social Security payroll tax is used to finance Hospital Insurance (HI), commonly referred to as "Part A" of the Medicare program. Such taxes are paid on earnings up to specified maximum annual amounts. The following table shows the earnings bases, tax rates, and maximum tax amounts by program for 1992.

For 1992...	OASI	DI	OASDI	HI	Total for OASDI and HI
Maximum taxable amount of earnings	$55,500	$55,500	$55,500	$130,200	—
Tax rate for employees and employers, each (in percent)	5.60	0.60	6.20	1.45	7.65
Tax rate for self-employed persons (in percent)	11.20	1.20	12.40	2.90	15.30
Maximum tax payable by an employee or employer	$3,108.00	$333.00	$3,441.00	$1,887.90	$5,328.90
Maximum tax payable by a self-employed person	$6,216.00	$666.00	$6,882.00	$3,775.80	$10,657.80

The tax rates for OASDI and for HI are not scheduled to change from their current values under present law. (The allocation of the OASDI tax rate between OASI and DI is scheduled to change in the year 2000, as described in section II.B.) The maximum amounts of earnings subject to OASDI and HI taxes increase automatically each year, based on the increase in the average wages for all workers (as described in section II.E).

In fiscal year 1991, OASDI payroll tax income amounted to $299.8 billion. Payroll taxes represented 93 percent of the total income received by the OASDI program during the year.

Beneficiaries whose "adjusted gross income" exceeds certain threshold amounts must pay income taxes on up to one-half of their annual OASDI benefits. The revenue from this requirement is credited to the OASI and DI Trust Funds and totaled $5.9 billion in fiscal year 1991.

The trust funds receive relatively small amounts of reimbursement from the general fund of the Treasury for certain special categories of benefits for which there is no other financing. In addition, every 5 years there is an adjustment to prior reimbursements (which had been made on an estimated basis) for the cost of granting certain wage credits for military service performed before 1957. These adjustments can result in either additional reimbursement to the trust funds or a partial return of amounts received previously. An adjustment was required in fiscal year 1991 and resulted in a substantial transfer from the trust funds to the general fund of the Treasury. The net effect of this adjustment and the usual reimbursements for special benefit categories was a transfer from the trust funds to the general fund totalling $2.9 billion.

The final source of income to the trust funds is from interest on the invested assets of the funds. The portion of each fund that is not needed to meet current expenditures is invested. By law, these investments must be in interest-bearing securities of the U.S. Government, in securities guaranteed by the U.S., or in certain securities issued by Federally sponsored agencies. In practice, trust fund assets are invested almost entirely in special U.S. Treasury securities. Interest from all investments in fiscal year 1991 amounted to $19.8 billion.

2. Expenditures

The primary type of expenditure by the OASDI program is the payment of benefits. In fiscal year 1991, benefit payments totalling $263.1 billion were made to retired and disabled workers and their families, and to survivors of deceased workers. These payments represented 98 percent of total OASDI expenditures for the year.

By law, there is a financial interchange between the OASDI program and the Railroad Retirement program. As a result of this requirement, in fiscal year 1991 $3.5 billion was transferred from the OASI and DI Trust Funds to the Railroad Retirement program.

The last category of expenditure is for the cost of administering the OASDI program. In fiscal year 1991, administrative expenses were $2.5 billion, or about 1.0 percent of total benefits paid during the year.

3. Trust Fund Assets

For fiscal year 1991, total income was $322.6 billion and total expenditures were $269.1 billion. Thus, the assets of the OASI and DI Trust Funds increased by a total of $53.5 billion during the year, from $214.9 billion to $268.4 billion.

The trust funds serve as a mechanism to absorb imbalances between income and expenditures. For example, during periods when expenditures temporarily exceed income, as might happen during a severe economic downturn or a period of very high inflation, trust fund assets can be 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 assets of the trust funds are invested in interest-bearing obligations of the U.S. Government. These securities are backed by the full faith and credit of the U.S. Government, in the same way as other public-debt obligations of the U.S. Government. The interest earnings of these invested assets play an important role in program financing. In particular, as the level of assets continues to increase, over the next 20 to 30 years, interest earnings on the invested assets of the trust funds will become a larger share of total income. In fiscal year 1991, interest represented approximately 6 percent of total OASDI income.

D. INTRODUCTION TO ACTUARIAL ESTIMATES

The financial and actuarial status of the OASDI program is traditionally evaluated both for the "short range" (the next 10 years) and for the "long range" (the next 75 years). Each of the various income and expenditure (or outgo, cost, or disbursement) items described in the previous section is estimated for the future, and combined to form estimates of the future level of trust fund assets.

The long-range period of 75 years is used in order to include the full range of expected future contributions and benefits payable on behalf of individuals currently contributing to the OASDI program or currently receiving benefits under the program. A worker who is now entering the labor force at age 22 will work and pay OASDI taxes for the next 45 years before reaching age 67, when full-rate retirement benefits (i.e., not reduced for early retirement) will first become payable. At that time, he or she might live and receive benefits for potentially as long as 30 years (or even longer). 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 currently receiving benefits.

Because of the inherent uncertainty in estimates for as many as 75 years into the future, projections are shown in this report for three alternative sets of assumptions regarding economic and demographic behavior. Designated as alternatives I, II, and III, the assumptions range from optimistic (alternative I) to pessimistic (alternative III), with alternative II representing the intermediate, or "best" estimates in the opinion of the Trustees.

From the estimated income, expenditure, and asset amounts, a number of different measures are calculated for use in evaluating the estimated financial status of the program. Because of the difficulty in comparing dollar values from one period to another, these measures are generally based on relative scales (although financial operations in nominal and inflation-adjusted dollar amounts are also available). These 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) summary comparisons of these figures over various projection periods. The level of trust fund assets relative to annual program expenditures and the year in which trust fund exhaustion may be

projected to occur are 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 the tests is to provide objective summary judgments as to 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 to restore financial balance when their requirements are not met.

As with any analysis of a complex subject, these tests should not be used in lieu of a full understanding of the year-by-year patterns, trends, and other characteristics revealed by the underlying financial projections.

E. ECONOMIC AND DEMOGRAPHIC ASSUMPTIONS

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

It is not possible to know precisely what the future holds with respect to these economic and demographic factors. In recognition of this uncertainty, actuarial estimates are prepared under three alternative sets of economic and demographic assumptions. An "intermediate" set of assumptions, alternative II, is selected to provide a single "best estimate" of future economic and demographic conditions. Alternative I is a more "optimistic" set of assumptions from the standpoint of OASDI financing and alternative III is a more "pessimistic" set of assumptions. The assumptions vary from year to year during the first 5 to 25 years, before reaching their ultimate assumed values for the remainder of the 75-year projection period.

While it may be reasonable to assume that actual experience will fall within the range defined by these alternatives, no assurance can be given because of the uncertainty inherent in projections of this type. The following table summarizes the ultimate values assumed for the key economic and demographic factors underlying the actuarial estimates shown in this report. These ultimate values apply for years after 2015, with the exception of life expectancy which is assumed to continue improving throughout the projection period.

Ultimate assumptions	Alternative I	Alternative II	Alternative III
Percentage change in:			
Average wage in covered employment	4.7	5.1	5.6
Consumer Price Index (CPI)	3.0	4.0	5.0
Real-wage differential (percent)	1.7	1.1	0.6
Unemployment rate (percent)	5.0	6.0	7.0
Interest rate (percent)	6.0	6.3	6.5
Fertility rate (children per woman)	2.2	1.9	1.6
Life expectancy at birth in 2070 (combined average for men and women, in years)	77.9	80.8	84.3
Annual net immigration (in thousands)	1,000.0	750.0	600.0

These key assumptions are essentially unchanged for the 1992 Annual Report, as compared to the assumptions used in the 1991 report. Revisions for the early years of the projection period based on data collected since the 1991 report had little effect on these ultimate annual rates. Only the values for life expectancy are slightly different because they reflect the accumulated difference in annual-mortality-rate assumptions for all years through the year 2070. Revisions based on recent data did, however, significantly affect the estimates. These revisions include updates reflecting higher fertility and mortality rates, lower taxable earnings, and a shift in the age distribution of the labor force. (See section II.F for details.) In addition, the measure of national output of goods and services used in this report was changed to gross domestic product from gross national product, consistent with the change made late in 1991 by the United States Department of Commerce. (See section II.D for details.)

These assumptions reflect a careful reassessment of past data and future prospects. No changes were deemed necessary at this time to ensure that the financial projections continue to be based on the most plausible range of economic and demographic conditions.

F. SHORT-RANGE ACTUARIAL ESTIMATES

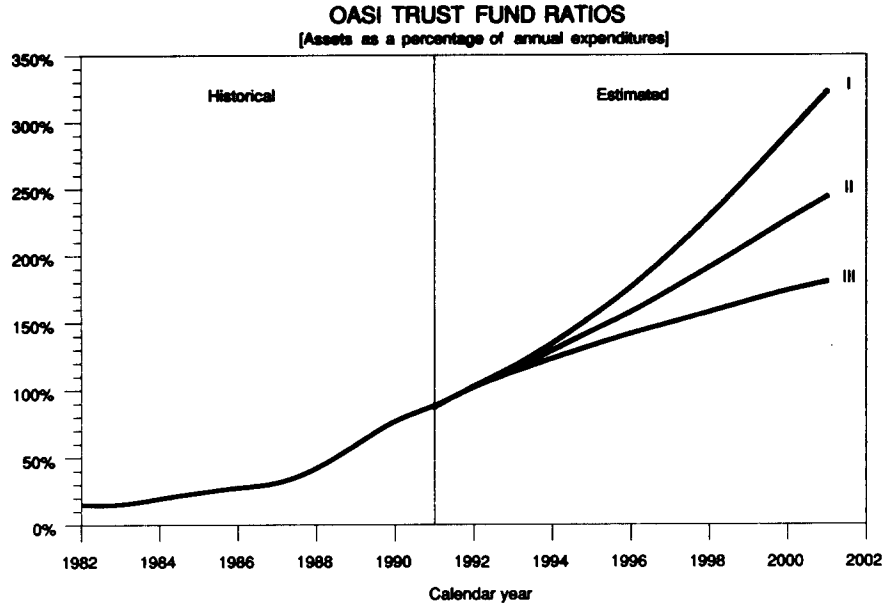
The financial status of the OASDI program during the next 10 years (1992-2001) is generally evaluated by examining the adequacy of the estimated future level of trust fund assets. Because of inflation, economic growth, and growth in the OASDI program, asset levels expressed in nominal dollar amounts are not comparable over long periods of time. For this reason, it is more informative to consider a relative measure of the program's financial condition.

For example, OASDI assets at the beginning of calendar year 1992 totaled $280.7 billion, while assets at the beginning of 1960 were $22.0 billion. The asset level in 1992 would be sufficient to cover almost 12 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 thus represented a much stronger contingency reserve.

The ratio of trust fund assets at the beginning of a year to expenditures during the year is termed the "trust fund ratio." The trust fund ratio serves as the primary measure of the fund's financial adequacy in the short range. It is also used when applying the explicit short-range test of financial adequacy, as will be illustrated in the next subsection. (Annual reports for prior years have sometimes referred to this ratio as the "contingency fund ratio.")

1. OASI Trust Fund

The following chart presents trust fund ratios for the OASI Trust Fund. Actual past values for 1982 through 1991 are shown, together with estimated values for 1992-2001 based on the alternative sets of assumptions.



The estimates indicate that the OASI trust fund ratio would increase substantially in every year of the short-range projection period under each of the three sets of assumptions. Based on the alternative II assumptions, the ratio is estimated to increase from 103 percent at the beginning of calendar year 1992 to 245 percent by the year 2001. Under the more optimistic conditions assumed for alternative I, the ratio would reach 323 percent by the beginning of 2001. Despite the more pessimistic conditions under alternative III, OASI assets would still increase steadily to 180 percent of annual expenditures at the beginning of 2001.

As noted previously, an explicit test of short-range financial adequacy is applied to each trust fund. 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

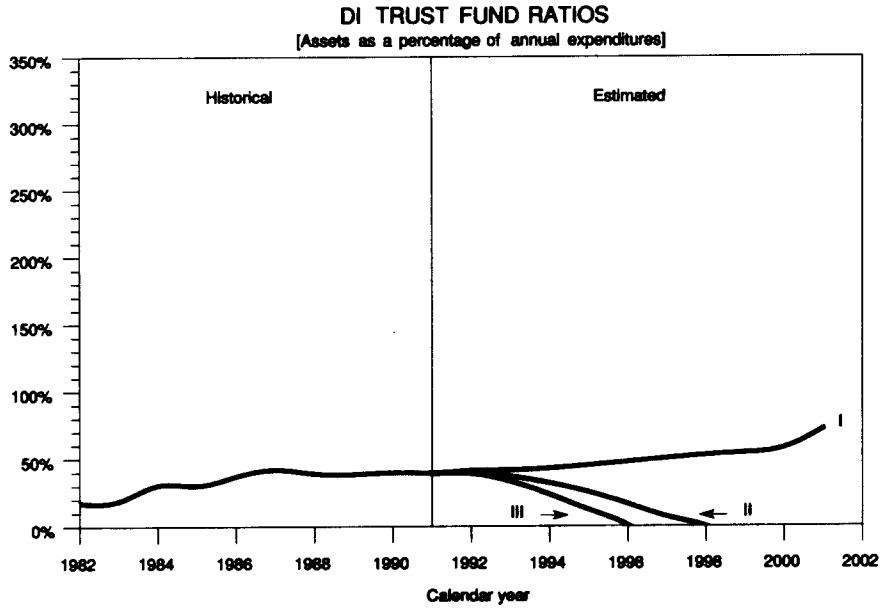
years (and not be depleted at any time during this period) and then remain at or above 100 percent throughout the remainder of the 10-year period.

This test is applied on the basis of the intermediate (alternative II) estimates. Failure to meet this test by a trust fund is an indication that solvency of the program over the next 10 years is in question and that action is needed to improve the short-range financial adequacy of the program.

Based on the alternative II assumptions, the assets of the OASI Trust Fund exceed 100 percent of annual expenditures at the beginning of 1992, and would remain well above the 100-percent level through the end of the year 2001. Consequently, the OASI Trust Fund satisfies the short-range test of financial adequacy. The estimates shown above also indicate that the test would be satisfied even under the adverse conditions assumed in alternative III.

2. DI Trust Fund

As shown in the following chart, at the beginning of 1992 DI assets represented only about 41 percent of annual DI expenditures. Although the trust fund ratio for DI would grow somewhat under the optimistic assumptions, reaching 72 percent at the beginning of 2001, under the intermediate assumptions it would decline steadily to the point of exhaustion during 1992-97. In the absence of corrective legislation, the assets of the DI Trust Fund would become insufficient to meet benefit payments on a timely basis by the middle of 1997. Under the more adverse conditions assumed in alternative III, DI assets would decrease at a somewhat faster rate, and the trust fund would be exhausted late in 1995 without corrective legislation.



The unfavorable financial outlook for the DI program is primarily attributable to an increasing trend since 1982 in the proportion of workers who are awarded disability benefits and a decreasing trend since 1970 in the annual proportion of beneficiaries whose disability benefits terminate as a result of recovery, death, or attainment of age 65. In particular, the annual number of new disability awards has increased very rapidly in the last several years, from about 415,000 in 1988 to over 540,000 in 1991. During 1983 through 1988, the adverse financial consequences of these trends were offset by the favorable economic growth that was experienced during that period. The economy has slowed since then, however, with the result that growth in tax income has failed to keep pace with growth in benefits.

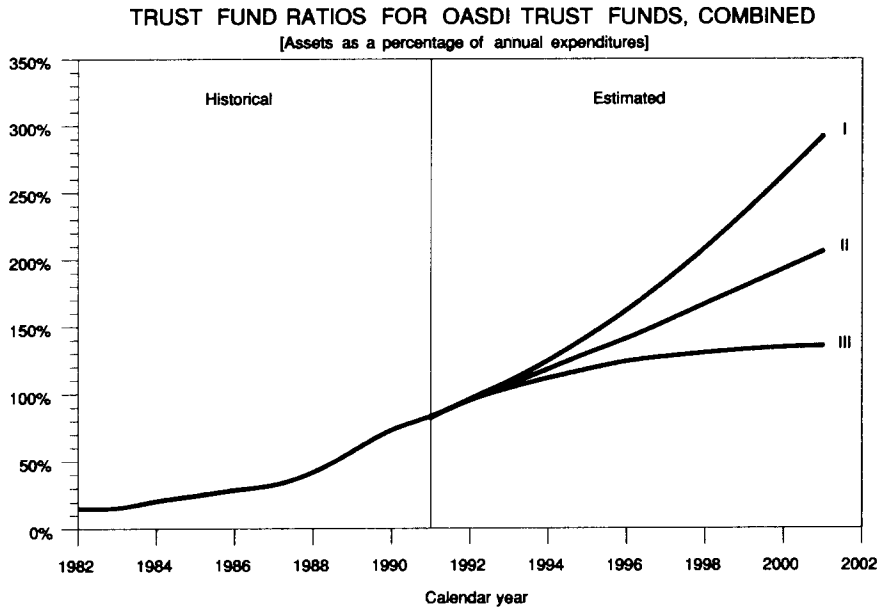
The DI estimates shown in this report represent a considerable worsening of the program's financial outlook compared to the estimates shown in the 1991 Annual Report. The 1991 report warned, as have prior annual reports since 1985, that a combination of adverse economic conditions and rapid growth in the number of DI beneficiaries could cause the DI Trust Fund to become depleted. The estimates in this report reflect the rapid growth in the number of DI beneficiaries experienced to date, as described above; in addition, it has been necessary to adjust the assumptions relating to future disability incidence

and benefit termination, to better match these recent trends. In particular, as a result of the introduction of more refined methodology this year, it has been possible to improve the analysis of recent trends in disability termination rates. The results of this analysis indicated the need for a substantial downward adjustment in the disability termination rates assumed for the short-range projection period.

Because DI assets fail to reach the level of 100 percent of annual expenditures under the alternative II assumptions (and would, in fact, be depleted in the sixth year of the projection period), the DI Trust Fund does not satisfy the short-range test of financial adequacy. (The DI Trust Fund also failed to satisfy this test in the 1991 Annual Report.) Accordingly, the financial position of the DI program should be strengthened.

3. OASI and DI Trust Funds, Combined

The following chart summarizes the actual past and estimated future values of the trust fund ratio for the OASI and DI Trust Funds, combined. At the beginning of 1992, combined OASDI assets represented about 96 percent of combined expenditures for 1992. This ratio is projected to increase steadily during 1992-2001 under all three sets of assumptions. Under alternative II, the trust fund ratio for the combined funds would reach 206 percent at the beginning of 2001. Based on alternative I, the ratio would increase to 292 percent, while under alternative III it would climb more slowly to 134 percent.



Under the alternative II assumptions, the total assets of the OASI and DI Trust Funds would exceed 100 percent of annual OASDI expenditures within 1 year, and would remain above that level through the remainder of the short-range projection period. Therefore, the combined trust funds meet the requirements of the short-range test of financial adequacy. Under the less favorable conditions assumed in alternative III, the fund ratio for OASI and DI combined would still increase to more than 100 percent within 1 year, and would remain above that level through 2001. Thus, the combined funds would pass the short-range test even under adverse conditions.

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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. 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.F.2 of this report.

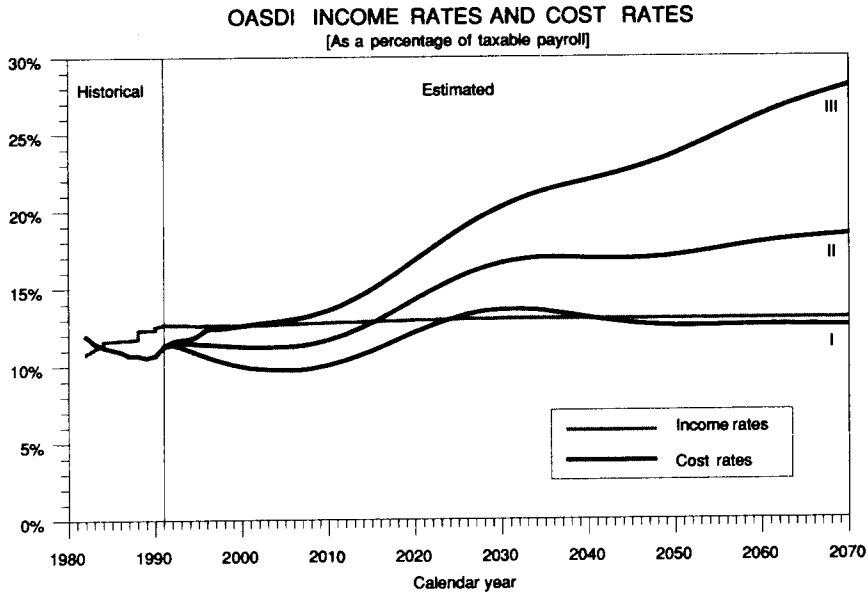
Each year estimates of the financial and actuarial status of the OASDI program are prepared for the next 75 years. Although financial estimates for periods as long as 75 years are inherently uncertain, the results can provide valuable information for use by policymakers. In particular, such estimates 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 levels of future tax income and future expenditures for each year (relative to the amount of earnings subject to the OASDI payroll tax). The year-by-year patterns of this relationship are of particular interest.

In addition to the presentation of long-range estimates, a specific test of the program's long-range financial status is applied. This test is referred to as the test for long-range "close actuarial balance."

1. Long-Range Income Rates, Cost Rates, and Annual Balances

The following chart compares past and estimated future OASDI income (from payroll taxes on covered earnings and income taxes on OASDI benefits) with OASDI expenditures (for benefits and administrative expenses). Included are historical data for the past 10 calendar years (1982-1991) and estimates for the 75-year long-range projection period (1992-2066) 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 to taxable payroll is called the "income rate" and the ratio of expenditures to taxable payroll is the "cost rate."

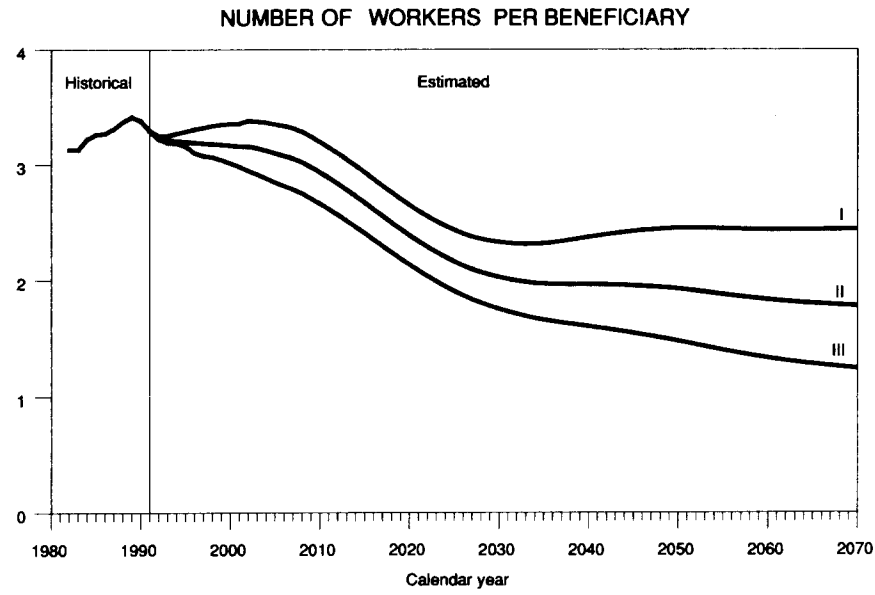


For calendar year 1992, the income rate for the OASDI program is estimated to be about 12.64 percent of taxable payroll. This rate is made up of the combined tax rate payable by employees and employers, 12.40 percent, plus the revenue from the income taxation of OASDI benefits, equivalent to 0.24 percent 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, primarily because a greater proportion of beneficiaries will become subject to taxation. Thus, the income rate is projected to increase somewhat from its current level, reaching about 13.24 percent of taxable payroll by the year 2070. (The income rate projection shown in the chart is based on alternative II only; the projections under alternatives I and III are very similar.)

As the chart indicates, the pattern followed by the estimated cost rates is much different. Costs as a percentage of taxable payroll are estimated to be relatively stable for 15 to 20 years and then to increase rapidly for the next 20 to 25 years. Thereafter, cost rates are estimated to roughly level off (or to grow less rapidly, in the case of alternative III). By the year 2070 the cost rate is estimated to have reached 12.48 percent, 18.35 percent, and 28.07 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 for 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.

The following chart shows the estimated number of covered workers per OASDI beneficiary. In 1991, there were about 3.3 workers for every beneficiary. As indicated, this ratio is expected to decline substantially in the future under all three sets of assumptions. Most of this decline will occur as the relatively large number of persons born during the "baby boom" (from the end of World War II through the mid-1960s) reaches retirement age and begins to receive benefits. At the same time, the relatively small number of persons born during the subsequent period of low fertility rates will comprise the labor force. Between 2030 and 2050, the number of workers per beneficiary is relatively stable as the "baby-boom" generation diminishes in size. After the year 2050, this ratio will continue to decline, but at a slower pace, reflecting the increasing numbers of beneficiaries due to assumed increases in life expectancy. By the end of the 75-year projection period, the number of workers per beneficiary is projected to decline to 2.4, 1.8, and 1.2 under alternatives I, II, and III, respectively.



The difference between the income rate and the cost rate in a given year is referred to as the "annual balance" for that year. The estimated pattern of the 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 for the next 32, 24, and 10 years, under alternatives I, II, and III, respectively, resulting in positive annual balances. Thereafter, under the intermediate assumptions, the annual deficit would rise rapidly, reaching 2 percent of taxable payroll before 2025 and 5.11 percent in the year 2070. Under alternative I, a brief period of deficits (through 2040) would be followed by a return to small positive balances lasting throughout the remainder of the projection period. Under adverse conditions, as assumed in alternative III, the deficit would grow very rapidly, to more than 14 percent of taxable payroll by the year 2070.

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 future tax income for the period in

question, and expressing it as a percentage of the present value of future taxable payroll for that period. ("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 Glossary for additional information.) Similarly, a summarized cost rate is calculated, based on the present value of future expenditures as a percentage of the present value of future taxable payroll. The following table shows these summarized amounts for the OASDI program for the three 25-year subperiods.

	Income rate	Cost rate	Balance
Alternative I:			
1992-2016	12.67	10.34	2.33
2017-2041	12.95	13.00	-.05
2042-2066	12.96	12.59	.37
Alternative II:			
1992-2016	12.70	11.62	1.09
2017-2041	13.07	15.86	-2.78
2042-2066	13.18	17.40	-4.22
Alternative III:			
1992-2016	12.75	13.03	-.29
2017-2041	13.22	19.40	-6.18
2042-2066	13.50	24.59	-11.09

Under the alternative I assumptions, summarized tax income would exceed summarized costs for the first and third 25-year subperiods, with income falling slightly below cost for the second subperiod. (The relatively poor outlook for the second subperiod occurs under alternative I because the "baby-boom" generation is retired essentially throughout this period, while the assumed higher ultimate fertility rates have not yet had their full effect on the estimated numbers of workers.) A significant surplus would be shown under alternative II for the first subperiod only; thereafter, the program is projected to experience deficits, for the reasons outlined previously. If the adverse conditions of alternative III are experienced, deficits would occur for all three subperiods.

To assess the overall financial balance for the entire long-range projection period, it is customary to calculate summarized income rates and cost rates for the full 75-year 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 an additional cost equivalent to requiring that the trust funds at the end of the period hold assets equal to 100 percent of the following year's expenditures. The results of this calculation are shown in the following table.

	Income rate	Cost rate	Balance
Alternative I: 1992-2066	13.04	11.94	1.09
Alternative II: 1992-2066	13.16	14.63	–1.46
Alternative III: 1992-2066	13.32	18.21	–4.89

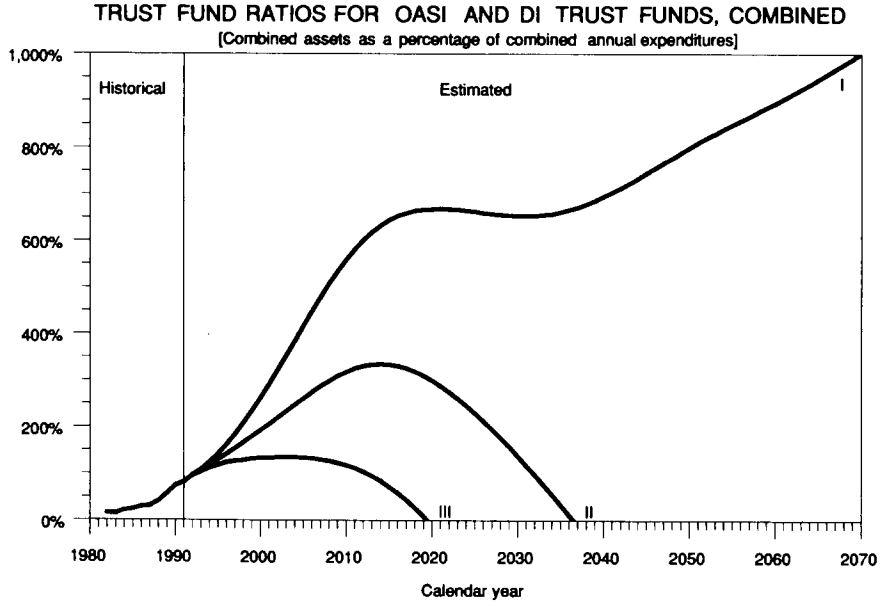
The difference between the summarized income and cost rates is called the "actuarial balance" and ranges from a surplus of 1.09 percent of taxable payroll under the alternative I assumptions to a deficit of 4.89 percent under alternative III. Based on the intermediate assumptions, an actuarial deficit of 1.46 percent is projected, representing the difference between the summarized income rate of 13.16 percent and the corresponding cost rate of 14.63 percent.

The size of the actuarial balance for any 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 1.46 percent under alternative II were addressed by raising scheduled tax rates by 0.73 percent for employees and employers, each, and by 1.46 percent for the self employed, then OASDI assets at the beginning of 1992, together with income from payroll taxes, interest, and other sources, would be just sufficient to meet all expenditures for the period and leave a trust fund level at the end of the period equal to 100 percent of the following year's expenditures. Of course, there are numerous other changes to tax rates or benefit provisions which 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. In particular, under the intermediate assumptions, a series of positive annual balances is expected for about 24 years, followed by a 20-year period of transition to much higher costs (as the "baby boom" retires), with a final period of more stable costs substantially in excess of estimated tax income. Thus, while 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. Long-Range Projection of Trust Fund Assets

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, this accumulation is expected to end about 15 years after the turn of the century, when the cost of the program increases with the retirement of the "baby-boom" generation. Thereafter, the tax rates scheduled in present law are expected to be insufficient to cover program expenditures and it will be necessary to use interest earnings and to redeem assets held by the combined OASI and DI Trust Funds to make up the shortfall. The resulting pattern of combined OASI and DI assets, expressed as a percentage of annual expenditures, is illustrated in the following chart under each of the three alternative sets of assumptions.



At the beginning of 1992, the combined assets of the OASI and DI Trust Funds represented about 96 percent of combined annual expenditures estimated for the year. Under alternatives I and II, this ratio would increase rapidly for at least the next 20 years. Under alternative I, assets would level off temporarily at about 660 percent of annual expenditures before continuing to climb to the level of about 10 years' expenditures by the year 2070. Based on the intermediate assumptions, assets would accumulate to a peak of over 3 years' expenditures in 2014, and would then decline steadily until being exhausted in the year 2036. The pattern under alternative III is similar, except the maximum level is lower (135 percent) and is reached somewhat sooner (2003), and exhaustion occurs much earlier (2019). The following table summarizes these projections for OASI, DI, and the combined trust funds under the three sets of assumptions.

	OASI	DI	Combined
Alternative I:			
Maximum trust fund ratio (percent)	1,148	182	1,002
Year attained	2070	2012	2070
Year of exhaustion	—	2060	—
Alternative II:			
Maximum trust fund ratio (percent)	434	41	335
Year attained	2015	1992	2014
Year of exhaustion	2042	1997	2036
Alternative III:			
Maximum trust fund ratio (percent)	222	40	135
Year attained	2011	1992	2003
Year of exhaustion	2026	1995	2019

As noted previously, trust fund assets are generally invested in special Treasury securities so that the excess of cash receipts over expenditures are borrowed from the trust funds by the general fund of the Treasury and used to help meet various Federal outlays. These securities are backed by the full faith and credit of the U. S. Government, as are all 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 therefore 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 growth in OASDI assets, under alternative II, during the next 24 years will result in a substantial net cash flow from the trust funds of amounts borrowed by the general fund. Thereafter, this cash flow is

expected to reverse; as trust fund securities are redeemed to meet benefit payments and other expenditures, revenue from the general fund of the Treasury will be drawn upon to provide the necessary cash. (It should be noted that DI Trust Fund assets are estimated to decline beginning in 1992 and to become exhausted in 1997, under alternative II. Thus, in the absence of corrective legislation, all the securities held by the DI Trust Fund would need to be redeemed during this period. However, this redemption would be more than offset by new securities issued to the OASI Trust Fund through this period.) The accumulation and subsequent redemption of substantial trust fund assets has important public policy and economic implications that go well beyond the operation of the OASDI program itself. Discussion of these broader issues exceeds the scope of this report.

4. Test of Long-Range Close Actuarial Balance

In order to assess the actuarial status of the OASDI program, an explicit test is applied to the long-range financial estimates. This test is referred to as the test of long-range "close actuarial balance."

The test of long-range close actuarial balance is based on the intermediate (alternative II) projections. The test is necessarily somewhat complex:

- The test covers 66 periods of time. It is applied to successively longer valuation periods, beginning first with the 10-year period 1992-2001, then the 11-year period 1992-2002, the 12-year period 1992-2003, and so on, until reaching the overall 75-year period 1992-2066.

- For each of these periods, an actuarial balance is calculated, in the same way as described previously for the 75-year period (including the value of assets available at the beginning of the period, and requiring an ending fund level of 100 percent of annual expenditures).

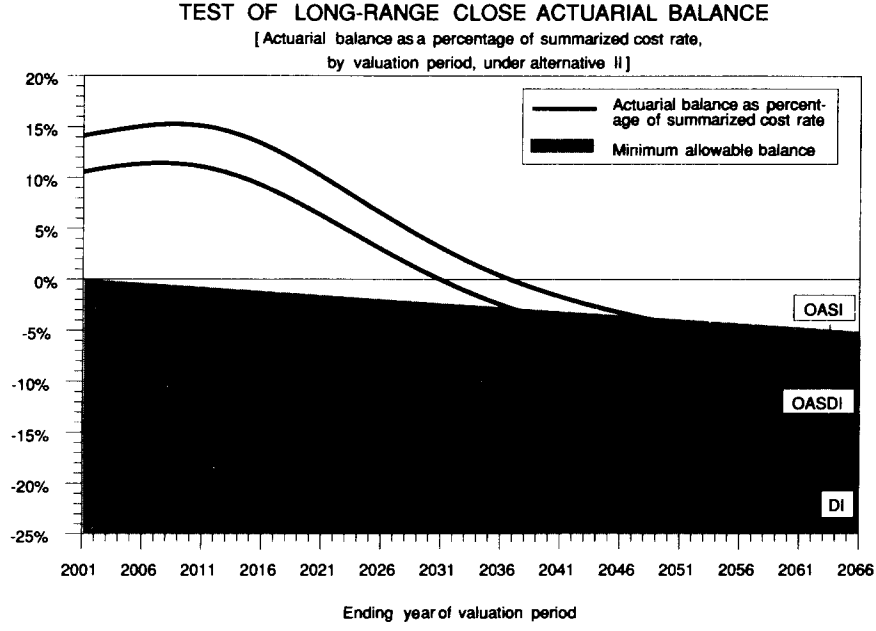
- For each period, the actuarial balance is compared to the summarized cost rate for that period. If the balance is a deficit, it must not exceed a specified percentage of the corresponding cost rate.

- The allowable tolerance for deficits over various time periods is designed to reflect the increasing uncertainty associated with

longer projections. For the entire 75-year valuation period (1992-2066), the allowable tolerance is 5 percent. For the earlier, shorter valuation periods, the allowable margin is reduced uniformly from 5 percent, reaching zero for the 10-year valuation period (1992-2001).

- The test of long-range close actuarial balance is met if for each of the separate valuation periods, the actuarial balance is either positive or is a deficit that is no more than the allowable percentage of the summarized cost rate. In other words, if in any of the valuation periods there is an actuarial deficit that exceeds the allowable margin, then the test is not met.

The following chart illustrates the test of long-range close actuarial balance for the OASDI program, and for OASI and DI separately. For each valuation period, the actuarial balance is shown as a percentage of the corresponding cost rate for that period. The shaded area of the chart represents the unacceptable range for actuarial deficits. If the actuarial balance falls into the shaded area for any valuation period, the test is not met.



As can be seen, the actuarial deficits for the OASDI program (as a percentage of the summarized cost rates) exceed the allowable margins for all valuation periods ending in 2037 and later. Over the entire 75-year period, the deficit represents 9.99 percent of the 75-year cost rate, as compared to the allowable margin of 5 percent. Thus, although the OASDI program satisfies the short-range test of financial adequacy (as discussed earlier in this section), it fails to meet the test of long-range close actuarial balance.

The situation is similar for the OASI program considered separately. The OASI balances are slightly higher than for OASDI but fail to remain within the permitted tolerance for all periods ending in 2048 and later. Therefore, as was the case for OASDI, the OASI program meets the short-range test but is not in long-range close actuarial balance.

For the DI program, the balances are substantially worse and lie beyond the allowable margin in every valuation period. Thus, the DI program does not meet the test of long-range close actuarial balance, in addition to the fact that it does not satisfy the short-range test of financial adequacy (as described earlier in this section).

H. CONCLUSION

When each trust fund is examined separately, the OASI Trust Fund is well financed over the next 10 years and passes the short-range test of financial adequacy by a wide margin. However, the DI Trust Fund does not meet the short-range test of financial adequacy. Moreover, based on the intermediate assumptions, the DI Trust Fund will be exhausted in 1997, unless corrective legislation is enacted.

The OASI and DI Trust Funds, if combined, would be adequately financed over the next 10 years, and for many years thereafter. The assets of the combined funds are continuing to grow rapidly, as shown by the estimates of financial operations presented in this section. The combined assets of the trust funds would reach a level of at least 1 year's expenditures by the beginning of 1993 under any of the three sets of economic and demographic assumptions used in this report. The combined funds are projected to continue to grow during the next 10 years, and for many years thereafter, under each of the three sets of assumptions. However, while the assets of the combined funds, in nominal dollars, continue to grow under alternative III for the next 2 decades, 1992 through 2011, the trust fund ratio of assets to annual expenditures begins to decline in the second decade.

Although the combined trust funds are well financed over the next 10 years and are expected to continue growing for the next 3 decades under the intermediate assumptions, the OASDI program is not in close actuarial balance over the next 75 years, based on these assumptions. The estimates indicate that the combined trust funds would be sufficient to enable the timely payment of benefits for about the next 45 years. Considering each fund separately, the OASI Trust Fund would have sufficient funds for the next 50 years, but, as noted above, the DI Trust Fund would be sufficient for only about the next 5 years, without corrective legislation. On the basis of the more pessimistic assumptions in alternative III, the combined funds would be sufficient to enable timely payment of benefits for about the next 25 years. The DI fund by itself, however, would be exhausted in 1995 without corrective legislation. Based on the more optimistic assumptions of alternative I, the combined funds would continue to grow throughout the next 75 years, and they would be sufficient to enable timely payment of benefits during all of the long-range period. However, the DI fund would be exhausted in 2060 without corrective legislation.

Over the next 24 years, OASDI income from payroll taxes and income taxes on benefits is expected to exceed total expenditures based on the intermediate assumptions. Starting about 15 to 20 years from now, however, OASDI costs as a percentage of taxable payroll are projected to begin increasing rapidly as the "baby-boom" generation reaches retirement age. In contrast, the program's income from payroll taxes and income taxes on benefits will represent a relatively level percentage of taxable payroll.

Therefore, under the intermediate assumptions, the OASDI cost rate is projected to exceed the income rate from 2016 through the end of the projection period, with the shortfall reaching 4.95 percent of taxable payroll by 2066, the end of the 75-year projection period. Based on the less favorable conditions assumed in alternative III, the crossover point would be reached in about 2002, and the shortfall would grow eventually to about 13.74 percent of payroll by 2066. With more favorable conditions, such as the alternative I assumptions, the cost rate would exceed the income rate only briefly (2024 through 2040); from 2041 through the end of the projection period, the income rate would exceed the cost rate, reaching a positive balance of 0.47 percent of payroll by the end of the 75-year period.

Although the OASDI annual balances become negative after the first 24 years, the availability of interest earnings, in addition to tax revenues, results in projected trust fund growth (in dollars) that would continue for another 8 years. Because expenditures are estimated to increase at a faster rate than assets, however, OASDI assets would decline relative to annual disbursements, from about 3.3 times to about 2.6 times annual expenditures, during the same time period.

The actuarial balance of the OASDI program as a whole over the next 75 years is a deficit of 1.46 percent of taxable payroll, based on the intermediate assumptions. This deficit represents about 10.0 percent of the estimated cost rate over the next 75 years, and is therefore larger than the maximum 5-percent level allowed over that period by the test for close actuarial balance. Furthermore, beginning with the 1992-2037 period, and for all successively longer periods through the full 75-year period, the actuarial balances are deficits that are larger than the maximum level allowed for close actuarial balance. Thus, the OASDI program is not in close actuarial balance.

Each trust fund, separately, is also out of close actuarial balance. On the basis of the intermediate assumptions, the OASI Trust Fund has an actuarial deficit of 1.01 percent of taxable payroll, representing 7.9 percent of the OASI long-range cost rate. The DI Trust Fund's actuarial deficit of 0.46 percent of taxable payroll is much larger relative to the DI long-range cost rate—representing 24 percent of the cost rate.

In view of the worsening condition of the DI Trust Fund since the 1991 report was released, and the failure of the fund to meet either the short-range test of financial adequacy or the long-range test of close actuarial balance, the Board of Trustees is making a separate report to the Congress on the unfavorable financial status of the DI Trust Fund, as required under section 709 of the Social Security Act. Because of the inadequate DI fund levels, the Board urges that prompt legislative action be taken to improve the financial integrity of the DI Trust Fund, after a review of the DI program by the Congress and the Administration.

Because the OASDI program is not in close actuarial balance in the long range, possible ways of addressing the long-range deficits should continue to be the subject of extensive study. Although this situation is not as immediate as the need to improve the financial condition of the DI Trust Fund, action should be taken to strengthen the long-range financing of the OASDI program following the development of appropriate options.

II. ACTUARIAL ANALYSIS

A. SOCIAL SECURITY AMENDMENTS SINCE THE 1991 REPORT

Since the 1991 Annual Report was transmitted to the Congress on May 17, 1991, there have been no legislative changes enacted which would have a significant effect on the the financial status of the OASDI program.

B. DESCRIPTION OF THE TRUST FUNDS

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

The primary receipts of these two funds are amounts appropriated to each of them under permanent authority on the basis of contributions payable by workers, their employers, and individuals with self-employment income, in work covered by the OASDI program. All employees, and their employers, in covered employment are required to pay contributions with respect to their wages. Employees, and their employers, are also required to pay contributions with respect to cash tips if their 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 making the required employer contributions on the wages of covered Federal employees, the Federal Government also pays amounts equivalent to the 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. In computing benefits for almost all persons who first become eligible to receive benefits in 1979 or later, the earnings in each year are indexed to take account of increases in average wage levels.

The contribution rates, or tax rates, applicable in each calendar year, and the allocation of the rates between the OASI and DI Trust Funds, are shown in table II.B.1.

TABLE II.B.1.—CONTRIBUTION AND BENEFIT BASE AND CONTRIBUTION RATES

Calendar years	Contribution and benefit base	Contribution rates (percent)					
		Employees and employers, each			Self-employed		
		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
1991	53,400	6.200	5.600	.600	12.4000	11.2000	1.2000
1992	55,500	6.200	5.600	.600	12.4000	11.2000	1.2000
Rates scheduled in present law:							
1993-99	([2])	6.200	5.600	.600	12.4000	11.2000	1.2000
2000 and later	([2])	6.200	5.490	.710	12.4000	10.9800	1.4200

[1]In 1984 only, an immediate credit of 0.3 percent of taxable wages was allowed against the OASDI contributions paid by employees, resulting 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 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 contribution rate is then applied to net earnings after this deduction, but subject to the base.

[2]Subject to automatic adjustment.

For 1993 and later, the rates shown in table II.B.1 are those scheduled in present law. 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 bases are also shown in table II.B.1. (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.A.1. The maximum annual amount taxable under the HI program, as well as the contribution and benefit bases for OASDI, are shown in table II.E.2.)

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.

From May 1983 through November 1990, amounts representing the estimated total collections of OASDI contributions for each month were credited to the trust funds on the first day of the month. Payments from the trust funds were made periodically to the general fund as reimbursement for the interest costs attributable to these advance transfers. Since December 1990, advance tax transfers have not been made. The "Omnibus Budget Reconciliation Act of 1990" amended the law in effect since 1983 to provide that such advance transfers would be used only if the trust funds drop to such a low level that they are needed in order to pay benefits.

Beginning in 1984, a portion (not more than one-half for any individual) of OASDI benefits is subject to Federal income taxation under certain circumstances. The proceeds from this taxation of benefits are credited to the 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. 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 non-resident aliens. A flat-rate tax, usually 15 percent, is withheld from the benefits before they are paid and, therefore, remains in the trust funds.)

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

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

Income is also affected by provisions of the Social Security Act for (1) transfers between the general fund of the Treasury and the OASI and DI Trust Funds for any adjustments to prior payments for the cost arising from the granting of noncontributory wage credits for military service prior to 1957, according to periodic determinations made by the Secretary of Health and Human Services; (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 unin-

sured 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 major 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 Department of Health and Human Services and by 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 these 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 1991

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 1991, and of the assets of the fund at the beginning and end of the fiscal year, is presented in table II.C.1.

During fiscal year 1991, total receipts amounted to $293,288 million, and total disbursements were $241,316 million. The assets of the OASI Trust Fund thus increased by $51,972 million during the year, to a total of $255,417 million on September 30, 1991.

Included in total receipts during fiscal year 1991 were $271,089 million representing payroll tax contributions appropriated to the fund. Another $356 million 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 1991 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.) As an offset to gross contributions, $604 million was transferred from the trust fund 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 on wages in excess of the contribution and benefit base.

Net payroll tax contributions thus amounted to $270,841 million, an increase of 3.6 percent over the amount in the preceding fiscal year. This level of growth in contribution income resulted primarily from the effects of (1) increased covered employment and earnings, (2) the increase in the OASI tax rate that became effective on January 1, 1990, and (3) the increases in the contribution and benefit base that became effective on January 1 of each year 1990 and 1991. (Table II.B.1 in the preceding section shows the tax rates and contribution and benefit bases in effect for these years.)

Income from the taxation of benefits amounted to $5,790 million, of which nearly 99 percent represented amounts credited to the trust fund

in advance, on an estimated basis, together with adjustments to 1988-89 transfers to account for actual experience. The remaining 1 percent of the total income from taxation of benefits represented amounts withheld from the benefits paid to non-resident aliens.

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 $25 million was transferred to the OASI Trust Fund in fiscal year 1991, as required by section 228 of the Social Security Act. The reimbursement reflected the costs of payments made in fiscal year 1989.

Section 217(g) of the Social Security Act requires 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. Determinations of such transfers are required in 1985 and every fifth year thereafter. As a result of the 1990 determination, $2,114 million was transferred to the general fund from the OASI Trust Fund in December 1990.

The OASI Trust Fund was credited with net interest totaling $18,745 million which consisted of (1) interest earned on the investments of the trust fund; plus (2) interest arising from the revised allocation of administrative expenses among the trust funds; plus (3) 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; less (4) reimbursement to the general fund for interest costs resulting from the advance transfer of contributions.

The remaining $229,745 of receipts consisted of gifts received under the provisions authorizing the deposit of money gifts or bequests in the trust funds.

TABLE II.C.1.—STATEMENT OF OPERATIONS OF THE OASI TRUST FUND DURING FISCAL YEAR 1991

[In thousands]

Total assets, September 30, 1990		$203,444,963
Receipts:		
Contributions:		
Appropriations:		
Employment taxes	$270,992,099	
Tax credits on 1984-89 earnings	96,418	
Total appropriations	271,088,517	
Payment from general fund of the Treasury representing employee-employer contributions on deemed wage credits for military service	356,284	
Gross contributions	271,444,801	
Less payment to the general fund of the Treasury for contributions subject to refund	603,780	
Net contributions		270,841,021
Income from taxation of benefit payments:		
Withheld from benefit payments to non-resident aliens	79,219	
All other, not subject to withholding	5,711,000	
Total income from taxation of benefits		5,790,219
Reimbursement from general fund of the Treasury for costs of payments to uninsured persons who attained age 72 before 1968		25,458
Transfer to the general fund of the Treasury to adjust previous determinations of costs attributable to noncontributory wage credits for military service before 1957		-2,114,000
Investment income and interest adjustments:		
Interest on investments	19,161,684	
Interest on interfund transfers due to adjustment in allocation of administrative expenses	189	
Interest on transfers between the trust fund and the general fund account for the Supplemental Security Income program due to adjustment in allocation of administrative expenses	1,904	
Gross investment income and interest adjustments	19,163,777	
Less interest on general fund advance tax transfers	418,326	
Net investment income and interest adjustments		18,745,451
Gifts		230
Total receipts		293,288,379
Disbursements:		
Benefit payments:		
Aggregate benefit payments	236,882,962	
Net transfer to the general fund for unnegotiated checks	44,090	
Gross benefit payments	236,927,053	
Less collected overpayments	732,097	
Net benefit payments		236,194,956
Transfer to the Railroad Retirement "Social Security Equivalent Benefit Account"		3,374,557
Administrative expenses:		
Department of Health and Human Services	1,537,174	
Department of the Treasury	210,208	
Gross administrative expenses	1,747,382	
Less reimbursements from general fund of the Treasury for costs of furnishing information on deferred vested pension benefits	949	
Less receipts from sales of supplies, materials, etc.	62	
Net administrative expenses		1,746,370
Total disbursements		241,315,884
Net increase in assets		51,972,496
Total assets, September 30, 1991		255,417,459

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

Of the $241,316 million in total disbursements, $236,195 million was for net benefit payments, after adding a net transfer to the general fund of the Treasury of $44 million for unnegotiated benefit checks[1] and subtracting collected overpayments of $732 million. The amount of net benefit payments in fiscal year 1991 represents an increase of 7.9 percent over the corresponding amount in fiscal year 1990. This increase was due primarily to (1) the automatic cost-of-living benefit increases of 4.7 percent and 5.4 percent which became effective for December 1989 and December 1990 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 Secretary of Health and Human Services determined that a transfer of $3,375 million to the Social Security Equivalent Benefit Account from the OASI Trust Fund was required in June 1991.

The remaining $1,746 million 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

[1] Normally, the trust funds are reimbursed for unnegotiated checks. During fiscal year 1991, however, new reimbursements amounting to $31 million from the general fund for unnegotiated checks were offset by a return of $75 million for checks that were subsequently cashed after being held for 6 or more months.

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 1991 amounted to $949,103.

Net administrative expenses charged to the OASI and DI Trust Funds in fiscal year 1991 totaled $2,535 million. (The operations of the DI Trust Fund are presented in detail in the next subsection.) This amount represented 0.8 percent of contribution income and 1.0 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.C.2 for each of the last 5 years.

TABLE II.C.2.—NET ADMINISTRATIVE EXPENSES AS A PERCENTAGE OF CONTRIBUTION INCOME AND OF BENEFIT PAYMENTS, BY TRUST FUND, FISCAL YEARS 1987-91

Fiscal year	OASI Trust Fund		DI Trust Fund		OASI and DI Trust Funds, Combined	
	Contribution income	Benefit payments	Contribution income	Benefit payments	Contribution income	Benefit payments
1987	0.8	0.8	3.8	3.6	1.0	1.1
1988	.8	.9	3.7	3.8	1.0	1.2
1989	.7	.8	3.2	3.3	.9	1.1
1990	.6	.7	2.6	3.0	.8	.9
1991	.6	.7	2.7	2.9	.8	1.0

Table II.C.3 compares past estimates of contributions and benefit payments for fiscal year 1991, as shown in the 1987-91 Annual Reports, with the corresponding actual amounts in 1991. The estimates shown are the ones based on the alternative II-B set of assumptions from the 1987-90 reports and the alternative II assumptions for the 1991 report.

A number of factors can contribute to differences between estimates and subsequent actual amounts, including actual values for key economic, demographic, and other variables that differ from assumed levels. In addition, amendments to the Social Security Act can cause actual taxes or benefits to vary from earlier estimates. The comparisons in table II.C.3 indicate that actual OASI and DI tax contributions in fiscal year 1991 were lower than prior estimates due to the recession which began late in 1990. Estimates of OASI benefit payments were generally close to actual payments in 1991. The actual amount of DI benefit payments in 1991, however, was significantly above prior estimates, due to faster-than-expected growth in the number of disabled workers.

TABLE II.C.3.—COMPARISON OF ACTUAL AND ESTIMATED OPERATIONS OF THE OASI AND DI TRUST FUNDS, FISCAL YEAR 1991

[Amounts in millions]

	Net contributions[1]		Benefit payments[2]	
	Amount	Variance from actual (percent)	Amount	Variance from actual (percent)
OASI Trust Fund:				
Estimate in 1987 report	$275,960	1.9	$237,911	0.7
Estimate in 1988 report	273,451	1.0	233,409	–1.2
Estimate in 1989 report	282,160	4.2	234,997	–.5
Estimate in 1990 report	280,023	3.4	235,006	–.5
Estimate in 1991 report	271,412	.2	235,963	–.1
Actual amount	270,841	—	236,195	—
DI Trust Fund:				
Estimate in 1987 report	29,568	2.1	24,730	–8.1
Estimate in 1988 report	29,303	1.2	25,156	–6.5
Estimate in 1989 report	30,233	4.4	25,455	–5.4
Estimate in 1990 report	30,007	3.6	25,813	–4.1
Estimate in 1991 report	29,017	.2	26,521	–1.4
Actual amount	28,953	—	26,909	—
OASI and DI Trust Funds, combined:				
Estimate in 1987 report	305,528	1.9	262,641	–.2
Estimate in 1988 report	302,754	1.0	258,565	–1.7
Estimate in 1989 report	312,393	4.2	260,453	–1.0
Estimate in 1990 report	310,030	3.4	260,819	–.9
Estimate in 1991 report	300,429	.2	262,484	–.2
Actual amount	299,794	—	263,104	—

[1]"Actual" contributions for 1991 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 1991, about 40.4 million persons were receiving monthly benefits under the OASDI program. Of these persons, about 36.0 million and 4.4 million were receiving monthly benefits from the OASI Trust Fund and the DI Trust Fund, respectively. The estimated distribution of benefit payments in fiscal years 1990 and 1991, by type of beneficiary, is shown in table II.C.4 for each trust fund separately.

TABLE II.C.4.—ESTIMATED DISTRIBUTION OF BENEFIT PAYMENTS FROM THE OASI AND DI TRUST FUNDS, BY TYPE OF BENEFICIARY OR PAYMENT, FISCAL YEARS 1990 AND 1991

[Amounts in millions]

	Fiscal year 1990		Fiscal year 1991	
	Amount	Percentage of total	Amount	Percentage of total
Total OASDI benefit payments	$243,242	100.0	$263,073	100.0
OASI benefit payments	218,948	90.0	236,195	89.8
DI benefit payments	24,294	10.0	26,878	10.2
OASI benefit payments, total	218,948	100.0	236,195	100.0
Monthly benefits:				
Retired workers and auxiliaries	168,848	77.1	182,270	77.2
Retired workers	153,842	70.3	166,147	70.3
Wives and husbands	13,710	6.3	14,740	6.2
Children	1,297	.6	1,383	.6
Survivors of deceased workers	49,876	22.8	53,710	22.7
Aged widows and widowers	39,460	18.0	42,749	18.1
Disabled widows and widowers	474	.2	540	.2
Parents	39	(1)	38	(1)
Children	8,475	3.9	8,906	3.8
Widowed mothers and fathers caring for child beneficiaries	1,427	.7	1,476	.6
Uninsured persons generally aged 72 before 1968	17	(1)	13	(1)
Lump-sum death payments	207	.1	202	.1
DI benefit payments, total	24,294	100.0	26,878	100.0
Disabled workers	21,638	89.1	24,021	89.4
Wives and husbands	529	2.2	544	2.0
Children	2,127	8.8	2,314	8.6

[1] Less than 0.05 percent.

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

The assets of the OASI Trust Fund at the end of fiscal year 1991 totaled $255,417 million, consisting of $255,557 million in U.S. Government obligations and, as an offset, an extension of credit amounting to $140 million against securities to be redeemed within the following few days. Table II.C.5 shows the total assets of the fund and their distribution at the end of each fiscal year 1990 and 1991.

TABLE II.C.5.—ASSETS OF THE OASI TRUST FUND, BY TYPE, INTEREST RATE, AND YEAR OF MATURITY, AT END OF FISCAL YEAR, 1990 AND 1991

	September 30, 1990	September 30, 1991
Obligations sold only to the trust funds (special issues):		
Certificates of indebtedness:		
7.875 percent, 1992	—	$18,955,442,000.00
8.875 percent, 1991	$17,247,802,000.00	—
Bonds:		
8.125 percent, 1993-94	—	7,222,696,000.00
8.125 percent, 1995-2000	—	21,668,094,000.00
8.125 percent, 2001-05	—	18,056,740,000.00
8.125 percent, 2006	—	16,623,586,000.00
8.375 percent, 1992	313,295,000.00	—
8.375 percent, 1993-2000	2,506,360,000.00	2,506,360,000.00
8.375 percent, 2001	2,370,396,000.00	2,370,396,000.00
8.625 percent, 1992	1,301,731,000.00	—
8.625 percent, 1993-2001	11,715,579,000.00	11,715,579,000.00
8.625 percent, 2002	3,672,127,000.00	3,672,127,000.00
8.75 percent, 1992	7,099,803,000.00	—
8.75 percent, 1993-94	14,199,606,000.00	14,199,606,000.00
8.75 percent, 1995-2000	42,598,812,000.00	42,598,812,000.00
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, 1991	2,240,309,000.00	—
9.25 percent, 1992	2,240,309,000.00	1,814,353,000.00
9.25 percent, 1993-2000	17,922,472,000.00	17,922,472,000.00
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, 1991	1,865,345,000.00	—
10.375 percent, 1992-99	4,521,488,000.00	4,521,488,000.00
10.375 percent, 2000	2,057,101,000.00	2,057,101,000.00
10.750 percent, 1992-96	5,111,155,000.00	5,111,155,000.00
10.750 percent, 1997-98	2,044,460,000.00	2,044,460,000.00
13.750 percent, 1991	191,756,000.00	—
13.750 percent, 1992-96	2,348,420,000.00	2,348,420,000.00
13.750 percent, 1997-98	939,370,000.00	939,370,000.00
13.750 percent, 1999	1,491,915,000.00	1,491,915,000.00
Total investments	203,716,547,000.00	255,557,108,000.00
Undisbursed balances[1]	–271,583,840.60	–139,648,942.88
Total assets	203,444,963,159.40	255,417,459,057.12

[1] Negative figures represented extensions of credit against securities to be redeemed within the following few days.

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

All securities 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. Both types

are backed by the full faith and credit of the United States Government. 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 the certificates of indebtedness (and bonds, issued previously) 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.

Table II.C.6 shows the investment transactions of the OASI and DI Trust Funds, separate and combined, in fiscal year 1991. All amounts shown in the table are at par value.

TABLE II.C.6.—INVESTMENT TRANSACTIONS OF THE OASI AND DI TRUST FUNDS IN FISCAL YEAR 1991

[In thousands]

	OASI Trust Fund	DI Trust Fund	OASI and DI Trust Funds, Combined
Invested assets, September 30, 1990	$203,716,547	$11,505,127	$215,221,674
Acquisitions:			
Special Issues:			
Certificates of indebtedness	286,066,340	29,502,317	315,568,657
Bonds	67,182,464	3,218,091	70,400,555
Public Issues:			
Treasury bonds	—	—	—
Total acquisitions	353,248,804	32,720,408	385,969,212
Dispositions:			
Special issues:			
Certificates of indebtedness	284,358,700	28,689,578	313,048,278
Bonds	17,049,543	2,430,932	19,480,475
Public Issues:			
Treasury bonds	—	—	—
Total dispositions	301,408,243	31,120,510	332,528,753
Net increase in invested assets	51,840,561	1,599,898	53,440,459
Invested assets, September 30, 1991	255,557,108	13,105,025	268,662,133

Note: All investments are shown at par value.

The effective annual rate of interest earned by the assets of the OASI Trust Fund during the 12 months ending on June 30, 1991, was 9.2 percent, as compared to 9.4 percent earned during the 12 months ending on June 30, 1990. (This period is used, rather than the fiscal year, because interest on special issues is paid semiannually on June 30 and December 31.) The interest rate on special issues purchased by the trust fund in June 1991 was 8.125 percent, payable semiannually. Special-issue bonds with a total par value of $67,182 million were purchased in June 1991.

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. Accordingly, the amounts and maturity dates of the special-issue bonds purchased on June 30, 1991, 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 1992-2006.

2. Disability Insurance Trust Fund

A statement of the income and disbursements of the Federal Disability Insurance Trust Fund during fiscal year 1991, and of the assets of the fund at the beginning and end of the fiscal year, is presented in table II.C.7.

During fiscal year 1991, total receipts amounted to $29,322 million, and total disbursements were $27,780 million. The assets of the trust fund thus increased by $1,543 million during the year, to a total of $12,997 million on September 30, 1991.

Included in total receipts were $28,982 million representing payroll tax contributions appropriated to the fund and $37 million in payments from the general fund of the Treasury representing taxes that would have been paid on estimated deemed wage credits for military service in 1991 if such credits had been considered to be covered wages. As an offset, $66 million was transferred from the trust fund 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 on wages in excess of the contribution and benefit base.

Net contributions amounted to $28,953 million, an increase of 6.1 percent from the amount in the preceding fiscal year. This increase is primarily 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 $131 million in fiscal year 1991.

As described in the preceding subsection, a determination was required in 1990 to adjust prior payments from the general fund of the Treasury for the costs arising from the granting of noncontributory wage credits for military service prior to 1957. Accordingly, a transfer of $775 million to the general fund from the DI Trust Fund was made in December 1990.

Net interest totaling $1,014 million consisted of interest on the investments of the fund, less interest on amounts of interfund and general-fund transfers.

TABLE II.C.7.—STATEMENT OF OPERATIONS OF THE DI TRUST FUND DURING FISCAL YEAR 1991

[In thousands]

Total assets, September 30, 1990		$11,454,630
Receipts:		
Contributions:		
Appropriations:		
Employment taxes	$28,973,161	
Tax credits on 1984-89 earnings	9,225	
Total appropriations	28,982,386	
Payment from general fund of the Treasury representing employee-employer contributions on deemed wage credits for military service	36,632	
Gross contributions	29,019,018	
Less payment to the general fund of the Treasury for contributions subject to refund	66,080	
Net contributions		28,952,938
Income from taxation of benefit payments:		
Withheld from benefit payments to non-resident aliens	3,892	
All other, not subject to withholding	127,000	
Total income from taxation of benefits		130,892
Transfer to the general fund of the Treasury to adjust previous determinations of costs attributable to noncontributory wage credits for military service before 1957		-775,000
Investment income and interest adjustments:		
Interest on investments	1,058,010	
Interest on interfund transfers due to adjustment in allocation of administrative expenses	254	
Gross investment income and interest adjustments	1,058,263	
Less interest on general fund advance tax transfers	44,732	
Net investment income and interest adjustments		1,013,531
Total receipts		29,322,361
Disbursements:		
Benefit payments:		
Gross benefit payments	26,990,286	
Less collected overpayments	111,786	
Less reimbursement for unnegotiated checks	241	
Net benefit payments		26,878,258
Transfer to the Railroad Retirement "Social Security Equivalent Benefit Account"		82,136
Payment for costs of vocational rehabilitation services for disabled beneficiaries		30,471
Administrative expenses:		
Department of Health and Human Services	754,052	
Department of the Treasury	31,434	
Demonstration projects and experiments	3,295	
Gross administrative expenses	788,781	
Less receipts from the sale of supplies, materials, etc.	17	
Net administrative expenses		788,765
Total disbursements		27,779,629
Net increase in assets		1,542,732
Total assets, September 30, 1991		12,997,362

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

Of the $27,780 million in total disbursements, $26,878 million was for net benefit payments, excluding collected overpayments of $112 million and a net reimbursement of $241 thousand for unnegotiated benefit checks. This represents an increase of 10.6 percent over the corresponding amount of benefit payments in fiscal year 1990. This increase is due primarily to the same factors that resulted in the net increase in benefit payments from the OASI Trust Fund. In the case of DI, however, the number of persons qualifying for disabled worker benefits increased at a very rapid rate in fiscal year 1991.

Provisions governing the financial interchanges between the Railroad Retirement and OASDI programs are described in the preceding section. Under those provisions, $82 million was transferred to the Social Security Equivalent Benefit Account from the DI Trust Fund in June 1991.

The remaining disbursements amounted to $789 million for net administrative expenses (including $3 million for demonstration projects and experiments to test the effect of alternative methods for assisting disabled beneficiaries' attempts to work), and $30 million 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 1991 totaled $12,997 million, consisting of $13,105 million in U.S. Government obligations and, as an offset, an extension of credit amounting to $107 million against securities to be redeemed within the following few days. Table II.C.8 shows the total assets of the fund and their distribution at the end of each fiscal year 1990 and 1991.

TABLE II.C.8.—ASSETS OF THE DI TRUST FUND, BY TYPE, INTEREST RATE, AND YEAR OF MATURITY, AT END OF FISCAL YEAR, 1990 AND 1991

	September 30, 1990	September 30, 1991
Investments in public-debt obligations:		
Public issues:		
Treasury bonds:		
3.5 percent, 1998	$5,000,000.00	$5,000,000.00
4.125 percent, 1989-94	68,400,000.00	68,400,000.00
4.25 percent, 1987-92	80,800,000.00	80,800,000.00
7.5 percent, 1988-93	26,500,000.00	26,500,000.00
7.625 percent, 2002-07	10,000,000.00	10,000,000.00
8 percent, 1996-2001	26,000,000.00	26,000,000.00
8.25 percent, 2000-05	3,750,000.00	3,750,000.00
11.75 percent, 2010	30,250,000.00	30,250,000.00
Total investments in public issues at par value, as shown above	250,700,000.00	250,700,000.00
Unamortized premium or discount, net	–512,794.48	–430,321.84
Total investments in public issues at book value	250,187,205.52	250,269,678.16
Obligations sold only to the trust funds (special issues):		
Certificates of indebtedness:		
7.875 percent, 1992	—	1,730,216,000.00
8.875 percent, 1991	917,477,000.00	—
Bonds:		
8.125 percent, 1995-98	—	600,644,000.00
8.125 percent, 1999-2000	—	300,320,000.00
8.125 percent, 2001-05	—	750,805,000.00
8.125 percent, 2006	—	868,859,000.00
8.375 percent, 1992	160,260,000.00	—
8.375 percent, 1993	201,767,000.00	—
8.375 percent, 1994	109,613,000.00	88,711,000.00
8.375 percent, 1995	109,613,000.00	109,613,000.00
8.375 percent, 1996-2000	1,008,835,000.00	1,008,835,000.00
8.375 percent, 2001	591,226,000.00	591,226,000.00
8.75 percent, 1992	168,980,000.00	—
8.75 percent, 1993	174,952,000.00	—
8.75 percent, 1994	466,750,000.00	466,750,000.00
8.75 percent, 1995-2000	764,838,000.00	764,838,000.00
8.75 percent, 2001	127,472,000.00	127,472,000.00
8.75 percent, 2002-05	2,874,792,000.00	2,874,792,000.00
9.25 percent, 1991	275,169,000.00	—
9.75 percent, 1993	142,337,000.00	—
9.75 percent, 1994	142,336,000.00	142,336,000.00
9.75 percent, 1995	481,613,000.00	481,613,000.00

TABLE II.C.8.—ASSETS OF THE DI TRUST FUND, BY TYPE, INTEREST RATE, AND YEAR OF MATURITY, AT END OF FISCAL YEAR, 1990 AND 1991 (Cont.)

	September 30, 1990	September 30, 1991
Investments in public-debt obligations: (Cont.)		
Obligations sold only to the trust funds (special issues): (Cont.)		
Bonds: (Cont.)		
10.375 percent, 1992-93	$203,006,000.00	—
10.375 percent, 1996-98	304,512,000.00	$304,512,000.00
10.375 percent, 1999	152,904,000.00	152,904,000.00
10.375 percent, 2000	389,459,000.00	389,459,000.00
10.75 percent, 1992	287,956,000.00	—
10.75 percent, 1993	98,140,000.00	—
10.75 percent, 1996-98	863,865,000.00	863,865,000.00
13.75 percent, 1999	236,555,000.00	236,555,000.00
Total obligations sold only to the trust funds(special issues)	11,254,427,000.00	12,854,325,000.00
Total investments in public-debt obligations (book value[1])	11,504,614,205.52	13,104,594,678.16
Undisbursed balances[2]	–49,984,369.01	–107,232,892.31
Total assets (book value[1])	11,454,629,836.51	12,997,361,785.85

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

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

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

The effective annual rate of interest earned by the assets of the DI Trust Fund during the 12 months ending on June 30, 1991 was 9.3 percent, as compared to 9.5 percent earned during the 12 months ending on June 30, 1990. The interest rate on public-debt obligations issued for purchase by the trust fund in June 1991 was 8.125 percent, payable semiannually. Special-issue bonds with a total par value of $3,218 million were purchased in June 1991.

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

D. PRINCIPAL ECONOMIC AND DEMOGRAPHIC ASSUMPTIONS

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

Because precise prediction of these various factors is impossible, estimates are shown in this report on the basis of three sets of assumptions, designated as alternatives I, II, and 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, alternative I is the more optimistic, and alternative III is the more pessimistic of the plausible economic and demographic conditions.

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

The measure of national output of goods and services for the United States that is used in this report has been changed to gross domestic product (GDP) from gross national product (GNP), which was used in prior reports. This change is consistent with the shift to GDP at the end of 1991 by the Department of Commerce, as their principal measure of national output in the National Income and Product Accounts. GDP represents the total dollar value of goods and services produced by labor and property located in the United States, regardless of who supplies them. GNP represents the value of production by labor and property supplied by United States residents, regardless of the location in which the production occurs. GDP is thus thought to be a better indicator of the level of national output, and its use is consistent with the practice of

most other industrialized nations. In the long range, very little difference between the growth of GDP and GNP is expected; changing from GNP to GDP in this report has no significant effect on the estimates for the OASDI program.

1. Economic Assumptions

The principal economic assumptions for the three alternatives are summarized in table II.D.1.

TABLE II.D.1.—SELECTED ECONOMIC ASSUMPTIONS BY ALTERNATIVE, CALENDAR YEARS 1960-2070

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	3.9	3.4	1.3	2.1	3.7	5.7	1.3
1965-69	4.4	5.4	3.4	2.0	5.2	3.8	2.1
1970-74	2.4	6.3	6.1	.2	6.7	5.4	2.3
1975	-.8	6.7	9.1	-2.4	7.4	8.5	1.9
1976	4.9	8.7	5.7	3.0	7.1	7.7	2.4
1977	4.5	7.3	6.5	.8	7.1	7.1	2.9
1978	4.8	9.7	7.7	2.0	8.2	6.1	3.2
1979	2.5	9.8	11.4	-1.6	9.1	5.8	2.6
1980	-.5	9.1	13.4	-4.3	11.0	7.1	1.9
1981	1.8	9.6	10.3	-.7	13.3	7.6	1.6
1982	-2.2	6.6	6.0	.6	12.8	9.7	1.4
1983	3.9	5.1	3.0	2.1	11.0	9.6	1.2
1984	6.2	7.3	3.5	3.8	12.4	7.5	1.8
1985	3.2	4.2	3.5	.7	10.8	7.2	1.7
1986	2.9	5.1	1.6	3.5	8.0	7.0	2.0
1987	3.1	4.4	3.6	.8	8.4	6.2	1.7
1988	3.9	[7]4.8	4.0	.8	8.8	5.5	1.4
1989	2.5	[7]4.2	4.8	-.7	8.7	5.3	1.8
1990	1.0	[7]5.2	5.2	.0	8.6	5.5	.7
Alternative I:							
1991	-.7	3.6	4.0	-.4	8.0	6.8	.4
1992	2.3	4.4	2.6	1.9	6.8	7.0	.7
1993	3.9	4.8	2.8	2.0	6.0	6.5	1.2
1994	3.7	5.0	3.0	2.0	5.7	6.0	1.2
1995	3.5	5.2	3.0	2.2	5.8	5.7	1.2
1996	3.4	5.2	3.0	2.2	5.9	5.4	1.1
1997	3.2	5.1	3.0	2.1	6.0	5.1	1.1
1998	3.1	5.0	3.0	2.1	6.0	5.0	1.1
1999	2.9	5.1	3.0	2.1	6.0	4.9	1.1
2000	2.8	5.1	3.0	2.1	6.0	4.8	1.0
2001	2.8	5.0	3.0	2.0	6.1	4.8	1.0
2005	2.6	4.7	3.0	1.7	6.0	5.0	1.0
2010&later	[8]2.3	4.7	3.0	1.7	6.0	5.0	[8].7
Alternative II:							
1991	-.8	3.6	4.0	-.4	8.0	6.8	.4
1992	1.5	4.3	2.9	1.3	6.8	7.1	.6
1993	2.9	4.5	3.3	1.1	6.2	6.9	1.0
1994	2.7	4.8	3.6	1.2	6.0	6.6	1.0
1995	2.5	5.2	3.9	1.3	6.3	6.4	1.0
1996	2.4	5.4	4.0	1.4	6.4	6.3	.9
1997	2.3	5.3	4.0	1.3	6.5	6.2	.9
1998	2.3	5.3	4.0	1.3	6.5	6.1	.9
1999	2.3	5.4	4.0	1.4	6.5	6.0	.9
2000	2.3	5.5	4.0	1.4	6.5	5.9	.9
2001	2.2	5.4	4.0	1.4	6.4	5.8	.9
2005	1.9	5.1	4.0	1.1	6.3	6.0	.7
2010&later	[8]1.8	5.1	4.0	1.1	6.3	6.0	[8].5

TABLE II.D.1.—SELECTED ECONOMIC ASSUMPTIONS BY ALTERNATIVE, CALENDAR YEARS 1960-2070 (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]
Alternative III:							
1991	-0.8	3.6	4.1	-0.5	8.0	6.8	0.4
1992	.5	4.0	3.6	.4	7.0	7.3	.5
1993	2.6	5.3	5.2	.1	6.8	7.0	.9
1994	2.4	6.8	6.4	.3	7.5	6.6	1.0
1995	.7	6.3	6.2	.2	8.3	6.4	.9
1996	-.7	4.2	4.8	-.6	8.0	7.4	.6
1997	3.2	6.8	5.0	1.8	7.4	6.9	.8
1998	1.7	5.8	5.0	.8	6.9	6.7	.9
1999	1.5	5.9	5.0	.9	6.9	6.7	.8
2000	1.6	6.1	5.0	1.0	6.8	6.7	.8
2001	1.6	6.0	5.0	1.0	6.6	6.7	.7
2005	1.4	5.6	5.0	.6	6.5	7.0	.5
2010&later	[8]1.3	5.6	5.0	.6	6.5	7.0	[8].4

[1]The real GDP (gross domestic product) is the value of total output of goods and services, expressed in 1987 dollars.

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

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

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

[5]Through 2001, the rates shown are unadjusted civilian unemployment rates. After 2001, the rates are total rates (including military personnel), adjusted by age and sex based on the estimated total labor force on July 1, 1990.

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

[7]Preliminary.

[8]This value is for 2010. The annual percentage increase in labor force and real GDP is assumed to continue to change after 2010 for each alternative to reflect the dependence of labor force growth on the size and age-sex distribution of the population. The increases in real GDP for 2070 are 2.3, 1.3, and 0.3 percent for alternatives I, II, and III, respectively. The changes in total labor force for 2070 are 0.6, 0.0, and -0.5 percent for alternatives I, II, and III, respectively.

Alternatives I, II, and III present a range of generally consistent sets of economic assumptions which have been designed to encompass most of the possibilities that might be encountered. The intermediate set of assumptions—alternative II—represents the Trustees' consensus expectation of a return to moderate economic growth in the second half of 1992, following successive periods of recession and modest economic growth. Alternative I presents a more optimistic outlook, with a return to sustained robust economic growth and low inflation by the second quarter of 1992, following the recession and a period of modest growth, which is assumed to end with the first quarter of 1992.

Alternative III is a relatively pessimistic forecast in which the economy experiences a second, but small, dip in the first half of 1992 following the first trough of the recession and a period of modest growth through the end of 1991. A second recession is assumed to occur beginning with the second quarter of 1995 and spanning 4 quarters. The total declines in real GDP for the current and projected recessions in alternative III are slightly less than those of recent recessions; however, the ensuing recoveries are assumed to be substantially weaker than those experienced in the recent past. This scenario presents an assessment of the combined effects on the OASDI program of business cycles and generally weak economic growth. Economic cycles are not included in assumptions beyond the first 5 to 10 years of the projection period because inclusion of such cycles has little effect on the long-range estimates of financial status.

The period of sustained real economic growth, which began in 1982, ended with the recession that started with the fourth quarter of 1990. After a total decline in real GDP of 1.3 percent through the first quarter of 1991, and a roughly 1-year period of slow, but positive, growth following the recession, a return to steady economic growth is assumed through the end of the decade for alternatives I and II. Real growth is assumed to be stronger for alternative I than for alternative II.

For alternative III, the recession that began in 1990 is assumed to be followed by a period of slow, but positive, growth and then a second dip in the first half of 1992, during which the real GDP declines by 0.3 percent. After 11 quarters of recovery, a second recession, with a total decline in real GDP of 3.0 percent, is assumed to begin in the second quarter of 1995, lasting through the first quarter of 1996. Thereafter, steady, but relatively slow, growth is assumed for alternative III.

After the year 2001, 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.

Assumed values for the unemployment rates reflect the pattern of real GDP growth for each alternative. For alternatives I and II, the unemployment rate is assumed to move gradually toward its ultimate average level after 1992. For alternative III, the unemployment rate is assumed to reach its ultimate average level after the recovery that is assumed to follow the second recession.

Unemployment rates through 2001 are in the most commonly cited form, the civilian rate, which describes the differences between aggregate civilian labor force and aggregate civilian employment. For years after 2001, however, total rates are presented. These include the military (which reduces the rate by about 0.1 percent relative to the civilian rate) and are age-sex adjusted to the 1990 labor force. Such total rates better represent the total population covered by the OASDI program and adjust for the changing age-sex distribution of the labor force, which can obscure the comparison of unemployment rates over different time periods.

For the intermediate alternative II projection, each of the other economic parameters is selected reflecting what the Trustees believe to be the most likely future course of the economy at the time of preparation of this report, consistent with the assumed pattern of real GDP growth. The average annual unemployment rate is assumed to rise from the level experienced for 1990, 5.5 percent, to 6.8 percent for 1991 and 7.1 percent for 1992 as a result of the recession and the ensuing period of slow growth. After 1992 the unemployment rate is assumed to decline gradually reaching 5.8 percent in 2001, which is about equivalent to the assumed ultimate total unemployment rate (age-sex adjusted to the 1990 labor force) of 6.0 percent. Thereafter, the adjusted total unemployment rate remains at about 6.0 percent while the non-age-sex-adjusted rate declines slightly, reflecting the changing age-sex distribution of the labor force.

The annual rate of increase in the average wage in covered employment is assumed to decline from the estimated 5.2-percent increase for 1990 to 3.6 percent for 1991, reflecting the economic recession. After 1991, the average wage grows at about 4.5 percent for 3 years and then by 5.2 to 5.5 percent per year through 2001. After 2001, the average covered wage growth rate gradually declines to the ultimate assumed rate of 5.1 percent. Wage growth rates are higher than the ultimate assumption until after the year 2001 reflecting the gradual recovery from the 1990-91 recession and the increasing coverage of Federal civilian employees, who have higher average annual earnings than the average employee in the U.S. The annual rate of increase in the Consumer Price Index for Urban Wage Earners and Clerical Workers (CPI-W) is assumed to decline from 5.2 percent in 1990 to a low of 2.9 percent for 1992, thereafter increasing steadily to the ultimate rate of 4.0 percent by 1996. The CPI-W (hereinafter denoted as "CPI") is used to determine automatic cost-of-living benefit increases under the OASDI program.

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) is assumed to be -0.4 percent for 1991 following differentials of -0.7 percent and 0.0 percent for 1989 and 1990, respectively. After 1991, the real-wage differential is projected to be between 1.1 and 1.4 percent through the year 2001, thereafter declining gradually toward the ultimate assumed differential of 1.1 percent.

The average annual interest rate is assumed to decline from 8.6 percent for 1990, reaching its ultimate value of 6.3 percent by 2005. The annual rate of growth in total labor force is projected to increase from 0.4 percent estimated for 1991 to 1.0 percent by 1993. After 1995 the labor force is projected to increase at less than 1.0 percent per year, reflecting the slower growth in the working-age population than was experienced through the 1980s and early 1990s.

For alternatives I and III, respectively, values for each of the economic parameters are selected which, in general, result in a more optimistic and a more pessimistic future financial status of the program.

2. Demographic Assumptions

The principal demographic assumptions for the three alternatives are shown in table II.D.2.

For the intermediate alternative II projection, the assumed ultimate total fertility rate of 1.9 children per woman is attained in 2016 after a gradual decline from the estimated 1990 level of 2.08 children per woman. The age-sex-adjusted death rate is assumed to decrease gradually during the entire projection period, with a total reduction of 36 percent from the 1990 level by 2066. The resulting life expectancies at birth in 2066 are 77.5 years for men and 83.9 years for women, compared to 71.6 and 78.6 years, respectively, in 1990. Life expectancies at age 65 in 2066 are projected to be 18.1 years for men and 22.4 years for women, compared to 14.8 and 18.8 years, respectively, in 1990. The projected death rates reflect the effects of assumed cases of Acquired Immunodeficiency Syndrome (AIDS), using projections through 1992 prepared by the Centers for Disease Control (CDC) as a starting point. Total net immigration is assumed to be 750,000 persons per year beginning in 1992. The assumed level of net annual immigration is the combination of 550,000 net legal immigrants per year and 200,000 net other-than-legal immigrants per year.

For alternative I, the total fertility rate is assumed to rise to an ultimate level of 2.2 children per woman by 2016. The age-sex-adjusted death rate is assumed to decrease more slowly than for alternative II, with the total reduction from the 1990 level being 18 percent by 2066. The resulting life expectancies at birth in 2066 are 75.0 years for men and 80.8 years for women, while at age 65 they are 15.8 and 19.7 years, respectively. Total net immigration is assumed to be 1,000,000 persons per year. The assumed level of net annual immigration is the combination of 650,000 net legal immigrants per year and 350,000 net other-than-legal immigrants per year.

For alternative III, the total fertility rate is assumed to decrease to an ultimate level of 1.6 by 2016. The age-sex-adjusted death rate is assumed to decrease more rapidly than for alternative II, with the total reduction from the 1990 level being 53 percent by 2066. The resulting life expectancies at birth in 2066 are 80.4 years for men and 87.6 years for women, while at age 65 they are 21.2 and 25.5 years, respectively. Total net immigration is assumed to be 600,000 persons per year, the combination of 500,000 net legal immigrants per year and 100,000 net other-than-legal immigrants per year.

TABLE II.D.2.—SELECTED DEMOGRAPHIC ASSUMPTIONS BY ALTERNATIVE, CALENDAR YEARS 1940-2070

Calendar year	Total fertility rate[1]	Age-sex-adjusted death rate[2] (per 100,000)	Life expectancy[3]			
			At birth		At age 65	
			Male	Female	Male	Female
Historical data:						
1940	2.23	1,532.8	61.4	65.7	11.9	13.4
1945	2.42	1,366.4	62.9	68.4	12.6	14.4
1950	3.03	1,225.3	65.6	71.1	12.8	15.1
1955	3.50	1,134.2	66.7	72.8	13.1	15.6
1960	3.61	1,128.6	66.7	73.2	12.9	15.9
1965	2.88	1,103.6	66.8	73.8	12.9	16.3
1970	2.43	1,041.8	67.1	74.9	13.1	17.1
1975	1.77	934.0	68.7	76.6	13.7	18.0
1976	1.74	923.2	69.1	76.8	13.7	18.1
1977	1.79	898.0	69.4	77.2	13.9	18.3
1978	1.76	892.4	69.6	77.2	13.9	18.3
1979	1.82	864.2	70.0	77.7	14.2	18.6
1980	1.85	878.0	69.9	77.5	14.0	18.4
1981	1.83	853.4	70.4	77.9	14.2	18.6
1982	1.83	827.8	70.8	78.2	14.5	18.8
1983	1.81	835.0	70.9	78.1	14.3	18.6
1984	1.80	828.2	71.1	78.2	14.4	18.7
1985	1.84	830.0	71.1	78.2	14.4	18.6
1986	1.84	822.8	71.2	78.3	14.5	18.7
1987	1.87	813.9	71.3	78.4	14.6	18.7
1988	1.93	821.9	71.4	78.4	14.6	18.7
1989[4]	2.00	801.2	71.6	78.6	14.8	18.9
1990[4]	2.08	802.5	71.6	78.6	14.8	18.8

TABLE II.D.2.—SELECTED DEMOGRAPHIC ASSUMPTIONS BY ALTERNATIVE, CALENDAR YEARS 1940-2070(Cont.)

Calendar year	Total fertility rate[1]	Age-sex-adjusted death rate[2] (per 100,000)	Life expectancy[3] At birth Male	At birth Female	At age 65 Male	At age 65 Female
Alternative I:						
1995	2.11	779.7	72.4	78.9	14.8	18.8
2000	2.14	769.8	72.8	79.0	14.8	18.7
2005	2.16	761.4	73.1	79.1	14.9	18.7
2010	2.18	751.5	73.3	79.3	14.9	18.7
2015	2.20	741.7	73.5	79.4	15.0	18.8
2020	2.20	732.3	73.7	79.6	15.1	18.9
2025	2.20	723.1	73.8	79.7	15.2	19.0
2030	2.20	714.3	74.0	79.9	15.3	19.1
2035	2.20	705.7	74.1	80.0	15.3	19.2
2040	2.20	697.3	74.3	80.2	15.4	19.3
2045	2.20	689.2	74.4	80.3	15.5	19.3
2050	2.20	681.3	74.6	80.4	15.6	19.4
2055	2.20	673.7	74.7	80.6	15.6	19.5
2060	2.20	666.3	74.9	80.7	15.7	19.6
2065	2.20	659.1	75.0	80.8	15.8	19.7
2070	2.20	652.0	75.1	80.9	15.9	19.8
Alternative II:						
1995	2.06	771.0	72.0	79.2	15.1	19.1
2000	2.02	740.5	72.6	79.7	15.3	19.3
2005	1.99	706.9	73.5	80.2	15.6	19.5
2010	1.95	682.0	74.1	80.5	15.8	19.8
2015	1.91	662.0	74.5	80.9	16.0	20.0
2020	1.90	643.6	74.8	81.2	16.2	20.2
2025	1.90	626.1	75.1	81.5	16.4	20.5
2030	1.90	609.4	75.4	81.8	16.7	20.7
2035	1.90	593.5	75.7	82.1	16.9	21.0
2040	1.90	578.4	76.0	82.4	17.1	21.2
2045	1.90	563.9	76.3	82.7	17.3	21.4
2050	1.90	550.1	76.6	83.0	17.5	21.6
2055	1.90	537.0	76.9	83.3	17.7	21.9
2060	1.90	524.4	77.1	83.5	17.9	22.1
2065	1.90	512.3	77.4	83.8	18.1	22.3
2070	1.90	500.8	77.7	84.1	18.3	22.5
Alternative III:						
1995	1.99	755.0	71.9	79.6	15.4	19.5
2000	1.90	731.0	71.7	80.1	15.8	20.0
2005	1.80	681.1	73.0	80.8	16.2	20.4
2010	1.71	621.3	74.8	81.7	16.6	20.8
2015	1.62	583.3	75.8	82.4	17.0	21.2
2020	1.60	555.6	76.3	82.9	17.5	21.7
2025	1.60	531.9	76.7	83.4	17.9	22.1
2030	1.60	509.7	77.1	83.9	18.3	22.5
2035	1.60	488.6	77.5	84.4	18.7	22.9
2040	1.60	468.1	77.9	85.0	19.1	23.4
2045	1.60	448.6	78.4	85.5	19.5	23.8
2050	1.60	429.9	78.8	86.0	19.9	24.2
2055	1.60	412.2	79.3	86.5	20.3	24.6
2060	1.60	395.3	79.8	87.0	20.7	25.0
2065	1.60	379.3	80.3	87.5	21.1	25.4
2070	1.60	364.1	80.7	87.9	21.5	25.8

[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 child-bearing period. The ultimate total fertility rate is assumed to be reached in 2016.

[2]The age-sex-adjusted death rate is the crude rate that would occur in the enumerated total population as of April 1, 1980, if that population were to experience the death rates by age and sex observed in, or assumed for, the selected year.

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

[4]Estimated.

The values assumed after the early years for both the economic and the demographic factors are intended to represent the average experience and are not intended to be exact predictions of year-by-year values. Actual future values will likely exhibit fluctuations or cyclical patterns, as in the past.

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 some of those factors.

The ultimate values presented in tables II.D.1 and II.D.2 reflect little change from the ultimate values used for the 1991 Annual Report. Different levels, as opposed to rates of change, in several factors reflect, primarily, different starting levels based on additional data collected since the last report. The effect on the financing of the OASDI program of these and other changes is discussed in section II.F.2.

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 which, 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 the program amounts which are subject to automatic adjustment, from the time that such adjustments became effective through 2001. 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 3.7 percent, effective for December 1991, was announced in October 1991, 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]

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

Under section 215(b)(3) of the Social Security Act, the average amount of total wages[1] 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 values are used to calculate the worker's Average Indexed Monthly Earnings (AIME). The average amount of total wages for each year, generally referred to as the "average wage index," is also used to adjust most of the program amounts that are subject to the automatic-adjustment provisions. Table II.E.1 shows the average wage index as determined for each year 1951 through 1990.

TABLE II.E.1.—AVERAGE WAGE INDEX, CALENDAR YEARS 1951-90

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

The law provides for an automatic increase in the contribution and benefit base, generally based on the increase in the average wage index, for the year following a year in which an automatic benefit increase became effective. The base for 1975 was the first one determined on this basis. (Amendments enacted in December 1973 provided that the 11-percent general benefit increase that became effective in 1974 would be considered an automatic cost-of-living benefit increase for purposes of the automatic-adjustment provisions.) The bases for 1979-81 were specified by the 1977 amendments at levels above those which were expected to occur under the automatic-adjustment provisions (and which, in fact, as the experience developed, were above such levels). Starting again in 1982, the bases have been determined automatically on the basis of increases in average wages. The bases for years after 1989 are slightly higher than they otherwise would have been through the effects of a

[1]Includes wages in noncovered employment and wages in covered employment without regard to either the OASDI or HI contribution bases.

new procedure to determine the base, as required by Public Law 101-239.

The Omnibus Budget Reconciliation Act of 1990 (Public Law 101-508) established a separate contribution base for the Hospital Insurance program. The base was set at $125,000 for 1991, and is to be adjusted annually following the same procedures used for the OASDI contribution and benefit base. As described in Appendix F, the Hospital Insurance contribution base for 1992 was determined to be $130,200.

Table II.E.2 shows historical automatic cost-of-living benefit increases for the years 1975-91 and assumed increases through 2001. The table also shows historical year-to-year percentage increases in the average wage index for 1975-90 and assumed increases through 2001. As noted above, the OASDI contribution and benefit base and the Hospital Insurance contribution base are generally adjusted on the basis of such wage increases. The historical and projected amounts for these two bases are also shown in table II.E.2. The projections are shown under the three alternative sets of economic assumptions described in the previous section.

TABLE II.E.2.—COST-OF-LIVING BENEFIT INCREASES, AVERAGE WAGE INDEX INCREASES, OASDI CONTRIBUTION AND BENEFIT BASES, AND HOSPITAL INSURANCE CONTRIBUTION BASES, 1975-2001

Calendar year	OASDI benefit increases [1] (percent)	Increase in average wage index [2] (percent)	OASDI contribution and benefit base [3]	Hospital Insurance contribution base [4]
Historical data:				
1975	8.0	7.5	$14,100	$14,100
1976	6.4	6.9	15,300	15,300
1977	5.9	6.0	16,500	16,500
1978	6.5	7.9	17,700	17,700
1979	9.9	8.7	[5]22,900	[5]22,900
1980	14.3	9.0	[5]25,900	[5]25,900
1981	11.2	10.1	[5]29,700	[5]29,700
1982	7.4	5.5	32,400	32,400
1983	3.5	4.9	35,700	35,700
1984	3.5	5.9	37,800	37,800
1985	3.1	4.3	39,600	39,600
1986	1.3	3.0	42,000	42,000
1987	4.2	6.4	43,800	43,800
1988	4.0	4.9	45,000	45,000
1989	4.7	4.0	48,000	48,000
1990	5.4	4.6	51,300	51,300
1991	3.7	[6]4.0	53,400	125,000
Alternative I:				
1992	2.6	4.2	[7]55,500	[7]130,200
1993	2.8	4.7	57,900	135,600
1994	3.0	4.8	60,300	141,300
1995	3.0	5.0	63,000	147,900
1996	3.0	5.0	66,000	155,100

TABLE II.E.2.—COST-OF-LIVING BENEFIT INCREASES, AVERAGE WAGE INDEX INCREASES, OASDI CONTRIBUTION AND BENEFIT BASES, AND HOSPITAL INSURANCE CONTRIBUTION BASES, 1975-2001 (Cont.)

Calendar year	OASDI benefit increases [1] (percent)	Increase in average wage index [2] (percent)	OASDI contribution and benefit base [3]	Hospital insurance contribution base [4]
Alternative I: (Cont.)				
1997	3.0	5.0	$69,300	$162,900
1998	3.0	4.9	72,900	171,000
1999	3.0	5.0	76,500	179,400
2000	3.0	5.0	80,400	188,100
2001	3.0	4.9	84,300	197,400
Alternative II:				
1992	3.0	4.1	[7]55,500	[7]130,200
1993	3.4	4.3	57,600	135,300
1994	3.6	4.6	60,000	140,700
1995	4.0	5.1	62,700	146,700
1996	4.0	5.2	65,700	153,300
1997	4.0	5.2	69,000	161,100
1998	4.0	5.2	72,600	169,500
1999	4.0	5.3	76,500	178,200
2000	4.0	5.3	80,400	187,500
2001	4.0	5.3	84,600	197,400
Alternative III:				
1992	3.9	3.8	[7]55,500	[7]130,200
1993	5.4	5.1	57,300	134,700
1994	6.6	6.5	59,400	139,800
1995	6.0	6.2	62,400	147,000
1996	4.7	4.1	66,600	156,600
1997	5.0	6.6	70,800	166,200
1998	5.0	5.6	73,800	173,100
1999	5.0	5.8	78,600	184,500
2000	5.0	5.9	83,100	195,000
2001	5.0	5.8	87,900	206,100

[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 table III.B.1 for projected dollar amounts of the average wage index.

[3] The bases for years after 1989 were increased slightly through the effect of a new procedure to determine the base, as required by Public Law 101-239.

[4] Prior to 1991, the Hospital Insurance (HI) contribution base was the same as the OASDI contribution and benefit base. The separate HI base for 1991 was specified by Public Law 101-508.

[5] Amount specified by the Social Security Amendments of 1977.

[6] Estimated.

[7] Actual amount.

Other wage-indexed amounts are shown in table II.E.3. The table provides historical values from 1975, when the retirement earnings test exempt amounts were first indexed, through 1992, and also shows projected amounts under the alternative II assumptions through the year 2001. These other wage-indexed program amounts are described in the following paragraphs.

Under the retirement earnings test, earnings below certain amounts are exempted from the withholding of benefits. Two exempt amounts apply for each year of earnings—one for beneficiaries under age 65 and

another for those aged 65 and over. 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.

The basic formula used to compute the Primary Insurance Amount (PIA) for workers who reach age 62, become disabled or die in 1992 is:

90 percent of the first $387 of AIME, plus
32 percent of AIME in excess of $387
but not in excess of $2,333, plus
15 percent of AIME in excess of $2,333.

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 1992:

150 percent of the first $495 of PIA, plus
272 percent of the PIA in excess of $495
but not in excess of $714, plus
134 percent of the PIA in excess of $714
but not in excess of $931, plus
175 percent of the PIA in excess of $931.

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. (For years after 1989, the "old-law" bases were modified in the same way as the current-law bases, as described above.) 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 noncovered employment.[2] In addition, it is used for certain purposes under the Railroad Retirement program and the Employee Retirement Income Security Act of 1974.

Past values for these wage-indexed amounts, together with estimates of future values under alternative II, are shown in the following table.

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

[2] The first percentage applied to a person's AIME to calculate his or her Primary Insurance Amount varies from 40 percent to 90 percent, depending on the individual's years of coverage. An individual earns a year of coverage when his earnings for the year are at least 25 percent of the old-law base.

TABLE II.E.3.—SELECTED OASDI PROGRAM AMOUNTS DETERMINED UNDER THE AUTOMATIC-ADJUSTMENT PROVISIONS, CALENDAR YEARS 1975-92, AND PROJECTED FUTURE AMOUNTS, CALENDAR YEARS 1993-2001, ON THE BASIS OF THE INTERMEDIATE SET OF ASSUMPTIONS

Calendar year	Retirement earnings test exempt amount		AIME "bend points" in PIA formula		PIA "bend points" in maximum-family-benefit formula			Amount of earnings required for quarter of coverage[2]	"Old law" contribution and benefit base[3]
	Under age 65	Ages 65 and over[1]	First	Second	First	Second	Third		
Historical data:									
1975	$2,520	$2,520	(4)	(4)	(4)	(4)	(4)	(5)	(4)
1976	2,760	2,760	(4)	(4)	(4)	(4)	(4)	(5)	(4)
1977	3,000	3,000	(4)	(4)	(4)	(4)	(4)	(5)	(4)
1978	3,240	[6]4,000	(4)	(4)	(4)	(4)	(4)	[7]$250	(4)
1979	3,480	[6]4,500	[7]$180	[7]$1,085	[7]$230	[7]$332	[7]$433	260	$18,900
1980	3,720	[6]5,000	194	1,171	248	358	467	290	20,400
1981	4,080	[6]5,500	211	1,274	270	390	508	310	22,200
1982	4,440	[6]6,000	230	1,388	294	425	554	340	24,300
1983	4,920	6,600	254	1,528	324	468	610	370	26,700
1984	5,160	6,960	267	1,612	342	493	643	390	28,200
1985	5,400	7,320	280	1,691	358	517	675	410	29,700
1986	5,760	7,800	297	1,790	379	548	714	440	31,500
1987	6,000	8,160	310	1,866	396	571	745	460	32,700
1988	6,120	8,400	319	1,922	407	588	767	470	33,600
1989	6,480	8,880	339	2,044	433	626	816	500	35,700
1990	6,840	9,360	356	2,145	455	656	856	520	38,100
1991	7,080	9,720	370	2,230	473	682	890	540	39,600
1992	7,440	10,200	387	2,333	495	714	931	570	41,400
Estimates:									
1993	7,680	10,560	403	2,426	514	742	968	590	43,200
1994	8,040	11,040	419	2,525	535	773	1,008	620	45,000
1995	8,400	11,520	437	2,634	558	806	1,051	640	46,800
1996	8,760	12,000	457	2,755	584	843	1,099	670	48,900
1997	9,240	12,600	480	2,895	614	886	1,155	710	51,300
1998	9,720	13,200	505	3,046	646	932	1,215	740	54,000
1999	10,200	13,920	532	3,204	679	980	1,279	780	56,700
2000	10,680	14,640	559	3,371	715	1,032	1,345	820	59,700
2001	11,280	15,360	589	3,549	752	1,086	1,416	870	62,700

[1]In 1955-82, retirement earnings test did not apply at ages 72 and over; beginning in 1983, it does not apply at ages 70 and over.

[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 through the effect of a new 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 not subject to automatic-adjustment provisions in this year.

[6]Amount specified by Social Security Amendments of 1977.

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

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, 1991, is presented in section II.C of this report. Estimates of the operations and status of the trust funds during fiscal years 1992-2001 are presented in this section. In addition, similar estimates for calendar years 1992-2001 are presented. A description of the actuarial status of the trust funds over the next 75 years, including long-range estimates of program income and program costs over that period, is also included in this section. The methods used to estimate the short-range operations of the trust funds and the long-range actuarial status are described in section II.H.

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

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

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

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

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

[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.

monthly payments to certain uninsured persons who attained age 72 before 1968 and who have fewer than 3 quarters of coverage, transfers under the interfund borrowing provisions, and net investment income.

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

The long-range actuarial status of the trust funds has generally been summarized by the calculation of the "actuarial balance." The actuarial balance for a specified valuation period is defined as the difference between the summarized income rate and the summarized cost rate over that period. The summarized income rate over a period of years is equal to the ratio of (a) the sum of the trust fund balance at the beginning of the period plus the present value of the total income (excluding interest earnings) during the period, to (b) the present value of the taxable payroll for the years in the period. The summarized cost rate is equal to the ratio of (a) the sum of the present value of the outgo during the period plus the present value of a targeted trust fund level at the end of the period equal to the following year's outgo to (b) the present value of the taxable payroll for the years in the period. A targeted ending trust fund level of 1 year's expenditures is considered to be an adequate reserve for unforeseen contingencies; thus, in addition to the total outgo during the projection period, the summarized cost rate includes the cost of reaching and maintaining a target trust fund ratio of 100 percent through the end of the projection period.

The present-value calculations take account of the effect of interest on future income and outgo. In calculating the present value of future

income, for example, the income in each year of the projection period is discounted to the beginning of the period using the interest rate assumed for calculating the interest earnings of the trust funds during the period. Thus, the calculations of the summarized income and cost rates are consistent with the estimates of trust fund operations over the projection period.

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

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

The long-range test of close actuarial balance applies to a set of valuation periods beginning with the first 10 years and continuing through the first 11 years, the first 12 years, etc., up to and including the full 75-year projection period. Under the long-range test, summarized income rates and cost rates are calculated for each of the 66 valuation periods in the full 75-year long-range projection period, with the first of these periods consisting of the next 10 years. Each succeeding period becomes longer by 1 year, culminating with the period consisting of the next 75 years. The long-range test is met if, for each of the 66 time periods, the actuarial balance is not less than zero or is negative by, at

most, a specified percentage of the summarized cost rate for the same time period. The percentage allowed for a negative actuarial balance is 5 percent for the full 75-year period. For shorter periods, the allowable percentage begins with zero for the first 10 years and increases uniformly for longer periods, until it reaches the maximum percentage of 5 percent allowed for the 75-year period. The criterion for meeting the test is less stringent for the longer periods in recognition of the greater uncertainty associated with estimates for more distant years.

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

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

1. Operations and Status of the Trust Funds During the Period October 1, 1991, to December 31, 2001

This subsection presents estimates of the operations and status of the OASI and DI Trust Funds during the period October 1, 1991, to December 31, 2001, based on the assumptions described in the preceding two sections. No changes are assumed to occur in the present statutory provisions and regulations under which the OASDI program operates.[1]

These estimates indicate that the assets of the OASI Trust Fund would continue to increase rapidly throughout the next 10 years under each of the three sets of assumptions shown. In contrast, the estimates indicate a high probability that the assets of the DI Trust Fund would be depleted within the next 10 years in the absence of corrective legislation. Under the alternative II assumptions, DI assets would decline steadily and would become insufficient to permit the timely payment of benefits in 1997. Based on the more pessimistic alternative III assumptions, DI assets would be depleted in 1995. Only under the more optimistic alternative I assumptions would DI assets be sufficient to meet benefit payments throughout the 10-year projection period—and even then the margin for safety would be narrow.

As will be shown later in this subsection, the OASI Trust Fund meets the requirements of the Trustees' test of short-range financial adequacy, but the DI Trust Fund fails to do so. The OASI and DI Trust Funds, if combined, would pass the test. The failure of the DI Trust Fund to meet the requirements of the test and, in particular, the projected depletion of the fund, are clear indications that the financial position of the DI program needs to be strengthened.

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

a. OASI Trust Fund Operations

Estimates of the operations and status of the OASI Trust Fund during calendar years 1992-2001 are shown in table II.F.1 based on each of the three alternative sets of assumptions. Actual operations for calendar year 1991 are also shown in the table.

The increases in estimated income shown in table II.F.1 on the basis of each set of assumptions reflect increases in estimated taxable earnings. For each alternative, employment and earnings are assumed to increase in every year through the year 2001 (with the exceptions that employment is estimated to decline in 1992, compared to 1991, and is projected to decline temporarily again during each of the economic recessions assumed under alternative III). The number of persons with taxable earnings under the OASDI program is expected to increase on the basis of alternatives I, II, and III, from 132 million during calendar year 1991 to about 149 million, 145 million, and 142 million, respectively, by 2001. The total annual amount of taxable earnings is expected to increase from about $2,437 billion in 1991 to $4,473 billion, $4,331 billion, and $4,410 billion, in 2001, on the basis of alternatives I, II, and III, respectively. (In 1991 dollars—taking account of assumed increases in the CPI from 1991 to 2001 based on each alternative—the estimated amounts of taxable earnings in 2001 are $3,353 billion, $2,993 billion, and $2,680 billion, on the basis of alternatives I, II, and III, respectively.) These increases are due in part to the increases in the contribution and benefit base in 1992-2001 under the automatic-adjustment provisions. The increases in taxable earnings are also due to (1) projected increases in employment levels and average earnings in covered employment, and (2) various provisions enacted in 1983-90, including the mandatory coverage of all newly hired Federal civilian employees, the voluntary coverage of certain Federal employees who were not previously covered, and the mandatory coverage of certain employees of State and local governments.

TABLE II.F.1.—ESTIMATED OPERATIONS OF THE OASI TRUST FUND BY ALTERNATIVE, CALENDAR YEARS 1991-2001

[Amounts in billions]

Calendar year	Income	Disburse-ments	Net increase in fund	Fund at end of year	Trust fund	
					Amount[1]	Ratio[2]
1991[3]	$299.3	$245.6	$53.7	$267.8	$214.2	87
Alternative I:						
1992	309.6	259.7	49.9	317.7	267.8	103
1993	335.3	271.7	63.6	381.3	317.7	117
1994	360.5	284.1	76.5	457.7	381.3	134
1995	385.2	296.9	88.3	546.1	457.7	154
1996	415.2	309.9	105.3	651.3	546.1	176
1997	445.4	323.4	121.9	773.3	651.3	201
1998	478.1	337.5	140.6	913.9	773.3	229
1999	512.9	352.6	160.2	1,074.1	913.9	259
2000	541.2	368.7	172.5	1,246.6	1,074.1	291
2001	579.6	385.9	193.8	1,440.4	1,246.6	323
Alternative II:						
1992	307.3	260.0	47.3	315.2	267.8	103
1993	329.9	273.3	56.6	371.8	315.2	115
1994	352.3	287.8	64.5	436.3	371.8	129
1995	375.2	302.9	72.3	508.6	436.3	144
1996	402.0	319.7	82.2	590.9	508.6	159
1997	429.5	337.3	92.2	683.0	590.9	175
1998	459.6	355.7	103.9	786.9	683.0	192
1999	492.1	375.4	116.7	903.7	786.9	210
2000	518.4	396.3	122.1	1,025.8	903.7	228
2001	554.2	418.6	135.6	1,161.4	1,025.8	245
Alternative III:						
1992	305.3	260.3	45.1	312.9	267.8	103
1993	329.0	276.1	53.0	365.9	312.9	113
1994	357.2	296.3	60.8	426.7	365.9	123
1995	385.3	321.0	64.3	491.0	426.7	133
1996	404.2	345.4	58.8	549.8	491.0	142
1997	434.4	367.1	67.3	617.1	549.8	150
1998	465.6	390.9	74.8	691.8	617.1	158
1999	497.4	416.2	81.2	773.0	691.8	166
2000	522.7	443.4	79.3	852.3	773.0	174
2001	557.2	472.6	84.6	936.9	852.3	180

[1]Represents assets at beginning of year.

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

[3]Figures for 1991 represent actual experience.

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

Rising disbursements during calendar years 1992-2001 reflect the assumed automatic benefit increases previously shown, as well as the long-range upward trend in the numbers of beneficiaries and in the amounts of 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.F.1 indicate that income to the OASI Trust Fund would substantially exceed disbursements in every year of the short-range projection period, based on each of the three alternative sets of assumptions used in this report. The assets of the OASI Trust Fund at the beginning of 1991 were equal to 87 percent of the fund's disbursements in 1991. 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 1991, income exceeded disbursements by $53.7 billion. As a result, the trust fund ratio increased to 103 percent at the beginning of 1992.

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 103 percent at the beginning of 1992 to the range of 180-323 percent at the beginning of the year 2001 is due, in part, to the increases in the OASI tax rate that became effective in 1988 and 1990. Asset growth is also assisted by the increases in taxable earnings during 1982-88 that exceeded the rate of growth in benefit payments and the expected continuation of this experience in 1992 and later (except for certain years under alternative III).

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

Currently, the excess of tax income to the OASI Trust Fund over the fund's expenditures results in a substantial net cash flow from the trust

fund to the general fund. Sometime after the turn of the century, as shown in the following subsection, this cash flow will reverse; as trust fund securities are redeemed to meet benefit payments and other expenditures, revenue from the general fund of the Treasury will be drawn upon to provide the necessary cash. The accumulation and subsequent redemption of substantial trust fund assets has important public policy and economic implications that go well beyond the operation of the OASDI program itself. Discussion of these broader issues exceeds the scope of this report.

Based on the alternative II assumptions, assets of the OASI Trust Fund exceed 100 percent of annual expenditures at the beginning of 1992 and would remain well above the 100-percent level through the end of the year 2001. Consequently, the OASI Trust Fund satisfies the test of short-range financial adequacy by a wide margin. The estimates in table II.F.1 also indicate that the short-range test would be satisfied even under the adverse conditions assumed in alternative III.

In interpreting the trust fund ratios in table II.F.1, it should be noted that at the beginning of any month there must be sufficient assets on hand to meet the benefit payments that are payable at the beginning of that month. The specific minimum amount of assets required for this purpose depends on a number of factors and varies somewhat from month to month. Assets of roughly 8 to 9 percent of annual expenditures are generally considered sufficient for this purpose (although the actual minimum level can be somewhat less in some months). Therefore, the difference between the estimated trust fund ratios shown in table II.F.1, and the minimum level of roughly 8-9 percent, represents the reserve available to handle adverse contingencies.

b. DI Trust Fund Operations

The estimated operations and status of the DI Trust Fund during calendar years 1992-2001 on the basis of the three sets of assumptions are shown in table II.F.2, together with figures on actual experience in 1991. On the basis of each alternative, income is estimated to increase steadily during 1992-2001. This increase reflects the same factors described previously in connection with the OASI Trust Fund.

Disbursements are estimated to increase because of automatic benefit increases and because of projected increases in the amounts of average

monthly earnings on which benefits are based. In addition, on the basis of all three sets of assumptions, the number of DI beneficiaries is projected to continue increasing throughout the short-range projection period. The projected growth in the number of DI beneficiaries is attributable to a number of factors, including (1) gradual increases in the number of persons estimated to be insured for disability benefits, (2) assumed increases in the proportion of those insured who apply for and are awarded disability benefits, and (3) an assumed slight decline in the proportion of disabled worker beneficiaries whose benefits terminate each year as a result of death, recovery, or attainment of normal retirement age.

The proportion of insured workers who apply for and are awarded disability benefits in a given year is referred to as the "disability incidence rate." This rate has fluctuated substantially in past years and the causes for the variation have not been precisely determined. Incidence rates increased during 1970-75, declined during 1976-82, increased again during 1983-85, and remained steady during 1986-89. In 1990 and 1991 the incidence rate resumed increasing, with unusually rapid increases (on a relative basis) of 8 percent and 13 percent, respectively.

The rapid increases in disability benefit applications and awards during 1990-91 are thought to be attributable, in part, to the rise in unemployment associated with the recent slowdown in the economy (although the evidence is somewhat inconclusive). Other explanatory factors may include changes to the conditions governing receipt of disability benefits, as introduced through recent legislation, regulations, and court decisions, and increased awareness of the DI program by the public. It is also possible that disability awards have been processed faster than denial decisions, to minimize the effects of the extremely heavy workloads imposed by the large increase in the number of applications for disability benefits.

Although an increasing trend in disability incidence rates has been projected in past annual reports, the actual increases since 1982 have frequently been larger than expected. In particular, the experience in 1990 and 1991 exceeded the assumptions in prior annual reports by a wide margin. Due to the extreme 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 will be necessarily uncertain. In this report, with the exception of alternative I, disability incidence rates are assumed to increase gradually throughout

the short-range period but are not assumed to return to the highest levels experienced during the 1970s. Under alternative I, incidence rates are assumed to decline slightly from the level in 1991.

The proportion of DI beneficiaries whose benefits terminate in a given year has also fluctuated significantly in the past. Over the last 20 years, the rates of benefit termination due to death or conversion to retirement benefits at attainment of normal retirement age have declined very gradually. This trend is attributable, in part, to the lower average age of new beneficiaries. The termination rate due to recovery has been much more volatile. Currently, the proportion of disabled beneficiaries whose benefits cease because of their recovery from disability is very low in comparison to past levels.

In this report, termination rates due to attainment of normal retirement age are estimated to continue their downward trend through about 2000; terminations due to death or recovery are assumed to increase somewhat from their current level. The aggregate termination rates projected under alternatives I and II are slightly higher than the most recent actual value for the first few years, decline gradually thereafter, and are projected to level off by the year 2001. Under alternative III, termination rates are projected to continue declining gradually during 1992-99, before leveling off at the end of the short- range projection period. As will be described later in this section, these termination rate assumptions represent a substantial downward adjustment from the assumptions used in the 1991 and prior annual reports.

TABLE II.F.2.—ESTIMATED OPERATIONS OF THE DI TRUST FUND BY ALTERNATIVE, CALENDAR YEARS 1991-2001

[Amounts in billions]

Calendar year	Income	Disburse-ments	Net increase in fund	Fund at end of year	Trust fund	
					Amount[1]	Ratio[2]
1991[3]	$30.4	$28.6	$1.8	$12.9	$11.1	39
Alternative I:						
1992	31.3	30.8	.5	13.4	12.9	42
1993	33.7	32.4	1.3	14.7	13.4	41
1994	36.1	34.3	1.8	16.5	14.7	43
1995	38.4	36.4	2.0	18.5	16.5	45
1996	41.1	38.8	2.3	20.8	18.5	48
1997	43.8	41.3	2.5	23.3	20.8	50
1998	46.6	44.2	2.4	25.7	23.3	53
1999	49.5	47.2	2.3	28.0	25.7	54
2000	61.6	50.6	11.0	39.0	28.0	55
2001	66.4	54.2	12.3	51.2	39.0	72
Alternative II:						
1992	31.1	31.4	–.3	12.6	12.9	41
1993	33.1	33.8	–.8	11.8	12.6	37
1994	35.0	36.6	–1.6	10.2	11.8	32
1995	36.8	39.7	–2.9	7.3	10.2	26
1996	38.8	43.3	–4.4	2.9	7.3	17
1997[4]	40.9	47.1	–6.3	–3.4	2.9	6
1998[4]	43.0	51.4	–8.4	–11.8	([5])	([5])
1999[4]	45.1	56.0	–10.9	–22.8	([5])	([5])
2000[4]	55.9	61.0	–5.0	–27.8	([5])	([5])
2001[4]	59.8	66.3	–6.5	–34.3	([5])	([5])
Alternative III:						
1992	30.8	31.9	–1.1	11.8	12.9	40
1993	32.8	35.2	–2.4	9.5	11.8	34
1994	35.1	39.4	–4.3	5.2	9.5	24
1995[4]	37.0	44.5	–7.5	–2.3	5.2	12
1996[4]	37.8	50.0	–12.2	–14.5	([5])	([5])
1997[4]	39.5	55.6	–16.1	–30.6	([5])	([5])
1998[4]	41.1	62.1	–21.0	–51.6	([5])	([5])
1999[4]	42.4	69.1	–26.7	–78.3	([5])	([5])
2000[4]	52.4	76.7	–24.4	–102.7	([5])	([5])
2001[4]	55.0	84.8	–29.8	–132.5	([5])	([5])

[1]Represents assets at beginning of year.

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

[3]Figures for 1991 represent actual experience.

[4]Under alternative II, the DI Trust Fund would be depleted in 1997, when assets would become insufficient to pay benefits on time. Under alternative III, depletion would occur in 1995. Thus, figures shown under each alternative for year of depletion and later are theoretical. See text for details.

[5]Fund depleted.

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

The continuing spread of Acquired Immunodeficiency Syndrome (AIDS) has contributed to the recent increases in DI awards.[1] Due to

[1] Although the number of disability benefit awards is higher as a result of AIDS, this effect has been fully reflected in the projections shown in the last several annual reports. Thus, the greater number of awards due to AIDS does not account for the unexpectedly large increases in awards experienced in 1990 and 1991.

the extremely high mortality rates of affected individuals, the total number of disabled workers currently receiving benefits has not increased greatly as a result of AIDS. Although many aspects of AIDS are well understood, there remains considerable uncertainty regarding future medical advances and future incidence of the disease. To reflect this uncertainty, the projected numbers of benefit awards to AIDS patients (and their projected longevity) are varied by alternative. Under the intermediate set of assumptions, benefit awards to persons with AIDS are projected to continue to increase through 1998, before beginning to decline. Under alternative I the number of new awards begins to decline in the near future, while the number projected under alternative III increases at a rapid rate throughout the short-range period.

At the beginning of calendar year 1991, the assets of the DI Trust Fund represented 39 percent of annual expenditures. During 1991, DI income exceeded DI expenditures by $1.8 billion, with the result that the trust fund ratio for the beginning of 1992 increased slightly, to about 41 percent. Under the intermediate assumptions, income is estimated to fall short of expenditures in each year of the short-range projection period, thereby requiring the redemption of Treasury securities held by the trust fund to cover the shortfalls. Consequently, the assets of the DI Trust Fund are estimated to decline steadily. By the beginning of 1997, assets would represent only 6 percent of annual expenditures and would be barely sufficient to meet the benefit payments due in the first month.[1] Shortly thereafter, the low level of assets would trigger advance tax transfers under section 201(a) of the Social Security Act. The availability of each month's tax income in advance, at the beginning of the month, would postpone the depletion of the trust fund for several more months. Before the end of 1997, however, assets (including advance tax transfers) would become insufficient to meet benefit payments when due without corrective legislation.

Under the more favorable economic and demographic conditions assumed in alternative I, income to the DI Trust Fund would exceed expenditures through the year 2001, although the margin would be narrow prior to 2000.[2] Based on these assumptions, the DI trust fund

[1] As noted previously in this subsection, assets of 8 to 9 percent of annual expenditures are generally required to meet the benefit payments falling due at the beginning of a given month. This requirement varies somewhat, however, depending on the specific income, expenditures, and calendar for a particular month, and can be somewhat lower than the usual minimum range. In the case of the DI Trust Fund at the beginning of 1997, the projected level of 6 percent of annual expenditures, together with income received in the first few days of the month, would be just sufficient to cover the beginning-of-month benefits.

[2] As noted in section II.B, the tax rate allocated to the DI Trust Fund is scheduled under present law to increase from 0.60 percent for employees and employers, each, to 0.71 percent starting in the year 2000.

ratio would increase slowly during 1992-99, reaching 55 percent by the beginning of 2000, and would increase somewhat more rapidly after 1999.

Under the less favorable conditions assumed for alternative III, DI assets would decline rapidly in the absence of corrective legislation and would become insufficient to pay benefits when due starting in 1995.

Because DI assets fail to reach the level of 1 year's expenditures under the alternative II assumptions and would be insufficient to meet benefit payments when due in 1997 and later, the DI Trust Fund does not satisfy the Trustees' short-range test of financial adequacy. Accordingly, in the opinion of the Trustees, the financial position of the DI program should be strengthened.

c. Combined OASI and DI Trust Fund Operations

The estimated operations and status of the OASI and DI Trust Funds, combined, during calendar years 1992-2001 on the basis of the three alternatives, are shown in table II.F.3, together with figures on actual experience in 1991. These amounts are generally the sums of the corresponding figures shown in tables II.F.1 and II.F.2. An exception is made for 1998 and later under alternative II, and for 1996 and later under alternative III, due to the depletion of the DI Trust Fund. For these years, the trust fund amount shown for OASI and DI combined excludes the DI advance tax transfers that would be reinstated under present law. This adjustment is made to facilitate analysis of how the program would operate if the two trust funds were combined into one, or if tax rates were reallocated between the funds.

TABLE II.F.3.—ESTIMATED OPERATIONS OF THE OASI AND DI TRUST FUNDS, COMBINED, BY ALTERNATIVE, CALENDAR YEARS 1991-2001

[Amounts in billions]

Calendar year	Income	Disburse-ments	Net increase in funds	Funds at end of year	Trust fund	
					Amount[1]	Ratio[2]
1991[3]	$329.7	$274.2	$55.5	$280.7	$225.3	82
Alternative I:						
1992	340.9	290.5	50.4	331.1	280.7	97
1993	369.0	304.1	64.8	396.0	331.1	109
1994	396.6	318.4	78.2	474.2	396.0	124
1995	423.6	333.3	90.3	564.5	474.2	142
1996	456.3	348.7	107.6	672.1	564.5	162

ratio would increase slowly during 1992-99, reaching 55 percent by the beginning of 2000, and would increase somewhat more rapidly after 1999.

Under the less favorable conditions assumed for alternative III, DI assets would decline rapidly in the absence of corrective legislation and would become insufficient to pay benefits when due starting in 1995.

Because DI assets fail to reach the level of 1 year's expenditures under the alternative II assumptions and would be insufficient to meet benefit payments when due in 1997 and later, the DI Trust Fund does not satisfy the Trustees' short-range test of financial adequacy. Accordingly, in the opinion of the Trustees, the financial position of the DI program should be strengthened.

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					Amount[1]	Ratio[2]
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Alternative I:						
1992	340.9	290.5	50.4	331.1	280.7	97
1993	369.0	304.1	64.8	396.0	331.1	109
1994	396.6	318.4	78.2	474.2	396.0	124
1995	423.6	333.3	90.3	564.5	474.2	142
1996	456.3	348.7	107.6	672.1	564.5	162

TABLE II.F.3.—ESTIMATED OPERATIONS OF THE OASI AND DI TRUST FUNDS, COMBINED, BY ALTERNATIVE, CALENDAR YEARS 1991-2001 (Cont.)

[Amounts in billions]

Calendar year	Income	Disburse-ments	Net increase in funds	Funds at end of year	Trust fund	
					Amount[1]	Ratio[2]
Alternative I: (Cont.)						
1997	$489.1	$364.7	$124.4	$796.5	$672.1	184
1998	524.7	381.7	143.0	939.6	796.5	209
1999	562.4	399.9	162.5	1,102.1	939.6	235
2000	602.7	419.3	183.5	1,285.6	1,102.1	263
2001	646.1	440.0	206.0	1,491.6	1,285.6	292
Alternative II:						
1992	338.4	291.4	47.0	327.8	280.7	96
1993	363.0	307.2	55.8	383.6	327.8	107
1994	387.3	324.4	62.9	446.5	383.6	118
1995	412.0	342.6	69.4	515.9	446.5	130
1996	440.8	363.0	77.8	593.7	515.9	142
1997[4]	470.3	384.4	85.9	679.6	593.7	154
1998[4]	502.6	407.1	95.5	775.1	[5]679.6	[5]167
1999[4]	537.2	431.4	105.8	880.9	[5]775.1	[5]180
2000[4]	574.4	457.3	117.1	998.0	[5]880.9	[5]193
2001[4]	614.0	484.9	129.1	1,127.1	[5]998.0	[5]206
Alternative III:						
1992	336.2	292.2	44.0	324.8	280.7	96
1993	361.9	311.3	50.6	375.4	324.8	104
1994	392.3	335.7	56.6	431.9	375.4	112
1995[4]	422.3	365.5	56.8	488.8	431.9	118
1996[4]	442.0	395.5	46.6	535.3	[5]488.8	[5]124
1997[4]	473.9	422.7	51.1	586.5	[5]535.3	[5]127
1998[4]	506.7	452.9	53.8	640.2	[5]586.5	[5]129
1999[4]	539.8	485.3	54.4	694.7	[5]640.2	[5]132
2000[4]	575.1	520.2	54.9	749.6	[5]694.7	[5]134
2001[4]	612.2	557.4	54.8	804.4	[5]749.6	[5]134

[1]Represents assets at beginning of year.

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

[3]Figures for 1991 represent actual experience.

[4]Under alternative II, the DI Trust Fund would be depleted in 1997, when assets would become insufficient to pay benefits on time. Under alternative III, depletion would occur in 1995. Thus, figures shown for the combined trust funds under each alternative for the year of depletion and later are theoretical. See text for details.

[5]Trust fund amounts and ratios for 1998 and later under alternative II, and 1996 and later under alternative III, do not reflect the advance tax transfers to the DI Trust Fund that would be made under present law. See text for details.

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

At the beginning of 1991, the trust fund ratio for the OASI and DI Trust Funds combined was 82 percent, as shown in table II.F.3. During 1991, total income to the two trust funds was $55.5 billion higher than total expenditures, resulting in combined OASDI assets at the beginning of 1992 which represented about 96 percent of estimated combined expenditures for the year. Based on alternative II, the trust fund ratio for the combined funds is projected to increase substantially, more than doubling by 2001. The ratio would grow at an even faster rate under the

more optimistic conditions assumed in alternative I, reaching 292 percent at the beginning of the year 2001. Under the alternative III assumptions, assets would grow much more slowly, but would still total 134 percent at the beginning of 2001.

Under the alternative II assumptions, the total assets of the OASI and DI Trust Funds, would exceed 100 percent of annual OASDI expenditures within the first year, and would remain above that level through the remainder of the short-range projection period. Therefore, the combined trust funds meet the requirements of the short-range test of financial adequacy. Under the less favorable conditions assumed in alternative III, the fund ratio for OASI and DI combined would still increase to more than 100 percent within the first year, and would remain above that level through 2001. Thus, even under these conditions, the combined funds would satisfy the short-range test of financial adequacy.

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 1992-2001 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.F.1 presents the estimated total assets of the OASI and DI Trust Funds at the end of each year 1992-2001, based on the three sets of assumptions (together with actual assets at the end of each year 1982-91). Figure II.F.2 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 1992, and estimates for 1992-2001 under the three alternatives, are shown in table II.F.4 for OASI, DI, and both funds combined. In evaluating the ratios shown in figure II.F.2 and table II.F.4, it should be recalled that a minimum of roughly 8-9 percent is generally needed to meet monthly cash-flow requirements. The shaded area in figure II.F.2 depicts this requirement.

FIGURE II.F.1.—ESTIMATED ASSETS AT END OF YEAR, FOR OASI AND DI TRUST FUNDS COMBINED, CALENDAR YEARS 1982-2001

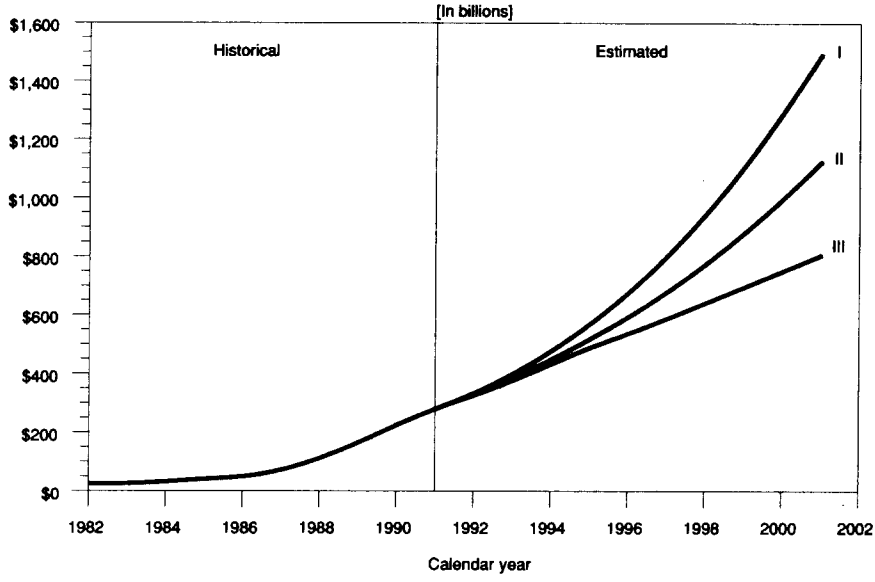

FIGURE II.F.2.—ESTIMATED TRUST FUND RATIOS, FOR OASI AND DI TRUST FUNDS COMBINED, CALENDAR YEARS 1982-2001

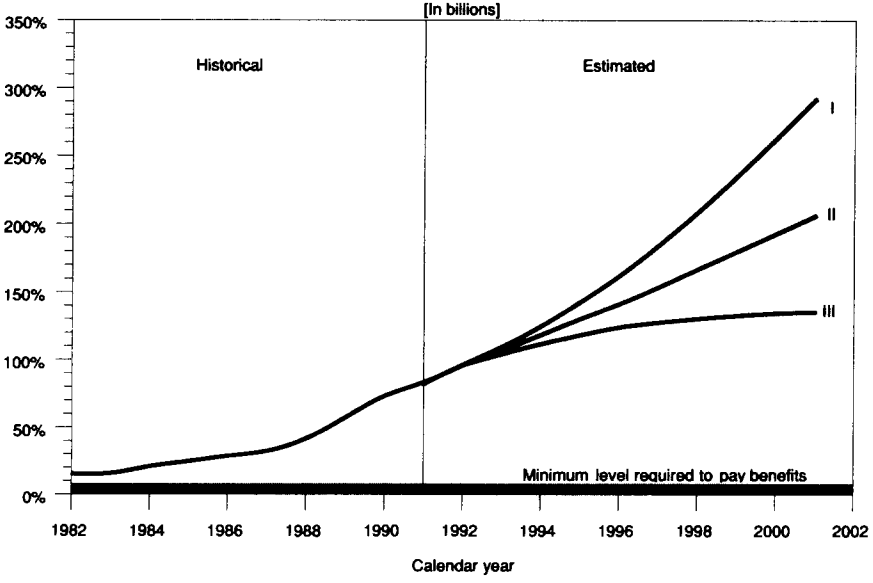

TABLE II.F.4.—TRUST FUND RATIOS[1] BY TRUST FUND, SELECTED CALENDAR YEARS 1950-91, AND ESTIMATED FUTURE RATIOS BY ALTERNATIVE, CALENDAR YEARS 1992-2001

[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
1986	28	38	29
1987	30	44	31
1988	41	38	41
1989	59	38	57
1990	78	40	75
1991	87	39	82
Alternative I:			
1992	103	42	97
1993	117	41	109
1994	134	43	124
1995	154	45	142
1996	176	48	162
1997	201	50	184
1998	229	53	209
1999	259	54	235
2000	291	55	263
2001	323	72	292
Alternative II:			
1992	103	41	96
1993	115	37	107
1994	129	32	118
1995	144	26	130
1996	159	17	142
1997[2]	175	6	154
1998[2]	192	[3]	[4]167
1999[2]	210	[3]	[4]180
2000[2]	228	[3]	[4]193
2001[2]	245	[3]	[4]206
Alternative III:			
1992	103	40	96
1993	113	34	104
1994	123	24	112
1995[2]	133	12	118
1996[2]	142	[3]	[4]124
1997[2]	150	[3]	[4]127
1998[2]	158	[3]	[4]129
1999[2]	166	[3]	[4]132
2000[2]	174	[3]	[4]134
2001[2]	180	[3]	[4]134

[1]Represents assets at beginning of year as a percentage of disbursements during the year. For 1984-90, assets at beginning of year for each trust fund and the combined funds include the respective OASI and DI advance tax transfers for January.

[2]Figures for DI, and for OASI and DI combined, are theoretical because of the projected depletion of the DI Trust Fund.

[3]Fund depleted.

[4]Does not reflect the advance tax transfers to the DI Trust Fund that would be made under present law. See text for details.

The estimated operations of the OASI Trust Fund shown in this report under alternatives I and II are somewhat less favorable than the corresponding estimates in the 1991 Annual Report. This change is primarily attributable to the continuing weakness in the economy during 1991, with higher unemployment and slower wage growth than had been anticipated. These effects were partly offset by a lower level of inflation. Overall, however, estimated tax income in 1992 and later is substantially lower than the estimates in the 1991 Annual Report, while estimated OASI benefit payments are only slightly lower. Despite this less favorable outlook, OASI assets would still increase rapidly during 1992-2001 under each of the alternative sets of assumptions, as noted above. The estimates for the OASI Trust Fund shown in this report based on alternative III are somewhat more favorable than those shown in the 1991 report, since actual conditions in 1991 were not as adverse as assumed under the pessimistic assumptions used in that report.

For the DI Trust Fund during 1992-2001, the estimated operations in this report under all three alternatives are substantially less favorable than the corresponding estimates from the 1991 report. In addition to the economic factors cited above, the DI estimates are adversely affected by a much more rapid increase in the number of new disability awards to insured workers in 1991 than was anticipated in last year's report, together with a further decline in the rate at which disability benefits terminate due to recovery, death, or attainment of normal retirement age. In addition, these developments have prompted revisions in the assumed rates of disability incidence and termination for future years.

As noted previously, the disability incidence rate in 1991 proved to be substantially greater than had been assumed in the 1991 Annual Report. In particular, the actual incidence rate rose by 13 percent (on a relative basis), compared to assumed increases of 2 percent under alternative II and 6 percent under alternative III. In addition to the direct financial effect of the greater number of disability awards in 1991 (542,000 versus the prior estimated range of 466,000 to 512,000), the rapid growth in incidence necessitated a revision of the incidence rates assumed for future years. The assumed rates for the 1992 Annual Report are initially higher than the corresponding rates from the 1991 report by about the same actual-to-expected differential experienced in 1991; in later years, this difference in assumptions diminishes somewhat. Thus, a significant portion of the higher cost estimated for the DI program in the 1992 Annual Report is attributable to the actual incidence experience in 1991 together with the associated revision in assumed future incidence rates.

The decline in the disability termination rate experienced in 1991 was not substantial, but it contrasted sharply with the termination rates assumed for 1991 and later in the 1991 Annual Report. Specifically, the prior report had assumed that termination rates would increase from the relatively low levels of 1984-90, to levels comparable to the average experienced over the prior decade. The continuing decline in termination rates prompted a special study to determine the underlying causes. In addition, the methodology used to estimate the future number of disability beneficiaries was modified extensively to allow the termination rate to be projected separately by reason for termination.

The results of the study indicated that termination rates due to death and attainment of normal retirement age have followed a gradually decreasing trend in recent years, in part because of the lower average age of new beneficiaries. In addition, benefit terminations as a result of recovery from disability have occurred at very low rates over the last 6 years. The improved estimation methodology enables precise modeling of the terminations due to attainment of normal retirement age. It is clear that this component of the overall termination rate will continue to decrease gradually for approximately another 10 years before leveling off. In addition, because terminations due to attainment of normal retirement age represent more than half of all terminations, it is clear that the overall termination rate is very likely to continue decreasing even if terminations due to other factors increase somewhat to more normal levels (by historical standards).

As noted previously, the termination rate assumptions for this annual report were revised significantly to incorporate a continued decline in terminations due to attainment of normal retirement age and a small increase, relative to 1991, in the termination rates due to death or recovery. (The assumed terminations due to death or recovery, however, are still lower than were implicitly assumed in the 1991 Annual Report.) Thus, the overall termination rates assumed in the 1992 Annual Report are considerably lower—and more realistic—than those assumed in prior reports. Consequently, the actual termination experience in 1991 together with the changes in assumed future termination rates result in a substantial increase in the projected number of disabled worker beneficiaries, as compared to the projections shown in prior annual reports.

It should be noted that the projected exhaustion of the DI Trust Fund is not attributable solely to the large revision in assumed disability termination rates. If the assumptions had been updated only to reflect the actual

1991 experience, and not the improved recognition of the underlying trends, then exhaustion of the DI Trust Fund within the short-range projection period would still be projected (although it would occur approximately 1 year later). The substantial deterioration in the financial outlook for the DI Trust Fund, compared to the projections shown in the 1991 report, is due to the combined effect of the weaker economy, the 1991 disability incidence experience and associated change in assumptions, and the 1991 termination experience together with revised assumptions.

The factors underlying the changes in the financial outlook for the OASI and DI Trust Funds, from last year's annual report to this year's, are analyzed in table II.F.5. In the 1991 Annual Report, the trust fund ratio for OASI was estimated to reach 252 percent at the beginning of the year 2000—the tenth projection year from that report. The corresponding ratio shown in this report for the tenth projection year (2001) is 245 percent. As indicated in table II.F.5, if there had been no changes to the projections, then the estimated ratio at the beginning of 2001 would have been 19 percentage points higher than at the beginning of 2000. There were changes, however, to reflect the latest actual data as well as adjustments to the assumptions for future years. The changes in the demographic factors were favorable, resulting in an aggregate improvement by the beginning of the year 2001 of 6 percentage points in the OASI trust fund ratio. The net effect of actual economic conditions in 1991, and adjustments to the assumptions for 1992 and later, was to reduce the trust fund ratio by 32 percentage points. Together, these factors explain the overall change in the ratio for the tenth projection year.

For the DI Trust Fund, the substantial deterioration in the projected trust fund ratio is primarily attributable to the combined effects of the less favorable economic experience and the changes in the disability incidence and termination assumptions as described previously. The combined effects of the changes for OASI and DI are shown in the final column of table II.F.5.

TABLE II.F.5.—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 2000	252	57	229
Change in trust fund ratio due to changes in:			
Valuation period	19	10	18
Demographic assumptions	6	(1)	5
Economic assumptions	–32	–24	–31
Disability assumptions	(1)	–85	–15
Total change in trust fund ratio	–7	–99	–23
Trust fund ratio shown in this report for calendar year 2001 [2]	245	[3] –42	[3] 206

[1] Between –0.5 and 0.5 percent.

[2] Figures for DI, and for OASI and DI combined, are theoretical because of the depletion of the DI Trust Fund in 1997.

[3] Does not reflect advance tax transfers to the DI Trust Fund in 1997. See text for details.

Table II.F.6 shows that expenditures in calendar year 1991 from both trust funds, combined, increased to 11.27 percent of taxable payroll for the year—1.38 percentage points less than the income rate of 12.65 percent. During much of the 1980s, the cost rate declined steadily—from 11.93 percent in 1982 to 10.54 percent in 1989. This reduction was primarily attributable to the combined effect of (1) favorable economic experience, which resulted in faster growth in covered earnings than in benefit payments, (2) a declining proportion of beneficiaries with benefits determined under the computation method used prior to the 1977 amendments,[1] and (3) rapid growth in the work force (as the last of the post-World War II "baby-boom" generation reached working age). Other factors contributing to the recent decline in cost rates include declines in the number of certain types of beneficiaries (such as children of retired, disabled, or deceased workers) as a result of both demographic causes and various past amendments, and the provisions of the 1983 amendments that reduced benefits and expanded coverage of employment.

Several of these factors appear to be in the process of changing somewhat, compared to their trend since 1982. The cost rate increased slightly in 1990 and by a significant amount in 1991, as a result of increases in aggregate benefit payments that exceeded the corresponding

[1] As described in various other references, the benefit computation procedure in effect prior to the 1977 amendments had the unintended effect of increasing benefit levels for new beneficiaries at a faster rate than the increase in average wages.

increases in taxable payroll. The higher-than-trend increases in benefit payments were attributable to the 4.7-percent benefit increase for December 1989 and the 5.4-percent increase for December 1990, and the change to the "$1-for-$3" benefit offset rate for beneficiaries at ages 65 through 69 under the retirement test (effective in January 1990). Simultaneously, a lower-than-trend increase in taxable payroll occurred due to slower growth in covered workers and wages together with a decline in average net earnings from self-employment.

Based on alternative I, the OASDI cost rate is estimated to decline slowly during the short-range projection period, reaching 9.86 percent in 2001. Based on alternative II, the cost rate would remain in the neighborhood of 11.2-11.5 percent throughout the 10-year projection period. Under alternative III, it would increase gradually, to 12.67 percent in 2001. These percentages are shown in table II.F.6 for both trust funds, separately and combined. Table II.F.6 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 given year is referred to as the "balance" for that year.

TABLE II.F.6.—COMPARISON OF INCOME RATES AND COST RATES, BY TRUST FUND, SELECTED CALENDAR YEARS 1950-91, AND ESTIMATED RATES BY ALTERNATIVE, CALENDAR YEARS 1992-2001

[As a percentage of taxable payroll]

Calendar year	OASI Trust Fund			DI Trust Fund			OASI and DI, combined		
	Income rate	Cost rate	Balance	Income rate	Cost rate	Balance	Income rate	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	7.32	–.02	1.10	.81	.29	8.40	8.12	.28
1975.....	8.75	9.29	–.54	1.15	1.36	–.21	9.90	10.65	–.75
1980.....	9.04	9.36	–.32	1.12	1.38	–.26	10.16	10.74	–.58
1985.....	[1]10.71	9.95	.76	[1]1.07	1.13	–.06	[1]11.79	11.09	.70
1986[2] ...	10.59	9.83	.76	1.01	1.11	–.10	11.60	10.94	.66
1987[2] ...	10.57	9.60	.97	1.00	1.10	–.10	11.56	10.69	.87
1988[2] ...	11.22	9.59	1.63	1.06	1.08	–.02	12.29	10.67	1.62
1989[2] ...	11.17	9.48	1.69	1.06	1.06	([3])	12.23	10.54	1.69
1990[2] ...	[1]11.32	9.61	1.70	[1]1.17	1.08	.09	[1]12.49	10.69	1.79
1991[2] ...	11.44	10.09	1.35	1.21	1.17	.03	12.65	11.27	1.38
Alternative I:									
1992.....	11.43	10.17	1.26	1.21	1.21	([3])	12.64	11.38	1.26
1993.....	11.43	10.01	1.42	1.21	1.20	.01	12.64	11.21	1.43
1994.....	11.43	9.81	1.61	1.21	1.19	.02	12.63	11.00	1.64
1995.....	[1]11.39	9.61	1.78	[1]1.21	1.18	.03	[1]12.59	10.79	1.80
1996.....	11.42	9.41	2.01	1.21	1.18	.03	12.63	10.59	2.04
1997.....	11.41	9.22	2.20	1.21	1.18	.03	12.62	10.40	2.23
1998.....	11.41	9.04	2.37	1.21	1.18	.03	12.62	10.23	2.40
1999.....	11.41	8.89	2.52	1.21	1.19	.02	12.62	10.08	2.54
2000.....	[1]11.19	8.76	2.43	[1]1.43	1.20	.23	[1]12.62	9.96	2.66
2001.....	11.19	8.65	2.54	1.43	1.21	.22	12.62	9.86	2.75
Alternative II:									
1992.....	11.43	10.26	1.17	1.21	1.24	–.03	12.64	11.50	1.14
1993.....	11.43	10.25	1.19	1.21	1.27	–.06	12.64	11.51	1.13
1994.....	11.43	10.19	1.25	1.21	1.30	–.09	12.64	11.48	1.16
1995.....	[1]11.42	10.10	1.33	[1]1.21	1.32	–.11	[1]12.63	11.42	1.22
1996.....	11.43	10.03	1.40	1.21	1.36	–.15	12.64	11.39	1.26
1997.....	11.43	9.96	1.47	1.21	1.39	–.18	12.64	11.35	1.29
1998.....	11.43	9.88	1.55	1.21	1.43	–.22	12.64	11.31	1.33
1999.....	11.43	9.81	1.62	1.21	1.46	–.25	12.64	11.27	1.37
2000.....	[1]11.21	9.74	1.47	[1]1.43	1.50	–.07	[1]12.64	11.24	1.40
2001.....	11.21	9.69	1.52	1.43	1.53	–.10	12.64	11.22	1.42
Alternative III:									
1992.....	11.43	10.35	1.08	1.21	1.27	–.06	12.64	11.62	1.02
1993.....	11.44	10.38	1.05	1.21	1.32	–.11	12.65	11.70	.94
1994.....	11.44	10.36	1.08	1.21	1.38	–.17	12.65	11.73	.92
1995.....	[1]11.47	10.51	.96	[1]1.21	1.46	–.24	[1]12.69	11.97	.72
1996.....	11.45	10.86	.59	1.21	1.57	–.36	12.67	12.44	.23
1997.....	11.45	10.75	.70	1.21	1.63	–.42	12.66	12.38	.28
1998.....	11.45	10.74	.71	1.21	1.71	–.49	12.67	12.44	.22
1999.....	11.45	10.72	.73	1.21	1.78	–.57	12.67	12.51	.16
2000.....	[1]11.24	10.73	.51	[1]1.44	1.86	–.42	[1]12.67	12.58	.09
2001.....	11.24	10.74	.49	1.44	1.93	–.49	12.67	12.67	([3])

[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.

[2]Figures shown are preliminary.

[3]Between –0.005 and 0.005 percent of taxable payroll.

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

Estimates of the operations of the trust funds during calendar years 1992-2001 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, however, 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 each fiscal year 1992-96 are shown in the remaining tables of this section for the intermediate set of assumptions (alternative II) only. Similar detailed estimates are also shown for 5 additional fiscal years (1997-2001) and on a calendar-year basis for 1992-2001.

Data on the actual operations of the OASI Trust Fund for selected years during 1940-91, and estimates of the expected operations of the trust fund during 1992-2001 on the basis of the intermediate set of assumptions, are shown in tables II.F.7 and II.F.8 on a fiscal- and calendar-year basis, respectively. Corresponding figures on the operations of the DI Trust Fund are shown in tables II.F.9 and II.F.10. Operations of both trust funds combined are shown in tables II.F.11 and II.F.12. (Data relating to the operations of the two trust funds for years not shown in tables II.F.7-II.F.12 are contained in past annual reports.) The figures shown in tables II.F.8, II.F.10, and II.F.12 for 1987 and 1988 are adjusted to reflect 12 months of benefit payments in each year. The amounts estimated for 1992, 1993, 1998, and 1999 are similarly adjusted.

TABLE II.F.7.—OPERATIONS OF THE OASI TRUST FUND DURING SELECTED FISCAL YEARS 1940-91 AND ESTIMATED FUTURE OPERATIONS DURING FISCAL YEARS 1992-2001, ON THE BASIS OF THE INTERMEDIATE SET OF ASSUMPTIONS

[In millions]

Fiscal year[1]	Income					Disbursements					Net increase in fund	Fund at end of period
	Total	Net contributions[2]	Income from taxation of benefits	Payments from the general fund of the Treasury[3]	Net interest[4]	Total	Benefit payments[5]	Administrative expenses	Transfers to Railroad Retirement program	Interfund borrowing transfers[6]		
Historical data:												
1940....	$592	$550	—	—	$42	$28	$16	$12	—	—	$564	$1,745
1945....	1,434	1,310	—	—	124	267	240	27	—	—	1,167	6,613
1950....	2,367	2,106	—	$4	257	784	727	57	—	—	1,583	12,893
1955....	5,525	5,087	—	—	438	4,427	4,333	103	–$10	—	1,098	21,141
1960....	10,360	9,843	—	—	517	11,073	10,270	202	600	—	–713	20,829
1965....	16,443	15,857	—	—	586	15,962	15,226	300	436	—	482	20,180
1970....	31,746	29,955	—	442	1,350	27,321	26,268	474	579	—	4,425	32,616
1975....	58,757	56,017	—	447	2,292	56,676	54,847	848	982	—	2,081	39,948
1980....	100,051	97,608	—	557	1,886	103,228	100,626	1,160	1,442	—	–3,177	24,566
1985....	179,881	175,305	$3,151	105	1,321	169,210	165,310	1,589	2,310	–$4,364	6,308	33,877
1986....	195,331	187,007	3,329	2,293	2,701	178,534	174,340	1,609	2,585	–13,155	3,642	37,519
1987....	206,846	199,554	3,323	69	3,900	186,101	182,003	1,541	2,557	—	20,745	58,265
1988....	235,720	226,409	3,335	55	5,922	197,021	192,502	1,729	2,790	—	38,700	96,964
1989....	260,457	247,116	3,638	43	9,660	209,102	204,600	1,657	2,845	—	51,355	148,319
1990....	278,607	261,506	2,924	34	14,143	223,481	218,948	1,564	2,969	—	55,126	203,445
1991....	293,288	270,841	5,790	–2,089	18,746	241,316	236,195	1,746	3,375	—	51,972	255,417
Estimates:												
1992....	303,393	274,826	5,997	19	22,552	256,302	251,104	1,877	3,322	—	47,091	302,508
1993....	325,107	293,724	6,099	14	25,269	270,056	264,658	1,900	3,498	—	55,051	357,559
1994....	347,366	312,586	6,509	11	28,260	284,221	278,643	1,945	3,633	—	63,144	420,703
1995....	369,053	330,302	6,970	8	31,773	299,175	293,441	2,005	3,729	—	69,878	490,582
1996....	394,599	351,646	7,367	–347	35,934	315,553	309,621	2,070	3,863	—	79,045	569,627
1997....	421,825	373,191	7,743	5	40,886	332,928	326,765	2,137	4,026	—	88,896	658,523
1998....	451,184	396,538	8,221	4	46,420	351,118	344,778	2,206	4,134	—	100,065	758,588
1999....	483,062	421,603	8,755	3	52,701	370,462	363,857	2,278	4,327	—	112,600	871,189
2000....	510,497	441,498	9,297	2	59,700	391,044	384,206	2,352	4,486	—	119,453	990,642
2001....	544,311	467,293	9,834	2	67,183	413,017	405,925	2,427	4,665	—	131,295	1,121,936

See following page for footnotes.

[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. Figures for 1983-86 reflect 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]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.

[6]Negative figures represent amounts repaid from the OASI Trust Fund to the DI and HI Trust Funds.

TABLE II.F.8.—OPERATIONS OF THE OASI TRUST FUND DURING SELECTED CALENDAR YEARS 1940-91 AND ESTIMATED FUTURE OPERATIONS DURING CALENDAR YEARS 1992-2001, ON THE BASIS OF THE INTERMEDIATE SET OF ASSUMPTIONS

[In millions]

Calendar year	Income					Disbursements						
	Total	Net contributions[1]	Income from taxation of benefits	Payments from the general fund of the Treasury[2]	Net interest[3]	Total	Benefit payments[4]	Administrative expenses	Transfers to Railroad Retirement program	Interfund borrowing transfers[5]	Net increase in fund	Fund at end of period
Historical data:												
1940....	$368	$325	—	—	$43	$62	$35	$26	—	—	$306	$2,031
1945....	1,420	1,285	—	—	134	304	274	30	—	—	1,116	7,121
1950....	2,928	2,667	—	$4	257	1,022	961	61	—	—	1,905	13,721
1955....	6,167	5,713	—	—	454	5,079	4,968	119	–$7	—	1,087	21,663
1960....	11,382	10,866	—	—	516	11,198	10,677	203	318	—	184	20,324
1965....	16,610	16,017	—	—	593	17,501	16,737	328	436	—	–890	18,235
1970....	32,220	30,256	—	449	1,515	29,848	28,798	471	579	—	2,371	32,454
1975....	59,605	56,816	—	425	2,364	60,395	58,517	896	982	—	–790	36,987
1980....	105,841	103,456	—	540	1,845	107,678	105,083	1,154	1,442	—	–1,837	22,823
1985....	184,239	176,958	$3,208	2,203	1,871	171,150	167,248	1,592	2,310	–$4,364	8,725	35,842
1986....	197,393	190,741	3,424	160	3,069	181,000	176,813	1,601	2,585	–13,155	3,239	39,081
1987....	210,736	202,735	3,257	55	4,690	187,668	183,587	1,524	2,557	—	23,068	62,149
1988....	240,770	229,775	3,384	43	7,568	200,020	195,454	1,776	2,790	—	40,750	102,899
1989....	264,653	250,195	2,439	34	11,985	212,489	207,971	1,673	2,845	—	52,164	155,063
1990....	286,653	267,530	4,848	–2,089	16,363	227,519	222,987	1,563	2,969	—	59,134	214,197
1991....	299,286	272,574	5,864	19	20,829	245,634	240,467	1,792	3,375	—	53,652	267,849
Estimates:												
1992....	307,338	277,554	5,829	14	23,941	260,000	254,787	1,891	3,322	—	47,338	315,187
1993....	329,939	296,990	6,193	11	26,746	273,333	267,923	1,912	3,498	—	56,607	371,794
1994....	352,301	315,755	6,614	8	29,924	287,773	282,180	1,961	3,633	—	64,527	436,321
1995....	375,244	334,742	7,089	–347	33,760	302,923	297,173	2,022	3,729	—	72,320	508,641
1996....	401,958	356,186	7,459	5	38,308	319,731	313,780	2,087	3,863	—	82,227	590,869
1997....	429,472	378,074	7,838	4	43,556	337,302	331,121	2,155	4,026	—	92,170	683,039
1998....	459,631	401,826	8,350	3	49,452	355,734	349,375	2,225	4,134	—	103,897	786,936
1999....	492,094	427,079	8,892	2	56,121	375,378	368,754	2,297	4,327	—	116,716	903,652
2000....	518,443	445,631	9,434	2	63,377	396,298	389,441	2,371	4,486	—	122,145	1,025,797
2001....	554,218	473,129	9,969	1	71,119	418,603	411,491	2,447	4,665	—	135,615	1,161,412

See following page for footnotes.

[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. Figures for 1983-86 reflect 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]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.

[5]Negative figures represent amounts repaid from the OASI Trust Fund to the DI and HI Trust Funds.

TABLE II.F.9.—OPERATIONS OF THE DI TRUST FUND DURING SELECTED FISCAL YEARS 1960-91 AND ESTIMATED FUTURE OPERATIONS DURING FISCAL YEARS 1992-2001, ON THE BASIS OF THE INTERMEDIATE SET OF ASSUMPTIONS

[In millions]

	Income					Disbursements						
Fiscal year[1]	Total	Net contributions[2]	Income from taxation of benefits	Payments from the general fund of the Treasury[3]	Net interest[4]	Total	Benefit payments[5]	Administrative expenses	Transfers to Railroad Retirement program	Interfund borrowing transfers[6]	Net increase in fund	Fund at end of period
Historical data:												
1960....	$1,034	$987	—	—	$47	$533	$528	$32	–$27	—	$501	$2,167
1965....	1,237	1,175	—	—	62	1,495	1,392	79	24	—	–257	2,007
1970....	4,380	4,141	—	$16	223	2,954	2,795	149	10	—	1,426	5,104
1975....	7,920	7,356	—	52	512	7,982	7,701	253	29	—	–62	8,191
1980....	17,376	16,805	—	118	453	15,320	14,998	334	–12	—	2,056	7,680
1985....	17,984	16,876	$217	—	891	19,294	18,648	603	43	$2,540	1,230	5,873
1986....	20,130	18,139	229	1,017	746	20,196	19,529	600	68	2,541	2,475	8,348
1987....	20,047	19,324	[7]–16	—	738	21,222	20,427	738	57	—	–1,175	7,173
1988....	22,369	21,736	56	—	577	22,269	21,405	803	61	—	100	7,273
1989....	24,479	23,694	135	—	650	23,389	22,550	751	88	—	1,090	8,363
1990....	28,215	27,291	158	—	766	25,124	24,327	717	80	—	3,091	11,455
1991....	29,322	28,953	131	–775	1,014	27,780	26,909	789	82	—	1,543	12,997
Estimates:												
1992....	30,777	29,473	228	—	1,076	30,622	29,694	847	81	—	155	13,152
1993....	32,749	31,467	252	—	1,030	33,215	32,219	900	96	—	–466	12,686
1994....	34,694	33,489	275	—	930	35,905	34,829	968	108	—	–1,212	11,475
1995....	36,454	35,390	303	—	761	38,913	37,766	1,028	119	—	–2,459	9,016
1996....	38,482	37,675	330	–22	499	42,348	41,125	1,091	132	—	–3,866	5,150
1997....	40,515	39,989	359	—	167	46,149	44,844	1,158	147	—	–5,634	–484
1998....	42,632	42,492	395	—	–254	50,320	48,929	1,229	162	—	–7,688	–8,172
1999....	44,822	45,178	435	—	–791	54,852	53,371	1,305	176	—	–10,029	–18,201
2000....	53,516	54,455	481	—	–1,420	59,724	58,148	1,386	190	—	–6,208	–24,409
2001....	59,168	60,440	532	—	–1,804	64,931	63,275	1,471	185	—	–5,763	–30,172

See following page for footnotes.

[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. Figures for 1983-86 reflect 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]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.

[6]Figures represent repayment of amounts lent by the DI Trust Fund to the OASI Trust Fund in calendar year 1982.

[7]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.F.10.—OPERATIONS OF THE DI TRUST FUND DURING SELECTED CALENDAR YEARS 1960-91 AND ESTIMATED FUTURE OPERATIONS DURING CALENDAR YEARS 1992-2001, ON THE BASIS OF THE INTERMEDIATE SET OF ASSUMPTIONS

[In millions]

Calendar year	Income					Disbursements						
	Total	Net contributions[1]	Income from taxation of benefits	Payments from the general fund of the Treasury[2]	Net interest[3]	Total	Benefit payments[4]	Administrative expenses	Transfers to Railroad Retirement program	Interfund borrowing transfers[5]	Net increase in fund	Fund at end of period
Historical data:												
1960....	$1,063	$1,010	—	—	$53	$600	$568	$36	–$5	—	$464	$2,289
1965....	1,247	1,188	—	—	59	1,687	1,573	90	24	—	–440	1,606
1970....	4,774	4,481	—	$16	277	3,259	3,085	164	10	—	1,514	5,614
1975....	8,035	7,444	—	90	502	8,790	8,505	256	29	—	–754	7,354
1980....	13,871	13,255	—	130	485	15,872	15,515	368	–12	—	–2,001	3,629
1985....	19,301	17,191	$222	1,017	870	19,478	18,827	608	43	$2,540	2,363	6,321
1986....	19,439	18,399	238	—	803	20,522	19,853	600	68	2,541	1,459	7,780
1987....	20,303	19,691	[6]–36	—	648	21,425	20,519	849	57	—	–1,122	6,658
1988....	22,699	22,039	61	—	600	22,494	21,695	737	61	—	206	6,864
1989....	24,795	23,993	95	—	707	23,753	22,911	754	88	—	1,041	7,905
1990....	28,791	28,539	144	–775	883	25,616	24,829	707	80	—	3,174	11,079
1991....	30,390	29,137	190	—	1,063	28,571	27,695	794	82	—	1,819	12,898
Estimates:												
1992....	31,069	29,765	239	—	1,065	31,371	30,403	887	81	—	–302	12,596
1993....	33,060	31,817	256	—	987	33,830	32,816	918	96	—	–770	11,826
1994....	34,966	33,829	281	—	856	36,604	35,511	984	108	—	–1,638	10,188
1995....	36,792	35,865	311	–22	638	39,696	38,532	1,045	119	—	–2,904	7,283
1996....	38,831	38,162	337	—	332	43,251	42,009	1,109	132	—	–4,420	2,863
1997....	40,875	40,514	367	—	–6	47,133	45,809	1,177	147	—	–6,258	–3,395
1998....	42,964	43,059	405	—	–500	51,410	49,998	1,250	162	—	–8,446	–11,841
1999....	45,088	45,764	446	—	–1,121	56,012	54,510	1,327	176	—	–10,924	–22,765
2000....	55,945	57,086	493	—	–1,634	60,978	59,379	1,409	190	—	–5,033	–27,798
2001....	59,751	61,196	545	—	–1,990	66,271	64,591	1,496	185	—	–6,520	–34,318

See following page for footnotes.

[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. Figures for 1983-86 reflect 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]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.

[5]Figures represent repayment of amounts lent by the DI Trust Fund to the OASI Trust Fund in calendar year 1982.

[6]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.F.11.—OPERATIONS OF THE OASI AND DI TRUST FUNDS, COMBINED, DURING SELECTED FISCAL YEARS 1960-91 AND ESTIMATED FUTURE OPERATIONS DURING FISCAL YEARS 1992-2001, ON THE BASIS OF THE INTERMEDIATE SET OF ASSUMPTIONS

[In millions]

Fiscal year[1]	Income					Disbursements						
	Total	Net contributions[2]	Income from taxation of benefits	Payments from the general fund of the Treasury[3]	Net interest[4]	Total	Benefit payments[5]	Administrative expenses	Transfers to Railroad Retirement program	Interfund borrowing transfers[6]	Net increase in fund	Fund at end of period
Historical data:												
1960....	$11,394	$10,830	—	—	$564	$11,606	$10,798	$234	$574	—	–$212	$22,996
1965....	17,681	17,032	—	—	648	17,456	16,618	379	459	—	224	22,187
1970....	36,127	34,096	—	$458	1,572	30,275	29,063	623	589	—	5,851	37,720
1975....	66,677	63,374	—	499	2,804	64,658	62,547	1,101	1,010	—	2,018	48,138
1980....	117,427	114,413	—	675	2,339	118,548	115,624	1,494	1,430	—	–1,121	32,246
1985....	197,865	192,181	$3,368	105	2,211	188,504	183,959	2,192	2,353	–$1,824	7,538	39,750
1986....	215,461	205,146	3,558	3,310	3,447	198,730	193,869	2,209	2,653	–10,613	6,117	45,867
1987....	226,893	218,878	3,307	69	4,638	207,323	202,430	2,279	2,614	—	19,570	65,437
1988....	258,090	248,145	3,390	55	6,500	219,290	213,907	2,532	2,851	—	38,800	104,237
1989....	284,936	270,811	3,772	43	10,310	232,491	227,150	2,407	2,934	—	52,445	156,682
1990....	306,822	288,797	3,081	34	14,909	248,605	243,275	2,280	3,049	—	58,217	214,900
1991....	322,611	299,794	5,921	–2,864	19,759	269,096	263,104	2,535	3,457	—	53,515	268,415
Estimates:												
1992....	334,171	304,299	6,225	19	23,628	286,925	280,798	2,724	3,403	—	47,246	315,660
1993....	357,856	325,191	6,351	14	26,299	303,271	296,877	2,800	3,594	—	54,585	370,245
1994....	382,059	346,075	6,784	11	29,190	320,127	313,472	2,913	3,741	—	61,933	432,178
1995....	405,507	365,692	7,273	8	32,534	338,088	331,207	3,033	3,848	—	67,420	499,598
1996....	433,081	389,321	7,697	–369	36,432	357,902	350,745	3,161	3,995	—	75,179	574,777
1997....	462,340	413,180	8,102	5	41,053	379,077	371,609	3,295	4,173	—	83,263	658,039
1998....	493,816	439,030	8,617	4	46,166	401,438	393,707	3,435	4,296	—	92,378	750,417
1999....	527,885	466,781	9,191	3	51,910	425,314	417,228	3,583	4,503	—	102,571	852,988
2000....	564,013	495,953	9,778	2	58,280	450,768	442,354	3,738	4,676	—	113,245	966,233
2001....	603,479	527,733	10,366	2	65,379	477,948	469,199	3,898	4,850	—	125,532	1,091,764

See following page for footnotes.

[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. Figures for 1983-86 reflect 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 of the Treasury 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]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.

[6]Negative figures represent amounts repaid from the OASI Trust Fund to the HI Trust Fund.

TABLE II.F.12.—OPERATIONS OF THE OASI AND DI TRUST FUNDS, COMBINED, DURING SELECTED CALENDAR YEARS 1960-91 AND ESTIMATED FUTURE OPERATIONS DURING CALENDAR YEARS 1992-2001, ON THE BASIS OF THE INTERMEDIATE SET OF ASSUMPTIONS

[In millions]

Calendar year	Income					Disbursements						
	Total	Net contributions[1]	Income from taxation of benefits	Payments from the general fund of the Treasury[2]	Net interest[3]	Total	Benefit payments[4]	Administrative expenses	Transfers to Railroad Retirement program	Interfund borrowing transfers[5]	Net increase in fund	Fund at end of period
Historical data:												
1960....	$12,445	$11,876	—	—	$569	$11,798	$11,245	$240	$314	—	$647	$22,613
1965....	17,857	17,205	—	—	651	19,187	18,311	418	459	—	–1,331	19,841
1970....	36,993	34,737	—	$465	1,791	33,108	31,884	635	589	—	3,886	38,068
1975....	67,640	64,259	—	515	2,866	69,184	67,022	1,152	1,010	—	–1,544	44,342
1980....	119,712	116,711	—	670	2,330	123,550	120,598	1,522	1,430	—	–3,838	26,453
1985....	203,540	194,149	$3,430	3,220	2,741	190,628	186,075	2,200	2,353	–$1,824	11,088	42,163
1986....	216,833	209,140	3,662	160	3,871	201,522	196,667	2,202	2,653	–10,613	4,698	46,861
1987....	231,039	222,425	3,221	55	5,338	209,093	204,106	2,373	2,614	—	21,946	68,807
1988....	263,469	251,814	3,445	43	8,168	222,514	217,149	2,513	2,851	—	40,955	109,762
1989....	289,448	274,189	2,534	34	12,692	236,242	230,882	2,427	2,934	—	53,206	162,968
1990....	315,443	296,070	4,992	–2,864	17,245	253,135	247,816	2,270	3,049	—	62,309	225,277
1991....	329,676	301,711	6,054	19	21,892	274,205	268,162	2,587	3,457	—	55,471	280,747
Estimates:												
1992....	338,407	307,319	6,068	14	25,005	291,371	285,190	2,778	3,403	—	47,036	327,783
1993....	362,999	328,807	6,449	11	27,732	307,163	300,739	2,830	3,594	—	55,836	383,619
1994....	387,267	349,584	6,895	8	30,779	324,377	317,691	2,945	3,741	—	62,889	446,509
1995....	412,036	370,607	7,400	–369	34,399	342,620	335,705	3,067	3,848	—	69,416	515,925
1996....	440,789	394,348	7,796	5	38,639	362,981	355,790	3,197	3,995	—	77,807	593,732
1997....	470,347	418,588	8,205	4	43,550	384,435	376,930	3,332	4,173	—	85,912	679,644
1998....	502,595	444,885	8,755	3	48,952	407,143	399,373	3,474	4,296	—	95,452	775,095
1999....	537,182	472,843	9,338	2	54,999	431,390	423,264	3,624	4,503	—	105,792	880,887
2000....	574,388	502,717	9,927	2	61,742	457,276	448,820	3,780	4,676	—	117,112	997,999
2001....	613,969	534,325	10,514	1	69,128	484,874	476,081	3,942	4,850	—	129,095	1,127,094

See following page for footnotes.

[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. Figures for 1983-86 reflect 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 of the Treasury 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]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.

[5]Negative figures represent amounts repaid from the OASI Trust Fund to the HI Trust Fund.

2. Long-Range Actuarial Status of the Trust Funds

Historically, the actuarial balance (described earlier in this section) has been used as the principal measure of the actuarial status of the OASDI program. Actuarial balances have traditionally been computed for the 25-year valuation period encompassing 1992-2016, the 50-year valuation period covering 1992-2041, and the entire long-range (75-year) valuation period, 1992-2066.

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, ... , 75 years in length. This series of actuarial balances provides the basis for the test of long-range close actuarial balance, described earlier in this section.

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

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

effects on the estimates of varying certain economic and demographic assumptions.

Table II.F.13 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 III.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. Costs as a percent of taxable payroll are projected to be relatively stable for the next 15 to 20 years and then to increase rather rapidly for about the next 25 years (through 2035) as the "baby-boom" generation reaches retirement age. Cost rates decline slightly for about the next 10 years as the "baby-boom" generation ages and the relatively small birth cohorts of the 1970s reach retirement age. Thereafter, cost rates rise steadily, but slowly, reflecting projected increases in life expectancy. The cost rates during the third 25-year subperiod rise to a level exceeding 18 percent of taxable payroll under the intermediate alternative II assumptions. The income rate during the third 25-year subperiod is just over 13 percent of taxable payroll under alternative II.

Projected income rates under alternatives I and III are very similar to those projected for alternative II as they are largely a reflection of the tax rates specified in the law. OASDI combined cost rates for alternatives I and III differ significantly in size from those projected for alternative II, but follow generally similar patterns. For the more optimistic alternative I, cost rates decline somewhat for about the first 15 years, and then rise, reaching the current level around 2015 and a peak of about 13.5 percent of payroll around 2030. Thereafter, cost rates decline gradually, reaching a stable ultimate level of about 12.5 percent of payroll by 2050. For the more pessimistic alternative III, cost rates rise virtually throughout the 75-year period, but at a relatively faster pace during the next 5 years due to the 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 reaches 25 percent of payroll and continues rising.

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 24 years (through 2015) and are negative thereafter. This annual deficit rises rapidly reaching 2 percent of taxable payroll before 2025 and continues rising thereafter, to a level of 5.11 percent of taxable payroll for 2070.

Under alternative I, projected OASDI actuarial balances are positive for over 30 years (through 2023), are then briefly negative (through 2040), and thereafter are positive, reaching a level of almost 0.5 percent of payroll by 2070. Under the more pessimistic alternative III, however, the OASDI actuarial balance is projected to be positive for only 10 years (through 2001) and to be negative thereafter, reaching deficits of 4 percent of payroll by 2020, 10 percent by 2050, and over 14 percent of payroll in 2070.

TABLE II.F.13.—COMPARISON OF ESTIMATED INCOME RATES AND COST RATES BY TRUST FUND AND ALTERNATIVE, CALENDAR YEARS 1992-2070

[As a percentage of taxable payroll]

Calendar year	OASI			DI			Combined		
	Income rate	Cost rate	Balance	Income rate	Cost rate	Balance	Income rate	Cost rate	Balance
Alternative I:									
1992	11.43	10.17	1.26	1.21	1.21	0.00	12.64	11.38	1.26
1993	11.43	10.01	1.42	1.21	1.20	.01	12.64	11.21	1.43
1994	11.43	9.81	1.61	1.21	1.19	.02	12.63	11.00	1.64
1995	11.39	9.61	1.78	1.21	1.18	.03	12.59	10.79	1.80
1996	11.42	9.41	2.01	1.21	1.18	.03	12.63	10.59	2.04
1997	11.41	9.22	2.20	1.21	1.18	.03	12.62	10.40	2.23
1998	11.41	9.04	2.37	1.21	1.18	.03	12.62	10.23	2.40
1999	11.41	8.89	2.52	1.21	1.19	.02	12.62	10.08	2.54
2000	11.19	8.76	2.43	1.43	1.20	.23	12.62	9.96	2.66
2001	11.19	8.65	2.54	1.43	1.21	.22	12.62	9.86	2.75
2005	11.24	8.48	2.76	1.44	1.25	.18	12.68	9.73	2.95
2010	11.32	8.68	2.64	1.44	1.37	.07	12.76	10.05	2.71
2015	11.38	9.47	1.91	1.45	1.47	–.02	12.83	10.94	1.89
2020	11.45	10.62	.82	1.45	1.51	–.06	12.90	12.14	.76
2025	11.50	11.55	–.05	1.45	1.56	–.11	12.96	13.11	–.15
2030	11.54	12.03	–.49	1.45	1.54	–.09	12.99	13.57	–.58
2035	11.54	11.97	–.43	1.45	1.50	–.04	13.00	13.47	–.47
2040	11.53	11.55	–.02	1.45	1.48	–.03	12.98	13.03	–.05
2045	11.51	11.14	.37	1.46	1.52	–.06	12.97	12.66	.31
2050	11.51	10.95	.56	1.46	1.54	–.08	12.96	12.48	.48
2055	11.51	10.94	.57	1.46	1.55	–.09	12.97	12.49	.48
2060	11.52	11.00	.51	1.46	1.53	–.07	12.97	12.53	.44
2065	11.52	10.99	.53	1.46	1.52	–.07	12.97	12.51	.46
2070	11.52	10.95	.56	1.46	1.53	–.07	12.97	12.48	.49
Alternative II:									
1992	11.43	10.26	1.17	1.21	1.24	–.03	12.64	11.50	1.14
1993	11.43	10.25	1.19	1.21	1.27	–.06	12.64	11.51	1.13
1994	11.43	10.19	1.25	1.21	1.30	–.09	12.64	11.48	1.16
1995	11.42	10.10	1.33	1.21	1.32	–.11	12.63	11.42	1.22
1996	11.43	10.03	1.40	1.21	1.36	–.15	12.64	11.39	1.26
1997	11.43	9.96	1.47	1.21	1.39	–.18	12.64	11.35	1.29
1998	11.43	9.88	1.55	1.21	1.43	–.22	12.64	11.31	1.33
1999	11.43	9.81	1.62	1.21	1.46	–.25	12.64	11.27	1.37
2000	11.21	9.74	1.47	1.43	1.50	–.07	12.64	11.24	1.40
2001	11.21	9.69	1.52	1.43	1.53	–.10	12.64	11.22	1.42
2005	11.28	9.62	1.66	1.44	1.62	–.18	12.72	11.24	1.48
2010	11.37	9.88	1.49	1.45	1.78	–.33	12.82	11.66	1.16
2015	11.44	10.84	.60	1.46	1.90	–.45	12.90	12.74	.16
2020	11.53	12.29	–.76	1.46	1.96	–.50	12.99	14.25	–1.27
2025	11.60	13.62	–2.02	1.46	2.04	–.58	13.07	15.66	–2.59
2030	11.66	14.54	–2.89	1.47	2.03	–.57	13.12	16.58	–3.46
2035	11.68	14.92	–3.23	1.47	2.00	–.53	13.15	16.92	–3.77
2040	11.69	14.85	–3.16	1.47	2.01	–.54	13.15	16.86	–3.71
2045	11.69	14.74	–3.05	1.47	2.10	–.63	13.16	16.84	–3.68
2050	11.70	14.86	–3.17	1.47	2.15	–.68	13.17	17.02	–3.85
2055	11.72	15.23	–3.51	1.47	2.19	–.72	13.19	17.42	–4.23
2060	11.74	15.68	–3.93	1.47	2.17	–.70	13.21	17.84	–4.63
2065	11.76	15.98	–4.22	1.47	2.16	–.68	13.23	18.14	–4.91
2070	11.77	16.18	–4.41	1.47	2.17	–.70	13.24	18.35	–5.11
Alternative III:									
1992	11.43	10.35	1.08	1.21	1.27	–.06	12.64	11.62	1.02
1993	11.44	10.38	1.05	1.21	1.32	–.11	12.65	11.70	.94
1994	11.44	10.36	1.08	1.21	1.38	–.17	12.65	11.73	.92
1995	11.47	10.51	.96	1.21	1.46	–.24	12.69	11.97	.72
1996	11.45	10.86	.59	1.21	1.57	–.36	12.67	12.44	.23
1997	11.45	10.75	.70	1.21	1.63	–.42	12.66	12.38	.28
1998	11.45	10.74	.71	1.21	1.71	–.49	12.67	12.44	.22
1999	11.45	10.72	.73	1.21	1.78	–.57	12.67	12.51	.16
2000	11.24	10.73	.51	1.44	1.86	–.42	12.67	12.58	.09
2001	11.24	10.74	.49	1.44	1.93	–.49	12.67	12.67	.00

TABLE II.F.13.—COMPARISON OF ESTIMATED INCOME RATES AND COST RATES BY TRUST FUND AND ALTERNATIVE, CALENDAR YEARS 1992-2070 (Cont.)

[As a percentage of taxable payroll]

Calendar year	OASI			DI			Combined		
	Income rate	Cost rate	Balance	Income rate	Cost rate	Balance	Income rate	Cost rate	Balance
Alternative III:									
2005.....	11.32	10.80	0.52	1.45	2.13	–0.68	12.77	12.93	–0.16
2010.....	11.43	11.14	.29	1.46	2.43	–.96	12.89	13.56	–.67
2015.....	11.51	12.27	–.76	1.47	2.62	–1.15	12.99	14.89	–1.91
2020.....	11.61	14.05	–2.43	1.48	2.73	–1.25	13.09	16.78	–3.68
2025.....	11.71	15.82	–4.11	1.48	2.86	–1.38	13.19	18.69	–5.49
2030.....	11.79	17.34	–5.54	1.49	2.90	–1.41	13.28	20.23	–6.95
2035.....	11.85	18.38	–6.52	1.49	2.90	–1.41	13.34	21.27	–7.93
2040.....	11.89	18.98	–7.09	1.49	2.96	–1.48	13.38	21.94	–8.56
2045.....	11.92	19.51	–7.59	1.49	3.14	–1.65	13.42	22.66	–9.24
2050.....	11.97	20.36	–8.39	1.50	3.27	–1.77	13.46	23.63	–10.16
2055.....	12.03	21.55	–9.52	1.50	3.35	–1.85	13.53	24.90	–11.37
2060.....	12.09	22.85	–10.76	1.50	3.32	–1.82	13.59	26.17	–12.58
2065.....	12.15	23.92	–11.77	1.50	3.29	–1.80	13.65	27.21	–13.57
2070.....	12.19	24.76	–12.57	1.50	3.31	–1.81	13.69	28.07	–14.38

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

Summarized values for the full 75-year period are useful in analyzing the long-range financial condition of the program under present law and the long-range financial effects of proposed modifications to the law. In order to focus on the full 75-year period as well as on broad patterns through the period, table II.F.14 summarizes, on a present-value basis, the projected annual figures presented in the previous table for various periods within the overall 75-year projection period.

Table II.F.14 first shows rates on a present-value basis summarized for each of the 25-year subperiods, excluding both the funds on hand at the beginning of the period and the cost of reaching a trust fund target by the end of the period. These rates are useful for comparing the cash flows of tax income and expenditures, as an indicator of the degree to which tax income during the period is sufficient to meet the outgo estimated for the period.

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

The values in table II.F.14 show that the combined OASDI program is expected to operate with a positive balance over shorter valuation periods under alternatives I and II. For the first 25-year valuation period the summarizing values indicate balances of 2.40 percent of taxable payroll under alternative I, 1.12 percent under alternative II, and –0.33 percent under alternative III. Thus, the program is more than adequately financed for the next 25-year valuation period under all but the more pessimistic alternative III projections. Over the 50-year valuation period, 1992-2041, the OASDI program would have a positive balance of 1.32 percent under alternative I but would have deficits of 0.59 percent under alternative II and 2.93 percent under alternative III. Thus, the program is more than adequately financed for the next 50-year valuation period under only the more optimistic set of assumptions, alternative I.

For the entire 75-year valuation period, the combined OASDI program would again have actuarial deficits except for the more optimistic set of assumptions, alternative I. The actuarial balance for this long-range valuation period is projected to be 1.09 percent of taxable payroll under alternative I, –1.46 percent under alternative II, and –4.89 percent under alternative III.

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TABLE II.F.14.—COMPARISON OF SUMMARIZED INCOME RATES AND COST RATES BY TRUST FUND AND ALTERNATIVE, CALENDAR YEARS 1992-2066

[As a percentage of taxable payroll]

Calendar year period	OASI			DI			Combined		
	Income rate	Cost rate	Balance	Income rate	Cost rate	Balance	Income rate	Cost rate	Balance
Alternative I:									
25-year subperiods:[1]									
1992-2016....	11.31	9.05	2.25	1.36	1.28	0.08	12.67	10.34	2.33
2017-2041....	11.50	11.47	.02	1.45	1.52	–.07	12.95	13.00	–.05
2042-2066....	11.51	11.05	.45	1.45	1.53	–.08	12.96	12.59	.37
Valuation periods:[2]									
25-year:									
1992-2016	11.78	9.43	2.35	1.38	1.34	.04	13.16	10.77	2.40
50-year:									
1992-2041	11.65	10.33	1.32	1.41	1.42	.00	13.07	11.75	1.32
75-year:									
1992-2066	11.61	10.50	1.11	1.42	1.45	–.02	13.04	11.94	1.09
Alternative II:									
25-year subperiods:[1]									
1992-2016....	11.34	10.03	1.32	1.36	1.59	–.23	12.70	11.62	1.09
2017-2041....	11.61	13.84	–2.23	1.46	2.01	–.55	13.07	15.86	–2.78
2042-2066....	11.71	15.25	–3.54	1.47	2.15	–.68	13.18	17.40	–4.22
Valuation periods:[2]									
25-year:									
1992-2016	11.84	10.45	1.39	1.39	1.66	–.28	13.23	12.11	1.12
50-year:									
1992-2041	11.74	11.94	–.20	1.42	1.81	–.39	13.16	13.75	–.59
75-year:									
1992-2066	11.73	12.74	–1.01	1.43	1.89	–.46	13.16	14.63	–1.46
Alternative III:									
25-year subperiods:[1]									
1992-2016....	11.38	11.02	.36	1.37	2.02	–.65	12.75	13.03	–.29
2017-2041....	11.74	16.54	–4.80	1.48	2.86	–1.38	13.22	19.40	–6.18
2042-2066....	12.01	21.33	–9.32	1.50	3.26	–1.77	13.50	24.59	–11.09
Valuation periods:[2]									
25-year:									
1992-2016	11.90	11.50	.40	1.39	2.12	–.73	13.29	13.61	–.33
50-year:									
1992-2041	11.83	13.76	–1.93	1.43	2.44	–1.01	13.26	16.19	–2.93
75-year:									
1992-2066	11.87	15.58	–3.71	1.45	2.63	–1.18	13.32	18.21	–4.89

[1]Income rates do not include beginning trust fund balances and cost rates do not include the cost of reaching ending fund targets.

[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.

Also of interest are the long-range financial conditions of the separate OASI and DI programs. As may be concluded from tables II.F.13 and II.F.14, the DI program is in much worse financial condition than the OASI program. The DI program has estimated deficits for every period shown under alternatives II and III. Positive balances are estimated for DI only for the 25-year periods under alternative I.

Annual net cash flow under alternative II, as represented by the balances in table II.F.13, remains positive for 25 years for the OASI program, but is currently, and persistently, negative for DI. The relatively less-adequate financing for DI is evident as well in the estimates based on alternatives I and III.

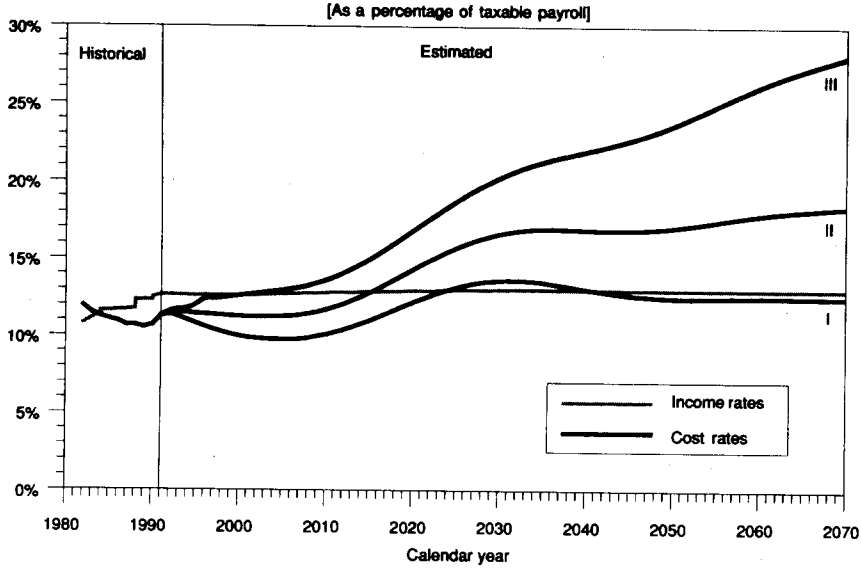
Figure II.F.3 shows in graphical form the patterns of the OASDI annual income rates and cost rates. The income rates are shown only for alternative II in order to simplify the graphical presentation and because, as shown in table II.F.13, the variation in the income rates by alternative is very small. The OASDI long-range summarized income rates for alternatives I and III, for the 75-year valuation period, differ by only 0.28 percent of taxable payroll. By 2070, the annual income rates under alternatives I and III differ by only 0.72 percent of taxable payroll. Only small fluctuations are projected in the income rate, as the rate of income from taxation of benefits varies only slightly, for each alternative, reflecting changes in the cost rate and the fact that benefit-taxation threshold amounts are not indexed.

The patterns of the annual balances are indicated in figure II.F.3. For each alternative, the magnitude of each of the positive balances in the early years, as a percent of taxable payroll, is represented by the distance between the appropriate cost-rate curve and the income-rate curve above it. The magnitude of each of the deficits in subsequent years is represented by the distance between the appropriate cost-rate curve and the income-rate curve below it.

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

FIGURE II.F.3.—ESTIMATED OASDI INCOME RATES AND COST RATES BY ALTERNATIVE, CALENDAR YEARS 1982-2070

[As a percentage of taxable payroll]



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 for longer valuation periods, reflecting 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.F.15 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, 20 years, ... , and 75 years—although each of the 66 periods—those of length 10 years, 11 years, 12 years, ... , and 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.F.4, 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.F.14.

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 56 years, under the intermediate alternative II estimates. For valuation periods of length greater than 56 years, the estimated actuarial balance is less than the minimum allowable. The shortfall rises gradually, reaching 2.89 percent of the summarized cost rate for the full long-range period. 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 is less than the minimum allowable balance for each of the 66 separate valuation periods. The shortfall rises from 14.94 percent of the summarized cost rate for the 10-year valuation period to a level of 19.14 percent of the summarized cost rate for the full long-range period. Thus, the DI program is out of long-range close actuarial balance, in addition to the fact that it does not satisfy the short-range test of financial adequacy (as discussed earlier in this section).

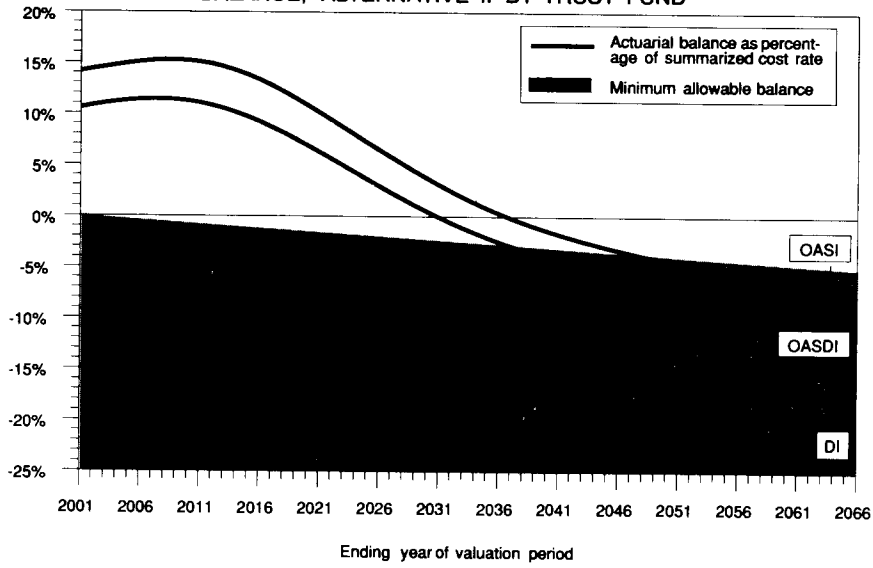
For the combined OASDI program, the estimated actuarial balance as a percentage of the summarized cost rate exceeds the minimum allowable balance for valuation periods of length 10 years through 45 years. For valuation periods of length greater than 45 years, the estimated actuarial balance is below the minimum allowable balance. The size of the shortfall rises gradually reaching 4.99 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 the 1991 Annual Report. However, the size of the estimated deficits, and therefore the degree to which the programs are found to be out of close actuarial balance, is greater based on the estimates presented in this report.

TABLE II.F.15.—COMPARISON OF ESTIMATED LONG-RANGE ACTUARIAL BALANCES WITH THE MINIMUM ALLOWABLE FOR THE TEST FOR CLOSE ACTUARIAL BALANCE BY TRUST FUND, BASED ON ALTERNATIVE II

Valuation period	Rates (percentage of taxable payroll)			Balance as a percentage of cost rate	
	Summarized income rate	Summarized cost rate	Balance	Balance	Minimum allowable balance
OASI:					
10 years: 1992-2001	12.53	10.98	1.55	14.13	0.00
15 years: 1992-2006	12.12	10.53	1.59	15.07	–.38
20 years: 1992-2011	11.94	10.37	1.56	15.07	–.77
25 years: 1992-2016	11.84	10.45	1.39	13.32	–1.15
30 years: 1992-2021	11.79	10.71	1.08	10.12	–1.54
35 years: 1992-2026	11.76	11.05	.72	6.48	–1.92
40 years: 1992-2031	11.75	11.40	.35	3.09	–2.31
45 years: 1992-2036	11.74	11.70	.04	.34	–2.69
50 years: 1992-2041	11.74	11.94	–.20	–1.70	–3.08
55 years: 1992-2046	11.74	12.13	–.39	–3.24	–3.46
60 years: 1992-2051	11.73	12.29	–.56	–4.53	–3.85
65 years: 1992-2056	11.73	12.44	–.71	–5.72	–4.23
70 years: 1992-2061	11.73	12.59	–.86	–6.85	–4.62
75 years: 1992-2066	11.73	12.74	–1.01	–7.89	–5.00
DI:					
10 years: 1992-2001	1.30	1.53	–.23	–14.94	.00
15 years: 1992-2006	1.35	1.56	–.21	–13.62	–.38
20 years: 1992-2011	1.37	1.61	–.24	–14.84	–.77
25 years: 1992-2016	1.39	1.66	–.28	–16.56	–1.15
30 years: 1992-2021	1.40	1.71	–.31	–18.04	–1.54
35 years: 1992-2026	1.41	1.74	–.34	–19.40	–1.92
40 years: 1992-2031	1.41	1.77	–.36	–20.36	–2.31
45 years: 1992-2036	1.42	1.79	–.38	–20.94	–2.69
50 years: 1992-2041	1.42	1.81	–.39	–21.45	–3.08
55 years: 1992-2046	1.42	1.83	–.40	–22.07	–3.46
60 years: 1992-2051	1.43	1.85	–.42	–22.71	–3.85
65 years: 1992-2056	1.43	1.86	–.43	–23.31	–4.23
70 years: 1992-2061	1.43	1.88	–.45	–23.77	–4.62
75 years: 1992-2066	1.43	1.89	–.46	–24.14	–5.00
OASDI:					
10 years: 1992-2001	13.83	12.51	1.32	10.56	.00
15 years: 1992-2006	13.47	12.09	1.38	11.37	–.38
20 years: 1992-2011	13.31	11.98	1.32	11.05	–.77
25 years: 1992-2016	13.23	12.11	1.12	9.22	–1.15
30 years: 1992-2021	13.19	12.41	.78	6.25	–1.54
35 years: 1992-2026	13.17	12.79	.38	2.95	–1.92
40 years: 1992-2031	13.16	13.17	–.01	–.06	–2.31
45 years: 1992-2036	13.16	13.50	–.34	–2.48	–2.69
50 years: 1992-2041	13.16	13.75	–.59	–4.30	–3.08
55 years: 1992-2046	13.16	13.96	–.80	–5.71	–3.46
60 years: 1992-2051	13.16	14.13	–.98	–6.90	–3.85
65 years: 1992-2056	13.16	14.31	–1.15	–8.01	–4.23
70 years: 1992-2061	13.16	14.47	–1.31	–9.05	–4.62
75 years: 1992-2066	13.16	14.63	–1.46	–9.99	–5.00

FIGURE II.F.4.—COMPARISON OF ESTIMATED LONG-RANGE ACTUARIAL BALANCES WITH THE MINIMUM ALLOWABLE FOR CLOSE ACTUARIAL BALANCE, ALTERNATIVE II BY TRUST FUND



Annual income rates and their components are shown in table II.F.16, for each alternative set of assumptions. The annual income rates reflect the scheduled payroll tax rates and the projected rates of income from the taxation of benefits, which reflect changes in the cost rates and the fact that benefit-taxation threshold amounts are not indexed.

Summarized values for the annual income and cost rates, along with their components, are presented in table II.F.17 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. Thus, the total summarized rates shown in table II.F.17 are the same as the summarized income and cost rates shown in table II.F.14 for the 25-year, 50-year, and 75-year valuation periods.

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.F.16.—COMPONENTS OF ANNUAL INCOME RATES BY TRUST FUND AND ALTERNATIVE, CALENDAR YEARS 1992-2070

[As a percentage of taxable payroll]

Calendar year	OASI			DI			Combined		
	Payroll tax	Taxation of benefits	Total	Payroll tax	Taxation of benefits	Total	Payroll tax	Taxation of benefits	Total
Alternative I:									
1992	11.20	0.23	11.43	1.20	0.01	1.21	12.40	0.24	12.64
1993	11.20	.23	11.43	1.20	.01	1.21	12.40	.24	12.64
1994	11.20	.23	11.43	1.20	.01	1.21	12.40	.23	12.63
1995	11.20	.19	11.39	1.20	.01	1.21	12.40	.19	12.59
1996	11.20	.22	11.42	1.20	.01	1.21	12.40	.23	12.63
1997	11.20	.21	11.41	1.20	.01	1.21	12.40	.22	12.62
1998	11.20	.21	11.41	1.20	.01	1.21	12.40	.22	12.62
1999	11.20	.21	11.41	1.20	.01	1.21	12.40	.22	12.62
2000	10.98	.21	11.19	1.42	.01	1.43	12.40	.22	12.62
2001	10.98	.21	11.19	1.42	.01	1.43	12.40	.22	12.62
2005	10.98	.26	11.24	1.42	.02	1.44	12.40	.28	12.68
2010	10.98	.34	11.32	1.42	.02	1.44	12.40	.36	12.76
2015	10.98	.40	11.38	1.42	.03	1.45	12.40	.43	12.83
2020	10.98	.47	11.45	1.42	.03	1.45	12.40	.50	12.90
2025	10.98	.52	11.50	1.42	.03	1.45	12.40	.56	12.96
2030	10.98	.56	11.54	1.42	.03	1.45	12.40	.59	12.99
2035	10.98	.56	11.54	1.42	.03	1.45	12.40	.60	13.00
2040	10.98	.55	11.53	1.42	.03	1.45	12.40	.58	12.98
2045	10.98	.53	11.51	1.42	.04	1.46	12.40	.57	12.97
2050	10.98	.53	11.51	1.42	.04	1.46	12.40	.56	12.96
2055	10.98	.53	11.51	1.42	.04	1.46	12.40	.57	12.97
2060	10.98	.54	11.52	1.42	.04	1.46	12.40	.57	12.97
2065	10.98	.54	11.52	1.42	.04	1.46	12.40	.57	12.97
2070	10.98	.54	11.52	1.42	.04	1.46	12.40	.57	12.97
Alternative II:									
1992	11.20	.23	11.43	1.20	.01	1.21	12.40	.24	12.64
1993	11.20	.23	11.43	1.20	.01	1.21	12.40	.24	12.64
1994	11.20	.23	11.43	1.20	.01	1.21	12.40	.24	12.64
1995	11.20	.22	11.42	1.20	.01	1.21	12.40	.23	12.63
1996	11.20	.23	11.43	1.20	.01	1.21	12.40	.24	12.64
1997	11.20	.23	11.43	1.20	.01	1.21	12.40	.24	12.64
1998	11.20	.23	11.43	1.20	.01	1.21	12.40	.24	12.64
1999	11.20	.23	11.43	1.20	.01	1.21	12.40	.24	12.64
2000	10.98	.23	11.21	1.42	.01	1.43	12.40	.24	12.64
2001	10.98	.23	11.21	1.42	.01	1.43	12.40	.24	12.64
2005	10.98	.30	11.28	1.42	.02	1.44	12.40	.32	12.72
2010	10.98	.39	11.37	1.42	.03	1.45	12.40	.42	12.82
2015	10.98	.46	11.44	1.42	.04	1.46	12.40	.50	12.90
2020	10.98	.55	11.53	1.42	.04	1.46	12.40	.59	12.99
2025	10.98	.62	11.60	1.42	.04	1.46	12.40	.67	13.07
2030	10.98	.68	11.66	1.42	.05	1.47	12.40	.72	13.12
2035	10.98	.70	11.68	1.42	.05	1.47	12.40	.75	13.15
2040	10.98	.71	11.69	1.42	.05	1.47	12.40	.75	13.15
2045	10.98	.71	11.69	1.42	.05	1.47	12.40	.76	13.16
2050	10.98	.72	11.70	1.42	.05	1.47	12.40	.77	13.17
2055	10.98	.74	11.72	1.42	.05	1.47	12.40	.79	13.19
2060	10.98	.76	11.74	1.42	.05	1.47	12.40	.81	13.21
2065	10.98	.78	11.76	1.42	.05	1.47	12.40	.83	13.23
2070	10.98	.79	11.77	1.42	.05	1.47	12.40	.84	13.24
Alternative III:									
1992	11.20	.23	11.43	1.20	.01	1.21	12.40	.24	12.64
1993	11.20	.24	11.44	1.20	.01	1.21	12.40	.25	12.65
1994	11.20	.24	11.44	1.20	.01	1.21	12.40	.25	12.65
1995	11.20	.27	11.47	1.20	.01	1.21	12.40	.29	12.69
1996	11.20	.25	11.45	1.20	.01	1.21	12.40	.27	12.67
1997	11.20	.25	11.45	1.20	.01	1.21	12.40	.26	12.66
1998	11.20	.25	11.45	1.20	.01	1.21	12.40	.27	12.67

TABLE II.F.16.—COMPONENTS OF ANNUAL INCOME RATES BY TRUST FUND AND ALTERNATIVE, CALENDAR YEARS 1992-2070 (Cont.)

[As a percentage of taxable payroll]

Calendar year	OASI			DI			Combined		
	Payroll tax	Taxation of benefits	Total	Payroll tax	Taxation of benefits	Total	Payroll tax	Taxation of benefits	Total
Alternative III: (Cont.)									
1999	11.20	0.25	11.45	1.20	0.01	1.21	12.40	0.27	12.67
2000	10.98	.26	11.24	1.42	.02	1.44	12.40	.27	12.67
2001	10.98	.26	11.24	1.42	.02	1.44	12.40	.27	12.67
2005	10.98	.34	11.32	1.42	.03	1.45	12.40	.37	12.77
2010	10.98	.45	11.43	1.42	.04	1.46	12.40	.49	12.89
2015	10.98	.53	11.51	1.42	.05	1.47	12.40	.59	12.99
2020	10.98	.63	11.61	1.42	.06	1.48	12.40	.69	13.09
2025	10.98	.73	11.71	1.42	.06	1.48	12.40	.79	13.19
2030	10.98	.81	11.79	1.42	.07	1.49	12.40	.88	13.28
2035	10.98	.87	11.85	1.42	.07	1.49	12.40	.94	13.34
2040	10.98	.91	11.89	1.42	.07	1.49	12.40	.98	13.38
2045	10.98	.94	11.92	1.42	.07	1.49	12.40	1.02	13.42
2050	10.98	.99	11.97	1.42	.08	1.50	12.40	1.06	13.46
2055	10.98	1.05	12.03	1.42	.08	1.50	12.40	1.13	13.53
2060	10.98	1.11	12.09	1.42	.08	1.50	12.40	1.19	13.59
2065	10.98	1.17	12.15	1.42	.08	1.50	12.40	1.25	13.65
2070	10.98	1.21	12.19	1.42	.08	1.50	12.40	1.29	13.69

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

TABLE II.F.17.—COMPONENTS OF SUMMARIZED INCOME RATES AND COST RATES BY TRUST FUND AND ALTERNATIVE, CALENDAR YEARS 1992-2066

[As a percentage of taxable payroll]

Valuation period	Income rate				Cost rate		
	Payroll tax	Taxation of benefits	Beginning fund balance	Total	Disbursements	Ending fund target	Total
OASI:							
Alternative I:							
1992-2016	11.03	0.27	0.47	11.78	9.05	0.37	9.43
1992-2041	11.01	.39	.26	11.65	10.14	.19	10.33
1992-2066	11.00	.43	.19	11.61	10.39	.11	10.50
Alternative II:							
1992-2016	11.03	.31	.50	11.84	10.03	.42	10.45
1992-2041	11.01	.45	.28	11.74	11.71	.23	11.94
1992-2066	11.00	.52	.21	11.73	12.60	.14	12.74
Alternative III:							
1992-2016	11.03	.35	.52	11.90	11.02	.48	11.50
1992-2041	11.01	.53	.29	11.83	13.46	.30	13.76
1992-2066	11.00	.65	.22	11.87	15.37	.20	15.58
DI:							
Alternative I:							
1992-2016	1.34	.02	.02	1.38	1.28	.06	1.34
1992-2041	1.38	.02	.01	1.41	1.39	.02	1.42
1992-2066	1.39	.03	.01	1.42	1.43	.02	1.45
Alternative II:							
1992-2016	1.34	.02	.02	1.39	1.59	.07	1.66
1992-2041	1.38	.03	.01	1.42	1.78	.03	1.81
1992-2066	1.39	.04	.01	1.43	1.87	.02	1.89
Alternative III:							
1992-2016	1.34	.03	.02	1.39	2.02	.10	2.12
1992-2041	1.37	.04	.01	1.43	2.39	.05	2.44
1992-2066	1.39	.05	.01	1.45	2.60	.03	2.63
OASDI:							
Alternative I:							
1992-2016	12.38	.29	.50	13.16	10.34	.43	10.77
1992-2041	12.38	.41	.27	13.07	11.53	.21	11.75
1992-2066	12.39	.45	.20	13.04	11.82	.13	11.94
Alternative II:							
1992-2016	12.38	.33	.52	13.23	11.62	.49	12.11
1992-2041	12.38	.48	.29	13.16	13.49	.27	13.75
1992-2066	12.39	.56	.22	13.16	14.47	.16	14.63
Alternative III:							
1992-2016	12.37	.37	.54	13.29	13.03	.58	13.61
1992-2041	12.38	.58	.30	13.26	15.85	.35	16.19
1992-2066	12.38	.71	.23	13.32	17.98	.23	18.21

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

The primary reason that the estimated OASDI cost rate increases rapidly after 2005 is that the number of beneficiaries is projected to increase more rapidly than the number of covered workers. This occurs because the relatively large number of persons born during the period of high fertility rates from the end of World War II through the mid-1960s will reach retirement age, and begin to receive benefits, while the relatively small number of persons born during the subsequent period of low fertility rates will comprise the labor force. A comparison of the numbers of covered workers and beneficiaries is shown in table II.F.18.

TABLE II.F.18.—COMPARISON OF OASDI COVERED WORKERS AND BENEFICIARIES BY ALTERNATIVE, CALENDAR YEARS 1945-2070

Calendar year	Covered workers[1] (in thousands)	Beneficiaries[2] (in thousands)			Covered workers per OASDI beneficiary	Beneficiaries per 100 covered workers
		OASI	DI	OASDI		
Historical data:						
1945	46,390	1,106	—	1,106	41.9	2
1950	48,280	2,930	—	2,930	16.5	6
1955	65,200	7,563	—	7,563	8.6	12
1960	72,530	13,740	522	14,262	5.1	20
1965	80,680	18,509	1,648	20,158	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	112,033	30,385	4,734	35,119	3.2	31
1985	119,558	32,776	3,874	36,650	3.3	31
1986	122,118	33,349	3,972	37,321	3.3	31
1987	125,567	33,917	4,034	37,951	3.3	30
1988	129,575	34,343	4,077	38,420	3.4	30
1989	[3]132,440	34,754	4,105	38,859	3.4	29
1990	[3]133,055	35,266	4,204	39,470	3.4	30
1991	[3]132,355	35,785	4,388	40,173	3.3	30
Alternative I:						
1992	132,879	36,284	4,606	40,889	3.2	31
1995	139,206	37,341	5,005	42,345	3.3	30
2000	147,985	38,449	5,695	44,145	3.4	30
2005	154,389	39,935	6,157	46,092	3.3	30
2010	159,438	42,904	6,971	49,875	3.2	31
2015	163,320	48,308	7,409	55,717	2.9	34
2020	166,060	55,101	7,641	62,742	2.6	38
2025	168,756	61,451	7,980	69,430	2.4	41
2030	172,359	66,026	8,074	74,100	2.3	43
2035	177,276	68,462	8,092	76,553	2.3	43
2040	182,590	68,814	8,258	77,071	2.4	42
2045	187,887	68,980	8,690	77,669	2.4	41
2050	193,068	69,890	9,042	78,932	2.4	41
2055	198,457	71,903	9,373	81,276	2.4	41
2060	204,131	74,335	9,576	83,911	2.4	41
2065	210,118	76,526	9,820	86,346	2.4	41
2070	216,179	78,586	10,158	88,744	2.4	41
Alternative II:						
1992	132,339	36,296	4,644	40,940	3.2	31
1995	136,874	37,479	5,320	42,800	3.2	31
2000	143,807	38,897	6,524	45,421	3.2	32
2005	149,135	40,682	7,444	48,126	3.1	32
2010	153,504	43,919	8,429	52,348	2.9	34
2015	156,197	49,622	8,913	58,534	2.7	37
2020	157,157	56,766	9,119	65,886	2.4	42
2025	157,438	63,507	9,432	72,939	2.2	46
2030	158,060	68,600	9,451	78,050	2.0	49
2035	159,434	71,593	9,385	80,979	2.0	51
2040	160,771	72,445	9,496	81,941	2.0	51

TABLE II.F.18.—COMPARISON OF OASDI COVERED WORKERS AND BENEFICIARIES BY ALTERNATIVE, CALENDAR YEARS 1945-2070 (Cont.)

Calendar year	Covered workers[1] (in thousands)	Beneficiaries[2] (in thousands)			Covered workers per OASDI beneficiary	Beneficiaries per 100 covered workers
		OASI	DI	OASDI		
Alternative II:						
2045	161,702	72,952	9,905	82,856	2.0	51
2050	162,120	74,075	10,174	84,249	1.9	52
2055	162,311	76,156	10,361	86,516	1.9	53
2060	162,497	78,412	10,317	88,729	1.8	55
2065	162,832	80,112	10,305	90,418	1.8	56
2070	163,170	81,389	10,392	91,781	1.8	56
Alternative III:						
1992	131,947	36,300	4,676	40,976	3.2	31
1995	136,255	37,532	5,606	43,138	3.2	32
2000	140,804	39,263	7,511	46,774	3.0	33
2005	144,680	41,492	9,370	50,862	2.8	35
2010	148,216	44,961	10,783	55,744	2.7	38
2015	149,905	50,899	11,467	62,366	2.4	42
2020	149,462	58,367	11,745	70,112	2.1	47
2025	147,830	65,498	12,119	77,617	1.9	53
2030	146,106	71,258	12,094	83,352	1.8	57
2035	144,580	75,145	11,954	87,099	1.7	60
2040	142,680	76,954	12,005	88,959	1.6	62
2045	140,128	78,271	12,399	90,671	1.5	65
2050	136,868	80,078	12,544	92,621	1.5	68
2055	133,177	82,636	12,510	95,146	1.4	71
2060	129,440	85,074	12,087	97,161	1.3	75
2065	125,949	86,552	11,703	98,256	1.3	78
2070	122,578	87,238	11,454	98,692	1.2	81

[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.

[3]Preliminary.

Note: The numbers of beneficiaries do not include certain uninsured persons, most of whom both attained age 72 before 1968 and have fewer than 3 quarters of coverage, in which cases the costs are reimbursed by the general fund of the Treasury. The number of such uninsured persons was 6,168 as of June 30, 1991, and is estimated to be fewer than 500 by the turn of the century. Totals do not necessarily equal the sums of rounded components.

Table II.F.18 shows that the number of covered workers per beneficiary, which was about 3.3 in 1991, is estimated to decline in the future. Based on alternative I, for which high fertility rates and small reductions in death rates are assumed, the ratio declines to an ultimate level of 2.4 by 2040. Based on alternative III, for which low fertility rates and substantial reductions in death rates are assumed, the decline is much greater, reaching 1.2 workers per beneficiary by 2070. Based on alternative II, the ratio declines to 1.8 workers per beneficiary by 2060, and remains at that level through 2070.

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 1991 level of 30 beneficiaries per 100 covered workers, this ratio is estimated to rise

by the year 2070 to significantly higher levels, which are 41 under alternative I, 56 under alternative II, and 81 under alternative III. The significance of these numbers can be seen by comparing figure II.F.3 to figure II.F.5. For each alternative, the shape of the curve in figure II.F.5, which shows beneficiaries per 100 covered workers, is strikingly similar to that of the corresponding cost-rate curve in figure II.F.3, thereby emphasizing the extent to which the cost of the OASDI program is determined by the age patterns of the population. Because the cost rate is basically the product of the number of beneficiaries and their average benefit, divided by the product of the number of covered workers and their average taxable earnings (and because average benefits rise at about the same rate as average earnings), it is reasonable that the pattern of the annual cost rates is similar to that of the annual ratios of beneficiaries to workers. A graphical presentation of covered workers per beneficiary is shown in section I.G of the Overview.

FIGURE II.F.5.—RATIOS OF ESTIMATED OASDI BENEFICIARIES PER 100 COVERED WORKERS BY ALTERNATIVE, CALENDAR YEARS 1982-2070

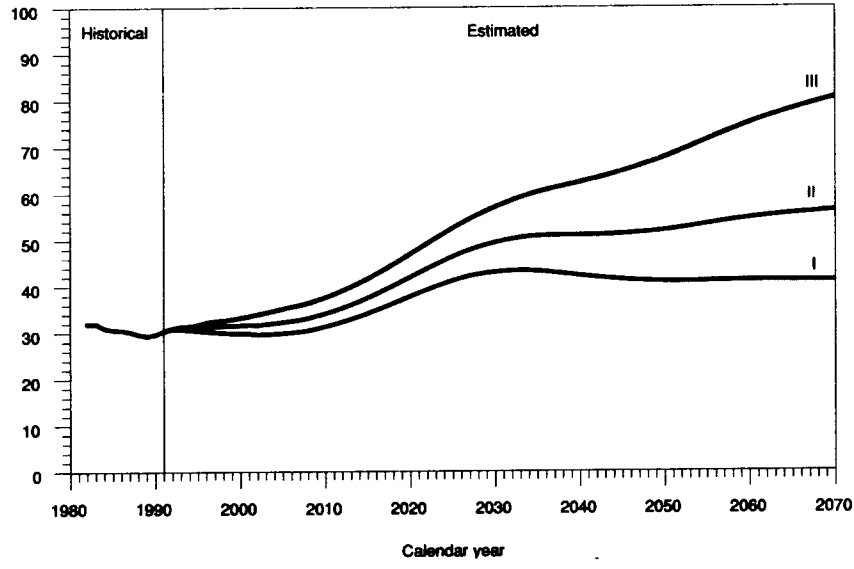


Table II.F.19 shows, by alternative, the estimated trust fund ratios (without regard to advance tax transfers that would be effected after the end of the 10-year, short-range period) for the separate and combined OASI and DI Trust Funds. Also shown in this table is the first year in which a fund is estimated 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.F.6, for all three sets of assumptions.

Based on alternative II, the DI trust fund ratio declines from 41 percent for 1992 to 6 percent at the beginning of 1997, during which year the fund becomes depleted. The OASI trust fund ratio rises steadily from 103 percent for 1992, reaching a peak of 434 percent at the beginning of 2015. This increase in the OASI trust fund ratio results from the fact that the annual income rate (excluding interest) exceeds annual outgo for several years (see table II.F.13). Thereafter, the OASI ratio declines steadily, with the OASI Trust Fund becoming exhausted in 2042.

The trust fund ratio for the hypothetical combined OASI and DI Trust Funds rises from 96 percent for 1992 to a peak of 335 percent at the beginning of 2014. Thereafter, the ratio declines, with the combined funds becoming exhausted in 2036.

It should be noted that during the period in which the trust fund ratio declines, the net amount of assets held by the trust funds declines. Initially, the dollar amount of the fund may continue to grow if interest on the fund is more than enough to cover the shortfall of noninterest income with respect to expenditures. However, when the difference between noninterest income and annual expenditures becomes larger than the interest on the fund, then the level of the trust fund assets, in dollars, will also begin to decline. In either case, revenue from the general fund of the Treasury will be transferred to the trust funds as the special public-debt obligations issued to the trust funds are redeemed in order to cover the cash-flow shortfall. This will differ from the experience of recent years for which the trust funds have been net lenders to the general fund of the Treasury. 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 alternative I, the trust fund ratio increases virtually throughout the long-range projection period for both the OASI and combined funds, reaching extremely high levels by 2070, of 1,148 and 1,002 percent, respectively. The DI trust fund ratio rises to a peak of 182 percent at the beginning of 2012, before declining to fund exhaustion by the end of 2060. In contrast, under alternative III, the OASI trust fund ratio is estimated to peak at 222 percent in 2011, thereafter declining to fund exhaustion by the end of 2026. The DI Trust Fund is estimated to decline rapidly, becoming depleted in 1995. The combined trust fund ratio is estimated to rise to a peak of 135 percent in 2003, declining thereafter to fund exhaustion by the end of 2019.

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 OASI Trust Fund from becoming exhausted. As already indicated, such action will be needed for the DI Trust Fund under even the more optimistic alternative I assumptions.

Even under the more pessimistic assumptions, however, the combined OASI and DI funds on hand plus their estimated future income would be able to cover their combined expenditures for about 27 years into the future. Under the alternative II assumptions the combined starting funds plus estimated future income would be able to cover expenditures for about 44 years into the future (until 2036). The program would be able to cover expenditures for the indefinite future under the more optimistic assumptions in alternative I. In the 1991 report, the combined trust funds were projected to be exhausted in 2022 under alternative III and in 2041 under alternative II.

TABLE II.F.19.—ESTIMATED TRUST FUND RATIOS BY TRUST FUND AND ALTERNATIVE, CALENDAR YEARS 1992-2070

[In percent]

Calendar year	Alternative I			Alternative II			Alternative III		
	OASI	DI	Combined	OASI	DI	Combined	OASI	DI	Combined
1992	103	42	97	103	41	96	103	40	96
1993	117	41	109	115	37	107	113	34	104
1994	134	43	124	129	32	118	123	24	112
1995	154	45	142	144	26	130	133	12	118
1996	176	48	162	159	17	142	142	[1]	124
1997	201	50	184	175	6	154	150	[1]	127
1998	229	53	209	192	[1]	167	158	[1]	129
1999	259	54	235	210	[1]	180	166	[1]	132
2000	291	55	263	228	[1]	193	174	[1]	134
2001	323	72	292	245	[1]	206	180	[1]	134
2005	458	137	417	317	[1]	261	203	[1]	134
2010	620	178	560	400	[1]	318	221	[1]	118
2015	717	181	645	434	[1]	334	204	[1]	72
2020	739	170	668	406	[1]	300	135	[1]	[1]
2025	732	147	663	340	[1]	230	27	[1]	[1]
2030	723	118	654	253	[1]	138	[1]	[1]	[1]
2035	732	103	662	155	[1]	34	[1]	[1]	[1]
2040	773	95	696	54	[1]	[1]	[1]	[1]	[1]
2045	836	81	746	[1]	[1]	[1]	[1]	[1]	[1]
2050	904	59	800	[1]	[1]	[1]	[1]	[1]	[1]
2055	964	32	849	[1]	[1]	[1]	[1]	[1]	[1]
2060	1,019	4	895	[1]	[1]	[1]	[1]	[1]	[1]
2065	1,080	[1]	946	[1]	[1]	[1]	[1]	[1]	[1]
2070	1,148	[1]	1,002	[1]	[1]	[1]	[1]	[1]	[1]
Trust fund is estimated to be exhausted in:...	[2]	2060	[2]	2042	1997	2036	2026	1995	2019

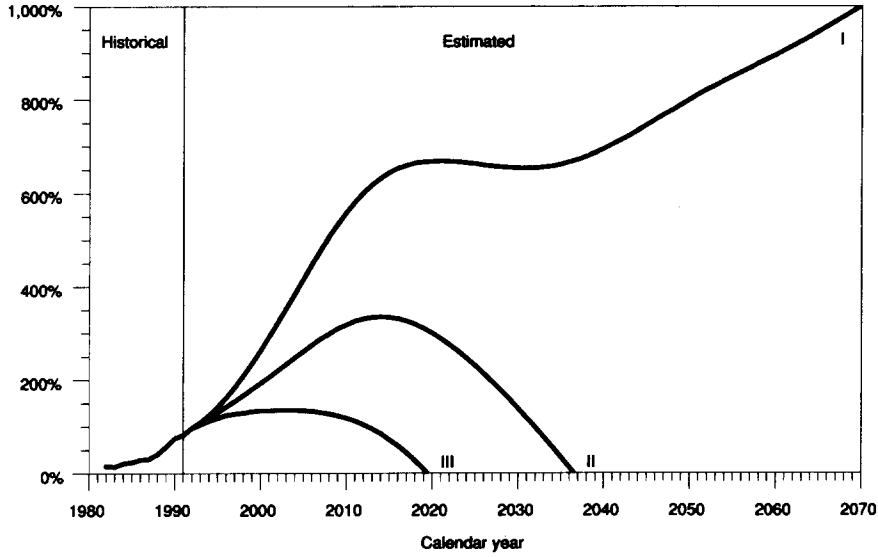
[1]The trust fund is estimated to have been exhausted by the beginning of this year. The last line of the table shows the specific year of trust fund exhaustion.

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

Note: See Glossary for definition of trust fund ratio. The OASDI ratios shown for years after a given 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.F.6 for each of the alternative sets of assumptions.

FIGURE II.F.6.—ESTIMATED TRUST FUND RATIOS, FOR OASI AND DI TRUST FUNDS COMBINED, CALENDAR YEARS 1982-2070



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.F.20. Also shown are the estimated effects associated with each reason for change.

TABLE II.F.20.—CHANGE IN ACTUARIAL BALANCE ESTIMATED ON THE BASIS OF INTERMEDIATE, ALTERNATIVE II, ESTIMATES 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	11.69	1.42	13.11
Cost rate	12.51	1.69	14.19
Actuarial balance	−.82	−.27	−1.08
Changes in actuarial balance due to changes in:			
Valuation period	−.04	−.01	−.05
Demographic assumptions	+ .15	+ .02	+ .17
Economic assumptions	−.09	−.01	−.10
Disability assumptions	−.00	−.20	−.20
Methods	−.19	−.00	−.19
Total change in actuarial balance	−.19	−.19	−.38
Shown in this report:			
Actuarial balance	−1.01	−.46	−1.46
Income rate	11.73	1.43	13.16
Cost rate	12.74	1.89	14.63

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

In changing from the valuation period of last year's report, which was 1991-2065, to the valuation period of this report, 1992-2066, the relatively large negative annual balance for the year 2066 is included. This results in a decrease in the long-range actuarial balance. (Note that the positive balance for 1991 is, in effect, retained because the funds accumulated during the year are included in the income rate and the actuarial balance for this year's report.)

Several demographic assumptions were modified: (1) the starting population, used in the projection of the Social Security Area population, was updated; (2) the total fertility rate was increased slightly for the first 25 projection years reflecting recently observed birth rates that were higher than expected; (3) mortality assumptions were revised to incorporate the latest data; (4) assumed ultimate rates of decrease in mortality were assumed to be somewhat higher reflecting continued positive gains in recent data, especially in the areas of heart and vascular disease; and (5) a new method for establishing the starting point for mortality rate projections was developed to avoid large changes in projected rates based on year-to-year fluctuations in data. The net effect of these modifications is an increase in the long-range actuarial balance.

Ultimate economic assumptions for interest rates and growth rates in average wages and price levels were not changed for this report. However, starting values were adjusted based on recent data and projected values for the first 10 years were updated to reflect current expectations.

Other economic assumptions and projected rates of employment were updated to incorporate the latest information and analyses. Reflecting recent data and trends, labor force participation rates for persons under age 30 are projected to be somewhat lower than assumed for the 1991 report, and participation rates are assumed to be somewhat higher for older persons (men over age 50 and women over age 60). The net effect of these changes is a small reduction in the projected number of OASDI covered workers as a proportion of the working-age population for future years. Recent data for years through 1990 also indicate that the ratio of OASDI taxable earnings to earnings in covered employment has decreased somewhat more than was earlier expected. These two changes decrease the long-range actuarial balance by similar amounts.

Projections of the number of disabled beneficiaries were increased significantly reflecting recent increases in incidence rates and decreases in termination rates. These modifications result in a substantial reduction in the long-range actuarial balance for the DI program.

Several significant improvements and updates were made in the methods used to project future average benefit levels. The method used for projecting the future level of earnings used in the computation of benefits was improved to more accurately reflect the assumed rate of growth in reported taxable earnings levels. This change resulted in a significant increase in the level of projected benefits and thus significantly reduced the OASDI actuarial balance. In addition, the historical sample of past earnings records used as the starting point for average benefit projections was updated to reflect more recently awarded benefits. The net effect of this update, along with related updates based on recent data, was a small decrease in the estimated actuarial balance.

The cost of the OASDI program has been discussed in this section in relation to taxable payroll, which is a program-related concept that is very useful in analyzing the financial status of the OASDI program. The cost can also be discussed in relation to broader economic concepts, such as the gross domestic product (GDP). OASDI outlays generally rise from a little less than 5 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 section III.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.F.2) 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.G.1 shows the estimated OASDI income rates, cost rates, and actuarial balances, on the basis of alternative II with various assumptions about the ultimate total fertility rate. These assumptions are that the ultimate total fertility rate will be 1.6 children per woman (as assumed for alternative III), 1.9 (as assumed for alternative II), and 2.2 (as assumed for alternative I). The rate is assumed to change gradually from its current level and to reach the various ultimate values in 2016.

TABLE II.G.1.—ESTIMATED OASDI INCOME RATES, COST RATES, AND ACTUARIAL BALANCES, BASED ON ALTERNATIVE II WITH VARIOUS FERTILITY ASSUMPTIONS

[As a percentage of taxable payroll]

Valuation period	Ultimate total fertility rate[1]		
	1.6	1.9	2.2
Summarized income rate:			
25-year: 1992-2016	13.23	13.23	13.23
50-year: 1992-2041	13.17	13.16	13.15
75-year: 1992-2066	13.19	13.16	13.14
Summarized cost rate:			
25-year: 1992-2016	12.07	12.11	12.15
50-year: 1992-2041	13.86	13.75	13.65
75-year: 1992-2066	15.11	14.63	14.17
Actuarial balance:			
25-year: 1992-2016	+ 1.15	+ 1.12	+ 1.08
50-year: 1992-2041	–.69	–.59	–.50
75-year: 1992-2066	–1.92	–1.46	–1.03

[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 child-bearing period. The ultimate total fertility rate is assumed to be reached in 2016.

For the 25-year period, the cost rate for the three fertility assumptions varies by only 0.08 percent of taxable payroll. In contrast, the 75-year cost rate varies over a wide range, decreasing from 15.11 to 14.17 percent, as the assumed ultimate total fertility rate increases from 1.6 to 2.2. Similarly, while the 25-year actuarial balance varies by only 0.07 percent of taxable payroll, the 75-year actuarial balance varies over a much wider range, from –1.92 to –1.03 percent.

During the 25-year period, changes in fertility affect the working population only slightly and result in relatively minor changes in the number of child beneficiaries. Hence, the program cost is affected only slightly. 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 0.15 percent of taxable payroll.

2. Death Rates

Table II.G.2 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 1992-2066 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 17 percent (as assumed for alternative I), 35 percent (as assumed for alternative II), and 52 percent (as assumed for alternative III). It should be noted that these reductions do not apply uniformly to all ages, as some variation by age was assumed (see section II.H.1) 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.G.2—ESTIMATED OASDI INCOME RATES, COST RATES, AND ACTUARIAL BALANCES, BASED ON ALTERNATIVE II WITH VARIOUS DEATH-RATE ASSUMPTIONS

[As a percentage of taxable payroll]

Valuation period	Reduction in death rates[1]		
	17 percent	35 percent	52 percent
Summarized income rate:			
25-year: 1992-2016	13.22	13.23	13.24
50-year: 1992-2041	13.14	13.16	13.18
75-year: 1992-2066	13.13	13.16	13.20
Summarized cost rate:			
25-year: 1992-2016	11.85	12.11	12.37
50-year: 1992-2041	13.24	13.75	14.28
75-year: 1992-2066	13.86	14.63	15.47
Actuarial balance:			
25-year: 1992-2016	+ 1.36	+ 1.12	+ .86
50-year: 1992-2041	–.10	–.59	–1.10
75-year: 1992-2066	–.73	–1.46	–2.27

[1]The measure of the reduction in death rates is the decrease in the age-sex-adjusted death rate during 1992-2066.

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 and because of the specific changes in the age composition of the population that are projected to occur. The 25-year cost rate increases from 11.85 percent (for 17-percent lower ultimate death rates) to 12.37 percent (for 52-percent lower ultimate rates). The 75-year cost rate increases from 13.86 to 15.47 percent. The actuarial balance decreases from + 1.36 to + 0.86 percent for the 25-year period, and from –0.73 to –2.27 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 1992-2066, relative to the 35-percent reduction assumed for alternative II, decreases the long-range actuarial balance by about 0.44 percent of taxable payroll.

3. Net Immigration

Table II.G.3 shows the estimated OASDI income rates, cost rates, and actuarial balances, on the basis of alternative II with various assumptions about the magnitude of net immigration. These assumptions are that the annual net immigration will be 600,000 persons (as assumed for alternative III), 750,000 persons (as assumed for alternative II), and 1,000,000 persons (as assumed for alternative I).

TABLE II.G.3.—ESTIMATED OASDI INCOME RATES, COST RATES, AND ACTUARIAL BALANCES, BASED ON ALTERNATIVE II WITH VARIOUS NET-IMMIGRATION ASSUMPTIONS

[As a percentage of taxable payroll]

Valuation period	Net immigration per year		
	600,000	750,000	1,000,000
Summarized income rate:			
25-year: 1992-2016	13.23	13.23	13.22
50-year: 1992-2041	13.17	13.16	13.15
75-year: 1992-2066	13.17	13.16	13.15
Summarized cost rate:			
25-year: 1992-2016	12.15	12.11	12.04
50-year: 1992-2041	13.83	13.75	13.62
75-year: 1992-2066	14.71	14.63	14.50
Actuarial balance:			
25-year: 1992-2016	+ 1.08	+ 1.12	+ 1.18
50-year: 1992-2041	−.66	−.59	−.47
75-year: 1992-2066	−1.54	−1.46	−1.34

For all three periods, the cost rate decreases with increasing rates of net immigration. For the 25-year period, the cost rate decreases from 12.15 percent of taxable payroll (for annual net immigration of 600,000 persons) to 12.04 percent (for annual net immigration of 1,000,000 persons). For the 50-year period, it decreases from 13.83 percent to 13.62 percent, and for the 75-year period, it decreases from 14.71 percent to 14.50 percent. The actuarial balance increases from + 1.08 to + 1.18 percent for the 25-year period, from –0.66 to –0.47 for the 50-year period, and from –1.54 to –1.34 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 750,000 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.G.4 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 0.6 percentage point (as assumed for alternative III), 1.1 percentage points (as assumed for alternative II), and 1.7 percentage points (as assumed for alternative I). In each case, the ultimate annual increase in the CPI is assumed to be 4.0 percent (as assumed for alternative II), yielding ultimate percentage increases in average annual wages in covered employment of 4.6, 5.1, and 5.7 percent under alternatives III, II, and I, respectively.

For the 25-year period, the cost rate decreases from 12.50 percent (for a real-wage differential of 0.6 percentage point) to 11.66 percent (for a differential of 1.7 percentage points). For the 50-year period, it decreases from 14.28 to 13.13 percent, and for the 75-year period it decreases from 15.18 to 13.95 percent. The actuarial balance increases from + 0.77 to + 1.53 percent for the 25-year period, from –1.07 to –0.02 for the 50-year period, and from –1.97 to –0.85 percent for the 75-year period.

TABLE II.G.4.—ESTIMATED OASDI INCOME RATES, COST RATES, AND ACTUARIAL BALANCES, BASED ON ALTERNATIVE II WITH VARIOUS REAL-WAGE ASSUMPTIONS

[As a percentage of taxable payroll]

Valuation period	Ultimate percentage increase in wages-CPI[1]		
	4.6-4.0	5.1-4.0	5.7-4.0
Summarized income rate:			
25-year: 1992-2016	13.26	13.23	13.19
50-year: 1992-2041	13.21	13.16	13.11
75-year: 1992-2066	13.21	13.16	13.11
Summarized cost rate:			
25-year: 1992-2016	12.50	12.11	11.66
50-year: 1992-2041	14.28	13.75	13.13
75-year: 1992-2066	15.18	14.63	13.95
Actuarial balance:			
25-year: 1992-2016	+ .77	+ 1.12	+ 1.53
50-year: 1992-2041	−1.07	−.59	−.02
75-year: 1992-2066	−1.97	−1.46	−.85

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

The cost rate decreases with increasing real-wage differentials, because the higher real-wage levels increase the taxable payroll, while benefit increases are not affected. Although the initial benefit levels are higher because of the higher wages, these increases are more than offset by the increases in the taxable payroll of future workers. Each 0.5-percentage-point increase in the assumed real-wage differential increases the long-range actuarial balance by about 0.50 percent of taxable payroll.

5. Consumer Price Index

Table II.G.5 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 3.0 percent (as assumed for alternative I), 4.0 percent (as assumed for alternative II), and 5.0 percent (as assumed for alternative III). In each case, the ultimate real-wage differential is assumed to be 1.1 percentage points (as assumed for alternative II), yielding ultimate percentage increases in average annual wages in covered employment of 4.1, 5.1, and 6.1 percent under alternatives I, II, and III, respectively.

TABLE II.G.5.—ESTIMATED OASDI INCOME RATES, COST RATES, AND ACTUARIAL BALANCES, BASED ON ALTERNATIVE II WITH VARIOUS CPI-INCREASE ASSUMPTIONS

[As a percentage of taxable payroll]

Valuation period	Ultimate percentage increase in wage-CPI[1]		
	4.1-3.0	5.1-4.0	6.1-5.0
Summarized income rate:			
25-year: 1992-2016	13.24	13.23	13.21
50-year: 1992-2041	13.17	13.16	13.15
75-year: 1992-2066	13.18	13.16	13.15
Summarized cost rate:			
25-year: 1992-2016	12.25	12.11	11.98
50-year: 1992-2041	13.95	13.75	13.56
75-year: 1992-2066	14.85	14.63	14.41
Actuarial balance:			
25-year: 1992-2016	+ 1.00	+ 1.12	+ 1.23
50-year: 1992-2041	–.77	–.59	–.41
75-year: 1992-2066	–1.67	–1.46	–1.26

[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 12.25 (for CPI increases of 3.0 percent) to 11.98 percent (for CPI increases of 5.0 percent). For the 50-year period, it decreases from 13.95 to 13.56 percent, and for the 75-year period, it decreases from 14.85 to 14.41 percent. The actuarial balance increases from + 1.00 to + 1.23 percent for the 25-year period, from –0.77 to –0.41 for the 50-year period, and from –1.67 to –1.26 percent for the 75-year period.

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

6. Real-Interest Rate

Table II.G.6 shows the estimated OASDI income rates, cost rates, and actuarial balances, on the basis of alternative II with various assumptions about the annual nominal 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 1.5 percent (as assumed for alternative III), 2.3 percent (as assumed for alternative II), and 3.0 percent (as assumed for alternative I). In each case, the ultimate annual increase in the CPI is assumed to be 4.0 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.G.6.—ESTIMATED OASDI INCOME RATES, COST RATES, AND ACTUARIAL BALANCES, BASED ON ALTERNATIVE II WITH VARIOUS REAL-INTEREST ASSUMPTIONS

[As a percentage of taxable payroll]

Valuation period	Ultimate annual real-interest rate		
	1.5 percent	2.3 percent	3.0 percent
Summarized income rate:			
25-year: 1992-2016	13.20	13.23	13.25
50-year: 1992-2041	13.14	13.16	13.18
75-year: 1992-2066	13.15	13.16	13.18
Summarized cost rate:			
25-year: 1992-2016	12.18	12.11	12.06
50-year: 1992-2041	14.04	13.75	13.51
75-year: 1992-2066	15.09	14.63	14.24
Actuarial balance:			
25-year: 1992-2016	+ 1.03	+ 1.12	+ 1.19
50-year: 1992-2041	–.91	–.59	–.33
75-year: 1992-2066	–1.94	–1.46	–1.06

For the 25-year period, the cost rate decreases slightly with increasing real-interest rates from 12.18 percent (for an ultimate real-interest rate of 1.5 percent) to 12.06 percent (for an ultimate real-interest rate of 3.0 percent). For the 50-year period, it decreases from 14.04 to 13.51 percent, and for the 75-year period, it decreases from 15.09 to 14.24 percent. The actuarial balance increases from + 1.03 to + 1.19 percent for the 25-year period, from –0.91 to –0.33 percent for the 50-year period, and from –1.94 to –1.06 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 0.29 percent of taxable payroll.

7. Disability Incidence Rates

Table II.G.7 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. These assumptions provide that the total gross annual incidence rates will increase from the 1991 level of 4.9 per thousand to levels, in 2026, of 5.8 per thousand for alternative I, 6.9 per thousand for alternative II, and 9.0 per thousand for alternative III.

TABLE II.G.7.—ESTIMATED OASDI INCOME RATES, COST RATES, AND ACTUARIAL BALANCES, BASED ON ALTERNATIVE II 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: 1992-2016	13.23	13.23	13.23
50-year: 1992-2041	13.16	13.16	13.16
75-year: 1992-2066	13.16	13.16	13.17
Summarized cost rate:			
25-year: 1992-2016	11.92	12.11	12.40
50-year: 1992-2041	13.53	13.75	14.10
75-year: 1992-2066	14.39	14.63	15.00
Actuarial balance:			
25-year: 1992-2016	+ 1.31	+ 1.12	+ .83
50-year: 1992-2041	–.38	–.59	–.94
75-year: 1992-2066	–1.23	–1.46	–1.83

For the 25-year period, the cost rate increases with increasing disability incidence rates from 11.92 percent (for the relatively low rates assumed for alternative I) to 12.40 percent (for the relatively high rates assumed for alternative III). For the 50-year period, it increases from 13.53 to 14.10 percent, and for the 75-year period, it increases from 14.39 to 15.00 percent. The actuarial balance decreases from + 1.31 to + 0.83 percent for the 25-year period, from –0.38 to –0.94 percent for the 50-year period, and from –1.23 to –1.83 percent for the 75-year period. Each 1.0-percentage point increase in the ultimate assumed gross incidence rate decreases the long-range OASDI actuarial balance by about 0.19 percent of taxable payroll.

8. Disability Termination Rates

Table II.G.8 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 all three alternatives, death-termination rates by age and sex are assumed to decline throughout the 75-year period. At the end of that period, they reach levels that, in comparison to the corresponding annual rates experienced during the base period, 1977-80, are lower by about 20 percent for males and 10 percent for females for alternative I, lower by about 30 percent for males and 20 percent for females for alternative II, and lower by about 45 percent for males and 35 percent for females for alternative III.

For all three alternatives, ultimate recovery-termination rates by age and sex are assumed to be attained in 2000. For alternative I, they are about 25 percent higher than the corresponding rates experienced during the base period. For alternative III, they are about 15 percent lower than the base-period rates. For alternative II, such rates are about 5 percent higher than those experienced in the base period, in order to reflect the effects of the additional periodic reviews that began in 1981.

TABLE II.G.8.—ESTIMATED OASDI INCOME RATES, COST RATES, AND ACTUARIAL BALANCES, BASED ON ALTERNATIVE II 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: 1992-2016	13.23	13.23	13.23
50-year: 1992-2041	13.16	13.16	13.16
75-year: 1992-2066	13.16	13.16	13.17
Summarized cost rate:			
25-year: 1992-2016	12.06	12.11	12.17
50-year: 1992-2041	13.69	13.75	13.83
75-year: 1992-2066	14.56	14.63	14.72
Actuarial balance:			
25-year: 1992-2016	+ 1.16	+ 1.12	+ 1.06
50-year: 1992-2041	–.53	–.59	–.67
75-year: 1992-2066	–1.40	–1.46	–1.55

For the 25-year period, the cost rate increases with decreasing disability termination rates from 12.06 percent (for the relatively high rates assumed for alternative I) to 12.17 percent (for the relatively low rates assumed for alternative III). For the 50-year period, it increases from 13.69 to 13.83 percent, and for the 75-year period, it increases from 14.56 to 14.72 percent. The actuarial balance decreases from + 1.16 to + 1.06 percent for the 25-year period, from –0.53 to –0.67 percent for the 50-year period, and from –1.40 to –1.55 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 Actuary, Social Security Administration, which are available upon request.

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 1990 through 2080. The projections started with an estimate of the United States population, including armed forces overseas, as of January 1, 1989, based on data from the Bureau of the Census. This population estimate was 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 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 child-bearing 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. Since then, it has risen to a level currently estimated at 2.1 for 1990.

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 rela-

tively low fertility rate. These trends include the rising percentages of women who have never married, of women who are divorced, and of young women who are in the labor force. Based on consideration of these factors, ultimate total fertility rates of 2.2, 1.9, and 1.6 children per woman were selected for alternatives I, II, and III, respectively. For each alternative, the total fertility rate is assumed to reach its ultimate level in 2016. These ultimate values can be compared to those used by the Bureau of the Census for its latest series of population projections. Those fertility rates range from 2.2 to 1.5, with an intermediate assumption of 1.8.[1] 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 Sates, calculated using final data for 1900-1988, provisional data for 1989, and experience data to obtain estimates for 1990, show a steady declining trend. 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, 1980, if that population were to experience the death rates by age and sex for the selected year—declined at an average rate of 1.2 percent per year between 1900 and 1990. These 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 likelihood of continued 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 2016 and later. The intermediate set, which is used for alternative II, is considered to be the one closest to average expectations. Except for those causes of death which primarily affect workers and children, 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 1990 and 2016, 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 1988, to the ultimate annual percentage reductions by age, sex, and cause of death assumed for 2016 and later. Alternative I reductions are assumed to change gradually from 50 percent of the average annual reductions observed between 1968 and 1988, while alternative III reductions are assumed to change gradually

[1]U.S. Bureau of the Census, Current Population Reports, Series P-25, No. 1018, "Projections of the Population of the United States By Age, Sex, and Race: 1988-2080," U.S. Government Printing Office, Washington, D.C., January 1989.

from 150 percent of the average annual reductions observed between 1968 and 1988. The age-sex-adjusted death rate (for all causes combined) declined at an average rate of 1.4 percent per year between 1968 and 1988.

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 0.3 percent, 0.6 percent, and 1.0 percent between 1988 and 2066 for alternatives I, II, and III, respectively.

For calendar years 1989 and 1990, the net legal immigration is assumed to be 470,123 and 492,117 persons per year, respectively. In addition, for these years the net other-than-legal immigration assumption is 200,000 persons per year, which is consistent with the estimates of other-than-legal immigration made by the Bureau of the Census based on the 1980 Census. For calendar year 1991, net immigration is assumed to be 800,000, 600,000, and 450,000 persons per year for alternatives I, II, and III, respectively. Of these net numbers of immigrants, 450,000, 400,000, and 350,000, respectively, are assumed to be legal, and the remainders are assumed to be other-than-legal. Because of legislative changes which increase the limits on the number of legal immigrants beginning in 1992, net immigration for the remainder of the projection period is assumed to be 1,000,000, 750,000, and 600,000 persons per year for alternatives I, II, and III, respectively. Of these net numbers of immigrants, 650,000, 550,000, and 500,000, respectively, are assumed to be legal, and the remainders are assumed to be other-than-legal.

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

TABLE II.H.1.—SOCIAL SECURITY AREA POPULATION AS OF JULY 1 AND DEPENDENCY RATIOS, BY ALTERNATIVE AND BROAD AGE GROUP, CALENDAR YEARS 1950-2070

Calendar year	Population (in thousands)				Dependency ratio	
	Under 20	20-64	65 and over	Total	Aged[1]	Total[2]
Historical data:						
1950	53,895	92,739	12,752	159,386	0.138	0.719
1960	72,989	99,842	17,250	190,081	.173	.904
1970	80,672	113,184	20,920	214,776	.185	.898
1975	78,428	122,852	23,265	224,545	.189	.828

TABLE II.H.1.—SOCIAL SECURITY AREA POPULATION AS OF JULY 1 AND DEPENDENCY RATIOS, BY ALTERNATIVE AND BROAD AGE GROUP, CALENDAR YEARS 1950-2070 (Cont.)

Calendar year	Population (in thousands)				Dependency ratio	
	Under 20	20-64	65 and over	Total	Aged[1]	Total[2]
Historical data: (Cont.)						
1980	74,544	134,429	26,148	235,121	0.195	0.749
1985	73,084	144,932	29,033	247,049	.200	.705
1990[3]	74,880	152,742	31,949	259,571	.209	.699
Alternative I:						
1995	79,053	160,431	33,987	273,472	.212	.705
2000	82,517	169,263	34,740	286,519	.205	.693
2005	84,601	178,778	35,609	298,987	.199	.672
2010	86,429	187,076	38,155	311,660	.204	.666
2015	88,511	192,741	43,535	324,787	.226	.685
2020	91,941	195,614	50,284	337,838	.257	.727
2025	95,622	196,691	57,765	350,078	.294	.780
2030	98,799	199,037	63,413	361,249	.319	.815
2035	101,424	204,477	65,689	371,591	.321	.817
2040	104,063	211,602	65,908	381,573	.311	.803
2045	107,161	218,672	65,781	391,614	.301	.791
2050	110,576	224,702	66,720	401,998	.297	.789
2055	113,945	230,322	68,661	412,928	.298	.793
2060	117,100	235,977	71,416	424,492	.303	.799
2065	120,182	242,834	73,604	436,619	.303	.798
2070	123,403	250,151	75,550	449,104	.302	.795
Alternative II:						
1995	78,397	159,541	34,108	272,046	.214	.705
2000	80,561	167,205	35,206	282,971	.211	.692
2005	80,763	175,591	36,534	292,888	.208	.668
2010	80,085	182,848	39,550	302,483	.216	.654
2015	79,176	187,182	45,405	311,763	.243	.666
2020	79,473	188,132	52,660	320,265	.280	.702
2025	80,149	186,730	60,726	327,605	.325	.754
2030	80,401	186,016	67,044	333,461	.360	.793
2035	80,197	187,750	69,960	337,908	.373	.800
2040	79,991	190,538	70,717	341,246	.371	.791
2045	79,976	192,848	71,010	343,834	.368	.783
2050	80,181	193,575	72,239	345,996	.373	.787
2055	80,388	193,260	74,378	348,027	.385	.801
2060	80,452	192,534	77,126	350,112	.401	.818
2065	80,421	192,897	78,947	352,265	.409	.826
2070	80,426	193,660	80,250	354,335	.414	.830
Alternative III:						
1995	77,849	159,041	34,240	271,130	.215	.705
2000	78,838	165,880	35,678	280,396	.215	.690
2005	77,291	173,124	37,436	287,851	.216	.663
2010	74,289	179,555	40,904	294,748	.228	.642
2015	70,698	183,043	47,249	300,989	.258	.644
2020	68,329	182,659	55,060	306,048	.301	.676
2025	66,593	179,438	63,750	309,780	.355	.726
2030	64,647	176,299	70,860	311,806	.402	.769
2035	62,483	174,871	74,725	312,080	.427	.785
2040	60,435	173,890	76,464	310,789	.440	.787
2045	58,470	172,097	77,678	308,244	.451	.791
2050	56,752	168,353	79,692	304,797	.473	.810
2055	55,178	163,181	82,462	300,820	.505	.843
2060	53,624	157,459	85,522	296,605	.543	.884
2065	52,071	153,026	87,180	292,278	.570	.910
2070	50,584	149,221	87,963	287,768	.589	.928

[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.

[3]Estimated

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

2. Covered Population

The number of covered workers in a year is defined as the number of persons who, at any time during the year, have OASDI taxable earnings. Projections of the numbers of covered workers were made by applying projected coverage rates to the projected Social Security Area population. The coverage rates—i.e., the number of covered workers in the year, as a percentage of the population as of July 1—were determined by age and sex using projected labor force participation rates and unemployment rates, and their historical relationships to coverage rates. In addition, the coverage rates were adjusted to reflect the increase in coverage of (1) State and local government employment that will result from the Omnibus Budget Reconciliation Act of 1990 and (2) Federal civilian employment that will result from the 1983 Social Security Amendments.

Labor force participation rates were projected by age and sex, taking into account projections of the percentage of the population that is married, the percentage of the population that is disabled, the number of children in the population, the level of retirement benefits, and the state of the economy. All of these factors vary by alternative. For men, the projected age-adjusted labor force participation rates for the year 2070 for alternatives I, II, and III are 1.0, 1.5, and 1.7 percentage points lower, respectively, than the 1991 level of 76.1 percent. For women, the projected age-adjusted labor force participation rates increase for alternatives I and II and decrease for alternative III. The projected rates for 2070 are 2.0, 0.8, and -1.0 percentage points, respectively, different from the 1991 level of 57.4 percent.

The total age-sex-adjusted unemployment rate averaged 5.7 percent for the last 30 years 1962-91 and 6.7 percent for the last 10 years 1982-91. The ultimate total age-sex-adjusted unemployment rate is assumed to be about 5, 6, and 7 percent for alternatives I, II, and III, respectively. Because the unemployment rate depends on the state of the economy, cyclical trends are reflected in the short-range period. Unemployment levels off to the assumed ultimate age-sex-adjusted rate by the year 2002, for each of the three alternatives.

The projected age-adjusted coverage rate for men decreases from its 1991 level of 73.8 percent to 73.2, 72.4, and 71.8 percent in 2070 on the basis of alternatives I, II, and III, respectively. For women, it changes from its 1991 level of 58.4 percent to 60.4, 58.9, and 57.1 percent for alternatives I, II, and III, respectively.

3. Average Earnings, Inflation, and Real Interest Rate

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

Increases in average earnings were projected in two components—average earnings of wage-and-salary workers, usually referred to as average wages (and shown for OASDI covered employment in table II.D.1 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-earnings increases are expressed in the form of real-earnings differentials—i.e., the percentage increase in average nominal earnings, 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 30 years 1961-90, annual increases in productivity for the total U.S. economy averaged 1.5 percent, the result of average annual increases of 2.4, 1.3, and 0.9 percent for the 10-year periods 1961-70, 1971-80 and 1981-90, respectively. Meanwhile, the average annual rate of change in average real earnings was an increase of 0.8 percent for the 30 years 1961-90, the result of average annual increases of 2.2, -0.7, and 0.8 percent, respectively, for the aforementioned 10-year periods. The change in the linkage between annual increases in productivity and real earnings averaged 0.7 percent for the 30 years 1961-90, and 0.2, 2.0, and 0.1 percent, respectively, for the aforementioned 10-year periods. The change in the linkage reflects changes in such factors as the average number of hours worked per year, the extent to which workers share in the value of production, the proportion of employee compensation paid as wages,

and price adjustment due to the ratio of the GDP price deflator index to the CPI.

The ultimate annual increases in productivity for all sectors—wage-and-salary workers, self-employed persons, and the total economy—are assumed to be 1.9, 1.5, and 1.2 percent for alternatives I, II, and III, respectively. The corresponding ultimate annual rates of change in the linkage for wage-and-salary workers are assumed to be declines of 0.2, 0.4, and 0.6 percent for alternatives I, II, and III, respectively. This linkage is made up of assumed annual decreases of 0.1, 0.2, and 0.3 percent in average hours worked per year, and 0.1, 0.2, and 0.3 percent annual declines in wages as a share of compensation, for alternatives I, II, and III, respectively. No ultimate change is assumed for the historically relatively stable ratio of employee compensation to GDP. The resulting ultimate real-wage differentials are 1.7, 1.1, and 0.6 percent. Ultimate annual declines in the linkage for self-employed persons are smaller because the proportion of reported compensation that is considered earnings remains constant. As a result, ultimate real-earnings differentials for the self-employed are assumed to be higher than for wage-and-salary workers. The corresponding ultimate real-earnings differentials 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 4.2 percent for the last 40 years 1952-91, 5.1 percent for the last 30 years 1962-91, 6.2 percent for the last 20 years 1972-91, and 3.9 percent for the last 10 years 1982-91. The 6.2 percent increase during 1972-91 reflects sharp increases in oil prices and their subsequent effect on the overall economy. The ultimate average annual CPI increases of 3.0, 4.0, and 5.0 percent for alternatives I, II, III, respectively, were chosen to include a reasonable range of possible future experiences. Ultimate annual increases in the GDP price deflator are assumed to be the same, for each alternative, as for the CPI.

The ultimate increases in average annual wages in covered employment are assumed to be 4.7, 5.1, and 5.6 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 12 months of the year. The real interest rate is defined to be the annual (compounded) yield rate for investments in these securities less growth in the CPI-W.

In developing a reasonable range of assumed future real interest rates for the three alternatives, historical experience was examined for the last 40 years, 1951-1990, and for each of the 10-year subperiods, 1951-1960, 1961-1970, 1971-1980, and 1981-1990. For the 40-year period, the real interest rate averaged 1.9 percent per year. For the four 10-year subperiods, the real interest rates averaged 0.3, 1.7, -0.4, and 6.0 percent per year, respectively. The assumed ultimate real interest rates are 3.0 percent, 2.3 percent, and 1.5 percent for alternatives I, II, and III, respectively. Rates are assumed to trend toward these ultimate values from recent high levels during the next 10 years.

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 paid by employees, employers, and the self-employed for work during the period. The taxable payroll is important not just in estimating OASDI income, but also in determining income and cost rates, and actuarial balances. These terms are defined in the introduction to the section entitled "Actuarial Estimates."

In practice, the taxable payroll is calculated as a weighted average of the earnings on which employees, employers, and self-employed persons make contributions to the OASDI program. The weighting takes into account the lower tax rates, as compared to the combined employee-employer rate, which apply to multiple-employer "excess wages," and which did apply, before 1984, to net earnings from self-employment and, before 1988, to tips. For 1983 and later, taxable payroll also includes deemed wage credits for military service. Estimates of taxable earnings for employees, employers, and the self-employed were developed from corresponding estimates of earnings in the U.S. economy, by means of factors which adjust for various differences in these measures. The factors adjust total U.S. earnings by removing earnings from noncovered employment, adding earnings from various outlying areas which are covered by Social Security but are not included in published "U.S." data, and removing earnings above the taxable earnings base.

For the 1992 report, a larger than expected decrease in the estimated ratio of taxable earnings to earnings in OASDI covered employment for 1990, along with the assumption that this ratio will decline slightly over the next decade, result in a decrease in the projected level of taxable payroll as compared with estimates in the 1991 report.

Estimates of taxes collected were developed from the corresponding estimates of taxable earnings by applying the employee, employer, or self-employed tax rate, and by taking into account the lag time from the incurrence of tax liability to the collection of taxes.

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 requirement 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 76.4 on January 1, 1991, to 90.3, 90.2, and 90.0 on January 1, 2066, based on alternatives I, II, and III, respectively. The increase for females is projected to be much greater than the increase for males. Based on alternative II, for example, the percentage for males is projected to increase only slightly during this period from 91.9 to 92.4, while that for females is projected to increase more substantially from 65.2 to 88.5.

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

6. Old-Age and Survivors Insurance Beneficiaries

The numbers of OASI beneficiaries were 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 numbers of beneficiaries were also projected by marital status.

For the short-range period, the numbers of retired-worker beneficiaries were developed by applying award rates to the aged fully insured population less those persons entitled to retired-worker or widow(er)'s benefits, and by applying termination rates to the numbers of persons already receiving retired-worker benefits. For the long range, the numbers of retired-worker beneficiaries who were not previously converted from disabled-worker beneficiary status were projected as a percentage of the "exposed population," i.e., the aged fully insured population less those persons entitled to or converted from disability benefits and those insured persons entitled to widow(er)'s benefits. The percentages for ages 70 and over were assumed to be nearly 100, because the retirement earnings test and delayed retirement credit do not apply after age 70. The percentages for ages 62 through 69 were adjusted in accordance with observed historical and projected short-range trends, and, for each year of attainment of age 62, as a function of the ratio of the monthly benefit amount payable at each age of entitlement to the amount payable at age-70 entitlement. This resulted in a gradual downward adjustment as the increases in the delayed retirement credit

become effective and, beginning in 2000, during the years in which the normal retirement age is scheduled to increase. The net effect of these adjustments is to decrease the percentages to ultimate values, which are reached in 2030. The numbers of retired-worker beneficiaries who are converted from disabled-worker beneficiaries were calculated separately in a manner consistent with the calculation of disabled-worker beneficiaries.

The numbers of aged-spouse beneficiaries were 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 female or male population not receiving retired-worker or aged-widow(er) benefits. In the long-range period, aged-spouse beneficiaries were estimated from the population projected by age, sex, and marital status. To the numbers 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, (6) the spouse is not eligible to receive a significant government pension based on earnings in noncovered employment, and (7) a residual factor.

In addition, the same factors were applied to the numbers 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 numbers of children in the population. In the short-range period, a factor was applied, representing the probability that both parents are alive. A regression equation was then used to

project the number of children of retired-worker beneficiaries. In the long-range period, entitled children were projected separately by sex of the wage-earner parent. To the numbers 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. For children aged 18, a factor was applied representing the probability that the child is attending a secondary school. The numbers of disabled children aged 18 and over of retired-worker beneficiaries were projected from the adult population in a similar manner, with the inclusion of a factor representing the probability of being disabled since childhood.

In the short-range period, the numbers of young-spouse beneficiaries were projected as a proportion of the projected numbers of child beneficiaries who are either under age 16 or disabled. In the long-range period, young-spouse beneficiaries were projected as a proportion of the projected numbers of child beneficiaries of retired workers, taking into account projected changes in average family size.

The numbers of aged-widow(er) beneficiaries were projected from the population by age and sex. In the short-range period, a regression equation projected the number of aged-widow(er) beneficiaries, as a proportion of the aged female or male population not receiving retired-worker or aged-spouse benefits. 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 numbers 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 numbers 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 numbers of disabled-widow(er) beneficiaries were estimated as a proportion of the female or male population aged

50-64. In the long-range period, the numbers were 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 numbers of children in the population whose mothers or fathers are deceased. In the short-range period, a regression equation was used to project the number of minor-child-survivor beneficiaries as a percentage of such orphaned children. In the long-range period, the numbers of child-survivor beneficiaries were 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 being replaced by a factor that represented the probability that the parent is deceased.

In the short-range period, the numbers of mother-survivor and father-survivor beneficiaries were projected from the numbers of child-survivor beneficiaries who are either under age 16 or disabled. In the long-range period, mother-survivor and father-survivor beneficiaries were estimated from the numbers of child-survivor beneficiaries, taking into account projected changes in average family size.

The numbers of parent-survivor beneficiaries were projected based on the historical pattern of the numbers of such beneficiaries.

Table II.H.2 shows the projected numbers of beneficiaries under the OASI program. 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 numbers of such residual payments were made separately for spouses and widow(er)s.

TABLE II.H.2.—OASI BENEFICIARIES WITH MONTHLY BENEFITS IN CURRENT-PAYMENT STATUS AS OF DECEMBER 31 BY ALTERNATIVE, CALENDAR YEARS 1945-2070

[In thousands]

	Retired workers and auxiliaries			Survivors				
Calendar year	Worker	Wife-husband	Child	Widow-widower	Mother-father	Child	Parent	Total
Historical data:								
1945	518	159	13	94	121	377	6	1,288
1950	1,771	508	46	314	169	653	15	3,477
1955	4,474	1,192	122	701	292	1,154	25	7,961
1960	8,061	2,269	268	1,544	401	1,577	36	14,157
1965	11,101	2,614	461	2,371	472	2,074	35	19,128
1970	13,349	2,668	546	3,227	523	2,688	29	23,030
1975	16,588	2,867	643	3,889	582	2,919	21	27,509
1980	19,562	3,016	639	4,411	562	2,610	15	30,814
1985	22,432	3,069	457	4,863	372	1,917	10	33,120
1986	22,987	3,088	450	4,931	350	1,875	9	33,690
1987	23,440	3,090	440	4,984	329	1,836	8	34,126
1988	23,858	3,086	432	5,029	318	1,810	7	34,539
1989	24,327	3,093	423	5,071	312	1,780	6	35,012
1990	24,838	3,101	422	5,111	304	1,776	6	35,559
1991	25,289	3,104	426	5,158	301	1,791	5	36,074
Alternative I:								
1995	26,388	3,116	454	5,390	299	1,827	4	37,477
2000	27,203	3,079	496	5,564	299	1,912	3	38,556
2005	28,745	2,876	559	5,671	280	2,007	3	40,142
2010	31,978	2,632	620	5,824	268	2,021	3	43,346
2015	37,570	2,435	695	5,959	253	2,025	3	48,941
2020	44,318	2,333	766	6,087	244	2,052	3	55,803
2025	50,347	2,295	818	6,210	247	2,107	3	62,027
2030	54,626	2,226	859	6,242	252	2,168	3	66,377
2035	56,836	2,151	895	6,190	256	2,219	3	68,549
2040	57,216	2,063	916	6,095	259	2,257	3	68,809
2045	57,471	2,032	942	6,019	262	2,294	3	69,022
2050	58,438	2,054	972	5,964	266	2,337	3	70,033
2055	60,371	2,133	1,017	5,960	271	2,383	3	72,137
2060	62,596	2,212	1,057	5,998	276	2,430	3	74,572
2065	64,535	2,271	1,089	6,080	281	2,473	3	76,731
2070	66,346	2,322	1,117	6,210	285	2,516	3	78,799
Alternative II:								
1995	26,490	3,116	452	5,397	306	1,874	4	37,641
2000	27,581	3,092	491	5,604	308	1,958	3	39,037
2005	29,424	2,986	556	5,692	294	1,964	3	40,919
2010	32,988	2,788	611	5,841	275	1,882	3	44,387
2015	38,941	2,634	675	5,975	260	1,799	3	50,287
2020	46,103	2,561	731	6,101	255	1,755	3	57,508
2025	52,585	2,550	764	6,225	256	1,744	3	64,128
2030	57,442	2,506	786	6,273	256	1,742	3	69,009
2035	60,231	2,443	803	6,263	252	1,739	3	71,734
2040	61,122	2,355	803	6,229	246	1,724	3	72,483
2045	61,728	2,327	805	6,214	241	1,704	3	73,021
2050	62,933	2,360	811	6,204	237	1,686	3	74,233
2055	64,977	2,466	830	6,206	234	1,668	3	76,384
2060	67,114	2,569	846	6,204	230	1,650	3	78,616
2065	68,690	2,634	853	6,218	226	1,631	3	80,254
2070	69,879	2,670	855	6,269	222	1,611	3	81,509

TABLE II.H.2.—OASI BENEFICIARIES WITH MONTHLY BENEFITS IN CURRENT-PAYMENT STATUS AS OF DECEMBER 31 BY ALTERNATIVE, CALENDAR YEARS 1945-2070(Cont.)

[In thousands]

	Retired workers and auxiliaries			Survivors				
Calendar year	Worker	Wife-husband	Child	Widow-widower	Mother-father	Child	Parent	Total
Alternative III:								
1995	26,603	3,120	451	5,409	301	1,834	4	37,722
2000	27,959	3,114	488	5,654	304	1,938	3	39,459
2005	30,044	3,098	551	5,726	331	2,008	3	41,760
2010	33,885	2,946	597	5,879	300	1,839	3	45,450
2015	40,193	2,839	652	6,012	264	1,630	3	51,593
2020	47,785	2,805	693	6,133	243	1,486	3	59,149
2025	54,724	2,829	708	6,250	235	1,418	3	66,167
2030	60,311	2,828	710	6,290	228	1,382	3	71,753
2035	63,987	2,807	710	6,294	220	1,356	3	75,377
2040	65,802	2,756	692	6,299	209	1,320	3	77,080
2045	67,167	2,768	674	6,333	197	1,274	3	78,415
2050	69,018	2,847	659	6,355	186	1,227	3	80,296
2055	71,513	3,013	660	6,349	177	1,181	3	82,896
2060	73,861	3,165	657	6,288	168	1,136	3	85,278
2065	75,284	3,249	648	6,218	159	1,091	3	86,652
2070	75,991	3,275	635	6,179	150	1,047	3	87,280

Note: The numbers of beneficiaries do not include certain uninsured persons, most of whom both attained age 72 before 1968 and have fewer than 3 quarters of coverage, in which cases the costs are reimbursed by the general fund of the Treasury. The number of such uninsured persons was 5,299 as of December 31, 1991, and is estimated to be fewer than 500 by the turn of the century. Totals do not necessarily equal the sums of rounded components.

7. Disability Insurance Beneficiaries

The numbers of DI beneficiaries were 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 numbers of disabled-worker beneficiaries were projected from the estimated numbers of such beneficiaries entitled on December 31, 1990, by adding new entitlements and subtracting terminations. The starting numbers of entitled disabled-worker beneficiaries were estimated by age, sex, and duration of entitlement, from the tabulated number of disabled-worker beneficiaries in current-payment status on December 31, 1990. The numbers of new entitlements during each year were projected by applying assumed disability incidence rates. Incidence rates by age and sex were applied to the projected disability insured population (excluding those already entitled to disabled-worker benefits) to obtain new entitlements.

The numbers of terminations were projected by applying assumed termination rates to the disabled-worker population. In the short-range period, the numbers of terminations were projected by applying assumed

termination rates (for death and recovery combined), by age and sex, to the entitled disabled-worker population. In the long-range period, the numbers of terminations were projected by applying assumed death rates and recovery rates, by age, sex, and duration of entitlement, to the entitled disabled-worker population. The numbers of terminations were then increased, in both the short-range and long-range periods, by the numbers of disabled-worker beneficiaries who would be automatically converted to retired-worker beneficiaries at the normal retirement age (currently, age 65).

Disability incidence rates declined rapidly from historically high levels for 1974-75 to a level less than half as large by the year 1982. From 1982 through 1985, incidence rates increased steadily, regaining about one-fifth of the decline from the prior period. Between 1986 and 1989, incidence rates remained fairly steady. From 1989 to 1991, incidence rates again increased at a rapid pace, reaching a level about midway between the high rates of 1974-75 and the low rates for 1982.

Assumed future levels for disability incidence rates are determined in two stages: (1) rates are first projected from recent levels based on past trends and future expectations, as if the increases scheduled in present law for the normal retirement age (NRA) would not occur, and (2) rates for the year 2000 and later are then adjusted to reflect the scheduled increase in the NRA, which tends to increase incidence rates for persons aged 60 through 64 established in the first stage as well as establishing incidence rates up to the scheduled NRA (ultimately 67).

For the intermediate alternative II assumptions, the incidence rates are projected to continue increasing through 2000. Rates projected under the first stage increase from 1991 levels by about 10 percent through the year 2000, reaching a level of about 5.3 per thousand persons exposed (defined as the number of persons who are disability insured but are not currently entitled to disabled worker benefits), age-sex-adjusted to the 1980 exposed population. By the year 2005, the age-sex-adjusted incidence rate is assumed to reach the ultimate first-stage assumed level of 5.1 per thousand exposed.

Further increases in incidence rates over age 60 along with rates assumed for persons aged 66 and 67, due to the scheduled increase in the NRA are reflected in the second stage. These adjustments contribute to the overall rise in the gross disability incidence rate from a level of 4.9 per thousand exposed for 1991 to an ultimate rate of 6.9 per thousand

exposed by the year 2026, at which time the scheduled increase in the NRA will be complete.

For the other alternatives, the disability incidence rates are assumed to follow patterns through time similar to the one for alternative II. For alternative I, the stage-one level of the age-sex-adjusted disability incidence rate for the year 2005 is assumed to be roughly 10 percent lower than that estimated for 1991. The 2026 total gross incidence rate is assumed to be 5.8 per thousand exposed. For alternative III, the stage-one level of the age-sex adjusted rate for 2005 is assumed to be roughly 30 percent higher than the estimated 1991 level. This ultimate stage-one level for alternative III is about 10 percent below the peak incidence rates experienced for 1974-75. The ultimate stage-two gross incidence rate under alternative III is assumed to reach about 9 per thousand exposed by 2026.

In the short-range period, the termination rates were projected by age and sex. For alternative II, the rates were projected to increase from the relatively low levels of 1986-91, by about 15 percent. For alternative III, the termination rates increase more slowly and to lower levels, whereas for alternative I the termination rates increase more quickly and to higher levels.

In the long-range period, the death rates and recovery rates were projected by age, sex, and duration of entitlement. For all alternatives, the death rates are assumed to decline steadily throughout the 75-year projection period. For alternative II, they reach levels in 2070 approximately 30 percent lower for males and approximately 20 percent lower for females than those experienced by disabled-worker beneficiaries during 1977-80, the most recent period for which detailed data exist. The recovery rates are assumed to increase from 1990 levels until 2000, when they attain ultimate levels about 5 percent higher than those experienced during the period 1977-80, thereby allowing for the estimated effect of the periodic reviews required by provisions of law first enacted in 1980, and amended in 1983, 1984, and 1990.

For alternative I, the death rates in 2070 are assumed to be roughly 20 percent lower for males and approximately 10 percent lower for females than those experienced by disabled-worker beneficiaries during 1977-80, and the recovery rates are assumed to increase to levels 25 percent higher than those of the same period. For alternative III, the death rates in 2070 are assumed to be about 45 percent lower for males and

approximately 35 percent lower for females than those experienced during 1977-80, and recovery rates are assumed to be 15 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 numbers 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 numbers of children in the population by age. To these numbers of children were applied factors representing the probability that either of their parents is insured and disabled. The numbers of disabled children aged 18 and over were projected as a function of the numbers of disabled-worker beneficiaries and the size of the adult population.

In the short-range period, the numbers of young-spouse beneficiaries were projected by applying quarterly award and termination rates, where awards were based on the numbers of awards to child beneficiaries who are either under age 16 or disabled. The numbers of aged-spouse beneficiaries were 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 numbers of young-spouse beneficiaries were projected as a proportion of the projected numbers of child beneficiaries who are either under age 16 or disabled, taking into account projected changes in family size. The numbers of aged-spouse beneficiaries were projected as a proportion of the numbers of disabled-worker beneficiaries, based on recent experience and allowing for projected changes in marriage rates.

Table II.H.3 shows the projected numbers of beneficiaries under the DI program.

TABLE II.H.3.—DI BENEFICIARIES WITH MONTHLY BENEFITS IN CURRENT-PAYMENT STATUS AS OF DECEMBER 31 BY ALTERNATIVE, CALENDAR YEARS 1960-2070

[In thousands]

Calendar year	Disabled worker	Auxiliaries		Total
		Wife-husband	Child	
Historical data:				
1960	455	77	155	687
1965	988	193	558	1,739
1970	1,493	283	889	2,665
1975	2,489	453	1,411	4,352
1980	2,859	462	1,358	4,678
1985	2,656	306	945	3,907
1986	2,727	301	965	3,993
1987	2,786	291	968	4,045
1988	2,830	281	963	4,074
1989	2,895	271	962	4,129
1990	3,011	266	989	4,266
1991	3,195	266	1,052	4,513
Alternative I:				
1995	3,642	260	1,154	5,056
2000	4,242	266	1,248	5,756
2005	4,679	284	1,283	6,246
2010	5,449	285	1,293	7,027
2015	5,882	268	1,288	7,439
2020	6,085	261	1,308	7,654
2025	6,374	277	1,361	8,012
2030	6,366	276	1,421	8,062
2035	6,362	275	1,472	8,109
2040	6,501	275	1,515	8,292
2045	6,882	288	1,562	8,732
2050	7,162	299	1,613	9,074
2055	7,419	313	1,672	9,404
2060	7,544	320	1,730	9,595
2065	7,738	327	1,785	9,851
2070	8,020	336	1,838	10,194
Alternative II:				
1995	3,906	280	1,234	5,420
2000	4,904	306	1,421	6,632
2005	5,641	366	1,550	7,557
2010	6,577	380	1,537	8,493
2015	7,082	374	1,488	8,944
2020	7,288	377	1,462	9,126
2025	7,584	404	1,473	9,461
2030	7,526	405	1,496	9,427
2035	7,478	402	1,519	9,398
2040	7,599	398	1,530	9,527
2045	7,992	412	1,538	9,942
2050	8,226	422	1,547	10,194
2055	8,376	436	1,561	10,373
2060	8,300	436	1,573	10,309
2065	8,293	434	1,584	10,311
2070	8,377	436	1,590	10,403
Alternative III:				
1995	4,152	298	1,306	5,756
2000	5,698	358	1,634	7,691
2005	7,072	504	1,960	9,537
2010	8,375	555	1,945	10,875
2015	9,089	572	1,850	11,511
2020	9,395	589	1,770	11,753
2025	9,791	629	1,731	12,151
2030	9,721	629	1,709	12,059
2035	9,648	619	1,697	11,964
2040	9,760	606	1,670	12,036
2045	10,183	617	1,631	12,431
2050	10,335	620	1,591	12,546
2055	10,308	629	1,557	12,494

TABLE II.H.3.—DI BENEFICIARIES WITH MONTHLY BENEFITS IN CURRENT-PAYMENT STATUS AS OF DECEMBER 31 BY ALTERNATIVE, CALENDAR YEARS 1960-2070 (Cont.)

[In thousands]

Calendar year	Disabled worker	Auxiliaries		Total
		Wife-husband	Child	
Alternative III: (Cont.)				
2060	9,904	610	1,524	12,038
2065	9,594	590	1,491	11,675
2070	9,401	576	1,456	11,432

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, because of 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 1988.

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 (unindexed in future years).

10. Administrative Expenses

The projection of administrative expenses through 2001 was based on assumed increases in average wages, increases in the CPI, and increases in the number of beneficiaries. For years after 2001, administrative expenses are assumed to increase because of increases in the numbers of beneficiaries and increases in average wages 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 the amount of OASDI benefits that would be paid to railroad workers and their families if railroad employment had been covered under the OASDI program and 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 0.03 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 numbers of such uninsured persons were 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 and 1990, and additional adjustments will be made in 1995 and every fifth year thereafter. The adjustments for 1995 were estimated based on the change in interest rates since the determination of the adjustments in 1990. 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

The OASI and DI Trust Funds are credited with the additional income taxes attributable to the partial taxation of OASDI benefit payments. 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 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 projected by applying factors representing the ratio of such income to total OASDI benefit payments under varying levels of income thresholds. Because the thresholds are constant in the law, their values in relation to future income and benefit levels decline. These factors were projected based on 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 of a larger contribution and benefit base beginning in 1991 and more extensive coverage of government and railroad employment. Therefore a cost rate of a given size represents more cost in dollars under the HI program than under the OASDI program. Even with this difference, 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.

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.A.1.

TABLE III.A.1.—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[1]	5.70	1.35	7.05	11.40	2.70	14.10
1986-87[1]	5.70	1.45	7.15	11.40	2.90	14.30
1988-89[1]	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 section entitled "Description of the Trust Funds" for description of tax credits allowed against the combined OASDI and HI taxes on net earnings from self-employment in 1984-89.

Table III.A.2 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 sets of assumptions, alternatives I, II, and III, described earlier in this report. Income rates exclude interest earned on trust fund assets. Table III.A.2 also shows the difference between income rates and cost rates, called balances. Estimates shown for the combined trust funds are theoretical because no authority currently exists for transferring assets from one trust fund to another.

Under all three sets of assumptions, combined OASDI and HI cost rates are projected to rise above current levels, with the sharpest increase occurring during the period 2010-2030. Under the more pessimistic set of assumptions, alternative III, annual deficits are projected to occur within the next 5 years, and to continue throughout the 75-year projection period. Cost rates are projected to rise to about three and one-half times their current level by the end of the projection period. Under the intermediate alternative II assumptions, annual deficits begin by the year 2010, with cost rates doubling by the end of the projection period. Under the more optimistic assumptions, alternative I, cost rates are projected to increase by over one-quarter, with annual deficits beginning before the year 2020.

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TABLE III.A.2.—COMPARISON OF ESTIMATED INCOME RATES AND COST RATES[1] FOR OASDI AND HI BY ALTERNATIVE, CALENDAR YEARS 1992-2070

[As a percentage of taxable payroll[1]]

Calendar year	OASDI			HI			Combined		
	Income rate	Cost rate	Balance	Income rate	Cost rate	Balance	Income rate	Cost rate	Balance
Alternative I:									
1992.....	12.64	11.38	1.26	2.90	2.77	0.13	15.54	14.14	1.39
1993.....	12.64	11.21	1.43	2.90	2.83	.07	15.54	14.04	1.50
1994.....	12.63	11.00	1.64	2.90	2.91	–.01	15.53	13.91	1.62
1995.....	12.59	10.79	1.80	2.90	2.99	–.09	15.49	13.78	1.72
1996.....	12.63	10.59	2.04	2.90	3.06	–.16	15.53	13.64	1.89
1997.....	12.62	10.40	2.23	2.90	3.11	–.21	15.52	13.50	2.02
1998.....	12.62	10.23	2.40	2.90	3.15	–.25	15.52	13.38	2.14
1999.....	12.62	10.08	2.54	2.90	3.20	–.30	15.52	13.28	2.24
2000.....	12.62	9.96	2.66	2.90	3.24	–.34	15.52	13.20	2.32
2001.....	12.62	9.86	2.75	2.90	3.26	–.36	15.52	13.12	2.39
2005.....	12.68	9.73	2.95	2.90	3.38	–.48	15.58	13.11	2.46
2010.....	12.76	10.05	2.71	2.90	3.55	–.65	15.66	13.60	2.06
2015.....	12.83	10.94	1.89	2.90	3.84	–.94	15.73	14.78	.95
2020.....	12.90	12.14	.76	2.90	4.01	–1.11	15.80	16.14	–.35
2025.....	12.96	13.11	–.15	2.90	4.30	–1.40	15.86	17.41	–1.56
2030.....	12.99	13.57	–.58	2.90	4.60	–1.70	15.89	18.17	–2.28
2035.....	13.00	13.47	–.47	2.90	4.80	–1.90	15.90	18.27	–2.37
2040.....	12.98	13.03	–.05	2.90	4.96	–2.06	15.88	17.99	–2.11
2045.....	12.97	12.66	.31	2.90	5.08	–2.18	15.87	17.74	–1.87
2050.....	12.96	12.48	.48	2.90	5.18	–2.28	15.86	17.66	–1.80
2055.....	12.97	12.49	.48	2.90	5.32	–2.42	15.87	17.81	–1.94
2060.....	12.97	12.53	.44	2.90	5.54	–2.64	15.87	18.07	–2.20
2065.....	12.97	12.51	.46	2.90	5.76	–2.86	15.87	18.27	–2.40
2070.....	12.97	12.48	.49	2.90	5.99	–3.09	15.87	18.47	–2.60
Alternative II:									
1992.....	12.64	11.50	1.14	2.90	2.80	.10	15.54	14.30	1.24
1993.....	12.64	11.51	1.13	2.90	2.91	–.01	15.54	14.43	1.11
1994.....	12.64	11.48	1.16	2.90	3.05	–.15	15.54	14.53	1.01
1995.....	12.63	11.42	1.22	2.90	3.18	–.28	15.53	14.60	.93
1996.....	12.64	11.39	1.26	2.90	3.31	–.42	15.54	14.70	.84
1997.....	12.64	11.35	1.29	2.90	3.43	–.53	15.54	14.78	.76
1998.....	12.64	11.31	1.33	2.90	3.54	–.64	15.54	14.85	.69
1999.....	12.64	11.27	1.37	2.90	3.65	–.75	15.54	14.92	.62
2000.....	12.64	11.24	1.40	2.90	3.76	–.86	15.54	15.00	.54
2001.....	12.64	11.22	1.42	2.90	3.85	–.95	15.54	15.07	.47
2005.....	12.72	11.24	1.48	2.90	4.28	–1.38	15.62	15.51	.11
2010.....	12.82	11.66	1.16	2.90	4.87	–1.97	15.72	16.53	–.81
2015.....	12.90	12.74	.16	2.90	5.75	–2.85	15.80	18.49	–2.69
2020.....	12.99	14.25	–1.27	2.90	6.58	–3.68	15.89	20.84	–4.95
2025.....	13.07	15.66	–2.59	2.90	7.63	–4.73	15.97	23.28	–7.32
2030.....	13.12	16.58	–3.46	2.90	8.62	–5.72	16.02	25.19	–9.17
2035.....	13.15	16.92	–3.77	2.90	9.29	–6.39	16.05	26.20	–10.15
2040.....	13.15	16.86	–3.71	2.90	9.71	–6.81	16.05	26.57	–10.52
2045.....	13.16	16.84	–3.68	2.90	9.94	–7.04	16.06	26.78	–10.72
2050.....	13.17	17.02	–3.85	2.90	10.13	–7.23	16.07	27.15	–11.08
2055.....	13.19	17.42	–4.23	2.90	10.41	–7.51	16.09	27.83	–11.74
2060.....	13.21	17.84	–4.63	2.90	10.82	–7.92	16.11	28.67	–12.55
2065.....	13.23	18.14	–4.91	2.90	11.27	–8.37	16.13	29.41	–13.28
2070.....	13.24	18.35	–5.11	2.90	11.66	–8.76	16.14	30.01	–13.87
Alternative III:									
1992.....	12.64	11.62	1.02	2.90	2.83	.07	15.54	14.45	1.09
1993.....	12.65	11.70	.94	2.90	3.00	–.10	15.55	14.70	.84
1994.....	12.65	11.73	.92	2.90	3.18	–.28	15.55	14.91	.64
1995.....	12.69	11.97	.72	2.90	3.36	–.46	15.59	15.33	.26
1996.....	12.67	12.44	.23	2.90	3.60	–.70	15.57	16.04	–.47
1997.....	12.66	12.38	.28	2.90	3.76	–.86	15.56	16.14	–.58
1998.....	12.67	12.44	.22	2.90	3.96	–1.06	15.57	16.40	–.83
1999.....	12.67	12.51	.16	2.90	4.15	–1.25	15.57	16.66	–1.09
2000.....	12.67	12.58	.09	2.90	4.35	–1.45	15.57	16.94	–1.36

TABLE III.A.2.—COMPARISON OF ESTIMATED INCOME RATES AND COST RATES[1] FOR OASDI AND HI BY ALTERNATIVE, CALENDAR YEARS 1992-2070 (Cont.)

[As a percentage of taxable payroll[1]]

Calendar year	OASDI			HI			Combined		
	Income rate	Cost rate	Balance	Income rate	Cost rate	Balance	Income rate	Cost rate	Balance
Alternative III: (Cont.)									
2001.....	12.67	12.67	0.00	2.90	4.53	–1.63	15.57	17.20	–1.63
2005.....	12.77	12.93	–.16	2.90	5.39	–2.49	15.67	18.32	–2.65
2010.....	12.89	13.56	–.67	2.90	6.71	–3.81	15.79	20.27	–4.48
2015.....	12.99	14.89	–1.91	2.90	8.66	–5.76	15.89	23.56	–7.67
2020.....	13.09	16.78	–3.68	2.90	10.88	–7.98	15.99	27.66	–11.67
2025.....	13.19	18.69	–5.49	2.90	13.56	–10.66	16.09	32.25	–16.15
2030.....	13.28	20.23	–6.95	2.90	16.17	–13.27	16.18	36.40	–20.22
2035.....	13.34	21.27	–7.93	2.90	18.04	–15.14	16.24	39.32	–23.07
2040.....	13.38	21.94	–8.56	2.90	19.11	–16.21	16.28	41.06	–24.78
2045.....	13.42	22.66	–9.24	2.90	19.58	–16.68	16.32	42.23	–25.92
2050.....	13.46	23.63	–10.16	2.90	19.97	–17.07	16.36	43.60	–27.23
2055.....	13.53	24.90	–11.37	2.90	20.52	–17.62	16.43	45.41	–28.99
2060.....	13.59	26.17	–12.58	2.90	21.35	–18.45	16.49	47.52	–31.03
2065.....	13.65	27.21	–13.57	2.90	22.22	–19.32	16.55	49.43	–32.88
2070.....	13.69	28.07	–14.38	2.90	23.11	–20.21	16.59	51.19	–34.60

[1]The taxable payroll for HI is somewhat larger than the taxable payroll for OASDI because the HI taxable maximum amount is significantly higher than the taxable maximum for OASDI beginning 1991, 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 as a percent of taxable payroll are computed as the sum of the rates for the separate programs.

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

Table III.A.3 shows the estimates of summarized OASDI and HI income rates, cost rates and balances for various time periods, based on all three sets of assumptions. Values are summarized over the three 25-year subperiods (excluding the beginning fund balances and the cost of reaching and maintaining ending fund targets) as well as 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 reaching and maintaining 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.

Under 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 (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 (excluding beginning trust fund balances and the cost of ending fund targets). Under intermediate alternative II assumptions, deficits of smaller magnitude than those

for alternative III are projected to occur for each of the three 25-year subperiods and for each of the three valuation periods. Under alternative I, the combined OASDI and HI system is projected to show positive balances for the 25-year and 50-year valuation periods and for the first 25-year subperiod. Relatively small deficits are projected for the full 75-year valuation period and for the second and third 25-year subperiods.

TABLE III.A.3.—COMPARISON OF SUMMARIZED INCOME RATES AND COST RATES[1] FOR OASDI AND HI BY ALTERNATIVE, CALENDAR YEARS 1992-2066

[As a percentage of taxable payroll[1]]

Calendar year period	OASDI			HI			Combined		
	Income rate	Cost rate	Balance	Income rate	Cost rate	Balance	Income rate	Cost rate	Balance
Alternative I:									
25-year subperiods:[2]									
1992-2016	12.67	10.34	2.33	2.90	3.34	–0.44	15.57	13.68	1.89
2017-2041	12.95	13.00	–.05	2.90	4.47	–1.57	15.85	17.46	–1.61
2042-2066	12.96	12.59	.37	2.90	5.33	–2.43	15.86	17.91	–2.06
Valuation periods:[3]									
25-year:									
1992-2016	13.16	10.77	2.40	3.07	3.49	–.42	16.23	14.26	1.98
50-year:									
1992-2041	13.07	11.75	1.32	2.99	3.93	–.94	16.06	15.68	.38
75-year:									
1992-2066	13.04	11.94	1.09	2.97	4.31	–1.34	16.01	16.25	–.25
Alternative II:									
25-year subperiods:[2]									
1992-2016	12.70	11.62	1.09	2.90	4.20	–1.30	15.60	15.82	–.21
2017-2041	13.07	15.86	–2.78	2.90	8.12	–5.22	15.97	23.97	–8.00
2042-2066	13.18	17.40	–4.22	2.90	10.41	–7.51	16.08	27.82	–11.73
Valuation periods:[3]									
25-year:									
1992-2016	13.23	12.11	1.12	3.08	4.43	–1.35	16.31	16.54	–.23
50-year:									
1992-2041	13.16	13.75	–.59	3.00	6.10	–3.10	16.16	19.85	–3.69
75-year:									
1992-2066	13.16	14.63	–1.46	2.97	7.17	–4.20	16.13	21.80	–5.66
Alternative III:									
25-year subperiods:[2]									
1992-2016	12.75	13.03	–.29	2.90	5.36	–2.46	15.65	18.39	–2.75
2017-2041	13.22	19.40	–6.18	2.90	14.89	–11.99	16.12	34.29	–18.17
2042-2066	13.50	24.59	–11.09	2.90	20.50	–17.60	16.40	45.10	–28.69
Valuation periods:[3]									
25-year:									
1992-2016	13.29	13.61	–.33	3.08	5.70	–2.62	16.37	19.31	–2.95
50-year:									
1992-2041	13.26	16.19	–2.93	3.00	9.88	–6.88	16.26	26.07	–9.81
75-year:									
1992-2066	13.32	18.21	–4.89	2.98	12.43	–9.45	16.30	30.64	–14.34

[1]The taxable payroll for HI is considerably larger than the taxable payroll for OASDI because the HI taxable maximun amount is significantly higher than the taxable maximum for OASDI beginning 1991, 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 do not include beginning trust fund balances and cost rates do not include the cost of reaching ending fund targets.

[3]Income rates include beginning trust fund balances and cost rates include 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.B.1 presents five such indices for adjustment.

One of the most common forms of standardization is based on some measure of change in the prices of consumer goods. One such price index is the Consumer Price Index for Urban Wage Earners and Clerical Workers (CPI-W, hereafter referred to as "CPI"), which is published by the Bureau of Labor Statistics, Department of Labor. This is the index used to determine annual increases in OASDI monthly benefits payable after the year of initial eligibility. The CPI is assumed to increase ultimately at annual rates of 3.0, 4.0, and 5.0 percent for alternatives I, II, and III, respectively. Constant-dollar values (those adjusted by the CPI) are provided in table III.B.2.

Another type of standardization combines the effects of price inflation with 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 4.7, 5.1, and 5.6 percent under alternatives I, II, and III, respectively.

The taxable payroll index adjusts for the effects of changes in the number of workers and changes in the proportion of earnings that are taxable, as well as for the effects of price inflation and real-wage growth.

The OASDI taxable payroll consists of all earnings subject to OASDI taxation, adjusted for the lower effective tax rate on multiple-employer "excess wages," and including deemed wage credits for military service.

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

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

TABLE III.B.1.—SELECTED ECONOMIC VARIABLES BY ALTERNATIVE, CALENDAR YEARS 1992-2070

[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]
Alternative I:					
1992	100.00	$22,807	$2,553	$5,948	1.0000
1993	102.82	23,867	2,714	6,340	1.0608
1994	105.89	25,010	2,894	6,761	1.1219
1995	109.06	26,268	3,088	7,207	1.1883
1996	112.33	27,591	3,293	7,672	1.2597
1997	115.70	28,969	3,508	8,157	1.3365
1998	119.16	30,398	3,732	8,661	1.4178
1999	122.74	31,908	3,965	9,183	1.5042
2000	126.42	33,490	4,208	9,724	1.5958
2001	130.21	35,139	4,460	10,294	1.6949
2005	146.56	42,225	5,551	12,828	2.1470
2010	169.90	53,126	7,215	16,738	2.8854
2015	196.96	66,841	9,309	21,670	3.8777
2020	228.33	84,096	11,915	27,861	5.2114
2025	264.70	105,806	15,237	35,801	7.0036
2030	306.85	133,120	19,584	46,236	9.4123
2035	355.73	167,485	25,348	60,132	12.6493
2040	412.39	210,722	32,854	78,314	16.9996
2045	478.07	265,121	42,544	101,898	22.8461
2050	554.21	333,562	55,015	132,399	30.7032
2055	642.48	419,673	71,165	172,087	41.2626
2060	744.82	528,012	92,117	223,819	55.4535
2065	863.45	664,321	119,323	291,311	74.5248
2070	1,000.97	835,817	154,491	378,978	100.1551

TABLE III.B.1.—SELECTED ECONOMIC VARIABLES BY ALTERNATIVE, CALENDAR YEARS 1992-2070 (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]
Alternative II:					
1992	100.00	$22,761	$2,532	$5,908	1.0000
1993	103.33	23,737	2,667	6,258	1.0625
1994	107.03	24,828	2,825	6,643	1.1269
1995	111.21	26,090	3,000	7,068	1.1984
1996	115.65	27,450	3,188	7,522	1.2769
1997	120.27	28,879	3,386	8,002	1.3613
1998	125.08	30,387	3,599	8,514	1.4512
1999	130.08	31,989	3,827	9,058	1.5471
2000	135.29	33,688	4,067	9,636	1.6492
2001	140.69	35,467	4,320	10,241	1.7561
2005	164.59	43,275	5,429	12,939	2.2500
2010	200.25	55,495	7,171	17,237	3.0670
2015	243.63	71,165	9,370	22,707	4.1809
2020	296.42	91,260	12,099	29,593	5.6992
2025	360.64	117,030	15,550	38,400	7.7688
2030	438.77	150,076	20,028	49,935	10.5901
2035	533.83	192,453	25,918	65,242	14.4359
2040	649.49	246,796	33,531	85,215	19.6784
2045	790.21	316,484	43,268	111,016	26.8247
2050	961.41	405,850	55,654	144,167	36.5662
2055	1,169.70	520,451	71,486	186,956	49.8453
2060	1,423.11	667,411	91,820	242,436	67.9468
2065	1,731.44	855,868	118,044	314,668	92.6220
2070	2,106.56	1,097,540	151,762	408,427	126.2580
Alternative III:					
1992	100.00	22,602	2,514	5,868	1.0000
1993	105.18	23,748	2,659	6,281	1.0696
1994	111.94	25,299	2,861	6,817	1.1514
1995	118.83	26,868	3,053	7,274	1.2488
1996	124.53	27,980	3,179	7,567	1.3512
1997	130.76	29,831	3,414	8,198	1.4536
1998	137.29	31,511	3,640	8,752	1.5559
1999	144.16	33,324	3,881	9,328	1.6647
2000	151.37	35,294	4,133	9,947	1.7791
2001	158.93	37,352	4,399	10,607	1.8991
2005	193.18	46,449	5,595	13,613	2.4500
2010	246.55	60,995	7,534	18,576	3.3686
2015	314.67	80,097	10,023	25,032	4.6316
2020	401.61	105,181	13,137	33,270	6.3680
2025	512.56	138,120	17,074	43,867	8.7555
2030	654.17	181,374	22,175	57,794	12.0381
2035	834.91	238,175	28,836	76,238	16.5514
2040	1,065.58	312,763	37,395	100,292	22.7568
2045	1,359.98	410,710	48,261	131,303	31.2887

TABLE III.B.1.—SELECTED ECONOMIC VARIABLES BY ALTERNATIVE, CALENDAR YEARS 1992-2070 (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]
Alternative III: (Cont.)					
2050	1,735.72	$539,331	$61,944	$170,960	43.0193
2055	2,215.27	708,231	79,206	221,752	59.1481
2060	2,827.31	930,025	101,164	287,310	81.3237
2065	3,608.44	1,221,277	129,354	372,667	111.8134
2070	4,605.38	1,603,740	165,435	483,484	153.7342

[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 1992, and multiplying the result by 100, thereby initializing the CPI at 100 for 1992.

[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.B.2 shows estimated operations of the combined OASI and DI Trust Funds in constant 1992 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 three sets of assumptions I, II, and III described earlier in this report.

Figure III.B.1 provides a comparison of total annual income including interest with annual income excluding interest, for the OASDI program under alternative II assumptions. Both values are expressed in constant dollars, as shown in table III.B.2. The difference between the values for each year is equal to the trust fund interest earnings. Thus the figure illustrates the amounts of total program income that are attributable to the trust fund interest and to other sources.

TABLE III.B.2.—ESTIMATED OPERATIONS OF THE COMBINED OASI AND DI TRUST FUNDS IN CONSTANT 1992 DOLLARS[1] BY ALTERNATIVE, CALENDAR YEARS 1992-2070

[In billions]

Calendar year	Income excluding interest	Interest income	Total income	Outgo	Assets at end of year
Alternative I:					
1992	$315.8	$25.1	$340.9	$290.5	$331.1
1993	331.5	27.4	358.9	295.8	385.1
1994	344.6	30.0	374.5	300.7	447.8
1995	355.3	33.1	388.4	305.6	517.6
1996	369.4	36.8	406.2	310.4	598.4
1997	381.5	41.2	422.8	315.2	688.5
1998	394.1	46.2	440.4	320.3	788.5
1999	406.4	51.8	458.2	325.8	897.9
2000	418.8	58.0	476.8	331.6	1,016.9
2001	431.2	65.0	496.2	337.9	1,145.5
2005	479.1	97.4	576.6	368.6	1,744.9
2010	540.9	148.7	689.6	426.9	2,652.7
2015	605.1	205.3	810.4	517.0	3,626.5
2020	671.8	258.3	930.1	633.3	4,529.5
2025	744.4	303.5	1,047.9	754.7	5,295.4
2030	827.4	343.0	1,170.3	865.9	5,971.6
2035	924.1	384.6	1,308.8	959.7	6,700.3
2040	1,032.2	438.6	1,470.8	1,038.3	7,655.4
2045	1,151.8	511.3	1,663.1	1,126.7	8,938.1
2050	1,284.3	603.9	1,888.2	1,239.3	10,563.2
2055	1,433.3	715.2	2,148.5	1,383.1	12,506.6
2060	1,601.0	844.7	2,445.8	1,550.0	14,767.2
2065	1,789.1	996.2	2,785.3	1,729.2	17,413.8
2070	1,998.1	1,175.4	3,173.5	1,926.6	20,543.8
Alternative II:					
1992	313.4	25.0	338.4	291.4	327.8
1993	324.5	26.8	351.3	297.3	371.3
1994	333.1	28.8	361.8	303.1	417.2
1995	339.6	30.9	370.5	308.1	463.9
1996	347.7	33.4	381.1	313.9	513.4
1997	354.9	36.2	391.1	319.6	565.1
1998	362.7	39.1	401.8	325.5	619.7
1999	370.7	42.3	413.0	331.6	677.2
2000	378.9	45.6	424.5	338.0	737.6
2001	387.3	49.1	436.4	344.6	801.1
2005	418.6	63.9	482.5	370.7	1,080.5
2010	458.1	85.9	544.0	417.5	1,456.0
2015	495.1	104.3	599.3	490.1	1,746.5
2020	529.0	109.1	638.1	581.8	1,801.8
2025	562.2	94.7	656.9	675.0	1,534.7
2030	597.7	60.7	658.4	756.8	947.9
2035[2]	637.1	10.7	647.9	821.4	105.8
Alternative III:					
1992	311.2	25.0	336.2	292.2	324.8
1993	317.7	26.4	344.1	295.9	356.9
1994	322.4	28.0	350.4	299.9	385.8
1995	325.0	30.4	355.4	307.6	411.3
1996	322.7	32.2	354.9	317.5	429.9
1997	329.1	33.3	362.4	323.3	448.5
1998	334.9	34.1	369.1	329.9	466.3
1999	339.7	34.7	374.4	336.7	481.9
2000	344.8	35.1	379.9	343.6	495.2
2001	349.8	35.4	385.2	350.7	506.1
2005	368.9	33.5	402.4	374.5	530.8
2010	393.0	30.9	423.9	414.5	497.9
2015[2]	412.7	19.9	432.6	474.5	302.0

[1]The adjustment from current to constant dollars is by the CPI indexing series shown in table III.B.1.

[2]Estimates for later years are not shown because the combined OASI and DI Trust Funds are estimated to become exhausted in 2036 under alternative II and in 2019 under alternative III.

FIGURE III.B.1.—ESTIMATED OASDI INCOME IN CONSTANT DOLLARS, BASED ON ALTERNATIVE II, CALENDAR YEARS 1992-2036

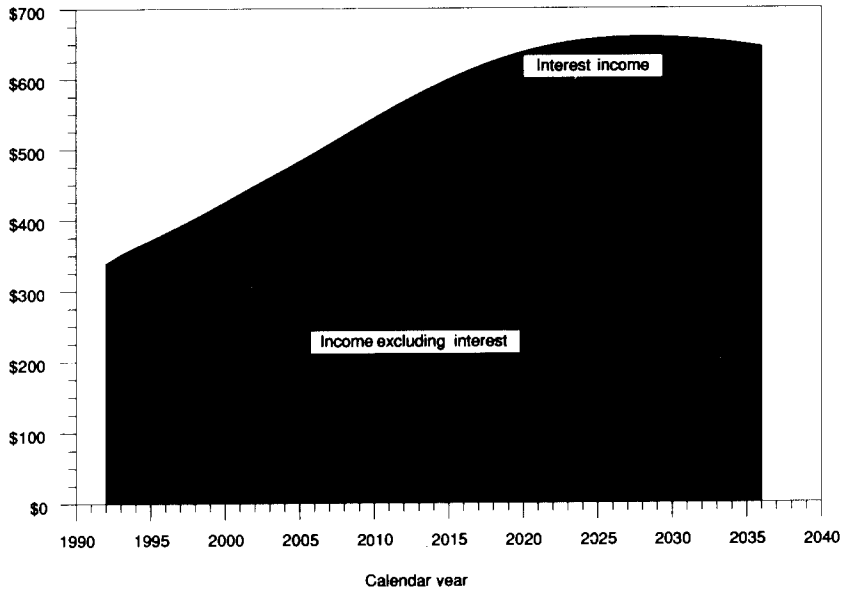

Table III.B.3 shows estimated operations of the combined OASI and DI Trust Funds in current dollars—that is in dollars unadjusted for inflation. Items included in the table are: income excluding interest, interest income, total income, total outgo, and assets at the end of the year. These estimates, based on the three sets of economic and demographic assumptions I, II, and III described earlier in this report, are presented to facilitate independent analysis.

TABLE III.B.3.—ESTIMATED OPERATIONS OF THE COMBINED OASI AND DI TRUST FUNDS IN CURRENT DOLLARS BY ALTERNATIVE, CALENDAR YEARS 1992-2070

[In billions]

Calendar year	Income excluding interest	Interest income	Total income	Outgo	Assets at end of year
Alternative I:					
1992	$315.8	$25.1	$340.9	$290.5	$331.1
1993	340.8	28.2	369.0	304.1	396.0
1994	364.9	31.7	396.6	318.4	474.2
1995	387.5	36.1	423.6	333.3	564.5
1996	414.9	41.4	456.3	348.7	672.1
1997	441.4	47.7	489.1	364.7	796.5
1998	469.7	55.1	524.7	381.7	939.6
1999	498.8	63.6	562.4	399.9	1,102.1
2000	529.4	73.3	602.7	419.3	1,285.6
2001	561.5	84.6	646.1	440.0	1,491.6
2005	702.2	142.8	845.0	540.1	2,557.3
2010	919.0	252.7	1,171.7	725.3	4,506.9
2015	1,191.9	404.3	1,596.2	1,018.3	7,142.6
2020	1,533.9	589.8	2,123.7	1,446.0	10,342.1
2025	1,970.3	803.4	2,773.7	1,997.7	14,016.7
2030	2,538.8	1,052.4	3,591.3	2,657.1	18,324.0
2035	3,287.4	1,368.2	4,655.7	3,414.0	23,835.0
2040	4,256.6	1,808.6	6,065.2	4,281.9	31,570.0
2045	5,506.3	2,444.2	7,950.5	5,386.3	42,730.5
2050	7,117.7	3,346.8	10,464.5	6,868.1	58,542.4
2055	9,209.0	4,594.8	13,803.8	8,886.5	80,353.0
2060	11,924.7	6,291.7	18,216.4	11,544.4	109,988.3
2065	15,447.7	8,602.0	24,049.7	14,930.8	150,358.8
2070	20,000.3	11,765.3	31,765.6	19,284.3	205,636.9
Alternative II:					
1992	313.4	25.0	338.4	291.4	327.8
1993	335.3	27.7	363.0	307.2	383.6
1994	356.5	30.8	387.3	324.4	446.5
1995	377.6	34.4	412.0	342.6	515.9
1996	402.1	38.6	440.8	363.0	593.7
1997	426.8	43.5	470.3	384.4	679.6
1998	453.6	49.0	502.6	407.1	775.1
1999	482.2	55.0	537.2	431.4	880.9
2000	512.6	61.7	574.4	457.3	998.0
2001	544.8	69.1	614.0	484.9	1,127.1
2005	689.0	105.1	794.1	610.1	1,778.4
2010	917.3	172.0	1,089.3	836.1	2,915.6
2015	1,206.2	254.0	1,460.2	1,194.1	4,255.1
2020	1,568.0	323.5	1,891.6	1,724.6	5,341.0
2025	2,027.5	341.6	2,369.1	2,434.4	5,534.6
2030	2,622.7	266.3	2,889.0	3,320.4	4,158.9
2035[1]	3,401.1	57.4	3,458.5	4,384.8	564.9
Alternative III:					
1992	311.2	25.0	336.2	292.2	324.8
1993	334.2	27.7	361.9	311.3	375.4
1994	360.9	31.4	392.3	335.7	431.9
1995	386.2	36.1	422.3	365.5	488.8
1996	401.9	40.2	442.0	395.5	535.3
1997	430.3	43.6	473.9	422.7	586.5
1998	459.8	46.9	506.7	452.9	640.2
1999	489.8	50.0	539.8	485.3	694.7
2000	521.9	53.2	575.1	520.2	749.6
2001	556.0	56.2	612.2	557.4	804.4
2005	712.6	64.8	777.4	723.5	1,025.3
2010	968.9	76.2	1,045.1	1,021.9	1,227.7
2015[1]	1,298.7	62.7	1,361.4	1,493.0	950.2

[1]Estimates for later years are not shown because the combined OASI and DI Trust Funds are estimated to become exhausted in 2036 under alternative II and in 2019 under alternative III.

Table III.B.4 shows estimated income excluding interest and estimated total outgo 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 three sets of assumptions I, II, and III described earlier in this report. For OASDI, income excluding interest consists of payroll-tax contributions, proceeds from taxation of benefits, and miscellaneous transfers from the general fund of the Treasury. Outgo consists of benefit payments, administrative expenses, net transfers from the trust funds to the Railroad Retirement program, and payments for vocational rehabilitation services for disabled beneficiaries. For HI, income excluding interest consists of contributions (including contributions from railroad employment) 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.B.4 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.B.4.—ESTIMATED OASDI AND HI INCOME EXCLUDING INTEREST, OUTGO, AND BALANCE IN CURRENT DOLLARS BY ALTERNATIVE, CALENDAR YEARS 1992-2070

[In billions]

	OASDI			HI			Combined		
Calendar year	Income excluding interest	Outgo	Balance	Income excluding interest	Outgo	Balance	Income excluding interest	Outgo	Balance
Alternative I:									
1992	$316	$290	$25	$83	$79	$4	$399	$370	$29
1993	341	304	37	88	86	2	429	390	39
1994	365	318	46	94	95	0	459	413	46
1995	387	333	54	101	104	–3	488	437	51
1996	415	349	66	107	113	–6	522	462	60
1997	441	365	77	114	122	–8	555	487	69
1998	470	382	88	121	132	–10	591	513	77
1999	499	400	99	129	142	–13	627	542	86
2000	529	419	110	136	152	–16	666	571	94
2001	561	440	121	144	162	–18	706	602	104
2005	702	540	162	178	207	–30	880	747	133
2010	919	725	194	231	282	–51	1,150	1,008	142
2015	1,192	1,018	174	298	395	–97	1,490	1,413	77
2020	1,534	1,446	88	382	528	–146	1,916	1,974	–58
2025	1,970	1,998	–27	489	725	–236	2,459	2,723	–264
2030	2,539	2,657	–118	628	997	–369	3,167	3,654	–487
2035	3,287	3,414	–127	813	1,346	–532	4,101	4,760	–659
2040	4,257	4,282	–25	1,054	1,801	–747	5,311	6,083	–772
2045	5,506	5,386	120	1,365	2,388	–1,024	6,871	7,775	–903
2050	7,118	6,868	250	1,765	3,150	–1,386	8,882	10,018	–1,136
2055	9,209	8,886	323	2,283	4,186	–1,903	11,492	13,073	–1,581
2060	11,925	11,544	380	2,955	5,639	–2,685	14,879	17,184	–2,304
2065	15,448	14,931	517	3,827	7,602	–3,775	19,275	22,533	–3,258
2070	20,000	19,284	716	4,955	10,235	–5,280	24,955	29,519	–4,564

TABLE III.B.4.—ESTIMATED OASDI AND HI INCOME EXCLUDING INTEREST, OUTGO, AND BALANCE IN CURRENT DOLLARS BY ALTERNATIVE, CALENDAR YEARS 1992-2070(Cont.)

[In billions]

Calendar year	OASDI			HI			Combined		
	Income excluding interest	Outgo	Balance	Income excluding interest	Outgo	Balance	Income excluding interest	Outgo	Balance
Alternative II:									
1992	$313	$291	$22	$83	$80	$3	$396	$371	$25
1993	335	307	28	87	87	0	422	395	28
1994	356	324	32	92	97	–5	449	421	27
1995	378	343	35	98	107	–10	475	450	25
1996	402	363	39	104	119	–15	506	482	24
1997	427	384	42	110	130	–20	537	515	22
1998	454	407	46	117	143	–26	571	550	21
1999	482	431	51	124	157	–32	606	588	18
2000	513	457	55	132	171	–39	645	629	16
2001	545	485	60	140	186	–46	685	671	14
2005	689	610	79	174	256	–82	863	866	–4
2010	917	836	81	230	386	–156	1,147	1,222	–75
2015	1,206	1,194	12	300	595	–295	1,506	1,790	–283
2020	1,568	1,725	–157	388	881	–493	1,956	2,606	–650
2025	2,027	2,434	–407	499	1,313	–813	2,527	3,747	–1,220
2030	2,623	3,320	–698	643	1,911	–1,268	3,266	5,231	–1,965
2035	3,401	4,385	–984	832	2,665	–1,833	4,233	7,050	–2,817
2040	4,402	5,655	–1,253	1,077	3,604	–2,527	5,479	9,259	–3,780
2045	5,681	7,284	–1,603	1,389	4,764	–3,374	7,071	12,048	–4,977
2050	7,314	9,471	–2,157	1,787	6,243	–4,456	9,101	15,714	–6,613
2055	9,411	12,454	–3,043	2,295	8,238	–5,942	11,706	20,692	–8,986
2060	12,109	16,384	–4,275	2,948	11,003	–8,055	15,057	27,387	–12,330
2065	15,588	21,414	–5,826	3,790	14,725	–10,935	19,378	36,139	–16,761
2070	20,057	27,846	–7,789	4,872	19,594	–14,722	24,929	47,440	–22,511
Alternative III:									
1992	311	292	19	82	80	2	393	372	21
1993	334	311	23	87	90	–3	421	401	20
1994	361	336	25	94	102	–9	454	438	16
1995	386	365	21	100	116	–16	486	481	5
1996	402	395	6	104	129	–25	506	524	–19
1997	430	423	8	111	145	–33	542	567	–26
1998	460	453	7	119	162	–43	579	615	–36
1999	490	485	4	126	181	–55	616	666	–50
2000	522	520	2	135	202	–67	657	722	–66
2001	556	557	–1	143	224	–80	699	781	–82
2005	713	724	–11	180	334	–154	892	1,058	–165
2010	969	1,022	–53	242	560	–318	1,211	1,582	–371
2015	1,299	1,493	–194	322	962	–640	1,621	2,455	–834
2020	1,716	2,204	–488	422	1,585	–1,163	2,138	3,789	–1,650
2025	2,248	3,191	–943	549	2,569	–2,020	2,797	5,760	–2,962
2030	2,938	4,487	–1,549	714	3,980	–3,266	3,652	8,467	–4,814
2035	3,838	6,134	–2,296	928	5,774	–4,846	4,767	11,909	–7,142
2040	4,992	8,206	–3,213	1,204	7,932	–6,729	6,196	16,138	–9,942
2045	6,461	10,934	–4,474	1,553	10,484	–8,931	8,014	21,418	–13,404
2050	8,323	14,636	–6,313	1,993	13,727	–11,734	10,316	28,363	–18,047
2055	10,693	19,720	–9,028	2,549	18,030	–15,482	13,241	37,750	–24,509
2060	13,723	26,473	–12,750	3,255	23,962	–20,707	16,978	50,435	–33,457
2065	17,616	35,199	–17,583	4,162	31,883	–27,721	21,778	67,082	–45,304
2070	22,602	46,440	–23,839	5,322	42,419	–39,097	27,924	88,859	–60,935

Note: Annual figures are available from the Office of the Actuary, Social Security Administration.

Table III.B.5 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 alternative II assumptions. The benefit amount is shown in current dollars, constant dollars (adjusted by the CPI indexing series shown in table III.B.1), and as a percentage of earnings in the 12-month period preceding retirement. The normal retirement age is currently 65, and is scheduled to increase to age 66 during the period 2000-2005 (at a rate of 2 months per year as workers attain age 62), and to age 67 during the period 2017-2022 (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), and maximum (earnings at the amount of the projected SSA contribution and benefit base).

TABLE III.B.5.—ESTIMATED AVERAGE BENEFIT AMOUNT PAYABLE[1] TO RETIRED WORKERS WITH VARIOUS STEADY PRE-RETIREMENT EARNINGS LEVELS BASED ON ALTERNATIVE II ASSUMPTIONS, CALENDAR YEARS 1992-2070

Year attain age 65[3]	Age at retirement	Current dollars			Constant 1992 dollars[2]			Percent of earnings		
		Low[4]	Average	Maximum[5]	Low[4]	Average	Maximum[5]	Low[4]	Average	Maximum[5]
Retirement at normal retirement age:										
1992	65:0	$5,786	$9,552	$13,089	$5,786	$9,552	$13,089	58.8	43.7	24.5
1995	65:0	6,369	10,511	14,653	5,728	9,453	13,178	57.0	42.3	24.4
2000	65:0	8,067	13,329	19,324	5,963	9,853	14,284	56.0	41.7	25.3
2005	65:6	10,625	17,559	26,438	6,330	10,461	15,751	55.9	41.6	26.1
2010	66:0	13,979	23,129	35,963	6,712	11,106	17,268	56.0	41.7	26.9
2015	66:0	17,927	29,666	46,944	7,075	11,708	18,527	56.0	41.7	27.4
2020	66:2	23,160	38,298	60,843	7,464	12,342	19,608	55.9	41.6	27.4
2025	67:0	30,846	51,098	81,090	7,908	13,100	20,789	55.7	41.5	27.4
2030	67:0	39,551	65,522	104,026	8,334	13,806	21,920	55.7	41.5	27.4
2035	67:0	50,713	84,039	133,379	8,783	14,555	23,100	55.7	41.5	27.4
2040	67:0	65,040	107,770	170,992	9,258	15,341	24,341	55.7	41.5	27.4
2045	67:0	83,413	138,207	219,297	9,759	16,170	25,658	55.7	41.6	27.4
2050	67:0	106,963	177,228	281,218	10,286	17,043	27,044	55.7	41.5	27.4
2055	67:0	137,172	227,279	360,610	10,842	17,965	28,503	55.7	41.6	27.4
2060	67:0	175,905	291,452	462,384	11,428	18,935	30,040	55.7	41.5	27.4
2065	67:0	225,582	373,757	592,885	12,046	19,958	31,659	55.7	41.6	27.4
2070	67:0	289,280	479,295	760,286	13,732	22,752	36,092	55.7	41.6	27.4
Retirement at age 65:										
1992	65:0	$5,786	$9,552	$13,089	$5,786	$9,552	$13,089	58.8	43.7	24.5
1995	65:0	6,369	10,511	14,653	5,728	9,453	13,178	57.0	42.3	24.4
2000	65:0	8,067	13,329	19,324	5,963	9,853	14,284	56.0	41.7	25.3
2005	65:0	10,066	16,640	25,019	6,116	10,110	15,201	54.3	40.4	25.3
2010	65:0	12,497	20,648	31,990	6,241	10,311	15,975	52.6	39.1	25.1
2015	65:0	16,025	26,464	41,875	6,577	10,862	17,187	52.6	39.1	25.7
2020	65:0	20,311	33,544	53,361	6,852	11,316	18,002	52.0	38.6	25.5
2025	65:0	24,477	40,430	64,378	6,787	11,211	17,851	48.8	36.3	24.0
2030	65:0	31,388	51,845	82,594	7,154	11,816	18,824	48.8	36.3	24.0
2035	65:0	40,261	66,485	105,904	7,542	12,454	19,838	48.9	36.3	24.0
2040	65:0	51,627	85,267	135,775	7,949	13,128	20,905	48.9	36.3	24.0
2045	65:0	66,208	109,347	174,147	8,379	13,838	22,038	48.9	36.3	24.0
2050	65:0	84,906	140,229	223,318	8,831	14,586	23,228	48.9	36.3	24.0
2055	65:0	108,889	179,829	286,371	9,309	15,374	24,482	48.9	36.3	24.0
2060	65:0	139,628	230,602	367,196	9,811	16,204	25,802	48.9	36.3	24.0
2065	65:0	179,059	295,726	470,824	10,342	17,080	27,193	48.9	36.3	24.0
2070	65:0	229,623	379,224	603,741	10,900	18,002	28,660	48.9	36.3	24.0

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

[2]The adjustment from current to constant dollars is made using the CPI indexing series shown in table III.B.1.

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

[4]Earnings equal to 45 percent of average.

[5]Earnings equal to the contribution and benefit base.

C. LONG-RANGE ESTIMATES OF SOCIAL SECURITY TRUST FUND OPERATIONS AS A PERCENTAGE OF THE 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 the 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.F.12 and section III.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.C.1 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.C.1. For OASDI, income excluding interest consists of payroll-tax contributions, proceeds from taxation of benefits, and various reimbursements from the general fund of the Treasury. Total outgo consists of benefit payments, administrative expenses, net transfers from the trust funds to the Railroad Retirement program, and payments for vocational rehabilitation services for disabled beneficiaries. For HI, income excluding interest consists of contributions (including contributions from railroad employment) and payments from the general fund of the Treasury for contributions on deemed wage credits for military service. Total outgo consists of outlays (benefits and administrative expenses) for insured beneficiaries. Both the HI income and outgo are on an incurred basis.

For the next 13 years, the OASDI balance (income excluding interest less outgo) as a percentage of GDP is projected to increase on the basis of alternatives I and II, and to decline on the basis of alternative III. The projected HI balance as a percentage of GDP, however, decreases through 2005 under all three alternatives. The combined OASDI and HI balance as a percentage of GDP is projected, for the next 13 years, to increase under alternative I, and to decline under alternatives II and III. Between 2005 and about 2030, under all three alternatives, both the OASDI and HI balances as percentages of GDP are projected to decline

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substantially because the "baby-boom" generation reaches retirement age during these years. By 2020, balances are projected to become permanently negative in each case except for the OASDI program under alternative I. After 2020, both the HI and OASDI deficits (negative balances) as percentages of GDP are projected to continue to increase in size, except for OASDI under alternative I, for which the balance as a percentage of GDP is projected to be negative for a brief period and a small positive thereafter.

By the year 2070, 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 0.95 percent for alternative I to a deficit of 11.37 percent for alternative III. Projected balances differ by a much smaller amount by the year 2015: from a positive balance of 0.35 percent for alternative I to a deficit of 3.33 percent for alternative III. In addition, the summarized long-range (75-year) balance as a percentage of GDP varies by a relatively large amount (from a deficit of 0.16 percent, based on alternative I, to a deficit of 5.97 percent, based on alternative III), while the 25-year summarized balance varies by a smaller amount (from a positive of 0.84 percent to a deficit of 1.31 percent). Summarized rates are calculated on the present-value basis including the trust fund balances on January 1, 1992 and the cost of reaching and maintaining a target trust fund level equal to 100 percent of annual expenditures by the end of the period. (See section II.F for further explanation.)

TABLE III.C.1.—ESTIMATED OASDI AND HI INCOME EXCLUDING INTEREST, OUTGO, AND BALANCE AS A PERCENTAGE OF GDP BY ALTERNATIVE, CALENDAR YEARS 1992-2070

	Percentage of GDP									
	OASDI			HI			Combined			
Calendar year	Income[1]	Outgo	Balance	Income[1]	Outgo	Balance	Income[1]	Outgo	Balance	GDP in dollars (billions)
Alternative I:										
1992	5.31	4.88	0.42	1.40	1.33	0.06	6.71	6.22	0.49	5,948
1993	5.38	4.80	.58	1.39	1.36	.03	6.77	6.16	.61	6,340
1994	5.40	4.71	.69	1.39	1.40	–.01	6.79	6.11	.68	6,762
1995	5.38	4.62	.75	1.40	1.44	–.04	6.77	6.06	.71	7,207
1996	5.41	4.54	.86	1.40	1.47	–.08	6.80	6.02	.79	7,672
1997	5.41	4.47	.94	1.40	1.50	–.10	6.81	5.97	.84	8,158
1998	5.42	4.41	1.02	1.40	1.52	–.12	6.82	5.93	.89	8,661
1999	5.43	4.35	1.08	1.40	1.54	–.14	6.83	5.90	.93	9,183
2000	5.44	4.31	1.13	1.40	1.57	–.16	6.85	5.88	.97	9,725
2001	5.45	4.27	1.18	1.40	1.58	–.17	6.86	5.85	1.01	10,294
2005	5.47	4.21	1.26	1.38	1.61	–.23	6.86	5.82	1.03	12,829
2010	5.49	4.33	1.16	1.38	1.69	–.31	6.87	6.02	.85	16,739
2015	5.50	4.70	.80	1.38	1.82	–.45	6.88	6.52	.35	21,671
2020	5.51	5.19	.32	1.37	1.89	–.52	6.88	7.08	–.21	27,862
2025	5.50	5.58	–.08	1.37	2.03	–.66	6.87	7.60	–.74	35,802
2030	5.49	5.75	–.26	1.36	2.16	–.80	6.85	7.90	–1.05	46,237
2035	5.47	5.68	–.21	1.35	2.24	–.89	6.82	7.92	–1.10	60,132
2040	5.44	5.47	–.03	1.35	2.30	–.95	6.78	7.77	–.99	78,314
2045	5.40	5.29	.12	1.34	2.34	–1.00	6.74	7.63	–.89	101,898

TABLE III.C.1.—ESTIMATED OASDI AND HI INCOME EXCLUDING INTEREST, OUTGO, AND BALANCE AS A PERCENTAGE OF GDP BY ALTERNATIVE, CALENDAR YEARS 1992-2070 (Cont.)

	Percentage of GDP									
	OASDI			HI			Combined			
Calendar year	Income[1]	Outgo	Balance	Income[1]	Outgo	Balance	Income[1]	Outgo	Balance	GDP in dollars (billions)
Alternative I:										
2050	5.38	5.19	0.19	1.33	2.38	–1.05	6.71	7.57	–0.86	132,400
2055	5.35	5.16	.19	1.33	2.43	–1.11	6.68	7.60	–.92	172,087
2060	5.33	5.16	.17	1.32	2.52	–1.20	6.65	7.68	–1.03	223,819
2065	5.30	5.13	.18	1.31	2.61	–1.30	6.62	7.73	–1.12	291,312
2070	5.28	5.09	.19	1.31	2.70	–1.39	6.58	7.79	–1.20	378,978
Summarized rates:[2]										
25-year:										
1992-2016	5.68	4.64	1.03	1.48	1.67	–.19	7.15	6.31	.84	---
50-year:										
1992-2041	5.59	5.03	.56	1.43	1.86	–.44	7.02	6.89	.13	---
75-year:										
1992-2066	5.53	5.07	.46	1.40	2.02	–.62	6.93	7.09	–.16	---
Alternative II:										
1992	5.30	4.93	.37	1.40	1.35	.05	6.70	6.28	.42	5,909
1993	5.36	4.91	.45	1.39	1.40	–.01	6.75	6.30	.44	6,259
1994	5.37	4.88	.48	1.39	1.46	–.07	6.75	6.34	.41	6,643
1995	5.34	4.85	.50	1.38	1.52	–.14	6.72	6.36	.36	7,069
1996	5.35	4.83	.52	1.38	1.58	–.20	6.73	6.40	.32	7,522
1997	5.33	4.80	.53	1.38	1.63	–.25	6.71	6.43	.28	8,003
1998	5.33	4.78	.55	1.37	1.68	–.30	6.70	6.46	.24	8,515
1999	5.32	4.76	.56	1.37	1.73	–.36	6.70	6.49	.20	9,058
2000	5.32	4.75	.57	1.37	1.78	–.41	6.69	6.52	.17	9,637
2001	5.32	4.73	.59	1.37	1.82	–.45	6.69	6.55	.14	10,242
2005	5.32	4.71	.61	1.34	1.98	–.64	6.67	6.70	–.03	12,940
2010	5.32	4.85	.47	1.33	2.24	–.91	6.65	7.09	–.44	17,237
2015	5.31	5.26	.05	1.32	2.62	–1.30	6.63	7.88	–1.25	22,708
2020	5.30	5.83	–.53	1.31	2.98	–1.67	6.61	8.80	–2.20	29,594
2025	5.28	6.34	–1.06	1.30	3.42	–2.12	6.58	9.76	–3.18	38,400
2030	5.25	6.65	–1.40	1.29	3.83	–2.54	6.54	10.48	–3.94	49,936
2035	5.21	6.72	–1.51	1.28	4.09	–2.81	6.49	10.81	–4.32	65,242
2040	5.17	6.64	–1.47	1.26	4.23	–2.97	6.43	10.86	–4.44	85,215
2045	5.12	6.56	–1.44	1.25	4.29	–3.04	6.37	10.85	–4.48	111,016
2050	5.07	6.57	–1.50	1.24	4.33	–3.09	6.31	10.90	–4.59	144,168
2055	5.03	6.66	–1.63	1.23	4.41	–3.18	6.26	11.07	–4.81	186,956
2060	4.99	6.76	–1.76	1.22	4.54	–3.32	6.21	11.30	–5.09	242,437
2065	4.95	6.81	–1.85	1.20	4.68	–3.48	6.16	11.48	–5.33	314,669
2070	4.91	6.82	–1.91	1.19	4.80	–3.60	6.10	11.62	–5.51	408,428
Summarized rates:[2]										
25-year:										
1992-2016	5.56	5.09	.47	1.45	2.06	–.61	7.00	7.15	–.14	---
50-year:										
1992-2041	5.42	5.67	–.24	1.38	2.77	–1.40	6.80	8.44	–1.64	---
75-year:										
1992-2066	5.33	5.92	–.59	1.34	3.20	–1.86	6.66	9.12	–2.46	---

TABLE III.C.1.—ESTIMATED OASDI AND HI INCOME EXCLUDING INTEREST, OUTGO, AND BALANCE AS A PERCENTAGE OF GDP BY ALTERNATIVE, CALENDAR YEARS 1992-2070(Cont.)

Calendar year	Percentage of GDP									GDP in dollars (billions)
	OASDI			HI			Combined			
	Income[1]	Outgo	Balance	Income[1]	Outgo	Balance	Income[1]	Outgo	Balance	
Alternative III:										
1992	5.30	4.98	0.32	1.40	1.36	0.03	6.70	6.34	0.36	5,869
1993	5.32	4.96	.36	1.38	1.43	–.05	6.70	6.38	.32	6,281
1994	5.29	4.92	.37	1.37	1.50	–.13	6.67	6.43	.24	6,817
1995	5.31	5.02	.29	1.37	1.59	–.22	6.68	6.62	.07	7,274
1996	5.31	5.23	.08	1.37	1.70	–.33	6.68	6.93	–.25	7,567
1997	5.25	5.16	.09	1.36	1.76	–.40	6.61	6.92	–.31	8,199
1998	5.25	5.18	.08	1.36	1.85	–.49	6.61	7.03	–.41	8,752
1999	5.25	5.20	.05	1.36	1.94	–.58	6.61	7.14	–.54	9,329
2000	5.25	5.23	.02	1.35	2.03	–.68	6.60	7.26	–.66	9,948
2001	5.24	5.25	–.01	1.35	2.11	–.76	6.59	7.36	–.77	10,607
2005	5.23	5.31	–.08	1.32	2.45	–1.13	6.55	7.77	–1.21	13,614
2010	5.22	5.50	–.29	1.30	3.01	–1.71	6.52	8.51	–2.00	18,576
2015	5.19	5.96	–.78	1.29	3.84	–2.56	6.47	9.81	–3.33	25,033
2020	5.16	6.62	–1.47	1.27	4.76	–3.49	6.43	11.39	–4.96	33,271
2025	5.12	7.27	–2.15	1.25	5.86	–4.60	6.38	13.13	–6.75	43,867
2030	5.08	7.76	–2.68	1.24	6.89	–5.65	6.32	14.65	–8.33	57,795
2035	5.03	8.05	–3.01	1.22	7.57	–6.36	6.25	15.62	–9.37	76,238
2040	4.98	8.18	–3.20	1.20	7.91	–6.71	6.18	16.09	–9.91	100,293
2045	4.92	8.33	–3.41	1.18	7.98	–6.80	6.10	16.31	–10.21	131,303
2050	4.87	8.56	–3.69	1.17	8.03	–6.86	6.03	16.59	–10.56	170,961
2055	4.82	8.89	–4.07	1.15	8.13	–6.98	5.97	17.02	–11.05	221,752
2060	4.78	9.21	–4.44	1.13	8.34	–7.21	5.91	17.55	–11.64	287,310
2065	4.73	9.45	–4.72	1.12	8.56	–7.44	5.84	18.00	–12.16	372,667
2070	4.67	9.61	–4.93	1.10	8.77	–7.67	5.78	18.38	–12.60	483,485
Summarized rates:[2]										
25-year:										
1992-2016	5.48	5.61	–.13	1.43	2.60	–1.18	6.90	8.22	–1.31	---
50-year:										
1992-2041	5.30	6.48	–1.17	1.34	4.38	–3.03	6.65	10.85	–4.21	---
75-year:										
1992-2066	5.18	7.09	–1.90	1.29	5.36	–4.07	6.47	12.45	–5.97	---

[1]Income excludes interest on the trust funds.

[2]Summarized rates are calculated on the present-value basis including the value of the trust funds on January 1, 1992 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.

The difference between trust fund operations expressed as percentages of taxable payroll and those expressed as percentages of GDP can be seen by analyzing the estimated ratios of taxable payroll to GDP, which are presented in table III.C.2. 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.

Projections of GDP for the first several years were based on assumed quarterly changes in real GDP and the GDP price deflator. Thereafter, projections of GDP were based on the projected increases in U.S. employment, labor productivity, and the GDP price deflator. Productivity projections are consistent with assumed changes in the level of

average earnings, the ratio of earnings to worker compensation, the ratio of worker compensation to GDP, and average hours worked per year (see section II.H).

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

TABLE III.C.2.—RATIO OF TAXABLE PAYROLL TO GDP BY ALTERNATIVE, CALENDAR YEARS 1992-2070

Calendar year	I	II	III
1992	0.429	0.429	0.428
1993	.428	.426	.423
1994	.428	.425	.420
1995	.429	.424	.420
1996	.429	.424	.420
1997	.430	.423	.416
1998	.431	.423	.416
1999	.432	.423	.416
2000	.433	.422	.416
2001	.433	.422	.415
2005	.433	.420	.411
2010	.431	.416	.406
2015	.430	.413	.400
2020	.428	.409	.395
2025	.426	.405	.389
2030	.424	.401	.384
2035	.422	.397	.378
2040	.420	.393	.373
2045	.418	.390	.368
2050	.416	.386	.362
2055	.414	.382	.357
2060	.412	.379	.352
2065	.410	.375	.347
2070	.408	.372	.342

The long-range trend in the ratio of taxable payroll to GDP reflects the assumed trend in the ratio of wages to total employee compensation—i.e., wages plus fringe benefits. The ratio of wages to total employee compensation declined at average annual rates of 0.33 percent for the 30 years 1961-90 and 0.30, 0.63, and 0.06 percent for the 10-year periods 1961-70, 1971-80, and 1981-90, respectively. Ultimate future annual rates of decline in the ratio of wages to employee compensation are assumed to be 0.1, 0.2, and 0.3 percent for alternatives I, II, and III, respectively. An additional factor that has made the overall ratio of taxable payroll to GDP decline in recent years is the decline in the ratio of taxable earnings to covered earnings, as a result the relatively greater increases in earnings for persons with earnings above the benefit and contribution

base. This decline in the taxable ratio is assumed to continue at a slower pace through the end of this century.

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

For alternative I, the ratio of taxable payroll to GDP is projected to rise slowly through the year 2001, and then to decrease for the remainder of the long-range period. For alternatives II and III, the ratio of taxable payroll to GDP is projected to decrease essentially throughout the long-range period.

D. TEN YEAR HISTORY OF ACTUARIAL BALANCE ESTIMATES

This appendix chronicles the recent history of the primary measure of long-range actuarial status, namely the actuarial balance, as shown in the annual reports for 1982 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:

1. The amount of the trust fund balances on hand at the beginning of the valuation period, as shown in the reports for 1988 and later, and
2. 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.D.1 shows the estimated OASDI actuarial balances, as well as the summarized income and cost rates, for the last 10 annual reports (1982-1991), along with the estimates for the current report. The values shown are based on the intermediate alternative II assumptions, or alternative II-B for years prior to 1991.

TABLE III.D.1.—LONG-RANGE ACTUARIAL BALANCES FOR THE OASDI PROGRAM AS SHOWN FOR THE INTERMEDIATE ASSUMPTIONS[1] IN THE TRUSTEES REPORTS ISSUED IN YEARS 1982-1992

[As a percentage of taxable payroll]

Year of report	Summarized income rate	Summarized cost rate	Actuarial balance	Change from previous year
1982	12.27	14.09	−1.82	0.00
1983	12.87	12.84	+ .02	+ 1.84
1984	12.90	12.95	−.06	−.08
1985	12.94	13.35	−.41	−.35
1986	12.96	13.40	−.44	−.03
1987	12.89	13.51	−.62	−.18
1988	12.94	13.52	−.58	+ .04
1989	13.02	13.72	−.70	−.13
1990	13.04	13.95	−.91	−.21
1991	13.11	14.19	−1.08	−.17
1992	13.16	14.63	−1.46	−.38

[1]Values shown are based on the intermediate alternative II assumptions for 1991 and 1992, and on the intermediate alternative II-B assumptions for 1982-90.

For several of the years included in the table, significant legislative changes or definitional changes have affected the estimated actuarial balance. The Social Security Amendments of 1983 accounted for the largest single change in the past 10 years. The actuarial balance of –1.82 for the 1982 report improved to + 0.02 for the 1983 report. In 1985, the estimated actuarial balance changed largely because of an adjustment made to the method for estimating the age distribution of immigrants.

Rebenchmarking of the National Income and Product Accounts, and changes in demographic assumptions contributed to the change in actuarial balance for 1987. Various changes in assumptions and methods for the 1988 report had roughly offsetting effects on the actuarial balance. In 1989 and 1990, changes in economic assumptions accounted for most of the changes in the estimated actuarial balance. In 1991, the effect of legislation, changes in economic assumptions, and the introduction of the cost of reaching and maintaining an ending trust fund target combined to produce the change in actuarial balance. Changes affecting the actuarial balance shown for the 1992 report are described in section II.F.2 of this report.

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

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

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

On December 31, 1991, about 687,000 persons were receiving monthly benefits from the OASI Trust Fund because of their disabilities or the disabilities of children. This total includes 49,000 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 $3,174 million in calendar year 1991. Table III.E.1 shows these and similar figures for selected calendar years during 1960-91, and estimated experience for 1992-2001 based on the intermediate set of assumptions.

TABLE III.E.1.— BENEFIT DISBURSEMENTS FROM THE OASI TRUST FUND WITH RESPECT TO DISABLED BENEFICIARIES, SELECTED CALENDAR YEARS 1960-1991, AND ESTIMATED FUTURE DISBURSEMENTS DURING 1992-2001 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	Total	Children[2]	Widows-widowers[3]
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	2,043	1,860	183
1986	614	565	49	2,198	2,001	197
1987	629	580	49	2,314	2,111	203
1988	640	591	49	2,503	2,292	211
1989	651	602	49	2,669	2,448	221
1990	662	613	49	2,875	2,642	233
1991	687	627	61	3,174	2,870	304
Estimates:						
1992	709	645	64	3,444	3,108	336
1993	728	664	64	3,674	3,324	350
1994	748	685	63	3,931	3,568	363
1995	768	706	62	4,213	3,839	373
1996	790	729	61	4,539	4,150	389
1997	813	752	62	4,899	4,491	408
1998	837	776	61	5,295	4,868	427
1999	858	797	61	5,725	5,278	447
2000	875	816	60	6,167	5,701	466
2001	893	834	59	6,621	6,137	484

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

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

[3]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.

Total benefit payments from the OASI Trust Fund with respect to disabled beneficiaries are estimated to increase from $3,444 million in calendar year 1992 to $6,621 million in calendar year 2001, based on alternative II.

In calendar year 1991, 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 $30,873 million, of which $3,174 million, or 10.3 percent, represented payments from the OASI Trust Fund. These and similar figures for selected calendar years during 1960-91 and estimates for calendar years 1992-2001 are presented in table III.E.2.

TABLE III.E.2.—BENEFIT DISBURSEMENTS UNDER THE OASDI PROGRAM WITH RESPECT TO DISABLED BENEFICIARIES, BY TRUST FUND, SELECTED CALENDAR YEARS 1960-1991, AND ESTIMATED FUTURE DISBURSEMENTS DURING 1992-2001 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	20,879	18,836	2,043	9.8
1986	22,054	19,856	2,198	10.0
1987	22,841	20,527	2,314	10.1
1988	24,211	21,708	2,503	10.3
1989	25,581	22,911	2,669	10.4
1990	27,710	24,835	2,875	10.4
1991	30,873	27,698	3,174	10.3
Estimates:				
1992	33,857	30,413	3,444	10.2
1993	36,500	32,826	3,674	10.1
1994	39,453	35,522	3,931	10.0
1995	42,756	38,543	4,213	9.9
1996	46,560	42,021	4,539	9.7
1997	50,721	45,822	4,899	9.7
1998	55,307	50,012	5,295	9.6
1999	60,249	54,524	5,725	9.5
2000	65,561	59,394	6,167	9.4
2001	71,228	64,607	6,621	9.3

[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 3, table III.E.1).

F. FEDERAL REGISTER NOTICE

DEPARTMENT OF HEALTH AND HUMAN SERVICES

Office of the Secretary

1992 Cost-of-Living Increase and Other Determinations

AGENCY: Social Security Administration, HHS.

ACTION: Notice.

SUMMARY:The Secretary has determined—

1) A 3.7 percent cost-of-living increase in benefits under title II, effective for December 1991 (the Old-Age, Survivors, and Disability Insurance (OASDI) fund ratio, determined to be 82.2 percent for 1991, does not affect this cost-of-living increase);

(2) An increase in the Federal Supplemental Security Income (SSI) (title XVI) monthly benefit amounts for 1992 to $422 for an eligible individual, $633 for an eligible individual with an eligible spouse, and $211 for an essential person;

(3) The average of the total wages for 1990 to be $21,027.98;

(4) The amount of earnings a person must have to be credited with a quarter of coverage in 1992 to be $570;

(5) The monthly exempt amounts under the Social Security retirement earnings test for taxable years ending in calendar year 1992 to be $850 for beneficiaries age 65 through 69 and $620 for beneficiaries under age 65;

(6) The "bend points" used in the benefit formula for workers who become eligible for benefits in 1992 and in the formula for computing maximum family benefits;

(7) The deemed average wages total for 1990 to be $21,341.82;

(8) The OASDI contribution and benefit base to be $55,500 for remuneration paid in 1992 and self-employment income earned in taxable years beginning in 1992;

(9) The Hospital Insurance contribution base to be $130,200 for remuneration paid in 1992 and self-employment income earned in taxable years beginning in 1992; and

(10) The "old-law" contribution and benefit base to be $41,400 for 1992.

FOR FURTHER INFORMATION CONTACT: Jeffrey L. Kunkel, Office of the Actuary, Social Security Administration, 6401 Security Boulevard, Baltimore, MD 21235, (410) 965-3013.

SUPPLEMENTARY INFORMATION: The Secretary is required by the Social Security Act (the Act) to publish within 45 days after the close of the third calendar quarter of 1991 the benefit increase percentage and the revised table of "special minimum" benefits (section 215(i)(2)(D)). Also, the Secretary is required to publish before November 1 the average of the total wages for 1990 (section 215(i)(2)(C)(ii)) and the OASDI fund ratio for 1991 (section 215(i)(2)(C)(ii)). Finally, the Secretary is required to publish on or before November 1 the contribution and benefit base for 1992 (section 230(a)), the amount of earnings required to be credited with a quarter of coverage in 1992 (section 213(d)(2)), the monthly exempt amounts under the Social Security retirement earnings test for 1992 (section 203(f)(8)(A)), the formula for computing a primary insurance amount for workers who first become eligible for benefits or die in 1992 (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 1992 (section 203(a)(2)(C)).

OASDI Fund Ratio

General. Section 215(i) of the Act provides for automatic cost-of-living living increases in OASDI benefit amounts. This section also includes a "stabilizer" provision that can limit the automatic OASDI benefit increase under certain circumstances. If the combined assets of the OASI and DI Trust Funds, as a percentage of annual expenditures, are below a specified threshold, the automatic benefit increase is equal to the lesser of (1) the increase in average wages 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 1991 is the ratio of (1) the combined assets of the OASI and DI Trust Funds at the beginning of 1991 to (2) the estimated expenditures of the OASI and DI Trust Funds during 1991, 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 1991 equaled $225,277 million, and the expenditures are estimated to be $274,154 million. Thus, the OASDI fund ratio for 1991 is 82.2 percent, which exceeds the applicable threshold of 20.0 percent. Therefore, the stabilizer provision does not affect the benefit increase for December 1991. 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.

Cost-of-Living Increases

*General.*The cost-of-living increase is 3.7 percent for benefits under titles II and XVI of the Act.

Under title II, old-age, survivors, and disability insurance benefits will increase by 3.7 percent beginning with the December 1991 benefits, which are payable on January 3, 1992. This increase is unaffected by the stabilizer provision, as described above. 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 3.7 percent effective for payments made for the month of January 1992 but paid on December 31, 1991. This is based on the authority contained in section 1617 of the Act (42 U.S.C. 1382f). The percentage increase effective January 1992 is the same as the title II benefit increase and the annual payment amount is rounded, when not a multiple of $12, to the next lower multiple of $12. (The stabilizer provision does not affect SSI payment levels.)

Automatic Benefit Increase Computation. Under section 215(i) of the Act, the third calendar quarter of 1991 is a cost-of-living computation quarter for all the purposes of the Act. The Secretary is, therefore, required to increase benefits, effective with December 1991, 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 1991, the benefit increase is the percentage increase in the Consumer Price Index for Urban Wage Earners and Clerical Workers from the third quarter of 1990 through the third quarter of 1991. The December 1991 benefit increase is not affected by the stabilizer provision because the OASDI fund ratio for 1991 exceeds the 20.0 percent threshold fixed by statute.

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 Department of Labor's Consumer Price Index for Urban Wage Earners and Clerical Workers for each month in the quarter ending September 30, 1990, was: for July 1990, 128.7; for August 1990, 129.9; and for September 1990, 131.1. The arithmetic mean for this calendar quarter is 129.9 (after rounding to the nearest 0.1). The corresponding Consumer Price Index for each month in the quarter ending September 30, 1991, was: for July 1991, 134.3; for August 1991, 134.6; and for September 1991, 135.2. The arithmetic mean for this calendar quarter is 134.7. Thus, because the Consumer Price Index for the calendar quarter ending September 30, 1991, exceeds that for the calendar quarter ending September 30, 1990 by 3.7 percent, a cost-of-living benefit increase of 3.7 percent is effective for benefits under title II of the Act beginning December 1991.

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 1992, benefits will increase by 3.7 percent beginning with benefits for December 1991 which are payable on January 3, 1992. In the case of first eligibility after 1991, the 3.7 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. In accordance with section 215(i)(4) of the Act, the primary insurance amounts and the maximum family benefits shown in this table are revised by (1) increasing by 3.7 percent the corresponding amounts established by the last cost-of-living increase and the last extension of the benefit table made under section 215(i)(4) (to reflect the increase in the contribution and benefit base for 1991); and (2) by extending the table to reflect the higher monthly wage and related benefit amounts now possible under the increased contribution and benefit base for 1992, as described later in this notice. A copy of this table may be obtained by writing to: Social Security Administration, Office of Public Inquiries, 4100 Annex, Baltimore, MD 21235.

Section 215(i)(2)(D) of the Act also requires that, when the Secretary determines an automatic increase in Social Security benefits, the Secretary 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. 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 3.7 percent benefit increase.

SPECIAL MINIMUM PRIMARY INSURANCE AMOUNTS AND MAXIMUM FAMILY BENEFITS

Primary insurance amount payable for Dec. 1990	No. of years required minimum earnings level	Primary insurance amount payable for Dec. 1991	Maximum family benefit payable for Dec. 1991
$23.00	11	$23.80	$35.90
45.90	12	47.50	71.70
69.10	13	71.60	107.80
92.10	14	95.50	143.40
115.20	15	119.40	179.10
138.20	16	143.30	215.40
161.30	17	167.20	251.20
184.40	18	191.20	287.00
207.50	19	215.10	322.90
230.40	20	238.90	358.60
253.80	21	263.10	394.80
276.60	22	286.80	430.50
299.90	23	310.90	466.90
322.90	24	234.80	502.70
345.90	25	358.60	538.20
369.20	26	382.80	574.70
392.20	27	406.70	610.40
415.10	28	430.40	646.10
438.10	29	454.30	682.20
461.20	30	478.20	717.80

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 $167.50 for an individual under sections 227 and 228 of the Act is increased by 3.7 percent to obtain the new amount of $173.60. The present monthly benefit amount of $83.80 for a spouse under section 227 is increased by 3.7 percent to $86.90.

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 3.7 percent effective January 1992. Therefore, the yearly Federal SSI benefit amounts of $4,884 for an eligible individual, $7,320 for an eligible individual with an eligible spouse, and $2,448 for an essential person, which became effective January 1991, are increased, effective January 1992, to $5,064, $7,596, and $2,532, respectively, after rounding. The corresponding monthly amounts for 1992 are determined by dividing the yearly amounts by 12, giving $422, $633, and $211, 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.

Averages of the Total Wages for 1990

General. Under various provisions of the Act, several amounts are scheduled to increase automatically for 1992. These include (1) the contribution and benefit base, (2) the "old law" contribution and benefit base (as determined under section 230 of the Act as in effect before the 1977 amendments), (3) the Hospital Insurance contribution base, (4) the amount of earnings required for a worker to be credited with a quarter of coverage, (5) the retirement test exempt amounts, and (6) the "bend points" in the PIA and maximum family benefit formulas. Normally, all of these amounts would be based on the increase in the average of the total wages.

However, section 10208 of Pub. L. 101-239 (the Omnibus Budget Reconciliation Act of 1989) requires that the contribution and benefit base and the "old law" contribution and benefit base be determined under a "transitional rule" using deemed average wage amounts. Also, section 11331 of Pub. L. 101-508 (the Omnibus Budget Reconciliation Act of 1990) established the Hospital Insurance contribution base for 1991 and requires that this new base be automatically increased following the same procedure used for the contribution and benefit base. This results in a contribution and benefit base for the OASDI program (the OASDI contribution and benefit base) and a contribution base that is separate for the Hospital Insurance program (the Hospital Insurance contribution base). The deemed average wages and the resulting bases are determined later in this notice.

Computation. The determinationof the average wage figure for 1990 is based on the 1989 average wage figure of $20,099.55 announced in the FEDERAL REGISTER on October 31, 1990 (55 FR 45856), along with the percentage increase in average wages from 1989 to 1990 measured by annual wage data tabulated by the Social Security Administration (SSA). The average amounts of wages calculated directly from this data were $18,997.93 and $19,875.47 for 1989 and 1990, respectively. To determine an average wage figure for 1990 at a level that is consistent with the series of average wages for 1951 through 1977 (published December 29, 1978, at 43 FR 61016), we multiplied the 1989 average wage figure of $20,099.55 by the percentage increase in average wages from 1989 to 1990 (based on SSA-tabulated wage data) as follows (with the result rounded to the nearest cent):

Amount. Average wage for 1990 = $20,099.55 x $19,875.47 ($18,997.93/ $21,027.98. Therefore, the average wage for 1990 is determined to be $21,027.98.

Quarter of Coverage Amount

General. The 1992 amount of earnings required for a quarter of coverage is $570. 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 cover-

age 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 (Pub. L. 95-216) 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 1992 shall be equal to the 1978 amount of $250 multiplied by the ratio of (1) the average amount, per employee, of total wages for calendar year 1990 to (2) the average amount of those wages reported for calendar year 1976. The section further provides that if the amount so determined is not a multiple of $10, it shall be rounded to the nearest multiple of $10.

Average Wages. The average wage for calendar year 1976 was previously determined to be $9,226.48. This was published in the FEDERAL REGISTER on December 29, 1978, at 43 FR 61016. The average wage for calendar year 1990 has been determined to be $21,027.98 as stated above.

Quarter of Coverage Amount. The ratio of the average wage for 1990, $21,027.98, compared to that for 1976, $9,226.48, is 2.2790902. Multiplying the 1978 quarter of coverage amount of $250 by the ratio of 2.2790902 produces the amount of $569.77, which must then be rounded to $570. Accordingly, the quarter of coverage amount is determined to be $570 for 1992.

Retirement Earnings Test Exempt Amounts

(a) Beneficiaries Aged 70 or Over. Beginning with months after December 1982, there is no limit on the amount an individual aged 70 or over may earn and still receive Social Security benefits.

(b) *Beneficiaries Aged 65 through 69.* The retirement earnings test monthly exempt amount for beneficiaries aged 65 through 69 is stated in the Act at section 203(f)(8)(D) for years 1978 through 1982. A formula is provided in section 203(f)(8)(B) for computing the exempt amount applicable for years after 1982. The monthly exempt amount for 1991 was determined by this formula to be $810. Under the formula, the exempt amount for 1992 shall be the 1991 exempt amount multiplied by the ratio of (1) the average amount, per employee, of the total wages for calendar year 1990 to (2) the average amount of those wages for calendar year 1989. The section further provides that if the amount so determined is not a multiple of $10, it shall be rounded to the nearest multiple of $10.

Average Wages. The average wage for 1990, as determined above, is $21,027.98. Therefore, the ratio of the average wages for 1990, $21,027.98, compared to that for 1989, $20,099.55, is 1.0461916.

Exempt Amount for Beneficiaries Aged 65 through 69. Multiplying the 1991 retirement earnings test monthly exempt amount of $810 by the ratio of 1.0461916 produces the amount of $847.42. This must then be rounded to $850. The retirement earnings test monthly exempt amount for beneficiaries aged 65 through 69 is determined to be $850 for 1992. The corresponding retirement earnings test annual exempt amount for these beneficiaries is $10,200.

(c)*Beneficiaries Under Age 65.* Section 203 of the Act provides that beneficiaries under age 65 have a lower retirement earnings test monthly exempt amount than those beneficiaries aged 65 through 69. The exempt amount for beneficiaries under age 65 is determined by a formula provided in section 203(f)(8)(B) of the Act. Under the formula, the monthly exempt amount for beneficiaries under age 65 is $590 for 1991. The formula provides that the exempt amount for 1992 shall be the 1991 exempt amount for beneficiaries under age 65 multiplied by the ratio of (1) the average amount, per employee, of the total wages for calendar year 1990 to (2) the average amount of those wages for calendar year 1989. The section further provides that if the amount so determined is not a multiple of $10, it shall be rounded to the nearest multiple of $10.

Average Wages. The average wage for 1990, as determined above, is $21,027.98. Therefore, the ratio of the average wages for 1990, $21,027.98, compared to that of 1989, $20,099.55, is 1.0461916.

Exempt Amount for Beneficiaries Under Age 65. Multiplying the 1991 retirement earnings test monthly exempt amount of $590 by the ratio 1.0461916 produces the amount of $617.25. This must then be rounded to $620. The retirement earnings test monthly exempt amount for beneficiaries under age 65 is thus determined to be $620 for 1992. The corresponding retirement earnings test annual exempt amount for these beneficiaries is $7,440.

Computing Benefits After 1978

General. The Social Security Amendments of 1977 provided a new method for determining an individual's primary insurance amount. This method uses a formula based on "wage indexing" and was fully explained with interim regulations and final regulations published in the FEDERAL REGISTER on December 29, 1978, at 43 FR 60877 and July 15, 1982, at 47 FR 30731 respectively. It generally applies when a worker first becomes eligible for benefits after 1978. The formula uses the worker's earnings after they have been adjusted, or "indexed," in proportion to the increase in average wages of all workers. Using this method, we determine the worker's

"average indexed monthly earnings." We then compute the primary insurance amount, using the worker's average indexed monthly earnings. The computation formula is adjusted automatically each year to reflect changes in general wage levels.

Average Indexed Monthly Earnings. To ensure that a worker's future benefits reflect the general rise in the standard of living that occurs during his or her working lifetime, we adjust or "index" the worker's past earnings to take into account the change in general wage levels that has occurred during the worker's years of employment. These adjusted earnings are then used to compute the worker's primary insurance amount.

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 1992, we divide the average of the total wages for 1990, $21,027.98, by the average of the total wages for each year prior to 1990 in which the worker had earnings. We then multiply the actual wages and self- employment income as defined in section 211(b) of the Act credited for each year by the corresponding ratio to obtain the worker's adjusted earnings for each year. After determining the number of years we must use to compute the primary insurance amount, we pick those years with highest indexed earnings, total those indexed earnings and divide by the total number of months in those years. This figure is rounded down to the next lower dollar amount, and becomes the average indexed monthly earnings figure to be used in computing the worker's primary insurance amount for 1992.

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 1992 are obtained by multiplying the corresponding 1979 bend-point amounts by the ratio between the average of the total wages for 1990, $21,027.98, and for 1977, $9,779.44. These results are then rounded to the nearest dollar. For 1992, the ratio is 2.1502233. Multiplying the 1979 amounts of $180 and $1,085 by 2.1502233 produces the amounts of $387.04 and $2,332.99. These must then be rounded to $387 and $2,333. Accordingly, the portions of the average indexed monthly earnings to be used in 1992 are determined to be the first $387, the amount between $387 and $2,333, and the amount over $2,333.

Consequently, for individuals who first become eligible for old-age insurance benefits or disability insurance benefits in 1992, or who die in 1992 before becoming eligible for benefits, we will compute their primary insurance amount by adding the following:

(a) 90 percent of the first $387 of their average indexed monthly earnings, plus

(b) 32 percent of the average indexed monthly earnings over $387 and through $2,333, plus

(c) 15 percent of the average indexed monthly earnings over $2,333.

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 adjustments we have described 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 which 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 which may be paid to a worker's family. The Social Security Disability Amendments of 1980 (Pub. L. 96-265) established a new formula for computing the maximum benefits payable to the family of a disabled worker. This new 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. The new formula was explained in a final rule published in the FEDERAL REGISTER on May 8, 1981, at 46 FR 25601. 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 1992 are obtained by multiplying the corresponding 1979 bend-point amounts by the ratio between the average of the total wages for 1990, $21,027.98, and the average for 1977, $9,779.44. This amount is then rounded

to the nearest dollar. For 1992, the ratio is 2.1502233. Multiplying the amounts of $230, $332, and $433 by 2.1502233 produces the amounts of $494.55, $713.87, and $931.05. These amounts are then rounded to $495, $714, and $931. Accordingly, the portions of the primary insurance amounts to be used in 1992 are determined to be the first $495, the amount between $495 and $714, the amount between $714 and $931, and the amount over $931.

Consequently, for the family of a worker who becomes age 62 or dies in 1992 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 $495 of the worker's primary insurance amount, plus

(b) 272 percent of the worker's primary insurance amount over $495 through $714, plus

(c) 134 percent of the worker's primary insurance amount over $714 through $931, plus

(d) 175 percent of the worker's primary insurance amount over $931.

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 adjustments we have described are contained in section 203(a) of the Act (42 U.S.C. 403(a)).

Deemed Average of the Total Wages Under Transitional Rule

General. Section 10208 of Pub. L. 101-239, which amended section 209 of the Act (42 U.S.C. 409), provides a transitional rule for computing the average of the total wages used in the formula for determining the contribution and benefit base and the "old-law" contribution and benefit base. The transitional rule was used to determine the bases for 1990 and 1991, and will be used herein to determine both bases for 1992. In accordance with section 11331 of Pub. L. 101-508, the transitional rule also applies in the determining the Hospital Insurance contribution base for 1992.

Computation. The determination of the deemed average wage figure for 1990 is based on the 1989 average wage figure of $20,099.55 announced in the FEDERAL REGISTER on October 31, 1990 (55 FR 45856), along with the percentage increase in the average of wages, excluding contributions to certain deferred compensation plans, for 1989 to the average of wages including such contributions for 1990, as measured by annual wage data tabulated by SSA. The average amounts of wages calculated directly from this data were $18,997.93 and $20,172.11 for 1989 and 1990, respectively. To determine the deemed average wage figure for 1990, we multiplied the 1989 average wage figure of $20,099.55 by the percentage increase in average wages from 1989 to 1990 (based on SSA-tabulated wage data) as follows (with the result rounded to the nearest cent):

Amount. Deemed average wage for 1990 = $20,099.55 x $20,172.11 / $18,997.93 = $21,341.82. Therefore, the deemed average wage for 1990 is determined to be $21,341.82.

OASDI Contribution and Benefit Base

General. The contribution and benefit base is $55,500 for remuneration paid in 1992 and self-employment income earned in taxable years beginning in 1992.

The contribution and benefit base serves two purposes:

(a) It is the maximum annual amount of earnings on which Old-Age, Survivors and Disability Insurance taxes are paid.

(b) It is the maximum annual amount used in determining a person's OASDI benefits.

Computation. Section 230(c) of the Act provides a table with the contribution and benefit base for each year 1978, 1979, 1980, and 1981. For years after 1981, section 230(b) of the Act contains a formula for determining the contribution and benefit base. This formula was amended by section 10208 of Pub. L. 101-239 to substitute deemed average wage amounts for average wage amounts. Under the prescribed formula, the contribution and benefit base for 1992 shall be equal to the 1991 base of $53,400 multiplied by the ratio of (1) the deemed average amount, per employee, of total wages for the calendar year 1990 to (2) the deemed average amount of those wages for the calendar year 1989. Section 230(b) further provides that if the amount so determined is not a multiple of $300, it shall be rounded to the nearest multiple of $300.

Deemed Average Wages. The deemed average wage for calendar year 1989 was previously determined to be $20,486.23. The deemed average wage for calendar year 1990 has been determined to be $21,341.82, as stated above.

Amount. The ratio of the deemed average wage for 1990, $21,341.82, compared to the deemed average wage for 1989, $20,486.23, is 1.0417642. Multiplying the 1991 contribution and benefit base amount of $53,400 by the ratio of 1.0417642 produces the amount of $55,630.21 which must then be rounded to $55,500. Accordingly, the contribution and benefit base is determined to be $55,500 for 1992.

Hospital Insurance Contribution Base

General. Section 11331 of Pub. L. 101-508 established a separate contribution base for the Hospital Insurance program, equal to $125,000 for 1991. This base is the maximum annual amount of earnings on which Hospital Insurance taxes are paid. The new legislation requires that the Hospital Insurance contribution base be adjusted each year, following the same method used to adjust the OASDI contribution and benefit base. The Hospital Insurance contribution base is $130,200 for remuneration paid in 1992 and self-employment income earned in taxable years beginning in 1992.

Computation. The Hospital Insurance contribution base for 1992 shall be equal to the 1991 base of $125,000 multiplied by the ratio of (1) the

deemed average amount, per employee, of total wages for the calendar year 1990 to (2) the deemed average amount of those wages for the calendar year 1989. If the amount so determined is not a multiple of $300, it shall be rounded to the nearest multiple of $300.

Deemed Average Wages. The deemed average wage for calendar year 1989 was previously determined to be $20,486.23. The deemed average wage for calendar year 1990 has been determined to be $21,341.82, as stated above.

Amount. The ratio of the deemed average wage for 1990, $21,341.82, compared to the deemed average wage for 1989, $20,486.23, is 1.0417642. Multiplying the 1991 Hospital Insurance contribution base amount of $125,000 by the ratio of 1.0417642 produces the amount of $130,220.53 which must then be rounded to $130,200. Accordingly, the Hospital Insurance contribution base is determined to be $130,200 for 1992.

"Old-Law" Contribution and Benefit Base

General. The 1992 "old-law" contribution and benefit base is $41,400. 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 Act), and

(c) Social Security to determine a "year of coverage" in computing the "special minimum" benefit and in computing benefits for persons who are also eligible to receive pensions based on employment not covered under section 210 of the Act.

Computation. The base is computed using the automatic adjustment formula in section 230(b) of the Act as it read prior to the enactment of the 1977 amendments, but as amended by section 10208 of Pub. L. 101-239. Under the formula, the "old-law" contribution and benefit base shall be the "old-law" 1991 base multiplied by the ratio of (1) the deemed average amount, per employee, of total wages for the calendar year of 1990 to (2) the deemed average amount of those wages for the calendar year of 1989. If the amount so determined is not a multiple of $300, it shall be rounded to the nearest multiple of $300.

Deemed Average Wages. The deemed average wage for calendar year 1989 was previously determined to be $20,486.23. The deemed average wage for calendar year 1990 has been determined to be $21,341.82, as stated above.

Amount. The ratio of the deemed average wage for 1990, $21,341.82, compared to the deemed average wage for 1989, $20,486.23, is 1.0417642. Multiplying the 1991 "old-law" contribution and benefit base amount of $39,600 by the ratio of 1.0417642 produces the amount of $41,253.86 which must then be rounded to $41,400. Accordingly, the "old-law" contribution and benefit base is determined to be $41,400 for 1992.

[Catalog of Federal Domestic Assistance: Program Nos. 93.800 Medicare-Hospital Insurance; 93.802 Social Security-Disability Insurance; 93.803 Social Security-Retirement Insurance; 93.804 Social Security-Special Benefits for Persons Aged 72 and Over; 93.805 Social Security-Survivors Insurance; 93.807 Supplemental Security Income.]

Dated: October 21, 1991

Louis W. Sullivan,

Secretary of Health and Human Services

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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 Department of Health and Human Services and the Department of the Treasury in administering the OASDI program and the provisions of the Internal Revenue Code relating to the collection of contributions. Such administrative expenses are paid from the OASI and DI Trust Funds.

Advance tax transfers. Amounts representing the estimated total OASDI tax contributions for a given month. From May 1983 through November 1990, such amounts were credited to the OASI and DI Trust Funds at the beginning of each month. Reimbursements were made from the trust funds to the general fund of the Treasury for the associated loss of interest. Advance tax transfers are no longer made unless needed in order to pay benefits.

Advisory Council on Social Security. Under the Social Security Act, an Advisory Council is appointed every 4 years to study and review the financial status of the OASDI and Medicare programs. The most recent Advisory Council was appointed in 1989 and issued its reports in 1991.

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 factors which affect growth of 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 the Trustees Report—

(1) Alternative I is characterized as an "optimistic" set—it assumes relatively rapid economic growth, low inflation, and favorable (from the standpoint of program financing) demographic conditions.

(2) Alternative II is the "intermediate" set of assumptions, with "best estimates" of future economic and demographic conditions.

(3) Alternative III is more "pessimistic," with slow economic growth, more rapid inflation, and financially disadvantageous demographic conditions.

See tables II.D.1 and II.D.2.

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.E.2.

If the "stabilizer provision" applies, the increase may be less than the cost of living.

Auxiliary beneficiary. Monthly benefits payable to a spouse or child of a retired or disabled worker, or to a survivor of a deceased worker.

Average indexed monthly earnings—AIME. The amount of earnings used in determining the primary insurance amount (PIA) for most workers who attain age 62, become disabled, or die after 1978. A worker's actual past earnings are adjusted by changes in the "average wage index," in order to bring them up to their approximately equivalent value at the time of retirement or other eligibility for benefits.

Average wage index. The average amount of total wages for each year after 1950. These amounts are used to index the earnings of most workers first becoming eligible for benefits in 1979 or later, and for automatic adjustments in the contribution and benefit base, bend points, earnings test exempt amounts, and other wage-indexed amounts. See tables II.E.1, II.E.2, and III.B.1.

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.E.3.

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 awards. See "Awards."

Benefit payments. The amounts disbursed for OASI and DI benefits by the Department of the Treasury in specified periods.

Benefit terminations. See "Terminations."

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 five members, three of whom serve automati-

cally by virtue of their positions in the Federal Government: the Secretary of the Treasury, the Secretary of Labor, and the Secretary of Health and Human Services. The other two members are appointed by the President as public representatives: Stanford G. Ross and David M. Walker are currently serving 4-year terms that began on October 2, 1990. The Commissioner of Social Security serves as Secretary of the Board of Trustees.

COLA. See "Automatic cost-of-living increase."

Constant dollars. One or more financial amounts adjusted by the CPI to a constant year as a reference point.

Consumer Price Index—CPI. Relative measure of inflation. In this report, all references to the CPI relate to the Consumer Price Index for Urban Wage Earners and Clerical Workers (CPI-W). See table II.D.1.

Contingency fund ratio. See "Trust fund ratio."

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.B.1 and II.E.2. See also, "HI contribution base."

Contributions. The amount based on a percent of earnings, up to an annual maximum, that must be paid by—

(1) employers and employees on wages from employment under the Federal Insurance Contributions Act,

(2) the self-employed on net earnings from self-employment under the Self-Employed Contributions Act, and

(3) States on the wages of State and local government employees covered under the Social Security Act through voluntary agreements under section 218 of the Act.

Generally, employers withhold contributions from wages, add an equal amount of contributions, and pay both on a current basis. Also referred to as "taxes."

Cost-of-living increase. See "Automatic cost-of-living increase."

Cost rate. The cost rate for a year is the ratio of the cost (also called outgo, expenditures, or disbursements) of the program to the taxable payroll for the year. In this context, the outgo is defined to include benefit payments, special monthly payments to certain uninsured persons who have 3 or more quarters of coverage (and whose payments are therefore not reimbursable from the general fund of the Treasury), administrative expenses, net transfers from the trust funds to the Railroad Retirement program under the financial-interchange provisions, and payments for vocational rehabilitation services for disabled beneficiaries; it excludes special monthly payments to certain uninsured persons whose payments are reimbursable from the general fund of the Treasury (as described above), and transfers under the interfund borrowing provisions.

Covered earnings. Earnings in employment covered by the OASDI program.

Covered employment. All employment and self-employment creditable for Social Security purposes. Almost every kind of employment and self-employment is covered under the program. In a few employment situations, for example, religious orders under a vow of poverty, foreign affiliates of American employers, or State and local governments, coverage must be elected by the employer. However, effective July 1991, coverage is mandatory for State and local employees who are not participating in a public employee retirement system. In a few situations, for example, ministers or self-employed members of certain religious groups, workers can opt out of coverage.

Covered worker. A person who has earnings creditable for Social Security purposes on the basis of services for wages in covered employment and/or on the basis of income from covered self-employment.

Current-cost financing. See "Pay-as-you-go financing."

Current dollars. Amounts expressed in nominal dollars with no adjustment for inflationary changes in the value of the dollar over time.

Current-payment status. Status of a beneficiary for whom a benefit is being paid for a given month (with or without deductions, provided the deductions add to less than a full month's benefit). A benefit in current-payment status for a month is usually payable on the third day of the following month.

Deemed wage credit. See "Military service wage credits."

Demographic assumptions. See "Assumptions."

Disability. For Social Security purposes, the inability to engage in substantial gainful activity by reason of any medically determinable physical or mental impairment that can be expected to result in death or to last for a continuous period of not less than 12 months. Special rules apply for workers age 55 or older whose disability is based on blindness.

The law generally requires that a person be disabled continuously for 5 months before he or she can qualify for a disabled-worker benefit.

Disability incidence rate. The proportion of workers in a given year, insured for but not receiving disability benefits, who apply for and are awarded disability benefits.

Disability Insurance (DI) Trust Fund. See "Trust fund."

Disability termination rate. The proportion of disabled worker beneficiaries in a given year whose disability benefits terminate as a result of the individual's recovery, death, or attainment of normal retirement age.

Disabled-worker benefit. A monthly benefit payable to a disabled worker under normal retirement age and insured for disability. Before November 1960, disability benefits were limited to disabled workers aged 50-64.

Earnings. Unless otherwise qualified, all wages from employment and net earnings from self-employment, whether or not taxable or covered.

Earnings test. The provision requiring the withholding of benefits if beneficiaries under age 70 have earnings in excess of certain exempt amounts. See table II.E.3.

Economic assumptions. See "Assumptions."

Excess wages. Wages in excess of the contribution and benefit base on which a worker initially pays taxes (usually as a result of working for more than one employer during a year). Employee taxes on excess wages are refunded to affected employees, while the employer taxes are not refunded.

Federal Insurance Contributions Act—FICA. Provision authorizing taxes on the wages of employed persons to provide for Retirement, Survivors, and Disability Insurance, and for Hospital Insurance. The tax is paid in equal amounts by workers and their employers.

Financial interchange. Provisions of the Railroad Retirement Act providing for transfers between the trust funds and the Social Security Equivalent Benefit Account of the Railroad Retirement program in order to place each trust fund in the same position it would have been in if railroad employment had always been covered under Social Security.

Fiscal year. The accounting year of the United States Government. Since 1976, each fiscal year has begun on October 1 of the prior calendar year and ended the following September 30. For example, fiscal year 1992 began October 1, 1991 and will end September 30, 1992.

Full advance funding. A financing scheme where taxes or contributions are established to match the full cost of future benefits as these costs are incurred through current service. Such financing methods also provide for amortization over a fixed period of any financial liability that is incurred at the beginning of the program (or subsequent modification) as a result of granting credit for past service.

General fund of the Treasury. Funds held by the Treasury of the United States, other than receipts collected for a specific purpose (such as Social Security) and maintained in a separate account for that purpose.

General fund reimbursements. Transfers from the general fund of the Treasury to the trust funds for specific purposes defined in the law, including—

(1) 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.

(2) payments corresponding to the employee-employer taxes on deemed wage credits for military personnel.

(3) 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.)

(4) 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. The total dollar value of all goods and services produced by labor and property located in the United States, regardless of who supplies the labor or property.

Gross National Product. The total dollar value of all goods and services produced by labor and property supplied by United States residents, regardless of the location in which the production occurs.

HI contribution base. Annual dollar amount above which earnings in employment covered under the HI program are not taxable. (Also referred to as "maximum contribution base," "taxable maximum," and "maximum taxable.") See table II.E.2.

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."

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."

Interest. A payment in exchange for the use of money during a specified period.

Interest rate. See "Special public-debt obligation."

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.

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 other cash payments and wages in kind (such as food and shelter) in addition to their basic pay. Noncontributory wage credits of $160 are 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. Noncontributory wage credits of $300 for each calendar quarter in which a person receives pay for military service from January 1957 through December 1977 are granted in addition to contributory credits for basic pay. Deemed wage credits of $100 are granted for each $300 of military wages in years after 1977. (The maximum credits allowed in any calendar year are $1,200.)

Normal retirement age. The age at which a person may first become entitled to unreduced retirement benefits. Currently age 65, but scheduled under present law to increase gradually to 67 for persons reaching that age in 2027 or later.

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.

Optimistic assumptions. See "Assumptions."

Partial advance funding. A financing scheme where taxes are scheduled to provide a substantial accumulation of trust fund assets, thereby generating addtional 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 build-up 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.

Payroll taxes. A tax levied on the gross wages of workers. See tables II.B.1 and III.A.1.

Pessimistic assumptions. See "Assumptions."

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.E.3.

Quarters of coverage. Basic unit of measurement for determining insured status. In 1992, a worker receives one quarter of coverage (up to a total of four) for each $570 of annual covered earnings. The amount of earnings required for a quarter of coverage is subject to annual automatic increases in proportion to increases in average earnings. For amounts applicable for years after 1978, see table II.E.3.

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.D.1.

Recession. A period of adverse economic conditions; in particular, two or more successive calendar quarters of negative growth in either Gross Domestic Product (GDP), or Gross National Product (GNP).

Retired worker benefit. A monthly benefit payable to a fully insured retired worker aged 62 or older or to a person entitled under the transitionally insured status provision in the law. Retired-worker benefit data do not include special age-72 benefits.

Retirement age. The age at which an individual establishes entitlement to retirement benefits. See also, "Normal retirement age."

Retirement earnings test. See "Earnings test."

Retirement test. See "Earnings test."

Self-employment. Operation of a trade or business by an individual or by a partnership in which an individual is a member.

Self-Employment Contributions Act—SECA. Provision authorizing Social Security taxes on the net earnings of most self-employed persons.

Short range. The next 10 years. Short-range actuarial estimates are prepared for this period (1992-2001) 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 at any time and carry interest rates equivalent to the average yield on all outstanding marketable U.S. securities not due to mature for at least 4 years. See table II.D.1.

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.

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.

Taxable payroll. A weighted average of taxable wages and taxable self-employment income. When multiplied by the combined employee-employer tax rate, it yields the total amount of taxes incurred by employees, employers, and the self-employed for work during the period.

Taxable self-employment income. Net earnings from self-employment, generally above $400 and below the annual taxable and creditable maximum amount for a calendar or other taxable year, less any taxable wages in the same taxable year.

Taxable wages. See "Taxable earnings."

Taxation of benefits. Beginning in 1984, up to one-half of an individual's or a couple's OASDI benefits may be subject to Federal income taxation under certain circumstances. The revenue derived from this provision is allocated to the OASI and DI Trust Funds on the basis of the income taxes paid on the benefits from each 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 child-bearing period.

Trust fund. Separate accounts in the United States Treasury in which are deposited the taxes received under the Federal Insurance Contributions Act, the Self-Employment Contributions Act, contributions resulting from coverage of State and local government employees; any sums received under the financial interchange with the railroad retirement account; voluntary hospital and medical insurance premiums; and transfers of Federal general revenues. Funds not withdrawn for current monthly or service benefits, the financial interchange, and administrative expenses are invested in interest-bearing Federal securities, as required by law; the interest earned is also deposited in the trust funds.

- **Old-Age and Survivors Insurance (OASI).** The trust fund used for paying monthly benefits to retired-worker (old-age) beneficiaries and their spouses and children and to survivors of deceased insured workers.
- **Disability Insurance (DI).** The trust fund used for paying monthly benefits to disabled-worker beneficiaries and their spouses and children and for providing rehabilitation services to the disabled.
- **Hospital Insurance (HI).** The trust fund used for paying part of the costs of inpatient hospital services and related care for aged and disabled individuals who meet the eligibility requirements.

- **Supplementary Medical Insurance (SMI).** The trust fund used for paying part of the costs of physician's services, outpatient hospital services, and other related medical and health services for voluntarily enrolled aged and disabled individuals.

Trust fund ratio. A measure of the adequacy of the trust fund level. Defined as the assets at the beginning of the year, including advance tax transfers (if any), expressed as a percentage of the outgo during the year. The trust fund ratio represents the proportion of a year's outgo which could be paid with the funds available at the beginning of the year.

Unnegotiated check. A check which has not been cashed 6 months after the end of the month in which the check was issued. When a check has been outstanding for a year (i) the check is administratively cancelled by the Department of the Treasury and (ii) the issuing trust fund is reimbursed separately for the amount of the check and interest for the period the check was outstanding. The appropriate trust fund also receives an interest adjustment for the time the check was outstanding if it is cashed 6-12 months after the month of issue. If a check is presented for payment after it is administratively cancelled, a replacement check is issued.

Valuation period. A period of years which is considered as a unit for purposes of calculating the financial status of a trust fund.

Vocational rehabilitation. Services provided to disabled persons to help enable them to return to gainful employment. Reimbursement from the trust funds for the costs of such services is made only in those cases where the services contributed to the successful rehabilitation of the beneficiaries.

Year of exhaustion. The year in which a trust fund would become unable to pay benefits when due because the assets of the fund were exhausted.

H. STATEMENT OF ACTUARIAL OPINION

It is my opinion that (1) the techniques and methodology used herein to evaluate the financial and actuarial status of the Federal Old-Age and Survivors Insurance and Disability Insurance Trust Funds are generally accepted within the actuarial profession; and (2) the assumptions used and the resulting actuarial estimates are, in the aggregate, reasonable for the purpose of evaluating the financial and actuarial status of the trust funds, taking into consideration the experience and expectations of the program.

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