

**THE 2007 ANNUAL REPORT OF THE BOARD OF
TRUSTEES OF THE FEDERAL OLD-AGE AND SURVIVORS
INSURANCE AND FEDERAL DISABILITY INSURANCE
TRUST FUNDS**

COMMUNICATION

FROM

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

TRANSMITTING

**THE 2007 ANNUAL REPORT OF THE BOARD OF TRUSTEES OF THE
FEDERAL OLD-AGE AND SURVIVORS INSURANCE AND FEDERAL
DISABILITY INSURANCE TRUST FUNDS**



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LETTER OF TRANSMITTAL

**BOARD OF TRUSTEES OF THE
FEDERAL OLD-AGE AND SURVIVORS INSURANCE AND
FEDERAL DISABILITY INSURANCE TRUST FUNDS,
Washington, D.C., April 23, 2007**

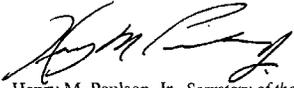
The Honorable Nancy Pelosi
Speaker of the House of Representatives
Washington, D.C.

The Honorable Richard B. Cheney
President of the Senate
Washington, D.C.

Dear Madam Speaker and Mr. Cheney:

We have the honor of transmitting to you the 2007 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 67th such report.

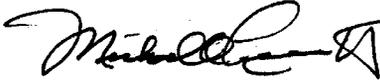
Respectfully,



Henry M. Paulson, Jr., *Secretary of the Treasury, and Managing Trustee of the Trust Funds.*



Elaine L. Chao, *Secretary of Labor, and Trustee.*



Michael O. Leavitt, *Secretary of Health and Human Services, and Trustee.*



Michael J. Astruc, *Commissioner of Social Security, and Trustee.*



John L. Palmer, *Trustee.*



Thomas R. Saving, *Trustee.*



Andrew G. Biggs, *Deputy Commissioner of Social Security, and Secretary, Board of Trustees.*

CONTENTS

I. INTRODUCTION	1
II. OVERVIEW	2
A. HIGHLIGHTS	2
B. TRUST FUND FINANCIAL OPERATIONS IN 2006	4
C. ASSUMPTIONS ABOUT THE FUTURE	6
D. PROJECTIONS OF FUTURE FINANCIAL STATUS	7
E. CONCLUSION	16
III. FINANCIAL OPERATIONS OF THE TRUST FUNDS AND LEGISLATIVE CHANGES IN THE LAST YEAR	18
A. OPERATIONS OF THE OLD-AGE AND SURVIVORS INSURANCE (OASI) AND DISABILITY INSURANCE (DI) TRUST FUNDS, IN CALENDAR YEAR 2006	18
1. OASI Trust Fund	18
2. DI Trust Fund	23
3. OASI and DI Trust Funds, Combined	25
B. SOCIAL SECURITY AMENDMENTS SINCE THE 2006 REPORT	29
IV. ACTUARIAL ESTIMATES	30
A. SHORT-RANGE ESTIMATES	30
1. Operations of the OASI Trust Fund	31
2. Operations of the DI Trust Fund	34
3. Operations of the Combined OASI and DI Trust Funds	38
4. Factors Underlying Changes in 10-Year Trust Fund Ratio Estimates From the 2006 Report	39
B. LONG-RANGE ESTIMATES	41
1. Annual Income Rates, Cost Rates, and Balances	42
2. Comparison of Workers to Beneficiaries	47
3. Trust Fund Ratios	50
4. Summarized Income Rates, Cost Rates, and Balances	54
5. Additional Measures of OASDI Unfunded Obligations	58
6. Test of Long-Range Close Actuarial Balance	61
7. Reasons for Change in Actuarial Balance From Last Report ..	65

V. ASSUMPTIONS AND METHODS UNDERLYING ACTUARIAL ESTIMATES	70
A. DEMOGRAPHIC ASSUMPTIONS AND METHODS	71
1. Fertility Assumptions	71
2. Mortality Assumptions	72
3. Immigration Assumptions	74
4. Total Population Estimates	77
5. Life Expectancy Estimates	79
B. ECONOMIC ASSUMPTIONS AND METHODS	83
1. Productivity Assumptions	83
2. Price Inflation Assumptions	84
3. Average Earnings Assumptions	85
4. Assumed Real-Wage Differentials	87
5. Labor Force and Unemployment Projections	89
6. Gross Domestic Product Projections	91
7. Interest Rates	92
C. PROGRAM-SPECIFIC ASSUMPTIONS AND METHODS	96
1. Automatically Adjusted Program Amounts	96
2. Covered Employment	103
3. Taxable Payroll and Payroll Tax Revenue	104
4. Insured Population	105
5. Old-Age and Survivors Insurance Beneficiaries	107
6. Disability Insurance Beneficiaries	113
7. Average Benefits	120
8. Benefit Payments	121
9. Administrative Expenses	121
10. Railroad Retirement Financial Interchange	121
11. Benefits to Uninsured Persons	122
12. Military-Service Transfers	122
13. Income From Taxation of Benefits	122

VI. APPENDICES	124
A. HISTORY OF OASI AND DI TRUST FUND OPERATIONS. . .	124
B. HISTORY OF ACTUARIAL BALANCE ESTIMATES	137
C. FISCAL YEAR HISTORICAL DATA AND PROJECTIONS THROUGH 2016	142
D. LONG-RANGE SENSITIVITY ANALYSIS	148
1. Total Fertility Rate	148
2. Death Rates.	150
3. Net Immigration	151
4. Real-Wage Differential	152
5. Consumer Price Index	154
6. Real Interest Rate	155
7. Disability Incidence Rates	156
8. Disability Termination Rates	157
E. STOCHASTIC PROJECTIONS.	159
1. Background.	159
2. Methodology.	159
3. Results	161
F. ESTIMATES FOR OASDI AND HI, SEPARATE AND COMBINED.	165
1. Estimates as a Percentage of Taxable Payroll.	165
2. Estimates as a Percentage of Gross Domestic Product	170
3. Estimates in Dollars.	175
G. ANALYSIS OF BENEFIT DISBURSEMENTS FROM THE OASI TRUST FUND WITH RESPECT TO DISABLED BENEFICIARIES	188
H. GLOSSARY	191
LIST OF TABLES	208
LIST OF FIGURES	212
INDEX	213
STATEMENT OF ACTUARIAL OPINION	218

**THE 2007 ANNUAL REPORT OF THE BOARD OF
TRUSTEES OF THE FEDERAL OLD-AGE AND
SURVIVORS INSURANCE AND FEDERAL DISABILITY
INSURANCE TRUST FUNDS**

I. INTRODUCTION

The Old-Age, Survivors, and Disability Insurance (OASDI) program in the United States makes available a basic level of monthly income upon the attainment of retirement eligibility age, death, or disability by insured workers. The OASDI program consists of two separate parts which pay benefits to workers and their families—Old-Age and Survivors Insurance (OASI) and Disability Insurance (DI). Under OASI, monthly benefits are paid to retired workers and their families and to survivors of deceased workers. Under DI, monthly benefits are paid to disabled workers and their families.

The Board of Trustees was established under the Social Security Act to oversee the financial operations of the OASI and DI Trust Funds. The Board is composed of six members. Four members serve by virtue of their positions in the Federal Government: the Secretary of the Treasury, who is the Managing Trustee; the Secretary of Labor; the Secretary of Health and Human Services; and the Commissioner of Social Security. The other two members, John L. Palmer and Thomas R. Saving, are public representatives initially appointed by President William J. Clinton on October 28, 2000, and reappointed by President George W. Bush on April 18, 2006. The Deputy Commissioner of the Social Security Administration (SSA) is designated as Secretary of the Board.

The Social Security Act requires that the Board, among other duties, report annually to the Congress on the financial and actuarial status of the OASI and DI Trust Funds. This annual report, for 2007, is the 67th such report.

II. OVERVIEW

A. HIGHLIGHTS

The report's major findings are summarized below.

In 2006

At the end of 2006, 49 million people were receiving benefits: 34 million retired workers and their dependents, 7 million survivors of deceased workers, and 9 million disabled workers and their dependents. During the year an estimated 162 million people had earnings covered by Social Security and paid payroll taxes. Total benefits paid in 2006 were \$546 billion. Income was \$745 billion, and assets held in special issue U.S. Treasury securities grew to \$2.0 trillion.

Short-Range Results

The OASI and DI Trust Funds, individually and combined, are adequately financed over the next 10 years under the intermediate assumptions. The combined assets of the OASI and DI Trust Funds are projected to increase from \$2,048 billion at the beginning of 2007, or 345 percent of annual expenditures, to \$4,210 billion at the beginning of 2016, or 407 percent of annual expenditures in that year. Combined assets were projected in last year's report to rise to 344 percent of annual expenditures at the beginning of 2007, and 407 percent at the beginning of 2016.

Long-Range Results

Under the intermediate assumptions, OASDI cost will increase more rapidly than tax income between about 2010 and 2030, due to the retirement of the large baby-boom generation. After 2030, increases in life expectancy and relatively low fertility rates will continue to increase Social Security system costs relative to tax income, but more slowly. Annual cost will exceed tax income starting in 2017 at which time the annual gap will be covered with cash from redemptions of special obligations of the Treasury that make up the trust fund assets, until these assets are exhausted in 2041. Separately, the DI fund is projected to be exhausted in 2026 and the OASI fund in 2042. For the 75-year projection period, the actuarial deficit is 1.95 percent of taxable payroll, 0.06 percentage point smaller than in last year's report. The open group unfunded obligation for OASDI over the 75-year period is \$4.7 trillion in present value, and is \$0.1 trillion above the measured level of a year ago. In the absence of any changes in assumptions, methods, and starting values,

the unfunded obligation would have risen to \$4.8 trillion due to the change in the valuation date.

The OASDI annual cost rate is projected to increase from 11.21 percent of taxable payroll in 2007, to 16.59 percent in 2030, and to 18.55 percent in 2081, or to a level that is 5.20 percent of taxable payroll more than the projected income rate for 2081. In last year's report the OASDI cost for 2080 was estimated at 18.74 percent, or 5.38 percent of payroll more than the annual income rate for that year. Expressed in relation to the projected gross domestic product (GDP), OASDI cost is estimated to rise from the current level of 4.3 percent of GDP, to 6.2 percent in 2030, and to 6.3 percent in 2081.

Conclusion

Annual cost will begin to exceed tax income in 2017 for the combined OASDI Trust Funds, which are projected to become exhausted and thus unable to pay scheduled benefits in full on a timely basis in 2041 under the long-range intermediate assumptions. For the trust funds to remain solvent throughout the 75-year projection period, the combined payroll tax rate could be increased during the period in a manner equivalent to an immediate and permanent increase of 1.95 percentage points, benefits could be reduced during the period in a manner equivalent to an immediate and permanent reduction of 13.0 percent, general revenue transfers equivalent to \$4.7 trillion in present value could be made during the period, or some combination of approaches could be adopted. Significantly larger changes would be required to maintain solvency beyond 75 years.

The projected trust fund deficits should be addressed in a timely way to allow for a gradual phasing in of the necessary changes and to provide advance notice to workers. Making adjustments sooner will allow them to be spread over more generations. Social Security plays a critical role in the lives of this year's (2007) 50 million beneficiaries and 163 million covered workers and their families. With informed discussion, creative thinking, and timely legislative action, we will work with Congress and others to ensure that Social Security continues to protect future generations.

B. TRUST FUND FINANCIAL OPERATIONS IN 2006

The table below shows the income, expenditures, and assets for the OASI, the DI and the combined OASDI Trust Funds in calendar year 2006.

Table II.B1.—Summary of 2006 Trust Fund Financial Operations

	Amounts (in billions)		
	OASI	DI	OASDI
Assets at the end of 2005	\$1,663.0	\$195.6	\$1,858.7
Total income in 2006	642.2	102.6	744.9
Net contributions	534.8	90.8	625.6
Taxation of benefits	15.6	1.2	16.9
Interest	91.8	10.6	102.4
Total expenditures in 2006.	461.0	94.5	555.4
Benefit payments	454.5	91.7	546.2
Railroad Retirement financial interchange	3.5	.4	3.8
Administrative expenses	3.0	2.3	5.3
Net increase in assets in 2006	181.3	8.2	189.5
Assets at the end of 2006	1,844.3	203.8	2,048.1

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

In 2006, net contributions accounted for 84 percent of total trust fund income. Net contributions consist of taxes paid by employees, employers and the self-employed on earnings covered by Social Security. These taxes were paid on covered earnings up to a specified maximum annual amount, which was \$94,200 in 2006 and is increased each year automatically (to \$97,500 in 2007) as the average wage increases. The tax rates scheduled under current law for 2006 and later are shown in table II.B2.

Table II.B2.—Tax Rates for 2006 and Later

	OASI	DI	OASDI
Tax rate for employees and employers, each (in percent)	5.30	0.90	6.20
Tax rate for self-employed persons (in percent)	10.60	1.80	12.40

Two percent of OASDI Trust Fund income came from subjecting up to 50 percent of Social Security benefits above specified levels to Federal personal income taxation, and 14 percent of OASDI income came from interest earned on investment of OASDI Trust Fund reserves. Social Security’s assets are invested in interest-bearing securities of the U.S. Government. In 2006 the combined trust fund assets earned interest at an effective annual rate of

5.3 percent. More than 98 percent of expenditures from the combined OASDI Trust Funds in 2006 went to pay retirement, survivor, and disability benefits totaling \$546.2 billion. The financial interchange with the Railroad Retirement program resulted in a payment of \$3.8 billion from the combined OASDI Trust Funds, or about 0.7 percent of total expenditures. The administrative expenses of the Social Security program were \$5.3 billion, less than 1.0 percent of total expenditures.

Assets of the trust funds provide a reserve to pay benefits whenever total program cost exceeds income. Trust fund assets increased by \$189.5 billion in 2006 because income to each fund exceeded expenditures. At the end of 2006, the combined assets of the OASI and the DI Trust Funds were 345 percent of estimated expenditures for 2007, up from an actual level of 335 percent at the end of 2005.

C. ASSUMPTIONS ABOUT THE FUTURE

The actual future income and expenditures of the OASI and DI Trust Funds depend on many factors, including the size and characteristics of the population receiving benefits, the level of monthly benefit amounts, the size of the workforce, and the level of workers’ earnings. These factors will depend in turn upon future birth rates, death rates, immigration, marriage and divorce rates, retirement-age patterns, disability incidence and termination rates, employment rates, productivity gains, wage increases, inflation, and many other demographic, economic, and program-specific factors.

The intermediate demographic and economic assumptions shown in table II.C1, designated as alternative II, reflect the Trustees’ best estimates of future experience, and therefore most of the figures in this overview depict only the outcomes under the intermediate assumptions. Any projection of the future is, of course, uncertain. For this reason, alternatives I (low cost) and III (high cost) are included to provide a range of possible future experience. The assumptions for these two alternatives are also shown in table II.C1, and their implications are highlighted in a separate section on the uncertainty of the projections.

Assumptions are reexamined each year in light of recent experience and new information. This careful review and updating of the assumptions on an annual basis helps ensure that they provide the Trustees’ best estimate of future possibilities.

Table II.C1.—Ultimate¹ Values of Key Demographic and Economic Assumptions for the Long-Range (75-year) Projection Period

Ultimate assumptions	Intermediate	Low Cost	High Cost
Total fertility rate (children per woman)	2.0	2.3	1.7
Average annual percentage reduction in total age-sex-adjusted death rates from 2031 to 2081 . . . . .	.70	.33	1.21
Annual net immigration (in thousands)	900	1,300	673
Annual percentage change in:			
Productivity (total U.S. economy)	1.7	2.0	1.4
Average wage in covered employment	3.9	3.4	4.4
Consumer Price Index (CPI)	<u>2.8</u>	<u>1.8</u>	<u>3.8</u>
Real-wage differential (percent)	1.1	1.6	.6
Unemployment rate (percent)	5.5	4.5	6.5
Annual trust fund real interest rate (percent)	2.9	3.6	2.1

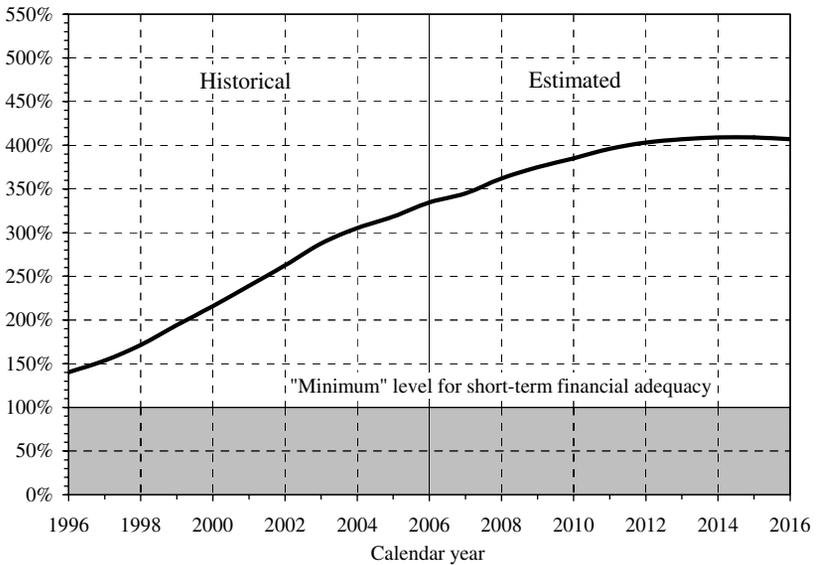
¹ Ultimate values are assumed to be reached within 2 to 25 years. See chapter V for details, including historical values and projected values prior to reaching the ultimate.

D. PROJECTIONS OF FUTURE FINANCIAL STATUS

Short-Range Actuarial Estimates

For the short range (2007-2016), the Trustees measure financial adequacy by comparing assets at the beginning of each year to projected program cost for that year under the intermediate set of assumptions. Having a trust fund ratio of 100 percent or more—that is, assets at the beginning of each year at least equal to projected cost for the year—is considered a good indication of a trust fund’s ability to cover most short-term contingencies. Both the OASI and the DI trust fund ratios under the intermediate assumptions exceed 100 percent throughout the short-range period and therefore satisfy the Trustees’ short-term test of financial adequacy. Figure II.D1 below shows that the trust fund ratios for the combined OASI and DI Trust Funds reach a peak level in 2014 and begin declining thereafter.

Figure II.D1.—Short-Range OASDI Trust Fund Ratios
 [Assets as a percentage of annual expenditures]



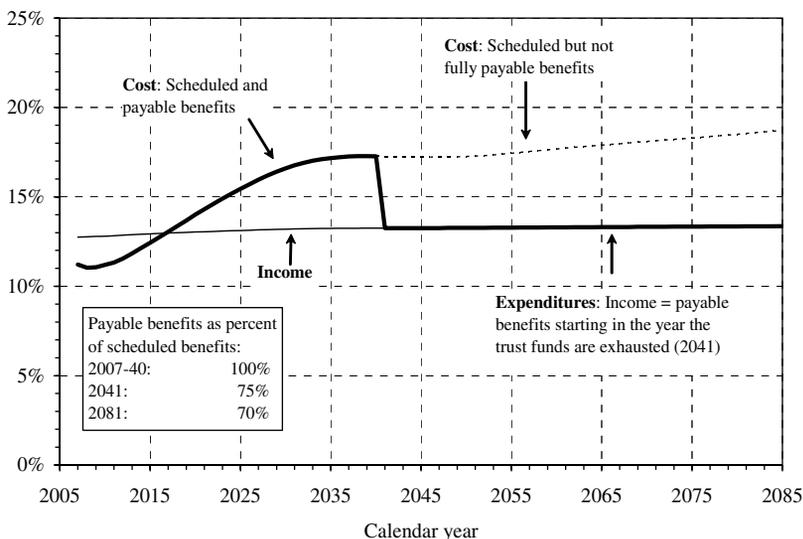
Long-Range Actuarial Estimates

The financial status of the program over the next 75 years is measured in terms of annual cost and income as a percentage of taxable payroll, trust fund ratios, the actuarial balance (also as a percentage of taxable payroll), and the open group unfunded obligation (expressed in present-value dollars). Con-

sidering Social Security’s cost as a percentage of the total U.S. economic output (gross domestic product or GDP) provides an additional perspective.

The year-by-year relationship between income and cost rates shown in figure II.D2 illustrates the expected pattern of cash flows for the OASDI program over the full 75-year period. Under the intermediate assumptions, the OASDI cost rate is projected to decline slightly in 2008 and then increase up to the 2007 level within the next 2 years. It then begins to increase rapidly and first exceeds the income rate in 2017, producing cash-flow deficits thereafter. Cash-flow deficits are less than trust fund interest earnings until 2027. Redemption of trust fund assets will allow continuation of full benefit payments on a timely basis until 2041, when the trust funds will become exhausted. This redemption process will require a flow of cash from the General Fund of the Treasury. Pressures on the Federal Budget will thus emerge well before 2041. Even if a trust fund’s assets are exhausted, however, tax income will continue to flow into the fund. Present tax rates would be sufficient to pay 75 percent of scheduled benefits after trust fund exhaustion in 2041 and 70 percent of scheduled benefits in 2081.

Figure II.D2.—OASDI Income and Cost Rates Under Intermediate Assumptions
 [As a percentage of taxable payroll]

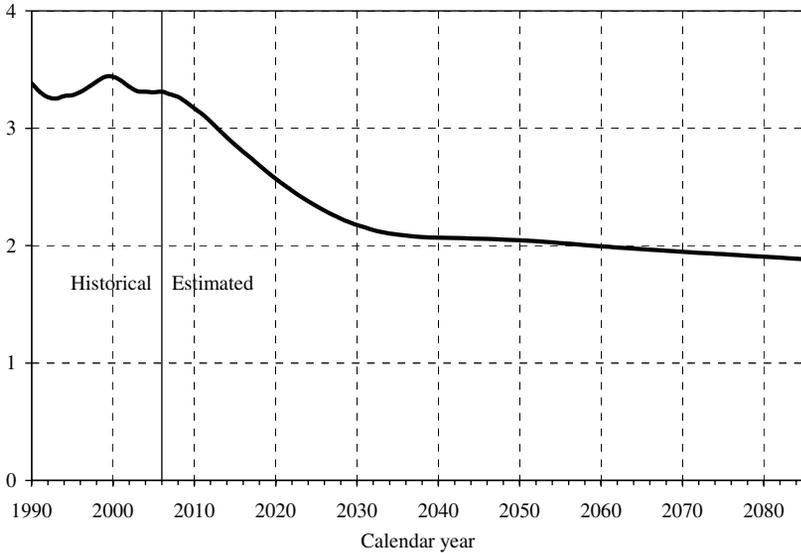


Social Security’s cost rate generally will continue rising rapidly through about 2030 as the baby-boom generation reaches retirement eligibility age. Thereafter, the cost rate is estimated to rise at a slower rate for about 5 years

and then stabilize for the next 15 years as the baby-boom ages and decreases in size. Continued reductions in death rates and maintaining birth rates at levels well below those from the baby-boom era and before will cause a significant upward shift in the average age of the population and will push the cost rate from 17.3 percent of taxable payroll in 2050 to 18.5 percent by 2081 under the intermediate assumptions. In a pay-as-you-go system (with no trust fund assets or borrowing authority), this 18.5-percent cost rate means the combination of the payroll tax (scheduled to total 12.4 percent) and proceeds from income taxes on benefits (expected to be 0.9 percent of taxable payroll in 2081) would have to equal 18.5 percent of taxable payroll to pay all currently scheduled benefits. After 2081, the upward shift in the average age of the population is likely to continue and to increase the gap between OASDI costs and income.

The primary reason that the OASDI cost rate will increase rapidly between 2010 and 2030 is that, as the large baby-boom generation born in the years 1946 through 1965 retires, the number of beneficiaries will increase much more rapidly than the number of workers. The estimated number of workers per beneficiary is shown in figure II.D3. In 2006, there were about 3.3 workers for every OASDI beneficiary. The baby-boom generation will have largely retired by 2030, and the projected ratio of workers to beneficiaries will be only 2.2 at that time. Thereafter, the number of workers per beneficiary will slowly decline, and the OASDI cost rate will continue to increase largely due to projected reductions in mortality.

Figure II.D3.—Number of Covered Workers Per OASDI Beneficiary



The maximum projected trust fund ratios for the OASI, DI, and combined funds appear in table II.D1. The year in which the maximum projected trust fund ratio is attained and the year in which the assets are projected to be exhausted are shown as well.

Table II.D1.—Projected Maximum Trust Fund Ratios Attained and Trust Fund Exhaustion Dates Under the Intermediate Assumptions

	OASI	DI	OASDI
Maximum trust fund ratio (percent)	463	200	409
Year attained	2015	2007	2014
Year of trust fund exhaustion	2042	2026	2041

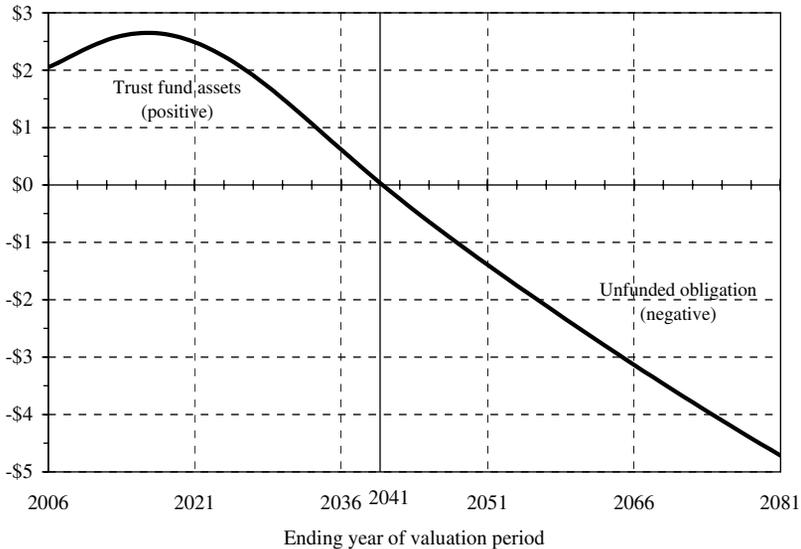
The actuarial balance is a measure of the program’s financial status for the 75-year valuation period as a whole. It is essentially the difference between income and cost of the program expressed as a percentage of taxable payroll over the valuation period. This single number summarizes the adequacy of program financing for the period. When the actuarial balance is negative, the actuarial deficit can be interpreted as the percentage that could be added to the current law income rate for each of the next 75 years, or subtracted from the cost rate for each year, to bring the funds into actuarial balance. Because the timing of any future changes is unlikely to follow this pattern, this measure should be viewed only as providing a rough indication of the average

change that is needed over the 75-year period as a whole. In this report, the actuarial balance under the intermediate assumptions is a deficit of 1.95 percent of taxable payroll for the combined OASI and DI Trust Funds. The actuarial deficit was 2.02 percent in the 2006 report and has been in the range of 1.86 percent to 2.23 percent for the last ten reports.

Another way to illustrate the financial shortfall of the OASDI system is to examine the cumulative value of taxes less costs, in present value. Figure II.D4 shows the present value of cumulative OASDI taxes less costs over the next 75 years. The balance of the combined trust funds peaks at \$2.6 trillion in 2017 (in present value) and then turns downward. This cumulative amount continues to be positive, indicating trust fund assets, or reserves, through 2040. However, after 2040 this cumulative amount becomes negative, indicating a net unfunded obligation. Through the end of 2081, the combined funds have a present-value unfunded obligation of \$4.7 trillion. This unfunded obligation represents 1.8 percent of future taxable payroll and 0.7 percent of future GDP, through the end of the 75-year projection period.

Figure II.D4.—Cumulative OASDI Income Less Cost, Based on Present Law Tax Rates and Scheduled Benefits

[Present value as of January 1, 2007, in trillions]

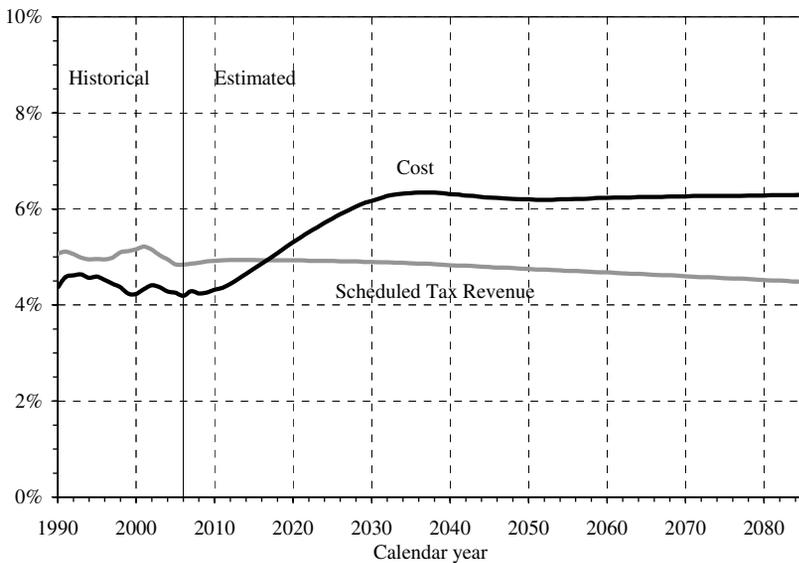


Still another important way to look at Social Security’s future is to view its cost as a share of U.S. economic output. Figure II.D5 shows that Social Security’s cost as a percentage of GDP will grow from 4.3 percent in 2007 to

Overview

6.2 percent in 2030, and then slightly increase to 6.3 percent in 2081. However, Social Security's scheduled tax income is projected to be about 4.9 percent of GDP in both 2007 and 2030, and then to decrease to 4.5 percent in 2081. Income from payroll taxes declines generally in relation to GDP in the future because an increasing share of employee compensation is assumed to be provided in fringe benefits, making wages a shrinking share of GDP. Between 2010 and 2030, however, the total non-interest income does not decline as a percent of GDP because benefits, and thus income to the trust funds from taxation of these benefits, are rising rapidly as a percent of GDP during the period.

Figure II.D5.—OASDI Cost and Scheduled Tax Revenue as a Percentage of GDP



Consideration of a 75-year period is not enough to provide a complete picture of Social Security's financial condition. Figures II.D2, II.D4, and II.D5 show that the program's financial condition is worsening at the end of the period. Overemphasis on summary measures for a 75-year period can lead to incorrect perceptions and to policy prescriptions that do not achieve sustainable solvency. Thus, careful consideration of the trends in annual deficits and unfunded obligations toward the end of the 75-year period is important. In addition, summary measures for a time period that extends to the infinite horizon are included in this report. These measures provide an additional indication of Social Security's very long-run financial condition, but are subject to much greater uncertainty. These calculations show that extending the

horizon beyond 75 years increases the unfunded obligation. Over the infinite horizon, the shortfall (unfunded obligation) is \$13.6 trillion in present value, or 3.5 percent of future taxable payroll and 1.2 percent of future GDP. These calculations of the shortfall indicate that much larger changes may be required to achieve solvency beyond the 75-year period as compared to changes needed to balance 75-year period summary measures. The measured unfunded obligation over the infinite horizon increases from \$13.4 trillion in last year's report to \$13.6 trillion in this report. In the absence of any changes in assumptions, methods, and starting values, the unfunded obligation over the infinite horizon would have risen to \$14.1 trillion due to the change in the valuation date.

Changes From Last Year's Report

The long-range OASDI actuarial deficit of 1.95 percent of taxable payroll for this year's report is smaller than the deficit of 2.02 percent of taxable payroll shown in last year's report under intermediate assumptions. Changes in methodology and assumed rates of disability incidence are the main reasons for the decrease in the deficit. For a detailed description of the specific changes identified in table II.D2 below, see section IV.B.7 on page 65.

Table II.D2.—Reasons for Change in the 75-Year Actuarial Balance Under Intermediate Assumptions
[As a percentage of taxable payroll]

Item	OASI	DI	OASDI
Shown in last year's report:			
Income rate	11.95	1.93	13.88
Cost rate	13.63	2.27	15.90
Actuarial balance	-1.68	-0.33	-2.02
Changes in actuarial balance due to changes in:			
Legislation / Regulation . . . . .	.00	.00	.00
Valuation period ¹	-.05	-.01	-.06
Demographic data and assumptions	-.03	.00	-.03
Economic data and assumptions	+.01	+.01	+.02
Disability data and assumptions	-.02	+.08	+.06
Programmatic data and methods	+.09	-.01	+.08
Total change in actuarial balance	-.01	+.07	+.06
Shown in this report:			
Actuarial balance	-1.69	-.27	-1.95
Income rate	11.99	1.93	13.92
Cost rate	13.68	2.19	15.87

¹ In changing from the valuation period of last year's report, which was 2006-80, to the valuation period of this report, 2007-81, the relatively large negative annual balance for 2081 is included. This results in a larger long-range actuarial deficit. The fund balance at the end of 2006, i.e., at the beginning of the projection period, is included in the 75-year actuarial balance.

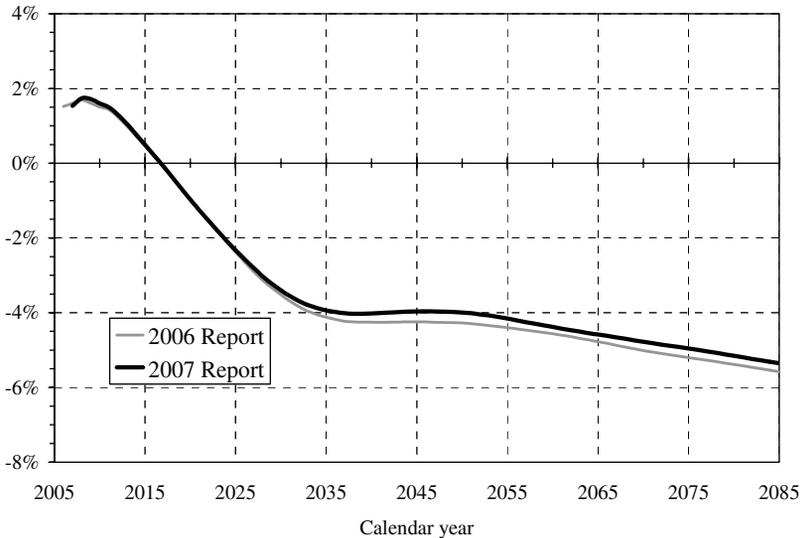
Note: Totals do not necessarily equal the sums of rounded components.

Overview

The open group unfunded obligation over the 75-year projection period has increased from \$4.6 trillion (present discounted value as of January 1, 2006) to \$4.7 trillion (present discounted value as of January 1, 2007). The measured increase in the unfunded obligation would be expected to be about \$0.3 trillion due to advancing the valuation date by 1 year and including the additional year 2081. Changes in methods and assumptions offset most of this expected increase.

Figure II.D6 shows that this year's projections of annual balances are generally higher than those in last year's report principally because of the changes in methods and assumptions. Annual balances are similar between the two reports through about 2030. Thereafter, annual balances are somewhat higher for the rest of the long-range projection period. Section IV.B.7 on page 65 provides a detailed presentation of these changes.

Figure II.D6.—OASDI Annual Balances: 2006 and 2007 Trustees Reports
[As a percentage of taxable payroll under the intermediate assumptions]

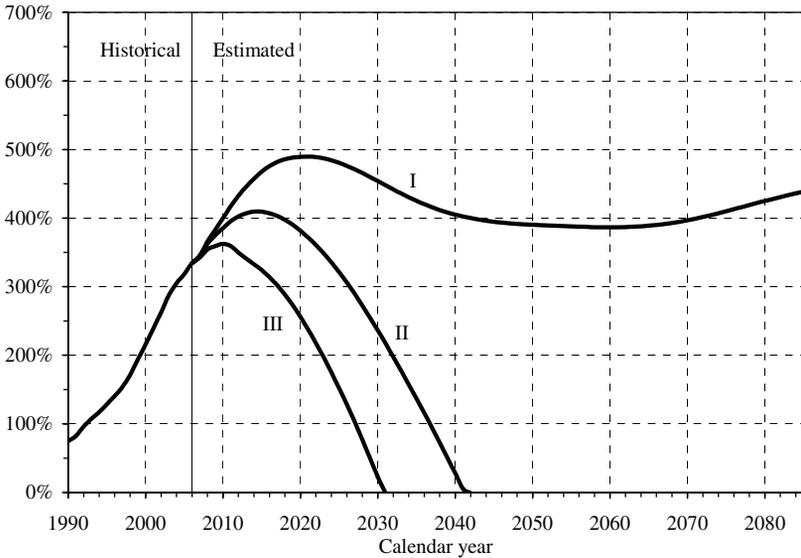


Uncertainty of the Projections

Significant uncertainty surrounds the intermediate assumptions. The Trustees have traditionally used low cost (alternative I) and high cost (alternative III) assumptions as an indication of this uncertainty. Figure II.D7 shows the projected trust fund ratios for the combined OASI and DI Trust Funds under the intermediate, low cost, and high cost assumptions. The low cost alternative is characterized by assumptions that improve the financial condition of the trust funds, including a higher fertility rate, slower improvement in mortality, a

higher real-wage differential, and lower unemployment. The high cost alternative, in contrast, features a lower fertility rate, more rapid declines in mortality, a lower real-wage differential, and higher unemployment. While it is extremely unlikely that all of these parameters would move in the same direction over the 75-year period relative to the intermediate projections, there is a not-insignificant—though quite low—probability that the actual outcome for future costs could be as extreme as either of the outcomes portrayed by the low and high cost projections. The method for constructing these high and low cost projections does not allow for the assignment of a specific probability to the likelihood that actual experience will lie within or outside the range they entail. However, an alternative approach to illustrating the uncertainty inherent in such long-term projections discussed in Appendix E suggests that the low and high cost projections bound a range that encompasses something on the order of 95 percent of possible future financial outcomes. Given there is an equal probability that the actual outcome will be either more or less favorable than that portrayed by the intermediate cost projection, this implies that there is something on the order of only a 2.5 percent probability that it will be as favorable as that portrayed by the low cost projection or as unfavorable as that portrayed by the high cost projection.

Figure II.D7.—Long-Range OASDI Trust Fund Ratios Under Alternative Assumptions
 [Assets as a percentage of annual cost]



E. CONCLUSION

Under current law the cost of Social Security will soon begin to increase faster than the program's income, because of the aging of the baby-boom generation, expected continuing low fertility, and increasing life expectancy. Based on the Trustees' best estimate, program cost will exceed tax revenues starting in 2017 and throughout the remainder of the 75-year projection period. Social Security's combined trust funds are projected to allow full payment of scheduled benefits until they become exhausted in 2041. At that time annual tax income to the trust funds is projected to equal about 75 percent of program costs. Separately, the OASI and DI funds are projected to have sufficient funds to pay full benefits on time until 2042 and 2026, respectively. By 2081, annual tax income is projected to be about 70 percent as large as the annual cost of the OASDI program.

Over the full 75-year projection period the actuarial deficit estimated for the combined trust funds is 1.95 percent of taxable payroll—somewhat smaller than the 2.02 percent deficit projected in last year's report. This deficit indicates that financial adequacy of the program for the next 75 years could be restored if increases were made equivalent to increasing the Social Security payroll tax immediately and permanently from its current level of 12.4 percent (for employees and employers combined) to 14.35 percent. Alternatively, changes could be made equivalent to reducing all current and future benefits by about 13 percent. Other ways of reducing the deficit include making transfers from general revenues or adopting some combination of approaches.

If no action were taken until the combined trust funds become exhausted in 2041, then the effects of changes would be more concentrated on fewer years:

- For example, payroll taxes could be raised to finance scheduled benefits fully in every year starting in 2041. In this case, the payroll tax would be increased to 16.41 percent at the point of trust fund exhaustion in 2041 and continue rising to 17.60 percent in 2081.
- Similarly, benefits could be reduced to the level that is payable with scheduled tax rates in each year beginning in 2041. Under this scenario, benefits would be reduced 25 percent at the point of trust fund exhaustion in 2041, with reductions reaching 30 percent in 2081.

Either of these examples would eliminate the shortfall for the 75-year period as a whole by specifically eliminating annual deficits after trust fund exhaustion. Because of the increasing average age of the population (due to

expected improvement in life expectancy and continued low birth rates), Social Security's annual cost will very likely continue to grow faster than scheduled tax revenues after 2081. As a result, ensuring solvency of the system beyond 2081 would likely require further changes beyond those expected to be needed for 2081.

The projected trust fund deficits should be addressed in a timely way to allow for a gradual phasing in of the necessary changes and to provide advance notice to workers. Making adjustments sooner will allow them to be spread over more generations. Social Security plays a critical role in the lives of this year's 50 million beneficiaries, and 163 million covered workers and their families. With informed discussion, creative thinking, and timely legislative action, we will work with Congress and others to ensure that Social Security continues to protect future generations.

For further information related to the contents of this report, see the following websites.

- www.socialsecurity.gov/OACT/TR/TR07/index.html
- www.cms.hhs.gov/ReportsTrustFunds/
- www.treas.gov/offices/economic-policy/social_security.html

III. FINANCIAL OPERATIONS OF THE TRUST FUNDS AND LEGISLATIVE CHANGES IN THE LAST YEAR

A. OPERATIONS OF THE OLD-AGE AND SURVIVORS INSURANCE (OASI) AND DISABILITY INSURANCE (DI) TRUST FUNDS, IN CALENDAR YEAR 2006

Detailed information on the operations of the OASI and DI Trust Funds¹ during calendar year 2006 is presented in this section. Chapter IV provides projections for calendar years 2007 through 2085.

1. OASI Trust Fund

A statement of the income and disbursements of the Federal Old-Age and Survivors Insurance Trust Fund in calendar year 2006, and of the assets of the fund at the beginning and end of the calendar year, is presented in table III.A1. As shown in the table, total trust fund receipts in 2006 amounted to \$642.2 billion, while disbursements totaled \$461.0 billion, resulting in an increase in trust fund assets during 2006 of \$181.3 billion.

The reported income and disbursements for 2006 were both affected by special transfers from the General Fund of the Treasury to the trust funds to correct the effects of a clerical error which resulted in overpayments to the Internal Revenue Service (IRS) related to a provision in the law which permits beneficiaries to have income tax payments withheld from their Social Security benefits.² The overpayments to IRS began with the inception of voluntary income tax withholding in 1999, and SSA detected and corrected the ongoing problem in early 2006. The reimbursements to the trust funds for the overpayments during the period 1999-2005 occurred, with interest, in two stages; the first reimbursement was in August 2006 for overpayments in 2002-05, while the final reimbursement was in December 2006 for overpayments in 1999-2001.³ In table III.A1, the reimbursement of the nominal amount overpaid to IRS over the period 1999-2005 (approximately \$5.9 billion) is shown as a reimbursement of benefit payments, while the \$0.8 billion in interest reimbursed to the trust fund to compensate the OASI Trust Fund for the investment income lost over that period is shown as part of interest on reimbursements. Further details of the various components of trust fund income and disbursements are discussed in the following paragraphs.

¹ Trust fund data are available by month, quarter, or year on the Social Security website at www.socialsecurity.gov/OACT/ProgData/fundsQuery.html.

² The overpayments to the IRS had no effect on beneficiaries. The correct amounts of net benefits were paid to these beneficiaries, with the appropriate withholding amounts reported to them on their annual Forms 1099.

³ Because the first reimbursement was limited by statute to the last 4 calendar years (2002-05), legislation (P.L. 109-465) was required to authorize the final reimbursement.

Included in total receipts during calendar year 2006 were \$536.7 billion in employment tax contributions. These contributions were partially offset by transfers totaling \$1.9 billion to the general fund for the estimated amount of refunds to employees who worked for more than one employer during a year and paid contributions on total earnings in excess of the contribution and benefit base.

Net contributions thus amounted to \$534.8 billion, an increase of 5.5 percent over the amount in the preceding year. The increase in OASI tax contributions from calendar year 2005 to calendar year 2006 is due to increased earnings and the increase in the contribution and benefit base. (Table VI.A1 shows the tax rates and contribution and benefit bases in effect for past years.)

Income based on taxation of benefits amounted to \$15.6 billion in 2006. About 99 percent of this income represents amounts credited to the trust funds, on an estimated basis, generally in advance of the actual receipt of taxes by the Treasury. The remaining 1 percent of the total income from taxation of benefits represents amounts withheld from the benefits paid to non-resident aliens.

Financial Operations & Legislative Changes

Table III.A1.—Operations of the OASI Trust Fund, Calendar Year 2006
[In millions]

Total assets, December 31, 2005		<u>\$1,663,037</u>
Receipts:		
Contributions:		
Employment taxes	\$536,679	
Payments from the General Fund of the Treasury for contributions subject to refund	-1,892	
Net contributions		534,787
Income based on taxation of benefit payments:		
Withheld from benefit payments to nonresident aliens	143	
All other, not subject to withholding	15,485	
Total income from taxation of benefits		15,628
Reimbursement from the General Fund of the Treasury for costs of payments to uninsured persons who attained age 72 before 1968		1/
Investment income and interest adjustments:		
Interest on investments	90,978	
Interest adjustments ²	839	
Total investment income and interest adjustments		91,817
Gifts		1/
Total receipts		<u>642,231</u>
Disbursements:		
Benefit payments:		
Gross benefit payments	461,658	
Offset for collected overpayments	-1,201	
Reimbursement from the general fund for excess amounts of voluntary income tax withholding	-5,912	
Reimbursement from the general fund for unnegotiated checks	-52	
Net benefit payments		454,493
Transfer to the Railroad Retirement "Social Security Equivalent Benefit Account"		3,458
Payment for costs of vocational rehabilitation services for disabled beneficiaries		4
Administrative expenses:		
Costs incurred by:		
Social Security Administration	2,458	
Department of the Treasury	557	
Offsetting receipts from sales of supplies, materials, etc.	1/	
Miscellaneous reimbursements from the general fund ³	-4	
Net administrative expenses		3,010
Total disbursements		<u>460,965</u>
Net increase in assets		<u>181,266</u>
Total assets, December 31, 2006		<u>1,844,304</u>

¹ Between -\$500,000 and \$500,000.

² Includes (1) 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, (2) interest arising from the revised allocation of administrative expenses among the trust funds, and (3) interest on certain reimbursements to the trust fund.

³ Reimbursements for costs incurred in performing certain legislatively mandated activities not directly related to administering the OASI program.

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

Special payments are made to uninsured persons who meet certain requirements. The costs associated with providing such payments are largely reimbursed from the General Fund of the Treasury. Accordingly, transfers totaling \$15,922 were made in 2006, reflecting costs incurred in fiscal year 2005.

The OASI Trust Fund was credited with interest netting \$91.8 billion, which consisted of (1) interest earned on the investments of the trust fund, (2) inter-

est on transfers between the trust fund and the general fund account for the Supplemental Security Income program due to adjustments in the allocation of administrative expenses, (3) interest arising from the revised allocation of administrative expenses among the trust funds, and (4) interest on certain reimbursements to the trust fund, including the interest on special reimbursements related to voluntary income tax withholding described earlier. The remaining \$49,668 of receipts consisted of gifts received under the provisions authorizing the deposit of money gifts or bequests in the trust funds.

Of the \$461.0 billion in total OASI disbursements, \$454.5 billion was for net benefit payments. Excluding the effect of special reimbursements totaling \$5.9 billion in principal related to voluntary income tax withholding, net benefit payments would have been \$460.4 billion. This higher amount of net benefit payments in calendar year 2006 represents an increase of 5.8 percent over the corresponding amount in calendar year 2005. This increase is due primarily to (1) an increase in the total number of beneficiaries and (2) an increase in the average benefit amount. The increase in the average benefit amount in 2006 was due in large part to the automatic cost-of-living benefit increase of 4.1 percent which became effective for December 2005 under the automatic-adjustment provisions in section 215(i) of the Social Security Act.

Provisions of the Railroad Retirement Act require an annual financial interchange between the Railroad Retirement and OASDI programs. The purpose of such provisions is to put the OASI and DI Trust Funds in the same financial position they would have been had railroad employment always been covered by Social Security. Under those provisions, the Railroad Retirement Board and the Commissioner of Social Security determined that a transfer of \$3.5 billion to the Social Security Equivalent Benefit Account from the OASI Trust Fund was required in June 2006.

A disbursement of \$4 million was made in 2006 to cover the costs of vocational rehabilitation services furnished to disabled widow(er) beneficiaries and to those children of retired or deceased workers who were receiving benefits on the basis of disabilities that began before age 22. Reimbursement from the trust funds for the costs of vocational rehabilitation services is made only in those cases where the services contributed to the successful rehabilitation of the beneficiary.

The remaining \$3.0 billion of disbursements from the OASI Trust Fund represented net administrative expenses. The expenses of administering the OASDI and Medicare programs are allocated and charged directly to each of the various trust funds through which those programs are financed, on the basis of provisional estimates. Similarly, the expenses allocated for administering the Supplemental Security Income program are 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

Financial Operations & Legislative Changes

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. As described earlier, the interest adjustments arising from the reallocation of administrative expenses are recorded in the trust fund accounting under investment income.

Over 80 percent of OASI net administrative expenses represent the cost of administering the program and are charged to the trust fund by the Social Security Administration (\$2.5 billion in 2006). In addition, the Department of the Treasury charges directly to the trust fund certain expenses (\$0.6 billion in 2006) that it incurs in helping to administer the OASI program. In addition a relatively small adjustment to administrative expenses is an offset (\$372,967 in 2006) representing income from the sale of excess supplies and equipment.

Finally, certain net reimbursements are made from the General Fund of the Treasury for administrative costs incurred by the Social Security Administration in performing certain legislatively mandated activities that are not directly related to the OASI program. These reimbursements include the costs associated with union activities related to administering the OASI program and providing information to participants in certain pension plans. Such reimbursements totaled \$4 million in 2006.

The assets of the OASI Trust Fund at the end of calendar year 2006 totaled \$1,844.3 billion, consisting of \$1,845.3 billion in U.S. Government obligations and, as an offset, an extension of credit amounting to \$1.0 billion against securities to be redeemed within the following few days. The effective annual rate of interest earned by the assets of the OASI Trust Fund during calendar year 2006 was 5.3 percent, as compared to 5.4 percent earned during calendar year 2005. Table VI.A5, presented in appendix A, shows a detailed listing of OASI Trust Fund holdings by type of security, interest rate, and year of maturity at the end of each year 2005 and 2006.

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

Section 201(d) of the Social Security Act provides that the obligations issued for purchase by the OASI and DI Trust Funds shall have maturities fixed with due regard for the needs of the funds. The usual practice has been to spread the holdings of special issues, as of each June 30, so that the amounts maturing in each of the next 15 years are approximately equal. Accordingly, the amounts and maturity dates of the OASI special-issue bonds purchased on June 30, 2006, with an interest rate of 5.125 percent, were selected so that the maturity dates of the total portfolio of special issues were spread evenly over the 15-year period 2007-21. The amount of bonds purchased on June 30, 2006 is shown in table III.A7.

2. DI Trust Fund

A statement of the income and disbursements of the Federal Disability Insurance Trust Fund in calendar year 2006, and of the assets of the fund at the beginning and end of the calendar year, is presented in table III.A2.

Line entries in the DI statement are similar to those in the OASI statement and the explanations of the OASI entries generally apply to DI as well.

Net contributions amounted to \$90.8 billion, an increase of 5.5 percent from the amount in the preceding calendar year. This increase is attributable to the same factors, insofar as they apply to the DI program, which accounted for the change in contributions to the OASI Trust Fund.

Of the \$94.5 billion in total disbursements, \$91.7 billion was for net benefit payments. Excluding the effect of special reimbursements totaling \$0.7 billion in principal related to voluntary income tax withholding, net benefit payments would have been \$92.4 billion. This higher amount of net benefit payments in calendar year 2006 represents an increase of 8.2 percent over the corresponding amount of benefit payments in calendar year 2005. This increase in DI benefit payments was due to the same factors that resulted in the net increase in benefit payments from the OASI Trust Fund. However, the number of persons receiving benefits from the DI Trust Fund increased more rapidly in 2006 than the number receiving benefits from the OASI Trust Fund largely due to a) the current ages of the baby-boom generation, b) the scheduled increase in the normal retirement age (NRA), and c) the special administrative action, undertaken by SSA beginning in 2001, to identify and award benefits from the DI Trust Fund to a substantial number of current and former recipients of SSI benefits whose disability-insured status under the DI program was not previously recognized. Total DI disbursements, which started to exceed non-interest income in 2005, continue to exceed such income in 2006. However, as in 2005, total DI income (including interest) in 2006 exceeds total disbursements.

Financial Operations & Legislative Changes

Table III.A2.—Operations of the DI Trust Fund, Calendar Year 2006
[In millions]

Total assets, December 31, 2005		<u>\$195,623</u>
Receipts:		
Contributions:		
Employment taxes	\$91,129	
Payments from the General Fund of the Treasury for contributions subject to refund	-321	
Net contributions		90,808
Income based on taxation of benefit payments:		
Withheld from benefit payments to nonresident aliens	4	
All other, not subject to withholding	1,226	
Total income from taxation of benefits		1,230
Investment income and interest adjustments:		
Interest on investments	10,518	
Interest adjustments ¹	85	
Total investment income and interest adjustments		10,603
Total receipts		<u>102,641</u>
Disbursements:		
Benefit payments:		
Gross benefit payments	93,113	
Offset for collected overpayments	-729	
Reimbursement from the general fund for excess amounts of voluntary income tax withholding	-678	
Reimbursement from the general fund for unnegotiated checks	-26	
Net benefit payments		91,680
Transfer to the Railroad Retirement "Social Security Equivalent Benefit Account"		388
Payment for costs of vocational rehabilitation services for disabled beneficiaries		61
Administrative expenses:		
Costs incurred by:		
Social Security Administration	2,220	
Department of the Treasury	98	
Miscellaneous reimbursements from the general fund ²	8	
Total administrative expenses		2,326
Total disbursements		<u>94,456</u>
Net increase in assets		<u>8,185</u>
Total assets, December 31, 2006		<u>203,808</u>

¹ Includes (1) 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, (2) interest arising from the revised allocation of administrative expenses among the trust funds, and (3) interest on certain reimbursements to the trust fund.

² Reimbursements for costs incurred in performing certain legislatively mandated activities not directly related to administering the DI program.

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

The assets of the DI Trust Fund at the end of calendar year 2006 totaled \$203.8 billion, consisting of \$203.9 billion in U.S. Government obligations and, as an offset, an extension of credit amounting to \$0.1 billion against securities to be redeemed within the following few days. The effective annual rate of interest earned by the assets of the DI Trust Fund during calendar year 2006 was 5.4 percent, compared to 5.5 percent earned during calendar year 2005. Table VI.A6, presented in appendix A, shows a detailed listing of DI Trust Fund holdings by type of security, interest rate, and year of maturity at the end of each year 2005 and 2006.

3. OASI and DI Trust Funds, Combined

A statement of the operations of the income and disbursements of the OASI and DI Trust Funds, on a combined basis, is presented in table III.A3. The entries in this table represent the sums of the corresponding values from tables III.A1 and III.A2. For a discussion of the nature of these income and expenditure transactions, reference should be made to the two preceding subsections covering OASI and DI separately.

**Table III.A3.—Operations of the Combined OASI and DI Trust Funds,
Calendar Year 2006**

[In millions]	
Total assets, December 31, 2005	<u>\$1,858,660</u>
Receipts:	
Contributions:	
Employment taxes	\$627,808
Payments from the General Fund of the Treasury for contributions subject to refund	<u>-2,213</u>
Net contributions	625,594
Income based on taxation of benefit payments:	
Withheld from benefit payments to nonresident aliens	147
All other, not subject to withholding	<u>16,711</u>
Total income from taxation of benefits	16,858
Reimbursement from the General Fund of the Treasury for costs of payments to uninsured persons who attained age 72 before 1968	1/
Investment income and interest adjustments:	
Interest on investments	101,496
Interest adjustments ²	<u>924</u>
Total investment income and interest adjustments	102,420
Gifts	<u>1/</u>
Total receipts	744,873
Disbursements:	
Benefit payments:	
Gross benefit payments	554,771
Offset for collected overpayments	-1,930
Reimbursement from the general fund for excess amounts of voluntary income tax withholding	-6,590
Reimbursement from the general fund for unnegotiated checks	<u>-78</u>
Net benefit payments	546,173
Transfer to the Railroad Retirement "Social Security Equivalent Benefit Account"	3,846
Payment for costs of vocational rehabilitation services for disabled beneficiaries	65
Administrative expenses:	
Costs incurred by:	
Social Security Administration	4,677
Department of the Treasury	656
Offsetting receipts from sales of supplies, materials, etc.	1/
Miscellaneous reimbursements from the general fund ³	<u>4</u>
Net administrative expenses	5,337
Total disbursements	<u>555,421</u>
Net increase in assets	<u>189,452</u>
Total assets, December 31, 2006	<u>2,048,112</u>

¹ Between -\$500,000 and \$500,000.

² Includes (1) interest on transfers between the trust funds and the general fund account for the Supplemental Security Income program due to adjustments in the allocation of administrative expenses, (2) interest arising from the revised allocation of administrative expenses among the trust funds, and (3) interest on certain reimbursements to the trust funds.

³ Reimbursements for costs incurred in performing certain legislatively mandated activities not directly related to administering the OASI and DI programs.

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

To provide a context for estimates of future trust fund income and expenditures provided later in this report, table III.A4 compares past estimates of contributions and benefit payments for calendar year 2006, as shown in the 2002-06 Annual Reports, with the corresponding actual amounts in 2006.¹

Table III.A4.—Comparison of Actual Calendar Year 2006 Trust Fund Operations With Estimates Made in Prior Reports¹
 [Amounts in billions]

	Net contributions ²		Benefit payments ³	
	Amount	Difference from actual (percent)	Amount	Difference from actual (percent)
OASI Trust Fund:				
Estimate in 2002 report	\$558.3	4.4	\$459.2	-0.3
Estimate in 2003 report	542.9	1.5	450.4	-2.2
Estimate in 2004 report	528.1	-1.2	443.2	-3.7
Estimate in 2005 report	528.8	-1.1	450.0	-2.3
Estimate in 2006 report	532.6	-.4	461.7	.3
Actual amount	534.8	—	⁴ 460.4	—
DI Trust Fund:				
Estimate in 2002 report	94.8	4.4	87.6	-5.2
Estimate in 2003 report	92.2	1.5	88.8	-4.0
Estimate in 2004 report	89.7	-1.2	86.4	-6.5
Estimate in 2005 report	89.8	-1.1	89.0	-3.7
Estimate in 2006 report	90.4	-.4	93.5	1.2
Actual amount	90.8	—	⁴ 92.4	—
OASI and DI Trust Funds, combined:				
Estimate in 2002 report	653.2	4.4	546.7	-1.1
Estimate in 2003 report	635.1	1.5	539.2	-2.5
Estimate in 2004 report	617.8	-1.2	529.6	-4.2
Estimate in 2005 report	618.6	-1.1	539.0	-2.5
Estimate in 2006 report	623.1	-.4	555.2	.4
Actual amount	625.6	—	⁴ 552.8	—

¹ The estimates shown are based on the intermediate assumptions.

² “Actual” contributions for 2006 reflect adjustments for prior calendar years (see appendix A on page 126 for description of these adjustments). “Estimated” contributions also include such adjustments, but on an estimated basis.

³ Includes payments, if any, for vocational rehabilitation services furnished to disabled persons receiving benefits because of their disabilities.

⁴ Excludes reimbursements in 2006 for excess amounts of voluntary income tax withholding in 1999-2005. Reimbursements are \$5.9 billion and \$0.7 billion for OASI and DI, respectively.

A number of factors can contribute to differences between estimates and subsequent actual amounts, including actual values for key demographic, economic, and other variables that differ from assumed levels. In addition, new legislation or other administrative initiatives that were unanticipated at the time the earlier estimates were completed can contribute to such differences.

¹ Estimated amounts used to calculate percentage errors are before rounding to amounts shown in the annual reports.

At the end of calendar year 2006, about 49.1 million persons were receiving monthly benefits under the OASDI program. Of these persons, about 40.5 million and 8.6 million were receiving monthly benefits from the OASI Trust Fund and the DI Trust Fund, respectively. The number of persons receiving benefits from the OASI and DI Trust Funds grew by 1.0 percent and 3.7 percent, respectively, during the calendar year. The estimated distributions of benefit payments in calendar years 2005 and 2006, by type of beneficiary, are shown in table III.A5 for each trust fund separately.

Table III.A5.—Distribution of Benefit Payments by Type of Beneficiary or Payment, Calendar Years 2005 and 2006
[Amounts in millions]

	Calendar year 2005		Calendar year 2006 ¹	
	Amount	Percentage of total	Amount	Percentage of total
Total OASDI benefit payments	\$520,699	100.0	\$522,763	100.0
OASI benefit payments	435,325	83.6	460,405	83.3
DI benefit payments	85,373	16.4	92,358	16.7
OASI benefit payments, total.	435,325	100.0	460,405	100.0
Monthly benefits:				
Retired workers and auxiliaries	345,056	79.3	366,911	79.7
Retired workers	321,670	73.9	342,826	74.5
Spouses	20,497	4.7	21,003	4.6
Children	2,888	.7	3,082	.7
Survivors of deceased workers.	90,064	20.7	93,290	20.3
Aged widows and widowers.	71,745	16.5	74,134	16.1
Disabled widows and widowers	1,659	.4	1,758	.4
Parents	24	<u>2</u>	24	<u>2</u>
Children	15,101	3.5	15,812	3.4
Widowed mothers and fathers caring for child beneficiaries	1,535	.4	1,562	.3
Uninsured persons generally aged 72 before 1968	<u>3</u>	<u>2</u>	<u>3</u>	<u>2</u>
Lump-sum death payments	206	<u>2</u>	204	<u>2</u>
DI benefit payments, total	85,373	100.0	92,358	100.0
Disabled workers	78,361	91.8	84,928	92.0
Spouses	483	.6	509	.6
Children	6,529	7.6	6,921	7.5

¹ Excludes reimbursements in 2006 for excess amounts of voluntary income tax withholding in 1999-2005. Reimbursements are \$5.9 billion and \$0.7 billion for OASI and DI, respectively.

² Less than 0.05 percent.

³ Less than \$500,000.

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

Net administrative expenses charged to the OASI and DI Trust Funds in calendar year 2006 totaled \$5.3 billion. This amount represented 0.9 percent of contribution income and 1.0 percent of expenditures. Corresponding percentages for each trust fund separately and for the OASDI program as a whole are shown in table III.A6 for each of the last 5 years.

Table III.A6.—Administrative Expenses as a Percentage of Contribution Income and of Total Expenditures, Calendar Years 2002-06

Calendar year	OASI Trust Fund		DI Trust Fund		OASI and DI Trust Funds, combined	
	Contribution income	Total expenditures	Contribution income	Total expenditures	Contribution income	Total expenditures
2002	0.5	0.5	2.7	3.0	0.8	0.9
2003 .....	.6	.6	2.6	2.7	.9	1.0
2004 .....	.5	.6	2.7	2.7	.8	.9
2005 .....	.6	.7	2.7	2.6	.9	1.0
2006 .....	.6	.7	2.6	2.5	.9	1.0

Changes in the invested assets of the OASI and DI funds between the end of 2005 and the end of 2006 are a result of the acquisition and disposition of securities during calendar year 2006. Table III.A7 presents these investment transactions for each trust fund separately and combined.

Table III.A7.—Trust Fund Investment Transactions, Calendar Year 2006
[In millions]

	OASI Trust Fund	DI Trust Fund	OASI and DI Trust Funds, combined
Invested assets, December 31, 2005	\$1,663,726	\$195,715	\$1,859,441
Acquisitions:			
Special issues:			
Certificates of indebtedness	605,932	98,532	704,464
Bonds ¹	280,103	22,888	302,992
Total acquisitions	886,036	121,420	1,007,456
Dispositions:			
Special issues:			
Certificates of indebtedness	577,034	98,618	675,652
Bonds	127,389	14,595	141,984
Total dispositions	704,423	113,213	817,636
Net increase in invested assets	181,613	8,207	189,820
Invested assets, December 31, 2006	1,845,339	203,922	2,049,260

¹ Amounts shown were purchased on June 30, 2006. The interest rate on such purchases was 5.125 percent.

Note: All investments are shown at par value.

B. SOCIAL SECURITY AMENDMENTS SINCE THE 2006 REPORT

Since the 2006 Annual Report was transmitted to Congress on May 1, 2006, one law was enacted that had a direct financial effect on the OASDI program.

The Social Security Trust Funds Restoration Act of 2006, Public Law 109-465, required the General Fund of the Treasury to reimburse the combined OASI and DI Trust Funds to fully correct the effects of a clerical error that resulted in excess transfers to the Internal Revenue Service for years 1999 through 2005 for voluntary income tax withholding by Social Security beneficiaries. This reimbursement occurred in December 2006, and is reflected in the reported OASI and DI Trust Fund balances as of December 31, 2006. See section III.A.1. for more details.

IV. ACTUARIAL ESTIMATES

This chapter presents actuarial estimates of the future financial condition of the Social Security program. These estimates include projected income and cost of the OASI and DI Trust Funds, in dollars over the next 10 years and as a percentage of taxable payroll or in present-value dollars over the full 75-year period, along with a discussion of a variety of measures of the adequacy of current program financing. In this report we carefully distinguish between (1) the cost (or obligations) of the program, which includes, for the future, all benefits scheduled under current law, and (2) expenditures (disbursements or outgo), which include actual payments for the past and only the portion of the cost of the program that is projected to be payable with the financing provisions in current law.

As described in the Overview section of this report, these estimates depend upon a broad set of demographic, economic, and programmatic factors. Since assumptions related to these factors are subject to uncertainty, the estimates presented in this section are prepared under three sets of assumptions, to show a range of possible outcomes. The intermediate set of assumptions, designated as alternative II, reflects the Trustees' best estimate of future experience; the low cost alternative I is more optimistic and the high cost alternative III more pessimistic for the trust funds' future financial outlook. The intermediate estimates are shown first in the tables in this report, followed by the low cost and high cost estimates. These sets of assumptions, along with actuarial methods used to produce the estimates, are described in chapter V. In this chapter, the estimates and measures of trust fund financial adequacy for the short range (2007-16) are presented first, followed by estimates and measures of actuarial status for the long range (2007-81) and for the infinite future. As an additional illustration of uncertainty, estimated probability distributions of certain measures are presented in appendix E.

A. SHORT-RANGE ESTIMATES

Financial adequacy, or solvency, of the trust funds is generally measured on a year-by-year basis using the "trust fund ratio," which is defined to be the assets at the beginning of the year expressed as a percentage of the projected cost for the year. Thus, the trust fund ratio represents the proportion of a year's cost which can be paid with the funds available at the beginning of the year. During periods when trust fund income exceeds disbursements, the excess is held in the trust funds which serve to advance fund a portion of the Social Security program's future financial obligations. 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 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 is applicable to the OASI and DI Trust Funds individually and on a combined basis. The requirements of this test are as follows: If the estimated trust fund ratio 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 within 5 years 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 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 legislative action is needed to improve the short-range financial adequacy of the program.

1. Operations of the OASI Trust Fund

This subsection presents estimates of the operations and financial status of the OASI Trust Fund for the period 2007-16, based on the assumptions described in chapter V. No changes are assumed to occur in the present statutory provisions and regulations under which the OASDI program operates.¹

These estimates are shown in table IV.A1 and indicate that the assets of the OASI Trust Fund would continue to increase rapidly throughout the next 10 years under all three sets of assumptions. Also, based on the intermediate assumptions, the assets of the OASI Trust Fund would continue to exceed 100 percent of annual expenditures by a steadily increasing amount through the end of 2016. Consequently, the OASI Trust Fund satisfies the test of short-range financial adequacy by a wide margin. The estimates in table IV.A1 also indicate that the short-range test would be satisfied even under the high cost assumptions (see figure IV.A1 for graphical illustration of these results).

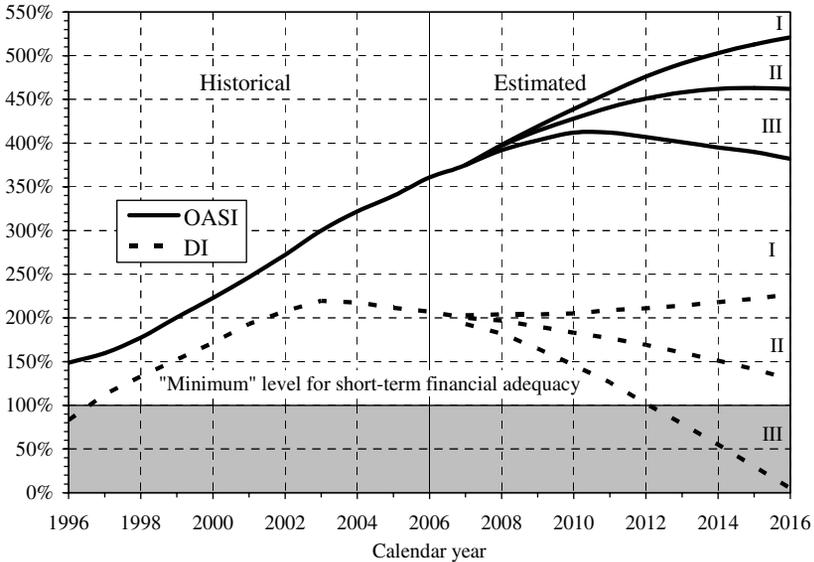
The increases in estimated income shown in table IV.A1 under each set of assumptions reflect increases in estimated OASDI taxable earnings and growth in interest earnings on the invested assets of the trust fund. For each alternative, employment and earnings are assumed to increase in every year through 2016. The number of persons with taxable earnings would increase on the basis of alternatives I, II, and III from 162 million during calendar year 2006 to about 177 million, 173 million, and 170 million, respectively, in 2016. The total annual amount of taxable earnings is projected to increase from \$5,057 billion in 2006 to \$8,112 billion, \$8,145 billion, and

¹ The estimates shown in this subsection reflect 12 months of benefit payments in each year of the short-range projection period. In practice, the actual payment dates have at times been shifted over calendar year boundaries as a result of the statutory requirement that benefit checks be delivered early when the normal check delivery date is a Saturday, Sunday, or legal public holiday. The annual benefit figures are shown as if those benefit checks were delivered on the usual date.

\$8,463 billion, in 2016, on the basis of alternatives I, II, and III, respectively.¹ These increases in taxable earnings are due primarily to (1) projected increases in employment levels as the working age (20-64) population increases, (2) increases in average earnings in covered employment (reflecting both real growth and price inflation), and (3) increases in the contribution and benefit base in 2007-16 under the automatic-adjustment provisions.

Growth in interest earnings represents a significant component of the overall increase in trust fund income during this period. Although interest rates payable on trust fund investments are not assumed to change substantially from current levels, the continuing rapid increase in OASI assets will result in a corresponding increase in interest income. By 2016, interest income to the OASI Trust Fund is projected to be about 20 percent of total trust fund income on the basis of the intermediate assumptions, as compared to 14 percent in 2006.

Figure IV.A1.—Short-Range OASI and DI Trust Fund Ratios
 [Assets as a percentage of annual cost]



¹ Note that the pattern, by alternative, of these nominal amounts of total taxable earnings is not what might be expected, but the reverse, because of the varying inflation assumptions embedded in the respective estimates.

Table IV.A1.—Operations of the OASI Trust Fund, Calendar Years 2002-16¹
 [Amounts in billions]

Calendar year	Income				Cost				Assets		
	Total ²	Net contributions	Taxation of benefits	Net interest	Total	Benefit payments	Administrative costs	RRB inter-change	Net increase during year	Amount at end of year	Trust fund ratio ³
Historical data:											
2002 ..	\$539.7	\$455.2	\$12.9	\$71.2	\$393.7	\$388.1	\$2.1	\$3.5	\$146.0	\$1,217.5	272
2003 ..	543.8	456.1	12.5	75.2	406.0	399.8	2.6	3.6	137.8	1,355.3	300
2004 ..	566.3	472.8	14.6	79.0	421.0	415.0	2.4	3.6	145.3	1,500.6	322
2005 ..	604.3	506.9	13.8	84.0	441.9	435.4	3.0	3.6	162.4	1,663.0	340
2006 ..	642.2	534.8	15.6	91.8	461.0	454.5	3.0	3.5	181.3	1,844.3	361
Intermediate:											
2007 ..	675.7	559.9	17.3	98.5	492.2	485.8	2.9	3.5	183.4	2,027.7	375
2008 ..	715.0	589.1	18.8	107.1	511.1	504.5	3.1	3.4	204.0	2,231.7	397
2009 ..	762.8	623.2	20.8	118.9	539.5	532.9	3.1	3.5	223.3	2,455.1	414
2010 ..	810.3	655.1	22.8	132.3	573.5	566.9	3.1	3.5	236.8	2,691.8	428
2011 ..	860.8	688.2	25.8	146.8	610.6	604.0	3.1	3.6	250.1	2,941.9	441
2012 ..	911.4	721.2	28.5	161.7	652.0	645.1	3.2	3.8	259.4	3,201.4	451
2013 ..	962.1	753.1	31.8	177.2	699.1	692.0	3.2	3.9	262.9	3,464.3	458
2014 ..	1,013.7	786.4	34.4	192.9	750.5	743.2	3.3	4.0	263.2	3,727.5	462
2015 ..	1,067.4	821.5	37.6	208.3	805.4	797.9	3.3	4.2	262.0	3,989.5	463
2016 ..	1,122.8	858.1	41.0	223.7	864.4	856.8	3.4	4.3	258.3	4,247.8	462
Low Cost:											
2007 ..	678.2	562.2	17.2	98.7	492.0	485.5	2.9	3.5	186.2	2,030.5	375
2008 ..	721.7	595.5	18.7	107.5	509.5	503.0	3.1	3.4	212.2	2,242.7	398
2009 ..	766.1	627.7	20.6	117.8	535.0	528.5	3.1	3.4	231.1	2,473.8	419
2010 ..	810.7	658.9	22.4	129.3	563.4	556.8	3.1	3.5	247.3	2,721.1	439
2011 ..	858.2	690.7	25.0	142.5	593.6	587.0	3.1	3.5	264.6	2,985.7	458
2012 ..	906.9	722.6	27.4	156.8	627.1	620.4	3.1	3.6	279.7	3,265.5	476
2013 ..	956.7	754.1	30.3	172.3	665.6	658.8	3.1	3.7	291.0	3,556.5	491
2014 ..	1,008.4	787.2	32.4	188.9	707.4	700.5	3.2	3.8	301.0	3,857.5	503
2015 ..	1,060.8	820.4	35.1	205.3	751.9	744.8	3.2	3.9	308.9	4,166.3	513
2016 ..	1,114.8	854.7	37.9	222.1	799.4	792.3	3.2	3.9	315.4	4,481.7	521
High Cost:											
2007 ..	667.6	553.0	17.3	97.3	492.5	486.0	2.9	3.5	175.2	2,019.5	375
2008 ..	696.3	571.9	18.9	105.4	515.5	508.9	3.1	3.4	180.8	2,200.2	392
2009 ..	746.9	608.6	21.0	117.3	546.6	540.0	3.1	3.5	200.3	2,400.6	403
2010 ..	788.9	635.5	23.2	130.2	583.1	576.4	3.1	3.6	205.8	2,606.3	412
2011 ..	849.3	674.4	26.7	148.2	632.1	625.2	3.2	3.7	217.2	2,823.5	412
2012 ..	931.1	724.9	30.4	175.8	694.5	687.3	3.3	4.0	236.6	3,060.1	407
2013 ..	1,000.0	768.7	34.7	196.5	763.8	756.1	3.4	4.2	236.2	3,296.3	401
2014 ..	1,058.9	809.7	38.2	211.0	833.5	825.5	3.5	4.6	225.3	3,521.7	395
2015 ..	1,115.5	850.4	42.1	223.0	902.4	893.9	3.6	4.9	213.1	3,734.7	390
2016 ..	1,172.5	891.3	46.3	234.9	976.6	967.9	3.6	5.1	195.9	3,930.6	382

¹ A detailed description of the components of income and cost, along with complete historical values, is presented in appendix A.

² "Total Income" column includes transfers made between the OASI Trust Fund and the General Fund of the Treasury that are not included in the separate components of income shown. These transfers consist of payments for (1) the cost of noncontributory wage credits for military service before 1957, and (2) the cost of benefits to certain uninsured persons who attained age 72 before 1968. Transfers for the cost of pre-1957 military service noncontributory wage credits were: (1) \$414 million from the General Fund of the Treasury to the OASI Trust Fund in February 2002, and (2) \$350 million from the trust fund to the general fund in December 2005. After 2006 such transfers are estimated to be less than \$500,000 in each year.

³ The "Trust fund ratio" column represents assets at the beginning of a year (which are identical to assets at the end of the prior year shown in the "Amount at end of year" column) as a percentage of cost for the year.

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

Rising expenditures during 2007-16 reflect automatic benefit increases as well as the upward trend in the number of beneficiaries and in the average monthly earnings underlying benefits payable by the program. The growth in the number of beneficiaries in the past and the expected growth in the future result both from the increase in the aged population and from the increase in the proportion of the population which is eligible for benefits.

The estimates under all three sets of assumptions shown in table IV.A1 indicate that income to the OASI Trust Fund would substantially exceed expenditures in every year of the short-range projection period, and assets are therefore estimated to increase substantially.

The portion of the OASI Trust Fund that is not needed to meet day-to-day expenditures is used to purchase financial securities, generally special public-debt obligations of the U.S. Government. The cash used to make these purchases flows to the General Fund of the Treasury and is used to meet various Federal outlays or to reduce the amount of publicly-held Federal debt. Interest on these securities is credited to the trust fund and, when the securities mature they are reinvested in new securities if not immediately needed to pay program costs. When securities are redeemed prior to maturity in order to pay program costs, general fund revenues flow to the trust fund. Thus, the investment operations of the trust fund result in various credits and cash flows between the trust fund and the General Fund of the Treasury.

2. Operations of the DI Trust Fund

The estimated operations and financial status of the DI Trust Fund during calendar years 2007-16 under the three sets of assumptions are shown in table IV.A2, together with values for actual experience in 2002-06. Income is generally projected to increase steadily under each alternative, reflecting most of the same factors described previously in connection with the OASI Trust Fund. The estimates indicate that the assets of the DI Trust Fund would also continue to increase throughout the next 10 years under the low cost assumptions, but would peak in 2012 and then begin to decline under the intermediate assumptions. Under the high cost assumptions, DI assets would increase through 2007 and decline steadily thereafter until exhaustion in 2016.

Cost is estimated to increase in part due to increases in average benefit levels resulting from (1) automatic benefit increases and (2) projected increases in the amounts of average monthly earnings on which benefits are based. In addition, under all three sets of assumptions, the number of DI beneficiaries in current-payment status is projected to continue increasing throughout the short-range projection period. Over the period 2006-16, the projected annual average growth rate in the number of DI worker beneficiaries is roughly 1.7, 2.5, and 3.9 percent under alternatives I, II, and III, respectively. Growth is

largely attributable to the gradual progression of the baby-boom generation through ages 50 to normal retirement age, at which higher rates of disability incidence are experienced.

Annual increases in incidence rates over the period 2001-03 represented a notable departure from the experience of the preceding decade, which generally showed modest annual declines in the age-sex-adjusted disability incidence rate.¹ During 2004 and 2005 however, this growth in the incidence rate subsided, and the incidence rate even declined in 2006. Nevertheless, incidence rates are still at a level somewhat higher than experienced during the late 1990s. The increases in 2001-03 were likely due in large part to the slowdown in economic growth experienced during that period. However, a special administrative activity undertaken by SSA beginning in 2001 has also contributed slightly to the upsurge in disabled worker awards. This special workload was the result of discovering a substantial number of current or former recipients of Supplemental Security Income (SSI) benefits whose disability-insured status under the DI program was not previously recognized. As this special disability workload continues to be processed over the next several years, the resulting disability awards will contribute to temporarily higher incidence rates than would have been expected as part of longer term underlying trends.

Estimates of the total size of this special workload, and the schedule for processing these cases, remain roughly the same as assumed for the 2006 report. After the last of these special workload cases is processed in about 2010, the incidence of disability is projected in this report to drop back somewhat from then current levels, and to remain roughly level over the remainder of the short-range period under the three alternative sets of assumptions.

¹ Historical and projected patterns of disability incidence rates are described in greater detail in section V.C.6.

Table IV.A2.—Operations of the DI Trust Fund, Calendar Years 2002-16¹
 [Amounts in billions]

Calendar year	Income			Cost				Assets			
	Total ²	Net contributions	Taxation of benefits	Net interest	Total	Benefit payments	Administrative costs	RRB inter-change	Net increase during year	Amount at end of year	Trust fund ratio ³
Historical data:											
2002 ..	\$87.4	\$77.3	\$0.9	\$9.2	\$67.9	\$65.7	\$2.0	\$0.2	\$19.5	\$160.5	208
2003 ..	88.1	77.4	.9	9.7	73.1	70.9	2.0	.2	15.0	175.4	219
2004 ..	91.4	80.3	1.1	10.0	80.6	78.2	2.2	.2	10.8	186.2	218
2005 ..	97.4	86.1	1.1	10.3	88.0	85.4	2.3	.3	9.4	195.6	212
2006 ..	102.6	90.8	1.2	10.6	94.5	91.7	2.3	.4	8.2	203.8	207
Intermediate:											
2007 ..	107.2	95.1	1.4	10.7	102.1	99.3	2.5	.4	5.1	208.9	200
2008 ..	112.4	100.0	1.6	10.8	106.3	103.4	2.5	.4	6.2	215.1	197
2009 ..	118.8	105.8	1.8	11.1	113.0	110.0	2.6	.4	5.8	220.8	190
2010 ..	124.7	111.2	2.0	11.4	120.7	117.4	2.8	.5	4.0	224.8	183
2011 ..	130.9	116.9	2.3	11.7	126.8	123.3	3.0	.5	4.1	228.9	177
2012 ..	137.0	122.5	2.6	11.8	135.7	132.0	3.2	.5	1.3	230.2	169
2013 ..	142.8	127.9	3.0	11.9	143.7	139.8	3.4	.5	-.9	229.3	160
2014 ..	148.6	133.5	3.2	11.8	151.8	147.7	3.5	.5	-3.2	226.1	151
2015 ..	154.6	139.5	3.5	11.6	160.5	156.2	3.7	.5	-5.9	220.2	141
2016 ..	160.8	145.7	3.8	11.3	169.4	165.0	3.9	.5	-8.7	211.5	130
Low Cost:											
2007 ..	107.6	95.5	1.4	10.7	100.6	97.8	2.5	.4	7.0	210.8	203
2008 ..	113.7	101.1	1.5	11.0	103.4	100.5	2.5	.4	10.3	221.1	204
2009 ..	119.8	106.6	1.7	11.5	108.3	105.2	2.6	.4	11.5	232.6	204
2010 ..	125.8	111.9	1.9	12.0	113.6	110.3	2.8	.5	12.3	244.9	205
2011 ..	132.1	117.3	2.1	12.7	117.2	113.8	2.9	.5	14.9	259.7	209
2012 ..	138.5	122.7	2.4	13.4	123.2	119.6	3.1	.5	15.3	275.0	211
2013 ..	145.0	128.1	2.7	14.3	128.4	124.7	3.3	.5	16.6	291.6	214
2014 ..	151.7	133.7	2.8	15.2	133.6	129.7	3.4	.5	18.1	309.7	218
2015 ..	158.5	139.3	3.0	16.2	139.3	135.2	3.6	.5	19.3	328.9	222
2016 ..	165.6	145.1	3.2	17.3	145.1	140.9	3.8	.4	20.5	349.5	227
High Cost:											
2007 ..	105.9	93.9	1.5	10.5	105.4	102.5	2.5	.4	.5	204.3	193
2008 ..	109.0	97.1	1.7	10.3	112.3	109.5	2.5	.4	-3.3	201.1	182
2009 ..	115.3	103.3	1.9	10.0	121.9	118.9	2.6	.4	-6.6	194.4	165
2010 ..	119.6	107.9	2.3	9.5	132.9	129.6	2.8	.5	-13.2	181.2	146
2011 ..	125.9	114.5	2.6	8.7	143.6	140.0	3.1	.6	-17.8	163.4	126
2012 ..	133.9	123.1	3.1	7.7	159.6	155.8	3.3	.5	-25.7	137.7	102
2013 ..	140.4	130.5	3.7	6.2	174.3	170.2	3.6	.6	-33.9	103.8	79
2014 ..	146.0	137.5	4.0	4.5	188.2	183.8	3.8	.6	-42.2	61.6	55
2015 ..	151.1	144.4	4.4	2.3	202.0	197.4	4.0	.6	-50.9	10.7	30
2016 ..	<u>4/</u>	151.4	4.9	<u>4/</u>	216.7	211.9	4.2	.6	<u>4/</u>	<u>4/</u>	5

¹ A detailed description of the components of income and cost, along with complete historical values, is presented in appendix A.

² "Total Income" column includes transfers made between the DI Trust Fund and the General Fund of the Treasury that are not included in the separate components of income shown. These transfers consist of payments for the cost of noncontributory wage credits for military service before 1957. In particular, a transfer is expected to be made in December 2007 in the amount of \$7.7 million from the General Fund of the Treasury to the DI Trust Fund. Thereafter such transfers are estimated to be less than \$500,000 in each year.

³ The "Trust fund ratio" column represents assets at the beginning of a year (which are identical to assets at the end of the prior year shown in the "Amount at end of year" column) as a percentage of cost for the year.

⁴ Under the high cost assumptions, the DI Trust Fund is projected to be exhausted in early 2016. Therefore, certain trust fund operation values for that year are not meaningful under present law and are not shown in this table.

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

The proportion of DI beneficiaries whose benefits terminate in a given year has also fluctuated 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. Declines in mortality for the general population have also led to improved mortality experience among the DI disabled worker beneficiaries. In addition, conversions to old-age benefits are at a temporarily reduced level for years 2003 through 2008 due to the gradual increase in the normal retirement age. The termination rate due to recovery has been much more volatile. Currently, the proportion of disabled beneficiaries whose benefits cease because of their recovery from disability is very low in comparison to levels experienced throughout the 1970s and early 1980s. Projected rates of recovery terminations in this year's report are somewhat lower initially due to resource constraints which temporarily limit the number of continuing disability reviews conducted by SSA. Following this temporary resource constraint, recovery termination rates are projected to return to levels consistent with last year's report. The overall termination rate (reflecting all causes) is projected in 2007-08 to remain near levels experienced since 2003, before returning to higher levels in 2009 when the gradual increase in the normal retirement age temporarily ceases.

At the beginning of calendar year 2006, the assets of the DI Trust Fund represented 207 percent of annual expenditures. During 2006, DI expenditures continued to exceed non-interest income. While total DI income exceeded DI expenditures by \$8.2 billion, the trust fund ratio for the beginning of 2007 still decreased, to about 200 percent. Under the intermediate set of assumptions, total income is estimated to exceed expenditures through 2012. The projected expenditures in excess of income beginning in 2013 result in a decline in the projected trust fund ratio to 130 percent by the beginning of 2016.

Under the low cost assumptions, the trust fund ratio would increase to 227 percent at the beginning of 2016. Under the high cost assumptions, the assets of the DI Trust Fund would decline steadily, dipping below the level of 1 year's expenditures near the beginning of 2012, and becoming completely depleted early in 2016.

Because DI assets were greater than 1 year's expenditures at the beginning of 2007 and would remain above that level through 2016, the DI Trust Fund satisfies the Trustees' short-range test of financial adequacy under both the intermediate and low cost assumptions. However, under the high cost assumptions the DI Trust Fund fails to meet the short-range test of financial adequacy, because assets fall below 1 year's expenditures by the end of the short-range period, as described above (see also figure IV.A1).

3. Operations of the Combined OASI and DI Trust Funds

The estimated operations and status of the OASI and DI Trust Funds, combined, during calendar years 2007-16 on the basis of the three alternatives, are shown in table IV.A3, together with figures on actual experience in 2002-06. Because income and cost for the OASI Trust Fund represent over 80 percent of the corresponding amounts for the combined OASI and DI Trust Funds, the operations of the OASI Trust Fund tend to dominate the combined operations of the two funds. Consequently, based on the strength of the OASI Trust Fund over the next 10 years, the combined OASI and DI Trust Funds meet the requirements of the short-range test of financial adequacy under all three alternative sets of assumptions.

While combining the operations of the OASI and DI Trust Funds permits an assessment of the short-range test for the two programs on a combined basis, in practice assets from one trust fund cannot be shared with another trust fund without legislative changes to the Social Security Act. For example, under the high cost scenario, table IV.A2 shows that the DI Trust Fund becomes exhausted in 2016. The value of the combined OASI and DI Trust Funds in that year shown in table IV.A3 shows that OASI assets could be made available to pay DI benefits through 2016, but only with legislation to permit this action.

Table IV.A3.—Operations of the Combined OASI and DI Trust Funds, Calendar Years 2002-16¹
 [Amounts in billions]

Calendar year	Income				Cost				Assets		
	Total ²	Net contributions	Taxation of benefits	Net interest	Total	Benefit payments	Administrative costs	RRB inter-change	Net increase during year	Amount at end of year	Trust fund ratio ³
Historical data:											
2002..	\$627.1	\$532.5	\$13.8	\$80.4	\$461.7	\$453.8	\$4.2	\$3.6	\$165.4	\$1,378.0	263
2003..	631.9	533.5	13.4	84.9	479.1	470.8	4.6	3.7	152.8	1,530.8	288
2004..	657.7	553.0	15.7	89.0	501.6	493.3	4.5	3.8	156.1	1,686.8	305
2005..	701.8	592.9	14.9	94.3	529.9	520.7	5.3	3.9	171.8	1,858.7	318
2006..	744.9	625.6	16.9	102.4	555.4	546.2	5.3	3.8	189.5	2,048.1	335
Intermediate:											
2007..	782.8	655.0	18.7	109.2	594.3	585.0	5.4	3.9	188.5	2,236.6	345
2008..	827.5	689.2	20.4	117.9	617.3	607.9	5.6	3.8	210.2	2,446.8	362
2009..	881.6	729.0	22.6	130.0	652.5	642.9	5.7	3.9	229.1	2,675.9	375
2010..	935.0	766.3	24.9	143.7	694.2	684.3	5.9	4.0	240.7	2,916.6	385
2011..	991.6	805.1	28.1	158.5	737.4	727.2	6.1	4.1	254.2	3,170.8	396
2012..	1,048.4	843.6	31.2	173.6	787.6	777.0	6.3	4.3	260.7	3,431.5	403
2013..	1,104.9	881.0	34.8	189.1	842.8	831.8	6.6	4.4	262.1	3,693.6	407
2014..	1,162.3	920.0	37.6	204.7	902.3	890.9	6.8	4.6	260.0	3,953.6	409
2015..	1,221.9	961.0	41.1	219.9	965.9	954.1	7.0	4.7	256.1	4,209.7	409
2016..	1,283.5	1,003.8	44.8	235.0	1,033.8	1,021.8	7.3	4.8	249.7	4,459.3	407

**Table IV.A3.—Operations of the Combined OASI and DI Trust Funds,
Calendar Years 2002-16¹ (Cont.)**
[Amounts in billions]

Calendar year	Income				Cost				Assets		
	Total ²	Net contributions	Taxation of benefits	Net interest	Total	Benefit payments	Administrative costs	RRB inter-change	Net increase during year	Amount at end of year	Trust fund ratio ³
Low Cost:											
2007..	\$785.8	\$657.7	\$18.6	\$109.5	\$592.6	\$583.3	\$5.4	\$3.9	\$193.2	\$2,241.3	346
2008..	835.4	696.6	20.3	118.5	613.0	603.6	5.6	3.8	222.5	2,463.8	366
2009..	885.9	734.3	22.3	129.3	643.3	633.7	5.7	3.9	242.6	2,706.4	383
2010..	936.5	770.8	24.3	141.3	676.9	667.1	5.9	4.0	259.6	2,966.0	400
2011..	990.2	807.9	27.2	155.1	710.8	700.8	6.0	4.0	279.4	3,245.4	417
2012..	1,045.4	845.3	29.8	170.2	750.4	740.1	6.2	4.1	295.0	3,540.5	433
2013..	1,101.7	882.2	33.0	186.5	794.1	783.5	6.4	4.2	307.6	3,848.1	446
2014..	1,160.2	920.8	35.3	204.1	841.1	830.2	6.6	4.2	319.1	4,167.2	458
2015..	1,219.3	959.7	38.1	221.5	891.2	880.0	6.8	4.3	328.1	4,495.3	468
2016..	1,280.4	999.9	41.1	239.4	944.5	933.1	7.0	4.3	335.9	4,831.2	476
High Cost:											
2007..	773.5	646.9	18.7	107.8	597.8	588.5	5.4	3.9	175.7	2,223.8	343
2008..	805.3	669.0	20.6	115.7	627.8	618.4	5.6	3.8	177.5	2,401.3	354
2009..	862.2	711.9	23.0	127.3	668.5	658.9	5.7	3.9	193.7	2,595.0	359
2010..	908.5	743.4	25.5	139.7	716.0	706.0	5.9	4.1	192.6	2,787.5	362
2011..	975.1	788.9	29.3	156.9	775.7	765.2	6.3	4.2	199.4	2,986.9	359
2012..	1,065.0	848.0	33.5	183.5	854.2	843.0	6.7	4.5	210.9	3,197.8	350
2013..	1,140.4	899.3	38.4	202.7	938.1	926.3	7.0	4.8	202.3	3,400.1	341
2014..	1,204.9	947.2	42.2	215.5	1,021.7	1,009.3	7.3	5.2	183.2	3,583.3	333
2015..	1,266.6	994.8	46.5	225.3	1,104.4	1,091.4	7.6	5.5	162.2	3,745.4	324
2016..	1,327.7	1,042.7	51.2	233.9	1,193.3	1,179.8	7.9	5.7	134.4	3,879.9	314

¹ A detailed description of the components of income and cost, along with complete historical values, is presented in appendix A.

² "Total Income" column includes transfers made between the OASI and DI Trust Funds and the General Fund of the Treasury that are not included in the separate components of income shown. These transfers consist of payments for (1) the cost of noncontributory wage credits for military service before 1957, and (2) the cost of benefits to certain uninsured persons who attained age 72 before 1968.

³ The "Trust fund ratio" column represents assets at the beginning of a year (which are identical to assets at the end of the prior year shown in the "Amount at end of year" column) as a percentage of cost for the year.

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

4. Factors Underlying Changes in 10-Year Trust Fund Ratio Estimates From the 2006 Report

The factors underlying the changes in the intermediate estimates for the OASI, DI and the combined funds from last year's annual report to this report are analyzed in table IV.A4. In the 2006 Annual Report, the trust fund ratio for OASI was estimated to reach 462 percent at the beginning of 2015—the tenth projection year from that report. If there had been no changes to the projections, the estimated ratio at the beginning of 2016 would be 1 percentage point lower than at the beginning of 2015, or 461 percent. There were changes, however, to reflect the latest actual data, as well as adjustments to the assumptions for future years. The resulting ratio shown in this report for the tenth projection year (2016) is 462 percent. The net effect of changes in demographic assumptions over the short-range period resulted in a reduction in the tenth-year trust fund ratio of 3 percent-

age points. The cumulative net effects of changes in economic data and assumptions resulted in essentially no change in the trust fund ratio by the beginning of 2016. There were several relatively minor changes in the short-range projection methodology since the 2006 report. The changes included improvements in our methods for estimating the numbers of persons satisfying the program’s insured status requirements, and the seasonal pattern of benefit receipt. The combined effects of these methodological improvements was to decrease the ending trust fund ratio by about 4 percentage points. Finally, an increase in the 2016 trust fund ratio of 8 percentage points resulted from the correction of the clerical error related to voluntary income tax withholding described in section III.A. A relatively small portion of that increase is attributable to a reimbursement authorized by Public Law 109-465 (its effect is shown in table IV.A4 attributed to “Legislation”). The majority of the effect due to this correction, including the effect on projected benefit levels, is shown under “Programmatic data and assumptions.”

Corresponding estimates of the factors underlying the changes in the financial projections for the DI Trust Fund, and for the OASI and DI Trust Funds combined, are also shown in table IV.A4. The largest effect on the DI trust fund ratio at the beginning of 2016 was due to the change in the valuation period, making up essentially all of the total 9 percentage point reduction. Revised economic assumptions, updates for a variety of programmatic assumptions, and the voluntary income tax withholding correction contributed minor and offsetting changes.

Table IV.A4.—Reasons for Change in Trust Fund Ratios at the Beginning of the Tenth Year of Projection
[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 2015	462	139	409
Change in trust fund ratio due to changes in:			
Legislation	1/	1/	1/
Valuation period	-1	-9	-2
Demographic data and assumptions	-3	1/	-2
Economic data and assumptions	1/	1	1/
Programmatic data and assumptions	8	1	6
Projection methods and data	-4	-1	-4
Total change in trust fund ratio	1/	-9	-2
Trust fund ratio shown in this report for calendar year 2016.	462	130	407

¹ Change in trust fund ratio of less than 0.5 percentage point.

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

B. LONG-RANGE ESTIMATES

Three types of financial measures are useful in assessing the actuarial status of the Social Security trust funds under the financing approach specified in current law: (1) annual cash-flow measures, including income and cost rates, and balances, (2) trust fund ratios, and (3) summary measures like actuarial balances and unfunded obligations. The first long-range estimates presented are the series of projected annual balances (or net cash flow), which are the differences between the projected annual income rates and annual cost rates (expressed as percentages of the taxable payroll). In assessing the financial condition of the program, particular attention should be paid to the level of the annual balances at the end of the long-range period and the time at which the annual balances may change from positive to negative values.

The next measure discussed is the pattern of projected trust fund ratios. The trust fund ratio represents the proportion of a year's projected cost that could be paid with the funds available at the beginning of the year. Particular attention should be paid to the level and year of maximum trust fund ratio, to the year of exhaustion of the funds, and to the stability of the trust fund ratio in cases where the ratio remains positive at the end of the long-range period. When a program has positive trust fund ratios throughout the 75-year projection period and these ratios are stable or rising at the end of the period, the program financing is said to achieve sustainable solvency.

The final measures discussed in this section summarize the total income and cost over valuation periods that extend through 75 years, and to the infinite horizon. These measures indicate whether projected income will be adequate for the period as a whole. The first such measure, actuarial balance, indicates the size of any surplus or shortfall as a percentage of the taxable payroll over the period. The second, open group unfunded obligation, indicates the size of any shortfall in present-value dollars. This section also includes a comparison of covered workers to beneficiaries, a generational decomposition of the infinite future unfunded obligation, the test of long-range close actuarial balance, and the reasons for change in the actuarial balance from the last report.

If the 75-year actuarial balance is zero (or positive), then the trust fund ratio at the end of the period will be at 100 percent (or greater), and financing for the program is considered to be adequate for the 75-year period as a whole. (Financial adequacy, or solvency, for each year is determined by whether the trust fund asset level is positive throughout the year.) Whether or not financial adequacy is stable in the sense that it is likely to continue for subsequent 75-year periods in succeeding reports is also important when considering the actuarial status of the program. One indication of this stability, or sustainable solvency, is the behavior of the trust fund ratio at the end of the projection

period. If trust fund ratios for the last several years of the long-range period are positive and constant or rising, then it is likely that subsequent Trustees Reports will also show projections of financial adequacy (assuming no changes in demographic and economic assumptions, or the law). The actuarial balance and the open group unfunded obligation for the infinite future provide additional measures of the financial status of the program for the very long range.

1. Annual Income Rates, Cost Rates, and Balances

Basic to the consideration of the long-range actuarial status of the trust funds are the concepts of income rate and cost rate, each of which is expressed as a percentage of taxable payroll. Other measures of the cash flow of the program are shown in appendix F. The annual income rate is the sum of the tax contribution rate and the ratio of income from 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 As such, it excludes net investment income and reimbursements from the General Fund of the Treasury for the costs associated with special monthly payments to certain uninsured persons who attained age 72 before 1968 and who have fewer than 3 quarters of coverage.

The annual cost rate is the ratio of the cost of the program to the taxable payroll for the year. The cost is defined to include scheduled 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. 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.)

Table IV.B1 presents a comparison of the estimated annual income rates and cost rates by trust fund and alternative. Detailed long-range projections of trust fund operations, in current dollar amounts, are shown in table VI.F8.

The projections for OASI under the intermediate assumptions show the income rate rising due to the gradually increasing effect of the taxation of

¹ Adjustments are made to include deemed wage credits based on military service for 1983-2001, 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.

benefits. The pattern of the cost rate is much different. It is projected to remain fairly stable for the next several years. However, from about 2010 to 2030 the cost rate increases rapidly as the baby-boom generation reaches retirement eligibility age. Thereafter, the cost rate rises steadily, but slowly, reflecting projected reductions in death rates and continued relatively low birth rates, reaching 16.19 percent of taxable payroll for 2081. By comparison, the income rate reaches 11.49 percent of taxable payroll for 2081.

Projected income rates under the low cost and high cost sets of assumptions are very similar to those projected for the intermediate assumptions as they are largely a reflection of the tax rates specified in the law. OASI cost rates for the low cost and high cost assumptions differ significantly from those projected for the intermediate assumptions, but follow generally similar patterns. For the low cost assumptions, the cost rate increases in 2007, decreases for the next 2 years, then rises, reaching the current level around 2012, and peaks in 2035 at a level of 13.18 percent of payroll. The cost rate then declines gradually, reaching a level of 11.75 percent of payroll for 2081 (at which point the income rate reaches 11.24 percent). For the high cost assumptions, the cost rate generally rises throughout the 75-year period. It rises at a relatively fast pace between 2010 and 2030 because of the aging of the baby-boom generation. Subsequently, the projected cost rate continues rising and reaches 23.11 percent of payroll for 2081 (at which point the income rate reaches 11.87 percent).

The pattern of the projected OASI annual balance is important in the analysis of the financial condition of the program. Under the intermediate assumptions, the annual balance is positive for 11 years (through 2017) and is negative thereafter. This annual deficit rises rapidly, reaching over 2 percent of taxable payroll by 2026, and continues rising thereafter, to a level of 4.71 percent of taxable payroll for 2081.

Under the low cost assumptions, the projected OASI annual balance is positive for 14 years (through 2020) and thereafter is negative. The annual deficit under the low cost assumptions rises to a peak of 1.90 percent of taxable payroll for 2035, but declines over the next 15 years, as the effect of the baby-boom generation diminishes and the assumed higher fertility rates increase the size of the workforce. The deficit under the low cost assumptions continues to decline, but at a relatively slow pace over the period 2051 through 2081. Under the high cost assumptions, however, the OASI balance is projected to be positive for only 8 years (through 2014) and to be negative thereafter, with a deficit of 1.75 percent for 2020, 6.69 percent for 2050, and 11.24 percent of payroll for 2081.

**Table IV.B1.—Estimated Annual Income Rates, Cost Rates, and Balances,
Calendar Years 1990-2085**

[As a percentage of taxable payroll]

Calendar year	OASI			DI			OASDI		
	Income rate ¹	Cost rate	Balance	Income rate ¹	Cost rate	Balance	Income rate ¹	Cost rate	Balance
Historical data:									
1990.....	11.32	9.66	1.66	1.17	1.09	0.09	12.49	10.74	1.75
1991.....	11.44	10.15	1.29	1.21	1.18	.03	12.65	11.33	1.32
1992.....	11.43	10.27	1.16	1.21	1.27	-.06	12.64	11.54	1.10
1993.....	11.40	10.37	1.03	1.21	1.35	-.14	12.61	11.73	.88
1994.....	10.70	10.22	.48	1.89	1.40	.49	12.59	11.62	.97
1995.....	10.70	10.22	.48	1.88	1.44	.44	12.59	11.67	.92
1996.....	10.73	10.06	.68	1.89	1.48	.41	12.62	11.53	1.09
1997.....	10.93	9.83	1.09	1.71	1.44	.28	12.64	11.27	1.37
1998.....	10.96	9.45	1.51	1.72	1.42	.30	12.68	10.87	1.81
1999.....	10.99	9.09	1.90	1.72	1.42	.30	12.71	10.51	2.20
2000.....	10.89	8.98	1.91	1.80	1.42	.37	12.69	10.40	2.29
2001.....	10.89	9.08	1.80	1.82	1.48	.34	12.71	10.56	2.15
2002.....	10.91	9.29	1.62	1.82	1.60	.22	12.74	10.90	1.84
2003.....	10.89	9.35	1.54	1.82	1.68	.14	12.71	11.03	1.68
2004.....	10.92	9.26	1.66	1.82	1.77	.05	12.75	11.03	1.72
2005.....	10.88	9.30	1.58	1.82	1.85	-.03	12.71	11.16	1.55
2006.....	10.91	9.15	1.76	1.82	1.87	-.05	12.73	11.02	1.71
Intermediate:									
2007.....	10.93	9.29	1.64	1.83	1.93	-.10	12.75	11.21	1.54
2008.....	10.94	9.13	1.81	1.83	1.90	-.07	12.76	11.03	1.74
2009.....	10.95	9.15	1.80	1.83	1.92	-.09	12.78	11.07	1.72
2010.....	10.97	9.25	1.72	1.83	1.95	-.11	12.80	11.20	1.60
2011.....	11.00	9.38	1.61	1.84	1.95	-.11	12.83	11.33	1.50
2012.....	11.02	9.57	1.45	1.84	1.99	-.15	12.86	11.56	1.30
2013.....	11.05	9.82	1.23	1.84	2.02	-.17	12.89	11.84	1.05
2014.....	11.06	10.09	.97	1.84	2.04	-.20	12.91	12.13	.78
2015.....	11.08	10.37	.72	1.84	2.06	-.22	12.93	12.43	.50
2016.....	11.11	10.65	.45	1.85	2.09	-.24	12.95	12.74	.21
2020.....	11.18	11.89	-.71	1.85	2.11	-.26	13.03	14.00	-.97
2025.....	11.27	13.26	-1.99	1.85	2.19	-.33	13.12	15.44	-2.33
2030.....	11.34	14.42	-3.08	1.85	2.18	-.32	13.19	16.59	-3.40
2035.....	11.38	15.02	-3.63	1.85	2.16	-.30	13.24	17.17	-3.94
2040.....	11.40	15.11	-3.71	1.86	2.17	-.31	13.25	17.27	-4.02
2045.....	11.40	14.98	-3.59	1.86	2.24	-.38	13.25	17.22	-3.97
2050.....	11.40	14.98	-3.58	1.86	2.27	-.42	13.26	17.26	-3.99
2055.....	11.41	15.12	-3.71	1.86	2.31	-.45	13.28	17.43	-4.16
2060.....	11.43	15.37	-3.94	1.86	2.30	-.44	13.29	17.67	-4.38
2065.....	11.45	15.59	-4.14	1.86	2.30	-.44	13.31	17.89	-4.59
2070.....	11.46	15.78	-4.32	1.86	2.32	-.45	13.32	18.10	-4.78
2075.....	11.47	15.96	-4.49	1.86	2.34	-.47	13.33	18.29	-4.96
2080.....	11.48	16.15	-4.67	1.86	2.35	-.49	13.35	18.50	-5.16
2085.....	11.50	16.35	-4.86	1.86	2.36	-.49	13.36	18.71	-5.35
First year balance becomes negative and remains negative through 2085.....									
			2018.....				2005.....		2017
Low Cost:									
2007.....	10.92	9.22	1.70	1.83	1.89	-.06	12.75	11.11	1.64
2008.....	10.93	9.03	1.90	1.83	1.83	-.01	12.76	10.87	1.89
2009.....	10.95	9.01	1.94	1.83	1.82	.01	12.78	10.83	1.94
2010.....	10.96	9.04	1.92	1.83	1.82	.01	12.79	10.86	1.93
2011.....	10.98	9.09	1.89	1.83	1.80	.04	12.82	10.89	1.93
2012.....	11.00	9.18	1.82	1.84	1.80	.03	12.84	10.99	1.85
2013.....	11.02	9.34	1.69	1.84	1.80	.04	12.86	11.14	1.73
2014.....	11.04	9.50	1.53	1.84	1.80	.04	12.87	11.30	1.57
2015.....	11.05	9.69	1.36	1.84	1.79	.04	12.89	11.49	1.41
2016.....	11.07	9.89	1.18	1.84	1.80	.04	12.91	11.69	1.22

Table IV.B1.—Estimated Annual Income Rates, Cost Rates, and Balances, Calendar Years 1990-2085 (Cont.)
 [As a percentage of taxable payroll]

Calendar year	OASI			DI			OASDI		
	Income rate ¹	Cost rate	Balance	Income rate ¹	Cost rate	Balance	Income rate ¹	Cost rate	Balance
Low Cost (cont.):									
2020.....	11.13	10.92	0.21	1.84	1.75	0.09	12.97	12.67	0.30
2025.....	11.20	12.03	-.83	1.84	1.75	.09	13.04	13.78	-.74
2030.....	11.26	12.89	-1.63	1.84	1.67	.17	13.10	14.56	-1.46
2035.....	11.28	13.18	-1.90	1.84	1.62	.22	13.12	14.80	-1.68
2040.....	11.28	12.98	-1.70	1.84	1.60	.24	13.12	14.58	-1.46
2045.....	11.27	12.62	-1.36	1.84	1.63	.22	13.11	14.25	-1.14
2050.....	11.26	12.39	-1.13	1.84	1.63	.21	13.10	14.02	-.91
2055.....	11.26	12.27	-1.02	1.84	1.63	.21	13.10	13.90	-.80
2060.....	11.26	12.23	-.98	1.84	1.60	.24	13.10	13.84	-.74
2065.....	11.26	12.12	-.87	1.84	1.59	.25	13.10	13.72	-.62
2070.....	11.25	11.96	-.71	1.84	1.59	.25	13.09	13.56	-.46
2075.....	11.24	11.81	-.56	1.84	1.61	.23	13.09	13.42	-.33
2080.....	11.24	11.75	-.51	1.84	1.63	.22	13.09	13.38	-.29
2085.....	11.24	11.78	-.54	1.84	1.64	.21	13.09	13.42	-.33
First year balance becomes negative and remains negative through 2085.....				2021.....		2/.....			2022
High Cost:									
2007.....	10.93	9.48	1.46	1.83	2.03	-.20	12.76	11.50	1.26
2008.....	10.95	9.42	1.53	1.83	2.05	-.22	12.78	11.47	1.31
2009.....	10.97	9.50	1.47	1.83	2.12	-.28	12.80	11.61	1.19
2010.....	10.99	9.70	1.28	1.84	2.21	-.37	12.82	11.91	.91
2011.....	11.02	9.90	1.12	1.84	2.25	-.41	12.86	12.15	.71
2012.....	11.04	10.13	.91	1.85	2.33	-.48	12.89	12.46	.43
2013.....	11.08	10.50	.58	1.85	2.40	-.55	12.93	12.90	.03
2014.....	11.10	10.88	.22	1.85	2.46	-.60	12.95	13.33	-.38
2015.....	11.12	11.21	-.09	1.85	2.51	-.66	12.98	13.72	-.75
2016.....	11.15	11.58	-.43	1.86	2.57	-.71	13.01	14.15	-1.15
2020.....	11.24	12.99	-1.75	1.86	2.66	-.80	13.10	15.65	-2.55
2025.....	11.33	14.55	-3.22	1.87	2.78	-.92	13.20	17.34	-4.14
2030.....	11.43	16.04	-4.61	1.87	2.79	-.92	13.30	18.83	-5.53
2035.....	11.49	17.04	-5.54	1.87	2.79	-.92	13.36	19.82	-6.46
2040.....	11.53	17.54	-6.02	1.87	2.83	-.95	13.40	20.37	-6.97
2045.....	11.55	17.83	-6.28	1.88	2.96	-1.08	13.43	20.79	-7.36
2050.....	11.58	18.27	-6.69	1.88	3.05	-1.17	13.46	21.32	-7.86
2055.....	11.62	18.86	-7.24	1.88	3.15	-1.26	13.50	22.00	-8.50
2060.....	11.67	19.62	-7.96	1.88	3.18	-1.29	13.55	22.80	-9.25
2065.....	11.71	20.42	-8.71	1.89	3.21	-1.33	13.60	23.64	-10.04
2070.....	11.76	21.29	-9.53	1.89	3.25	-1.36	13.65	24.54	-10.89
2075.....	11.81	22.15	-10.34	1.89	3.26	-1.38	13.70	25.41	-11.71
2080.....	11.86	22.96	-11.10	1.89	3.27	-1.39	13.75	26.23	-12.49
2085.....	11.90	23.64	-11.75	1.89	3.26	-1.38	13.78	26.91	-13.12
First year balance becomes negative and remains negative through 2085.....				2015.....		2005.....			2014

¹ Historical income rates 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 After 2008, the annual balance is projected to remain positive throughout the remainder of the projection period.

Notes:

1. The income rate excludes interest income and certain transfers from the General Fund of the Treasury.
2. Some historical values are subject to change due to revisions of taxable payroll.
3. Totals do not necessarily equal the sums of rounded components.

Under the intermediate assumptions, the cost rate for DI generally increases over the long-range period from 1.93 percent of taxable payroll for 2007,

reaching 2.35 for 2081. The income rate increases only very slightly from 1.83 percent of taxable payroll for 2007 to 1.86 percent for 2081. The annual deficit is about 0.10 percent in 2007 and reaches 0.49 percent for 2081.

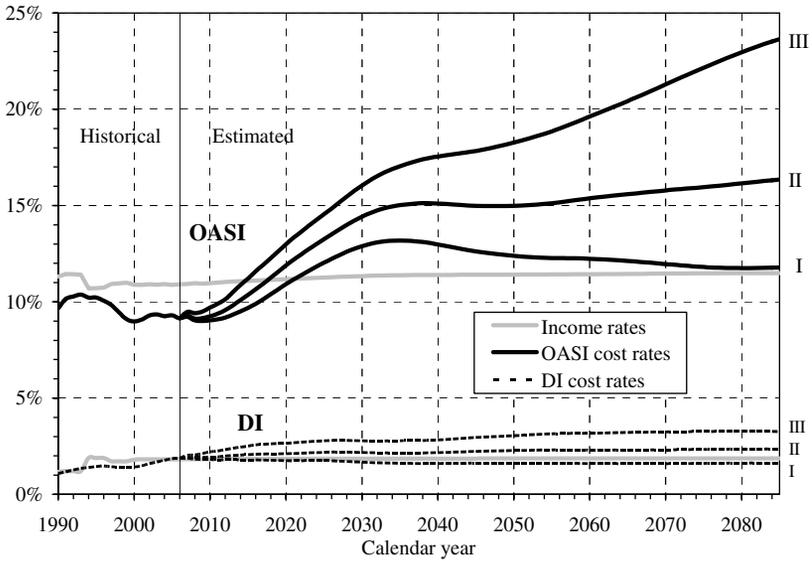
Under the low cost assumptions, the DI cost rate is fairly stable over the long-range period, reaching 1.63 percent for 2081. The annual balance is negative for the first 2 years and is positive throughout the remainder of the long-range period. For the high cost assumptions, DI cost rises much more, reaching 3.27 percent for 2081. Annual deficits began in 2005 and reach 1.38 percent for 2081.

Figure IV.B1 shows in graphical form the patterns of the OASI and DI annual income rates and cost rates. The income rates shown here are only for alternative II in order to simplify the graphical presentation because, as shown in table IV.B1, the variation in the income rates by alternative is very small. Income rates increase generally, but at a slow rate for each of the alternatives over the long-range period. Both increases in the income rate and variation among the alternatives result from the relatively small component of income from taxation of benefits. Increases in income from taxation of benefits reflect increases in the total amount of benefits paid and the fact that an increasing share of individual benefits will be subject to taxation, because benefit taxation threshold amounts are not indexed.

The patterns of the annual balances for OASI and DI are suggested by figure IV.B1. For each alternative, the magnitude of each of the positive balances, as a percentage 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 is represented by the distance between the appropriate cost-rate curve and the income-rate curve below it.

In the future, the cost of OASI, DI and the combined OASDI programs as a percentage 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 demographic and economic conditions, the resulting estimates delineate a reasonable range for consideration of potential future program costs.

Figure IV.B1.—Long-Range OASI and DI Annual Income Rates and Cost Rates
 [As a percentage of taxable payroll]



The cost of the OASDI program has been discussed in this section in relation to taxable payroll, which is a program-related concept that is very useful in analyzing the financial status of the OASDI program. The cost can also be discussed in relation to broader economic concepts, such as the gross domestic product (GDP), which is the total value of goods and services produced during the year in the United States. OASDI cost generally rises from about 4.3 percent of GDP currently to about 6.3 percent of GDP by the end of the 75-year projection period under alternative II. Discussion of both the cost and the taxable payroll of the OASDI program in relation to GDP is presented in appendix VI.F.2 beginning on page 170.

2. Comparison of Workers to Beneficiaries

The primary reason that the estimated OASDI cost rate increases rapidly after 2010 is that the number of beneficiaries is projected to increase more rapidly than the number of covered workers. This occurs because the relatively large number of persons born during the baby-boom will reach retirement eligibility 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 IV.B2.

Table IV.B2.—Covered Workers and Beneficiaries, Calendar Years 1945-2085

Calendar year	Covered workers ¹ (in thousands)	Beneficiaries ² (in thousands)			Covered workers per OASDI beneficiary	OASDI beneficiaries per 100 covered workers
		OASI	DI	OASDI		
Historical data:						
1945	46,390	1,106	—	1,106	41.9	2
1950	48,280	2,930	—	2,930	16.5	6
1955	65,200	7,563	—	7,563	8.6	12
1960	72,530	13,740	522	14,262	5.1	20
1965	80,680	18,509	1,648	20,157	4.0	25
1970	93,090	22,618	2,568	25,186	3.7	27
1975	100,200	26,998	4,125	31,123	3.2	31
1980	113,649	30,384	4,734	35,117	3.2	31
1985	120,575	32,776	3,874	36,650	3.3	30
1990	133,559	35,266	4,204	39,471	3.4	30
1995	141,446	37,376	5,731	43,107	3.3	30
1996	143,909	37,521	5,977	43,498	3.3	30
1997	146,736	37,705	6,087	43,792	3.4	30
1998	149,692	37,825	6,250	44,075	3.4	29
1999	152,453	37,934	6,433	44,366	3.4	29
2000	155,295	38,560	6,606	45,166	3.4	29
2001	155,546	38,888	6,780	45,668	3.4	29
2002	154,894	39,116	7,060	46,176	3.4	30
2003	154,954	39,314	7,438	46,752	3.3	30
2004	156,900	39,557	7,810	47,367	3.3	30
2005	159,081	39,961	8,172	48,133	3.3	30
2006	161,852	40,435	8,428	48,863	3.3	30
Intermediate:						
2010	167,664	43,380	9,563	52,942	3.2	32
2015	172,465	49,838	10,524	60,362	2.9	35
2020	176,602	57,595	11,128	68,723	2.6	39
2025	179,816	65,043	11,926	76,969	2.3	43
2030	182,708	71,782	12,200	83,982	2.2	46
2035	185,889	76,370	12,436	88,806	2.1	48
2040	189,189	78,712	12,772	91,483	2.1	48
2045	192,566	80,177	13,339	93,516	2.1	49
2050	195,597	81,884	13,723	95,607	2.0	49
2055	198,487	84,090	14,099	98,188	2.0	49
2060	201,387	86,747	14,252	100,999	2.0	50
2065	204,340	89,249	14,502	103,751	2.0	51
2070	207,208	91,631	14,789	106,420	1.9	51
2075	210,101	93,935	15,106	109,042	1.9	52
2080	212,880	96,307	15,409	111,716	1.9	52
2085	215,638	98,812	15,661	114,473	1.9	53
Low Cost:						
2010	169,179	43,365	9,237	52,602	3.2	31
2015	176,192	49,713	9,752	59,465	3.0	34
2020	181,474	57,091	9,988	67,079	2.7	37
2025	185,658	64,137	10,309	74,446	2.5	40
2030	189,940	70,350	10,203	80,553	2.4	42
2035	195,126	74,320	10,235	84,555	2.3	43
2040	201,221	76,049	10,457	86,506	2.3	43
2045	208,014	77,075	10,920	87,995	2.4	42
2050	215,112	78,510	11,278	89,789	2.4	42
2055	222,535	80,602	11,670	92,272	2.4	41
2060	230,380	83,151	11,951	95,102	2.4	41
2065	238,897	85,473	12,366	97,839	2.4	41
2070	248,002	87,597	12,879	100,476	2.5	41
2075	257,544	89,806	13,503	103,309	2.5	40
2080	267,311	92,663	14,141	106,804	2.5	40
2085	277,257	96,266	14,746	111,012	2.5	40

Table IV.B2.—Covered Workers and Beneficiaries, Calendar Years 1945-2085 (Cont.)

Calendar year	Covered workers ¹ (in thousands)	Beneficiaries ² (in thousands)			Covered workers per OASDI beneficiary	OASDI beneficiaries per 100 covered workers
		OASI	DI	OASDI		
High Cost:						
2010	164,656	43,403	10,146	53,548	3.1	33
2015	169,296	50,001	11,834	61,835	2.7	37
2020	172,920	58,163	13,092	71,255	2.4	41
2025	175,712	66,087	14,281	80,369	2.2	46
2030	177,908	73,583	14,698	88,281	2.0	50
2035	179,730	79,128	14,986	94,114	1.9	52
2040	181,026	82,481	15,351	97,833	1.9	54
2045	181,796	84,855	15,981	100,836	1.8	55
2050	181,611	87,335	16,361	103,696	1.8	57
2055	181,099	90,159	16,690	106,850	1.7	59
2060	180,145	93,339	16,675	110,015	1.6	61
2065	178,936	96,428	16,698	113,127	1.6	63
2070	177,234	99,465	16,669	116,133	1.5	66
2075	175,410	102,281	16,557	118,838	1.5	68
2080	173,278	104,625	16,399	121,025	1.4	70
2085	171,222	106,473	16,185	122,658	1.4	72

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

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

Notes:

1. The number of beneficiaries does not include uninsured individuals who receive benefits under Section 228 of the Social Security Act. Costs are reimbursed from the General Fund of the Treasury for most of these individuals.
2. Historical covered worker data are subject to revision.
3. Totals do not necessarily equal the sums of rounded components.

The impact of the demographic shifts under the three alternatives on the OASDI cost rates is readily seen by considering the projected number of OASDI beneficiaries per 100 covered workers. As compared to the 2006 level of 30 beneficiaries per 100 covered workers, this ratio is estimated to rise significantly by 2085 to 40 under the low cost assumptions, 53 under the intermediate assumptions, and 72 under the high cost assumptions. The significance of these numbers can be seen by comparing figure IV.B1 to figure IV.B2.

For each alternative, the shape of the curve in figure IV.B2, which shows beneficiaries per 100 covered workers, is strikingly similar to that of the corresponding cost-rate curve in figure IV.B1, thereby emphasizing the extent to which the cost of the OASDI program as a percentage of taxable payroll is determined by the age distribution of the population. Because the cost rate is basically the product of the number of beneficiaries and their average benefit, divided by the product of the number of covered workers and their average taxable earnings (and because average benefits rise at about the same rate as average earnings), it is to be expected that the pattern of the annual cost rates is similar to that of the annual ratios of beneficiaries to workers.

Figure IV.B2.—Number of OASDI Beneficiaries Per 100 Covered Workers

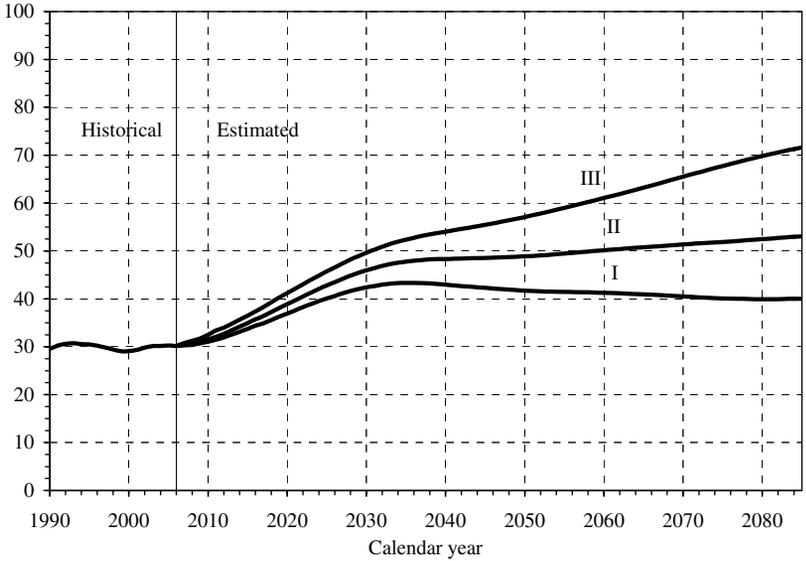


Table IV.B2 also shows that the number of covered workers per OASDI beneficiary, which was about 3.3 in 2006, is estimated to decline in the future. Based on the intermediate assumptions, the ratio declines to 2.1 by 2032, and 1.9 workers per beneficiary by 2070. Based on the low cost assumptions, for which high fertility rates and small reductions in death rates are assumed, the ratio declines to 2.3 by 2031, and then rises back to a level of 2.5 by 2067. Based on the high cost assumptions, for which low fertility rates and large reductions in death rates are assumed, the decline is much greater, reaching 1.8 by 2041, and 1.4 workers per beneficiary by 2078.

3. Trust Fund Ratios

Trust fund ratios are useful indicators of the adequacy of the financial resources of the Social Security program at any point in time. For any year in which the projected trust fund ratio is positive (i.e., the trust fund holds assets at the beginning of the year), but is not positive for the following year, the trust fund is projected to become exhausted during the year. Under present law, the OASI and DI Trust Funds do not have the authority to borrow. Therefore, exhaustion of the assets in either fund during a year would mean there are no longer sufficient assets in the fund to cover the full amount of benefits scheduled for the year under present law.

The trust fund ratio also serves an additional important purpose in assessing the actuarial status of the program. When the financing is adequate for the

timely payment of full benefits throughout the long-range period, the stability of the trust fund ratio toward the end of the period indicates the likelihood that this projected adequacy will continue for subsequent Trustees Reports. If the trust fund ratio toward the end of the period is level (or increasing), then projected adequacy for the long-range period is likely to continue for subsequent reports.

Table IV.B3 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 year in which a fund is estimated to become exhausted, reflecting the effect of the provision for advance tax transfers.

Based on the intermediate assumptions, the OASI trust fund ratio rises steadily from 375 percent at the beginning of 2007, reaching a peak of 463 percent at the beginning of 2015. This increase in the OASI trust fund ratio results from the fact that the annual income rate (which excludes interest) exceeds annual outgo for several years (see table IV.B1). Thereafter, the OASI trust fund ratio declines steadily, with the OASI Trust Fund becoming exhausted in 2042. The DI trust fund ratio follows a pattern that is similar but unfolds more rapidly. The DI trust fund ratio is estimated to decline steadily from 200 percent at the beginning of 2007 until becoming exhausted in 2026.

The trust fund ratio for the combined OASI and DI Trust Funds under the intermediate assumptions rises from 345 percent for 2007 to a peak of 409 percent at the beginning of 2014. Thereafter, the ratio declines, with the combined funds becoming exhausted in 2041. In last year's report, the peak fund ratio for the combined funds was estimated to be 409 percent for 2015 and the year of exhaustion was estimated to be 2040.

The trust fund ratio for the OASDI program under the intermediate assumptions first declines in 2015. This occurs because the increase in trust fund assets during 2014, which reflects interest income and a small excess of non-interest income over cost, occurs at a slower rate than does the increase in the annual cost of the program between 2014 and 2015. After 2014, the dollar amount of assets is projected to continue to rise through the beginning of 2027 because interest income more than offsets the shortfall in noninterest income.

Beginning in 2017, the OASDI program under the intermediate assumptions is projected to experience increasingly large cash-flow shortfalls that will require the trust funds to redeem special public-debt obligations of the General Fund of the Treasury. This will differ from the experience of recent years when 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.

Based on the low cost assumptions, the trust fund ratio for the DI program increases throughout the long-range projection period, reaching the extremely high level of 1,736 percent for 2082. At the end of the long-range period, the DI trust fund ratio is rising by 32 percentage points per year. Thus, subsequent reports are likely to contain projections of adequate long-range financing of the DI program under a similar optimistic set of assumptions. For the OASI program, the trust fund ratio rises to a peak of 528 percent for 2019, dropping thereafter to a level of 250 percent by 2082. At the end of the period the OASI trust fund ratio is declining by 2 percentage points per year. The long-term outlook for the DI program is improved more than for the OASI program largely because lower assumed disability incidence rates have a substantial effect on the DI program but little net effect on the OASI program. For the OASDI program, the trust fund ratio peaks at 490 percent for 2021, falls to 387 percent for 2060, and increases thereafter, reaching 431 percent for 2082. Thus, due to the size of the trust fund ratios and their near stability, subsequent Trustees Reports are likely to contain projections of adequate long-range financing of the OASI and combined OASI and DI program under the low cost assumptions. A stable trust fund ratio at the end of the valuation period indicates that the actuarial balance for Trustees Reports in subsequent years can be expected to remain about the same as long as assumptions are realized.

In contrast, under the high cost assumptions, the OASI trust fund ratio is estimated to peak at 412 percent for 2011, thereafter declining to fund exhaustion by the end of 2033. The DI trust fund ratio is estimated to decline from 193 percent for 2007 to fund exhaustion by the end of 2016. The combined OASDI trust fund ratio is estimated to rise to a peak of 362 percent for 2010, declining thereafter to fund exhaustion by the end of 2030.

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

Even under the high cost assumptions, however, the combined OASI and DI funds on hand plus their estimated future income would be able to cover their combined cost for 23 years into the future (until 2030). Under the intermediate assumptions the combined starting funds plus estimated future income would be able to cover cost for about 34 years into the future (until 2041). The program would be able to cover cost for the foreseeable future under the more optimistic low cost assumptions. In the 2006 report, the combined trust

funds were projected to become exhausted in 2030 under the high cost assumptions and in 2040 under the intermediate assumptions.

Table IV.B3.—Estimated Trust Fund Ratios, Calendar Years 2007-85
[In percent]

Calendar year	Intermediate			Low Cost			High Cost		
	OASI	DI	OASDI	OASI	DI	OASDI	OASI	DI	OASDI
2007	375	200	345	375	203	346	375	193	343
2008	397	197	362	398	204	366	392	182	354
2009	414	190	375	419	204	383	403	165	359
2010	428	183	385	439	205	400	412	146	362
2011	441	177	396	458	209	417	412	126	359
2012	451	169	403	476	211	433	407	102	350
2013	458	160	407	491	214	446	401	79	341
2014	462	151	409	503	218	458	395	55	333
2015	463	141	409	513	222	468	390	30	324
2016	462	130	407	521	227	476	382	5	314
2020	434	86	381	527	256	489	331	1/	256
2025	371	21	321	506	304	481	232	1/	152
2030	281	1/	236	464	378	454	104	1/	22
2035	176	1/	137	418	480	425	1/	1/	1/
2040	63	1/	28	382	593	405	1/	1/	1/
2045	1/	1/	1/	356	694	395	1/	1/	1/
2050	1/	1/	1/	336	805	390	1/	1/	1/
2055	1/	1/	1/	317	924	388	1/	1/	1/
2060	1/	1/	1/	297	1,071	387	1/	1/	1/
2065	1/	1/	1/	279	1,224	389	1/	1/	1/
2070	1/	1/	1/	266	1,378	397	1/	1/	1/
2075	1/	1/	1/	258	1,525	410	1/	1/	1/
2080	1/	1/	1/	252	1,673	425	1/	1/	1/
2085	1/	1/	1/	245	1,834	439	1/	1/	1/
Trust fund is estimated to become exhausted in	2042	2026	2041	2/	2/	2/	2033	2016	2030

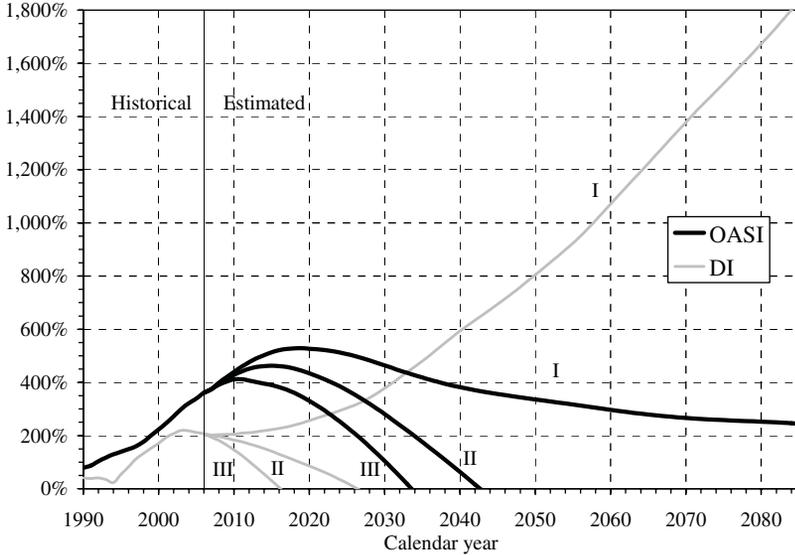
¹ The trust fund is estimated to be exhausted by the beginning of this year. The last line of the table shows the specific year of trust fund exhaustion.

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

Note: See definition of trust fund ratio on page 206. The combined ratios shown for years after the DI fund is estimated to be exhausted are theoretical and are shown for informational purposes only.

A graphical illustration of the trust fund ratios for the separate OASI and DI Trust Funds is shown in figure IV.B3 for each of the alternative sets of assumptions. A graphical illustration of the trust fund ratios for the combined trust funds is shown in figure II.D7 on page 15.

Figure IV.B3.—Long-Range OASI and DI Trust Fund Ratios
 [Assets as a percentage of annual expenditures]



4. Summarized Income Rates, Cost Rates, and Balances

Summarized income and cost rates, along with their components, are presented in table IV.B4 for 25-year, 50-year, and 75-year valuation periods. Income rates reflect the scheduled payroll tax rates and the projected income from the taxation of scheduled benefits expressed as a percentage of taxable payroll. The current combined payroll tax rate of 12.4 percent is scheduled to remain unchanged in the future. In contrast, the projected income from taxation of benefits, expressed as a percentage of taxable payroll, is expected to generally increase throughout the long-range period. This is because increasing income from taxation of benefits reflects not only rising benefit and income levels, but also the fact that benefit-taxation threshold amounts are not indexed. Summarized income rates also include the starting trust fund balance. Summarized cost rates include the cost of reaching a target trust fund of 100 percent of annual cost at the end of the period in addition to the cost included in the annual cost rates.

It may be noted that the payroll tax income expressed as a percentage of taxable payroll, as shown in table IV.B4, is slightly smaller than the actual tax rates in effect for each period. This results from the fact that all OASDI income and cost dollar amounts presented in this report are computed on a cash basis, i.e., amounts are attributed to the year in which they are intended to be received by, or expended from, the fund, while taxable payroll is attrib-

uted 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.

Summarized values for the full 75-year period are useful in analyzing the long-range adequacy of financing for the program over the period as a whole under present law and under proposed modifications to the law.

Table IV.B4 shows summarized rates for valuation periods of the first 25, the first 50, and the entire 75 years of the long-range projection period, including the funds on hand at the start of the period and the cost of accumulating a target trust fund balance equal to 100 percent of the following year's annual cost by the end of the period. The actuarial balance for each of these three valuation periods is equal to the difference between the summarized income rate and the summarized cost rate for the corresponding period. An actuarial balance of zero for any period would indicate that estimated cost for the period could be met, on average, with a remaining trust fund balance at the end of the period equal to 100 percent of the following year's cost. A negative actuarial balance indicates that, over the period, the present value of income to the program plus the existing trust fund falls short of the present value of the cost of the program plus the cost of reaching a target trust fund balance of 1 year's cost by the end of the period. Combined with a falling trust fund ratio, this signals the possibility of continuing cash-flow deficits, implying that the current-law level of financing is not sustainable.

The values in table IV.B4 show that the combined OASDI program is expected to operate with a positive actuarial balance over the 25-year valuation period under the low cost and intermediate assumptions. For the 25-year valuation period the summarized values indicate actuarial balances of 1.72 percent of taxable payroll under the low cost assumptions, 0.57 percent under the intermediate assumptions, and -0.93 percent under the high cost assumptions. Thus, the program is more than adequately financed for the 25-year valuation period under all but the high cost projections. For the 50-year valuation period the OASDI program would have a positive actuarial balance of 0.57 percent under the low cost assumptions, but would have deficits of 1.23 percent under the intermediate assumptions and 3.53 percent under the high cost assumptions. Thus, the program is more than adequately financed for the 50-year valuation period under only the low cost set of assumptions.

For the entire 75-year valuation period, the combined OASDI program would again have actuarial deficits except under the low cost set of assumptions. The actuarial balance for this long-range valuation period is projected to be 0.36 percent of taxable payroll under the low cost assumptions, -1.95 percent under the intermediate assumptions, and -5.05 percent under the high cost assumptions.

Assuming the Trustees' intermediate assumptions are realized, the deficit of 1.95 percent of payroll indicates that financial adequacy of the program for the next 75 years could be restored if the Social Security payroll tax rate were increased for current and future earnings from 12.4 percent (combined employee-employer shares) to 14.35 percent. Alternatively, all current and future benefits could be reduced by 13.0 percent (or there could be some combination of tax increases and benefit reductions). Changes of this magnitude would be sufficient to eliminate the actuarial deficit over the 75-year projection period.

However, large annual deficits projected under current law for the end of the long-range period, which exceed 5 percent of payroll under the intermediate assumptions (see table IV.B1), indicate that the annual cost will very likely continue to exceed tax revenues after 2081. As a result, ensuring continued adequate financing would eventually require larger changes than those needed to restore actuarial balance for the 75-year period. For the infinite future, the actuarial deficit is estimated to be 3.5 percent of taxable payroll under the intermediate assumptions. This means that the projected infinite horizon shortfall could be eliminated with an immediate increase in the combined payroll tax rate from 12.4 percent to about 15.9 percent. This shortfall could also be eliminated if all current and future benefits were immediately reduced by 21.5 percent.

As may be concluded from table IV.B4, the financial condition of the DI program is substantially weaker than that of the OASI program for the first 25 years. Summarized over the full 75-year period, however, long-range deficits for the OASI and DI programs under intermediate assumptions are more similar, relative to the level of program costs.

**Table IV.B4.—Components of Summarized Income Rates and Cost Rates,
Calendar Years 2007-81**
[As a percentage of taxable payroll]

Valuation period	Income rate			Cost rate			Actuarial balance	
	Payroll tax	Taxation of benefits	Beginning fund balance	Total	Disbursements	Ending fund balance		
OASI:								
Intermediate:								
2007-31	10.59	.54	1.56	12.69	11.47	0.51	11.98	0.71
2007-56	10.59	.65	.91	12.15	12.94	.21	13.16	-1.01
2007-81	10.59	.69	.71	11.99	13.56	.12	13.68	-1.69
Low Cost:								
2007-31	10.59	.50	1.55	12.64	10.64	.45	11.09	1.54
2007-56	10.59	.57	.91	12.06	11.52	.18	11.70	.37
2007-81	10.59	.59	.70	11.87	11.64	.10	11.73	.14
High Cost:								
2007-31	10.58	.59	1.56	12.73	12.46	.59	13.05	-.31
2007-56	10.59	.74	.90	12.22	14.70	.27	14.97	-2.75
2007-81	10.59	.83	.70	12.12	16.09	.17	16.26	-4.15
DI:								
Intermediate:								
2007-31	1.80	.05	.17	2.02	2.08	.07	2.15	-.14
2007-56	1.80	.05	.10	1.95	2.14	.03	2.17	-.22
2007-81	1.80	.05	.08	1.93	2.18	.02	2.19	-.27
Low Cost:								
2007-31	1.80	.04	.17	2.01	1.77	.06	1.83	.18
2007-56	1.80	.04	.10	1.94	1.71	.02	1.73	.20
2007-81	1.80	.04	.08	1.91	1.69	.01	1.70	.22
High Cost:								
2007-31	1.80	.06	.17	2.03	2.54	.10	2.64	-.62
2007-56	1.80	.06	.10	1.96	2.70	.05	2.75	-.79
2007-81	1.80	.07	.08	1.94	2.82	.02	2.84	-.90
OASDI:								
Intermediate:								
2007-31	12.38	.59	1.73	14.70	13.55	.58	14.13	.57
2007-56	12.39	.70	1.01	14.10	15.08	.25	15.33	-1.23
2007-81	12.39	.74	.79	13.92	15.73	.14	15.87	-1.95
Low Cost:								
2007-31	12.39	.54	1.72	14.64	12.42	.50	12.92	1.72
2007-56	12.39	.61	1.01	14.00	13.23	.20	13.43	.57
2007-81	12.39	.63	.77	13.79	13.32	.11	13.43	.36
High Cost:								
2007-31	12.38	.65	1.73	14.76	15.00	.68	15.69	-.93
2007-56	12.38	.80	1.00	14.19	17.40	.32	17.72	-3.53
2007-81	12.38	.90	.78	14.06	18.91	.19	19.11	-5.05

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

Table IV.B5 presents the components and the calculation of the long-range (75-year) actuarial balance under the intermediate assumptions. The present value of future cost less future tax income over the long-range period, minus the amount of trust fund assets at the beginning of the projection period, amounts to \$4.7 trillion for the OASDI program. This amount is referred to as the 75-year “open group unfunded obligation.” The actuarial deficit (i.e., the negative of the actuarial balance) combines this unfunded obligation with the present value of the “ending target trust fund,” and expresses the total as a percentage of the present value of the taxable payroll for the period. The

present value of future tax income minus cost, plus starting trust fund assets, minus the present value of the ending target trust fund amounts to -\$5.1 trillion for the OASDI program. Expressed as a percentage of taxable payroll for the period, this is the actuarial balance of -1.95 percent.

Table IV.B5.—Components of 75-Year Actuarial Balance Under Intermediate Assumptions (2007-81)

Item	OASI	DI	OASDI
Present value as of January 1, 2007 (in billions):			
a. Payroll tax revenue	\$27,507	\$4,671	\$32,178
b. Taxation of benefits revenue	1,798	137	1,935
c. Tax income (a + b)	29,305	4,808	34,113
d. Cost	35,220	5,656	40,876
e. Cost minus tax income (d - c)	5,915	848	6,763
f. Trust fund assets at start of period	1,844	204	2,048
g. Open group unfunded obligation (e - f)	4,071	644	4,715
h. Ending target trust fund ¹	315	46	361
i. Income minus cost, plus assets at start of period, minus ending target trust fund (c - d + f - h = - g - h)	-4,386	-690	-5,076
j. Taxable payroll	259,783	259,783	259,783
Percent of taxable payroll:			
Actuarial balance (100 × i ÷ j)	-1.69	-.27	-1.95

¹The calculation of the actuarial balance includes the cost of accumulating a target trust fund balance equal to 100 percent of annual cost by the end of the period.

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

5. Additional Measures of OASDI Unfunded Obligations

As shown in the previous section, a negative actuarial balance (or an actuarial deficit) provides one measure of the unfunded obligation of the program over a period of time. Two additional measures of OASDI unfunded obligations under the intermediate assumptions are presented below.

a. Open Group Unfunded Obligations

Consistent with practice since 1965, this report focuses on the 75-year period (from 2007 to 2081 for this report) for the evaluation of the long-run financial status of the OASDI program on an open group basis (i.e., including taxes and cost for past, current and future participants through the year 2081). Table IV.B6, in its second line, shows that the present value of the open group unfunded obligation for the program over that period is \$4.7 trillion. The open group measure indicates the adequacy of financing over the period as a whole for a program financed on a pay-as-you-go basis. On this basis, payroll taxes and scheduled benefits of all participants are included through 2081.

Table IV.B6 also presents the 75-year unfunded obligation as percentages of future OASDI taxable payroll and gross domestic product (GDP) through

2081. The 75-year unfunded obligation as a percentage of taxable payroll is less than the actuarial deficit, because it excludes the ending target trust fund value (see table IV.B5).

However, there are limitations on what can be conveyed using summarized measures alone. For example, overemphasis of summary measures (such as the actuarial balance and open group unfunded obligation) for the 75-year period can lead to incorrect perceptions and policies that fail to address financial sustainability for the more distant future. This can be addressed by considering the trend in trust fund ratios toward the end of the period (see “sustainable solvency” at the beginning of section IV.B).

Another limitation is that continued, and possibly increasing, annual shortfalls after the period are not reflected in the 75-year summarized measures. In order to address this limitation, this section presents estimates of unfunded obligations that extend to the infinite horizon. The extension assumes that the current-law OASDI program and the demographic and most economic trends used for the 75-year projection continue indefinitely. The one exception is that the ultimate assumed real-wage differential for the long-range period of 1.1 percent is increased to 1.2 percent, phased in over the 10-year period 2082 to 2091. This change essentially maintains consistency with the assumed reduction in the growth of health care expenditures after 2081. (See the Medicare Trustees Report.) The values in table IV.B6 indicate that extending the calculations beyond 2081 adds \$8.9 (\$13.6 - \$4.7) trillion in present value to the amount of the unfunded obligation estimated through 2081. That is, over the infinite horizon, the OASDI open group unfunded obligation is projected to be \$13.6 trillion. The \$8.9 trillion increment reflects a significant financing gap projected for OASDI after 2081. Of course, the degree of uncertainty associated with estimates beyond 2081 is substantial.

In last year’s report the unfunded obligation over the infinite horizon was reported as \$13.4 trillion in present value as of January 1, 2006. The change to the later valuation date (January 1, 2007), taken alone, would increase the measured deficit by about \$0.7 trillion. The net effects of changes in data, methods, and other assumptions decreased the infinite horizon unfunded obligation by approximately \$0.5 trillion. See section IV.B.7 for details regarding changes in data, methods, and assumptions.

As noted in the previous section, the \$13.6 trillion infinite future open group unfunded obligation may also be expressed as a percentage of the taxable payroll over that period. This actuarial deficit for the infinite future is 3.5 percent of taxable payroll under the intermediate assumptions, 0.2 percent lower than in last year’s report. This unfunded obligation can also be expressed as a percentage of GDP over the infinite future and is

1.2 percent on that basis. These relative measures of the unfunded obligation over the infinite future express its magnitude in relation to the resources that are potentially available to finance the shortfall.

Table IV.B6.—Unfunded OASDI Obligations for 1935 (Program Inception) Through the Infinite Horizon

[Present values as of January 1, 2007; dollar amounts in trillions]

	Present value	Expressed as a percentage of future payroll and GDP	
		Taxable payroll	GDP
Unfunded obligation for 1935 through the infinite horizon ¹	\$13.6	3.5	1.2
Unfunded obligation for 1935 through 2081 ²	4.7	1.8	.7

¹ Present value of future cost less future taxes, reduced by the amount of trust fund assets at the beginning of 2007. Expressed as percentage of payroll and GDP for the period 2007 through the infinite horizon.

² Present value of future cost less future taxes through 2081, reduced by the amount of trust fund assets at the beginning of 2007. Expressed as percentage of payroll and GDP for the period 2007 through 2081.

Notes:

1. The present values of future taxable payroll for 2007-81 and for 2007 through the infinite horizon are \$259.8 trillion and \$388.4 trillion, respectively.

2. The present values of GDP for 2007-81 and for 2007 through the infinite horizon are \$708.2 trillion and \$1,117.3 trillion, respectively. Present values of GDP shown in the Medicare Trustees Report differ slightly due to the use of interest discount rates that are specific to each program's trust fund holdings.

b. Unfunded Obligations for Past, Current, and Future Participants

The future unfunded obligation of the OASDI program may also be viewed from a generational perspective. This perspective is generally associated with assessment of the financial condition of a program that is intended or required to be financed on a fully-advance-funded basis. However, analysis from this perspective can also provide insights into the implications of pay-as-you-go financing, the basis that has been used for the OASDI program.

The first line of table IV.B7 shows that the present value of future cost less future taxes over the next 100 years for all current participants equals \$16.5 trillion. For this purpose, current participants are defined as individuals who attain age 15 or older in 2007. Subtracting the current value of the trust fund (the accumulated value of past OASDI taxes less cost) gives a closed group (excluding all future participants) unfunded obligation of \$14.4 trillion. This value represents the shortfall of lifetime contributions for all past and current participants relative to the lifetime costs associated with their generations. For a fully-advance-funded program this value would be equal to zero.

For Social Security benefits to be adequately financed for the infinite future, the scheduled taxes or benefits of current and future participants in the system must be adjusted to fully offset the shortfall due to past and current participants. Future participants, as a whole, are projected to pay, in present value, taxes that are approximately \$0.8 trillion more than the cost of providing benefits they are scheduled to receive over the infinite future. For the

2006 report, on a present value basis, future participants were projected to pay about \$0.1 trillion less, in taxes, than the total cost of benefits they would receive over the infinite future. This amount changed in part due to relatively lower annual deficits late in the 75-year period that are projected to continue. In addition, improvements in methods changed the allocation of taxable payroll and benefits between current and future participants, resulting in more of the unfunded obligation being attributed to current participants.

Thus, the remaining long run financing gap that program reforms must ultimately close for the infinite future is estimated to be \$13.6 trillion in present value. This can be achieved by raising additional revenue or reducing benefits (or some combination) for current and future participants so that the present value of the additional revenue or reduced benefits for the infinite future is equivalent to 3.5 percent of taxable payroll or 1.2 percent of GDP.

Table IV.B7.—Present Values of OASDI Cost Less Tax Revenue and Unfunded Obligations for Program Participants

[Present values as of January 1, 2007; dollar amounts in trillions]

	Present value	Expressed as a percentage of future payroll and GDP	
		Taxable payroll	GDP
Present value of future cost less future taxes for current participants . . .	\$16.5	4.2	1.5
Less current trust fund (tax accumulations minus expenditures to date for past and current participants)	2.0	.5	.2
Equals unfunded obligation for past and current participants ¹	14.4	3.7	1.3
Plus present value of cost less taxes for future participants for the infinite future	-8	-2	-1
Equals unfunded obligation for all participants through the infinite horizon	13.6	3.5	1.2

¹This concept is also referred to as the closed group unfunded obligation.

Notes:

1. The present value of future taxable payroll for 2007 through the infinite horizon is \$388.4 trillion.
2. The present value of GDP for 2007 through the infinite horizon is \$1,117.3 trillion.
3. Totals do not necessarily equal the sums of rounded components.

6. Test of Long-Range Close Actuarial Balance

The test of long-range close actuarial balance applies to a set of 66 separate valuation periods beginning with the first 10-year period, and including the periods of the first 11 years, the first 12 years, etc., up through the full 75-year projection period. Under the long-range test, the summarized income rate and cost rate are calculated for each of these valuation periods. 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 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 test of long-range 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. 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 effectively plan for their retirement.

Table IV.B8 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 estimates. Values are shown for only 14 of the valuation periods: those of length 10 years, 15 years, and continuing in 5-year increments through 75 years. However, each of the 66 periods—those of length 10 years, 11 years, and continuing in 1-year increments through 75 years—is considered for the test. These minimum allowable balances are calculated to show the limit for each valuation period resulting from the graduated tolerance scale. The patterns in the estimated balances as a percentage of the summarized cost rates, as well as that for the minimum allowable balance, are presented graphically in figure IV.B4 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 IV.B4.

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 through 34 years under the intermediate estimates. For valuation periods of length greater than 34 years, the estimated actuarial balance is less than the minimum allowable. For the full 75-year long-range period the estimated actuarial balance reaches -12.34 percent of the summarized cost rate, for a shortfall of 7.34 percent, from the minimum allowable balance of -5.0 percent of the summarized cost rate. Thus, although the OASI program satisfies the test of short-range financial adequacy (as discussed earlier on page 31), it is not in long-range close actuarial balance.

For the DI program, the estimated actuarial balance as a percentage of the summarized cost rate exceeds the minimum allowable balance for valuation periods of length 10 through 12 years under the intermediate estimates. For valuation periods of length greater than 12 years, the estimated actuarial balance is less than the minimum allowable. For the full 75-year long-range period the estimated actuarial balance reaches -12.10 percent of the summarized cost rate, for a shortfall of 7.10 percent, from the minimum allowable balance of -5.0 percent of the summarized cost rate. Thus, the DI program, although meeting the short-range test of financial adequacy, is not in long-range close actuarial balance.

Financing for the DI program is much less adequate than for the OASI program in satisfying the test for long-range actuarial balance even though long-range actuarial deficits are more comparable over the entire 75-year period. This occurs because much more of the increase in the long-range cost due to the aging of the large baby-boom generation occurs earlier for the DI program than for the OASI program. As a result, tax rates that are relatively more adequate for the OASI program during the first 25 years become relatively less adequate later in the long-range period.

For the 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 through 32 years under the intermediate estimates. For valuation periods of length greater than 32 years, the estimated actuarial balance is below the minimum allowable balance. The size of the shortfall from the minimum allowable balance rises gradually, reaching 7.31 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, it is out of long-range close actuarial balance.

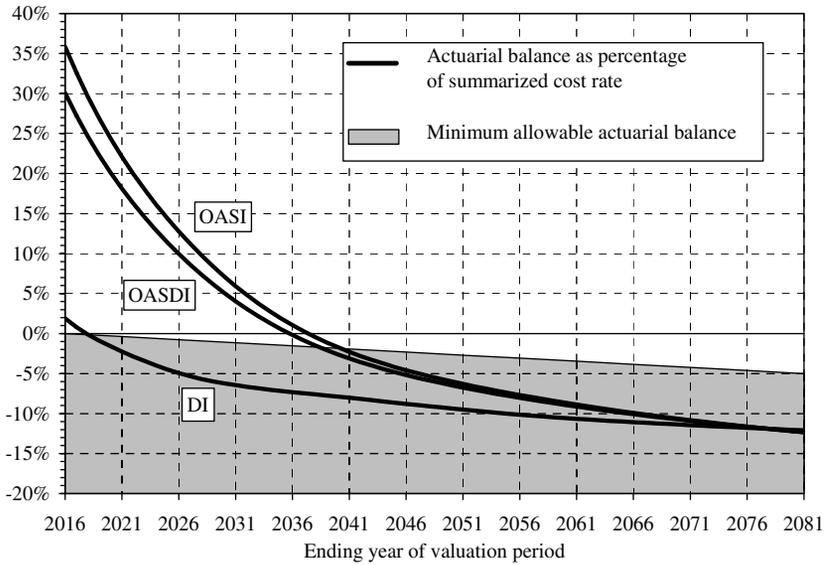
The OASI and DI programs, both separate and combined, were also found to be out of close actuarial balance in last year's report. The estimated deficits for the OASI, DI, and combined OASDI programs in this report are similar to those shown in last year's report.

Table IV.B8.—Comparison of Estimated Long-Range Actuarial Balances With the Minimum Allowable in the Test for Close Actuarial Balance, Based on Intermediate Assumptions

Valuation period	Rates (percentage of taxable payroll)		Values expressed as a percentage of cost rate		
	Summarized income rate	Summarized cost rate	Actuarial balance	Actuarial balance	Minimum allowable actuarial balance
OASI:					
10 years: 2007-2016	14.59	10.74	3.85	35.83	0.00
15 years: 2007-2021	13.50	11.05	2.44	22.10	-38
20 years: 2007-2026	12.98	11.51	1.47	12.76	-77
25 years: 2007-2031	12.69	11.98	.71	5.92	-1.15
30 years: 2007-2036	12.50	12.37	.13	1.06	-1.54
35 years: 2007-2041	12.37	12.66	-.29	-2.28	-1.92
40 years: 2007-2046	12.28	12.87	-.59	-4.58	-2.31
45 years: 2007-2051	12.20	13.02	-.82	-6.29	-2.69
50 years: 2007-2056	12.15	13.16	-1.01	-7.68	-3.08
55 years: 2007-2061	12.10	13.28	-1.18	-8.87	-3.46
60 years: 2007-2066	12.07	13.39	-1.33	-9.91	-3.85
65 years: 2007-2071	12.04	13.50	-1.46	-10.82	-4.23
70 years: 2007-2076	12.01	13.59	-1.58	-11.62	-4.62
75 years: 2007-2081	11.99	13.68	-1.69	-12.34	-5.00
DI:					
10 years: 2007-2016	2.23	2.19	.04	1.90	.00
15 years: 2007-2021	2.11	2.16	-.05	-2.26	-38
20 years: 2007-2026	2.05	2.16	-.11	-4.95	-77
25 years: 2007-2031	2.02	2.15	-.14	-6.45	-1.15
30 years: 2007-2036	1.99	2.15	-.16	-7.33	-1.54
35 years: 2007-2041	1.98	2.15	-.17	-8.02	-1.92
40 years: 2007-2046	1.96	2.15	-.19	-8.78	-2.31
45 years: 2007-2051	1.96	2.16	-.21	-9.50	-2.69
50 years: 2007-2056	1.95	2.17	-.22	-10.15	-3.08
55 years: 2007-2061	1.94	2.18	-.23	-10.66	-3.46
60 years: 2007-2066	1.94	2.18	-.24	-11.07	-3.85
65 years: 2007-2071	1.93	2.19	-.25	-11.44	-4.23
70 years: 2007-2076	1.93	2.19	-.26	-11.78	-4.62
75 years: 2007-2081	1.93	2.19	-.27	-12.10	-5.00
OASDI:					
10 years: 2007-2016	16.82	12.93	3.89	30.09	.00
15 years: 2007-2021	15.61	13.21	2.39	18.12	-38
20 years: 2007-2026	15.03	13.67	1.36	9.97	-77
25 years: 2007-2031	14.70	14.13	.57	4.04	-1.15
30 years: 2007-2036	14.50	14.52	-.03	-.19	-1.54
35 years: 2007-2041	14.35	14.81	-.46	-3.11	-1.92
40 years: 2007-2046	14.24	15.02	-.78	-5.18	-2.31
45 years: 2007-2051	14.16	15.18	-1.02	-6.75	-2.69
50 years: 2007-2056	14.10	15.33	-1.23	-8.03	-3.08
55 years: 2007-2061	14.05	15.46	-1.41	-9.12	-3.46
60 years: 2007-2066	14.00	15.57	-1.57	-10.08	-3.85
65 years: 2007-2071	13.97	15.68	-1.71	-10.91	-4.23
70 years: 2007-2076	13.94	15.78	-1.84	-11.65	-4.62
75 years: 2007-2081	13.92	15.87	-1.95	-12.31	-5.00

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

Figure IV.B4.—Test of Long-Range Close Actuarial Balance
 [Comparison of estimated long-range actuarial balances with the minimum allowable for close actuarial balance under intermediate assumptions]



7. Reasons for Change in Actuarial Balance From Last Report

The estimated effects of various changes from last year’s report to this report on the long-range actuarial balance under the intermediate assumptions are listed (by category) in table IV.B9.

Table IV.B9.—Reasons for Change in the 75-Year Actuarial Balance Under Intermediate Assumptions
 [As a percentage of taxable payroll]

Item	OASI	DI	OASDI
Shown in last year's report:			
Income rate	11.95	1.93	13.88
Cost rate	13.63	2.27	15.90
Actuarial balance	-1.68	-.33	-2.02
Changes in actuarial balance due to changes in:			
Legislation / Regulation . . . . .	.00	.00	.00
Valuation period ¹	-.05	-.01	-.06
Demographic data and assumptions	-.03	.00	-.03
Economic data and assumptions	+0.01	+0.01	+0.02
Disability data and assumptions	-.02	+0.08	+0.06
Programmatic data and methods	+0.09	-.01	+0.08
Total change in actuarial balance	-.01	+0.07	+0.06
Shown in this report:			
Actuarial balance	-1.69	-.27	-1.95
Income rate	11.99	1.93	13.92
Cost rate	13.68	2.19	15.87

¹ In changing from the valuation period of last year's report, which was 2006-80, to the valuation period of this report, 2007-81, the relatively large negative annual balance for 2081 is included. This results in a larger long-range actuarial deficit. The fund balance at the end of 2006, i.e., at the beginning of the projection period, is included in the 75-year actuarial balance.

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

One legislative change that affects the financing of the Social Security program, the Social Security Trust Fund Restoration Act of 2006, Public Law 109-465, is included for the first time in the estimates for this report (see section III.B). This change completed the reimbursement of the trust funds for excess transfers to the Internal Revenue Service in 1999 through 2005 related to voluntary income tax withholding for beneficiaries. The effect of this legislation is estimated to increase (improve) the long-range actuarial balance by a negligible amount (less than 0.005 percent of taxable payroll).

In changing from the valuation period of last year's report, which was 2006-80, to the valuation period of this report, 2007-81, the relatively large negative annual balance for 2081 is included. This results in a larger long-range actuarial deficit. (Note that the fund balance at the end of 2006, i.e., at the beginning of the projection period, is included in the 75-year actuarial balance.)

Ultimate demographic assumptions are unchanged from last year's report. However, final mortality data for 2003 indicate a slightly larger than expected decline in death rates for men at older ages. The updates to the mortality data result in slightly lower starting death rates and faster near-term declines in death rates, and thus a decrease (worsening) in the long-range actuarial balance of about 0.03 percent of taxable payroll.

Ultimate economic assumptions are unchanged from last year's report. However, changes in starting values for the economic assumptions and in the near-term transition to the ultimate economic assumptions have a positive effect on the long-range actuarial balance. One of the major reasons for this positive effect is that the growth in average real covered earnings over the period 2006 to 2016 is projected to be somewhat greater than in last year's report. In addition, the average wage index starts and is assumed to remain at a slightly lower level relative to average taxable earnings than was projected in last year's report. This is because the actual growth in the average wage index for 2005, relative to growth in average taxable earnings, was less than expected in last year's report. Because the average wage index is important in the indexing of benefit levels, this lower relative level means slightly smaller benefit levels. The net effect of these economic changes is an increase (improvement) in the long-range actuarial balance of about 0.02 percent of taxable payroll.

Disability incidence rate assumptions are revised from the levels used in last year's report in order to bring the rates closer to the levels and trends in incidence rates experienced since 1970. Compared to last year's report, the ultimate age-adjusted disability incidence rates are 10 percent lower for males and are less than 1 percent higher for females. The changes in ultimate rates increase (improve) the long-range actuarial balance by about 0.06 percent of taxable payroll.

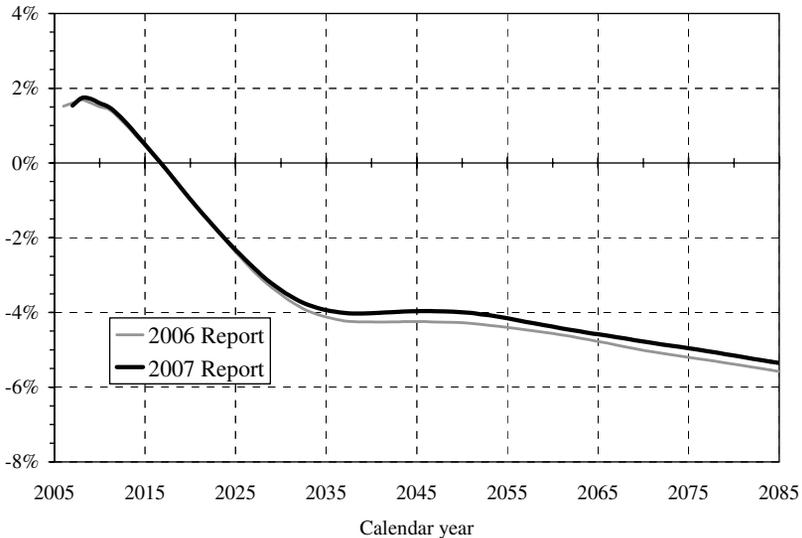
Several methodological improvements and updates of program-specific data are included for projections in the 2007 report. These changes to programmatic data and methods result in a combined increase in the long-range OASDI actuarial balance of about 0.08 percent of taxable payroll, including interaction among the individual changes. Two significant improvements were made to the methods related to the projection of average benefit levels for workers who will become eligible in the future. The first of these improvements augments the sample of newly entitled disabled worker beneficiaries by including records of beneficiaries who began receiving benefits after the year for which they are first found to be eligible. These additional beneficiaries had, on average, slightly lower benefit levels. The second of these improvements reallocates total taxable earnings among sample records. This reallocation increases the proportion of total taxable earnings assigned to workers with earnings close to, or above, the taxable maximum. Reallocating a higher portion of total taxable earnings to higher earners results in lower average benefits due to the progressivity of the benefit formula. These two changes increase (improve) the OASDI actuarial balance by about 0.07 percent of taxable payroll. In addition, two changes to improve consistency of cohort data were made to the historical population estimates. The first is a new smoothing technique for the historical distribution of

marriages by age-of-husband and age-of-wife. The other improvement achieves a more consistent cohort estimate of the total U.S. population for years after the 2000 census, by changing how the 2000 census undercount factors are applied. These two improvements to the historical population estimates result in an increase (improvement) in the long-range actuarial balance of about 0.01 percent of taxable payroll. Several other smaller changes have largely offsetting effects on the long-range actuarial balance.

If no changes in assumptions or methods were made for this report and actual experience had met expectations since the last report, the OASDI long-range actuarial deficit would, nonetheless, have increased by 0.06 percent of taxable payroll from the level estimated for last year's report due to the change in the valuation period (see table IV.B9). The changes made in data, assumptions, and methods for this report, together, more than offset the increase in the deficit due to the new valuation period. This is indicated by the total 0.06 percent decrease in the actuarial deficit, which, after rounding, decreases the deficit from 2.02 percent in last year's report to 1.95 percent of taxable payroll in this report.

The effects of changes made in this report can also be illustrated by comparing the annual (cash-flow) balances for this and the prior year's report. Figure IV.B5 provides this comparison for the combined OASDI program over the long range.

Figure IV.B5.—OASDI Annual Balances: 2006 and 2007 Reports
[As a percentage of taxable payroll under the intermediate assumptions]



The projected annual balances in this report are generally higher (less negative) than those in last year's report largely due to the changes in methods and assumptions. Over the period 2007 through about 2030, annual balances are similar between the two reports. Thereafter, the annual balances in this year's report are higher primarily due to the impact of lower ultimate disability incidence rates and improvements in the long-range methods for projecting average benefit levels. The annual deficit for 2080 is 5.16 percent of taxable payroll in this report compared to 5.38 percent for 2080 in last year's report.

V. ASSUMPTIONS AND METHODS UNDERLYING ACTUARIAL ESTIMATES

The future income and cost of the OASDI program will depend on many demographic, economic, and program-specific factors. Trust fund income will depend on how these factors affect the size and composition of the working population and the level and distribution of earnings. Similarly, program cost will depend on how these factors affect the size and composition of the beneficiary population and the general level of benefits.

Basic assumptions are developed for several of these factors based on analysis of historical trends and conditions, and on expected future conditions. These factors include fertility, mortality, immigration, marriage, divorce, productivity, inflation, average earnings, unemployment, retirement, and disability incidence and termination. Other factors are projected using methods that reflect historical and expected future relationships to the basic assumptions. These include total population, life expectancy, labor force, gross domestic product, interest rates, and many program-specific factors. It should be noted that all factors included in any consistent set of assumptions are interrelated directly or indirectly. It is also important to note that these interrelationships can and do change over time.

The assumptions and methods used in this report are reexamined each year in light of recent experience and new information about future conditions, and are revised if warranted.

Because projections of these factors and their interrelationships are inherently uncertain, a range of estimates is shown in this report on the basis of three sets of assumptions, designated as intermediate (alternative II), low cost (alternative I), and high cost (alternative III). The intermediate set represents the Board's best estimate of the future course of the population and the economy. In terms of the net effect on the status of the OASDI program, the low cost is the most optimistic, and the high cost is the most pessimistic. The low and high cost sets of assumptions reflect significant potential changes in the interrelationship among factors, as well as changes in the values for individual factors. The probability is very low that all the assumptions and interactions would differ in the same direction from those expected. Outcomes with overall cost as low as (or lower than) the low cost scenario or as high as (or higher than) the high cost scenario are also very low probability.

Although these three sets of demographic and economic assumptions have been developed to provide a broad range of possible outcomes, the resulting estimates should be interpreted with care. The estimates are not intended to be specific predictions of the future financial status of the OASDI program,

but rather, they are intended to be indicators of the expected trend and a reasonable range of future income and cost, under a variety of plausible demographic and economic conditions.

The values for each of the demographic, economic, and program-specific factors are assumed to move from recently experienced levels or trends, toward long-range ultimate values generally over the next 2 to 25 years. Ultimate values or trends reached by the end of the 75-year long-range period are generally maintained at these levels or trends for extrapolations beyond 75 years. One exception is for real wage growth, as described in section IV.B.5.

The ultimate values assumed after the first 2 to 25 years (and through the end of the 75-year long-range period) for both the demographic and the economic factors are intended to represent average annual experience or growth rates. Actual future values will exhibit fluctuations or cyclical patterns, as in the past.

The following sections discuss in abbreviated form the various assumptions and methods required to make the estimates of trust fund financial status which are the heart of this report.¹ There are, of course, many interrelationships among these factors that make a sequential presentation somewhat misleading. Nevertheless, the following sections roughly follow the order used in building the trust fund estimates presented in chapter IV.

A. DEMOGRAPHIC ASSUMPTIONS AND METHODS

The principal demographic assumptions relating to fertility, mortality, and net immigration for the three alternatives are shown in table V.A1. The rationales for selecting these assumptions are discussed in the following three sections.

1. Fertility Assumptions

Fertility (birth rate) assumptions are developed for women by single year of age, from 14 to 49. They are applied to the total number of women in the population at each age, for all marital statuses.

¹ Further details about the assumptions, methods, and actuarial estimates are contained in Actuarial Studies published by the Office of the Chief Actuary, Social Security Administration. A complete list of available studies may be found on the Social Security website at www.socialsecurity.gov/OACT/NOTES/act-stud.html. To obtain copies of such Studies, or of this report, submit a request via our Internet request form; or write to: Office of the Chief Actuary, 700 Altmeyer Building, 6401 Security Boulevard, Baltimore, MD 21235; or call (410) 965-3006. This entire report, along with supplemental year-by-year tables, may also be found at www.socialsecurity.gov/OACT/TR/TR07/index.html.

Historically, fertility rates in the United States have fluctuated widely. The total fertility rate¹ decreased from 3.3 children per woman after World War I to 2.1 during the Great Depression, rose to 3.7 in 1957, and then fell to 1.7 in 1976. After 1976, the total fertility rate began to rise again, reaching a level of 2.07 for 1990. Since then, the total fertility rate has remained fairly stable, around 2.0 children per woman.

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, such as the rising percentages of women who have never married, of women who are divorced, and of young women who are in the labor force, are consistent with a continued relatively low fertility rate. Based on consideration of these factors, ultimate total fertility rates of 2.3, 2.0 and 1.7 children per woman were selected for the low cost, intermediate, and high cost assumptions, respectively. For each alternative, the total fertility rate is assumed to gradually trend from the estimated level of 2.05 for 2004, reaching the selected ultimate level for 2031 and later.

Assumed total fertility rates are very similar to those in last year's report. Incorporating additional birth data and population data for 2004 yields a slightly higher starting level than the level assumed in last year's report. This higher starting level results in slightly higher total fertility rates between 2004 and the year the ultimate levels are reached (2031).

2. Mortality Assumptions

Mortality (death rate) assumptions are developed by single year of age, sex, and cause of death.

Death rates in the United States since 1900 have declined substantially, but at varying rates. Historical rates (for years 1900-2003) used in preparing this report were calculated for ages below 65 (and for all ages prior to 1968) using data from the National Center for Health Statistics (NCHS).² For ages 65 and over, Medicare final data were used for years 1968 through 2003.

¹ Defined to be the average number of children that would be born to a woman in her lifetime if she were to experience the birth rates by age observed in, or assumed for, the selected year, and if she were to survive the entire childbearing period. A rate of 2.1 would ultimately result in a nearly constant population if net immigration were zero and if death rates were constant.

² These rates reflect NCHS data on deaths and Census estimates of population.

Also used are death rates by cause of death at all ages which are produced by the NCHS for years 1979-2003.

The total age-sex-adjusted death rate¹ declined at an average rate² of 1.06 percent per year between 1900 and 2003. Between 1979 and 2003, the period for which death rates are analyzed by cause, the total age-sex-adjusted death rate (for all causes combined) declined at an average rate of 0.74 percent per year.

Historical death rates have declined more slowly for older ages than for the rest of the population. The age-sex-adjusted death rate for ages 65 and over declined at an average rate of 0.73 percent per year between 1900 and 2003. Between 1979 and 2003 the age-sex-adjusted death rate for these ages declined at an average annual rate of 0.52 percent.

Reductions in death rates have resulted from many factors, including increased medical knowledge and availability of health-care services, and improvements in sanitation and nutrition. Based on consideration of the expected rate of future progress in these and other areas, three alternative sets of ultimate annual percentage reductions in central death rates by age, sex, and cause of death were selected for 2031 and later. The intermediate set, which is used for alternative II, is considered to be the most likely to occur. The average annual percentage reductions used for alternative I are generally smaller than those for alternative II, while those used for alternative III are generally greater. These three sets of ultimate annual percentage reductions are unchanged from those used in last year's report.

After 2003, the reductions in central death rates for alternative II are assumed to change rapidly from the average annual reductions by age, sex, and cause of death observed between 1983 and 2003, to the ultimate annual percentage reductions by age, sex, and cause of death assumed for 2031 and later. The reductions in death rates under alternatives I and III are also assumed to change rapidly to their ultimate levels, but start from levels which are, respectively, 50 or 150 percent of the average annual reductions observed between 1983 and 2003.

Projections of age-sex-adjusted death rates are presented in table V.A1 for the total (all ages), for under age 65, and for ages 65 and over. Under the intermediate assumptions, these projected age-sex-adjusted death rates are

¹ Calculated here as the crude rate that would occur in the enumerated total population as of April 1, 2000, if that population were to experience the death rates by age and sex for the selected year.

² Average rate of decline is calculated as the annual geometric rate of reduction between the first and last years of the period.

slightly lower than the death rates in last year's report. This is because incorporating new data for 2003 results in age-sex-adjusted death rates throughout the projection period that are slightly lower than those in last year's report.

After adjustment for changes in the age-sex distribution of the population, the resulting total death rates are projected to decline at ultimate average annual rates of about 0.33 percent, 0.70 percent, and 1.21 percent between 2031 and 2081 for alternatives I, II, and III, respectively. In keeping with the patterns observed in the historical data, future rates of decline are assumed to be greater for younger ages than for older ages, but to a substantially lesser degree than in the past. Accordingly, age-sex-adjusted death rates for ages 65 and over are projected to decline at average annual rates of about 0.28 percent, 0.66 percent, and 1.15 percent between 2031 and 2081 for alternatives I, II, and III, respectively.

There is a wide range of opinion among experts on the likely rate of future decline in death rates. For example, the 2003 Technical Panel on Assumptions and Methods appointed by the Social Security Advisory Board believed that ultimate rates of decline in mortality will be higher than the rates of decline assumed for the intermediate projections in this report. Others believe that biological and social factors may slow future rates of decline in mortality. Evolving mortality trends and developments in health care and life style will be closely monitored to determine what further modifications to the assumed ultimate rates of decline in mortality may be warranted for future reports.

3. Immigration Assumptions

Legal immigration¹ increased after World War II to around 300,000 persons per year and remained around that level until shortly after 1960. With the Immigration Act of 1965 and other related changes, annual legal immigration increased to about 400,000 and remained fairly stable until 1977. Between 1977 and 1990, legal immigration once again increased, averaging about 580,000² per year. The Immigration Act of 1990, which took effect in fiscal year 1992, restructured the immigration categories and increased significantly the number of immigrants who may legally enter the United States. Legal immigration averaged about 860,000² persons per year during the

¹ Consistent with the U.S. Citizenship and Immigration Services, legal immigrants are individuals admitted to the U.S. for legal permanent residence.

² Excludes those persons admitted under the Immigration Reform and Control Act of 1986.

period 1992 through 2005. The number of legal immigrants in 2005 is estimated to be about 1,122,000 persons.

For 2005, net legal immigration (after considering emigration) is estimated to be about 842,000 persons. Net other immigration is estimated to be 400,000 persons. For 2006, net legal immigration is estimated to be 675,000 for the intermediate, 720,000 for low cost and 630,000 for the high cost assumptions. Net other immigration for 2006 is estimated to be 400,000 persons for all three assumptions.

The ultimate annual net immigration assumptions are unchanged from those in last year's report. After 2006, the annual number of net legal immigrants is projected to reach the ultimate level in 2008. The ultimate level of annual net other immigrants is projected to be reached in 2027 under the intermediate and low cost assumptions and in 2017 under the high cost assumptions.

The total level of net immigration (legal and other, combined) under the intermediate projection is assumed to decrease from a level of 1,075,000 persons in 2007 to an ultimate level of 900,000 persons¹ for each year after 2026. For the low cost assumptions, net immigration is assumed to be 1,270,000 persons in 2007, increase to a level of 1,400,000 persons for each year 2008-16, and then decrease to an ultimate level in 2027 of 1,300,000 persons². Under the high cost assumptions, net immigration is assumed to decrease from a level of 810,000 persons in 2007 to an ultimate level in 2017 of 672,500 persons³.

There is a very wide range of opinion about the future course of immigration for the United States. Some, like the 2003 Technical Panel mentioned in the previous section, believe that immigration will increase substantially in the future. Others believe that potential immigrants may be attracted to other countries or that the U.S. borders could be tightened in the future.

¹ 600,000 net legal immigrants plus 300,000 net other immigrants.

² 850,000 net legal immigrants plus 450,000 net other immigrants.

³ 472,500 net legal immigrants plus 200,000 net other immigrants.

Table V.A1.—Principal Demographic Assumptions, Calendar Years 1940-2085

Calendar year	Total fertility rate ¹	Age-sex-adjusted death rate ² per 100,000, by age			Net immigration	
		Total	Under 65	65 and over	Legal ³	Other ⁴
Historical data:						
1940	2.23	1,779.1	673.0	9,569.0	45,950	
1945	2.42	1,586.6	601.8	8,522.4	55,057	
1950	3.03	1,435.6	499.4	8,028.3	170,574	
1955	3.50	1,334.2	442.8	7,612.2	209,766	
1960	3.61	1,330.9	436.9	7,626.7	201,261	
1965	2.88	1,304.6	430.0	7,464.0	232,394	
1970	2.43	1,224.3	422.6	6,870.7	278,915	
1975	1.77	1,099.0	369.5	6,236.4	294,292	
1980	1.82	1,035.9	331.9	5,993.6	410,329	375,000
1985	1.84	984.2	303.6	5,777.6	433,443	375,000
1990	2.07	931.2	289.4	5,451.1	501,041	550,000
1991	2.06	918.8	286.2	5,373.5	547,971	550,000
1992	2.04	906.2	280.2	5,315.3	620,965	550,000
1993	2.02	928.0	283.1	5,470.0	644,685	550,000
1994	2.00	916.2	280.5	5,392.7	583,364	550,000
1995	1.98	913.9	277.3	5,397.5	574,507	550,000
1996	1.98	900.4	266.1	5,367.2	664,579	550,000
1997	1.97	885.1	253.6	5,332.5	571,243	550,000
1998	2.00	878.3	246.9	5,325.2	488,303	550,000
1999	2.01	884.3	245.0	5,386.6	520,364	550,000
2000	2.06	875.7	243.4	5,328.3	671,580	550,000
2001	2.03	867.4	243.6	5,260.7	794,240	550,000
2002	2.02	863.6	242.7	5,236.6	727,781	550,000
2003	2.05	851.3	241.2	5,148.2	575,326	550,000
2004 ⁵	2.05	852.2	232.8	5,214.4	749,237	400,000
2005 ⁵	2.04	847.8	230.0	5,199.0	841,769	400,000
2006 ⁵	2.04	843.7	227.2	5,185.2	675,000	400,000
Intermediate:						
2010	2.03	825.3	217.3	5,106.9	600,000	400,000
2015	2.03	795.7	206.6	4,944.5	600,000	400,000
2020	2.02	764.5	196.9	4,762.2	600,000	350,000
2025	2.01	734.2	187.8	4,581.7	600,000	350,000
2030	2.00	705.4	179.4	4,409.8	600,000	300,000
2035	2.00	678.3	171.5	4,247.3	600,000	300,000
2040	2.00	652.8	164.0	4,095.1	600,000	300,000
2045	2.00	629.0	157.1	3,952.5	600,000	300,000
2050	2.00	606.6	150.5	3,818.6	600,000	300,000
2055	2.00	585.5	144.3	3,692.6	600,000	300,000
2060	2.00	565.7	138.5	3,574.1	600,000	300,000
2065	2.00	547.0	133.0	3,462.4	600,000	300,000
2070	2.00	529.3	127.8	3,356.9	600,000	300,000
2075	2.00	512.6	122.9	3,257.3	600,000	300,000
2080	2.00	496.8	118.2	3,163.0	600,000	300,000
2085	2.00	481.8	113.8	3,073.6	600,000	300,000

Table V.A1.—Principal Demographic Assumptions, Calendar Years 1940-2085 (Cont.)

Calendar year	Total fertility rate ¹	Age-sex-adjusted death rate ² per 100,000, by age			Net immigration	
		Total	Under 65	65 and over	Legal ³	Other ⁴
Low Cost:						
2010	2.08	845.5	223.1	5,229.0	850,000	550,000
2015	2.13	836.8	217.4	5,198.5	850,000	550,000
2020	2.19	823.5	211.7	5,132.2	850,000	500,000
2025	2.24	809.1	206.1	5,055.7	850,000	500,000
2030	2.29	794.7	200.7	4,977.9	850,000	450,000
2035	2.30	780.6	195.6	4,900.8	850,000	450,000
2040	2.30	767.0	190.6	4,826.4	850,000	450,000
2045	2.30	753.9	185.9	4,754.7	850,000	450,000
2050	2.30	741.4	181.3	4,685.5	850,000	450,000
2055	2.30	729.2	177.0	4,618.7	850,000	450,000
2060	2.30	717.5	172.8	4,554.2	850,000	450,000
2065	2.30	706.3	168.7	4,492.0	850,000	450,000
2070	2.30	695.4	164.9	4,431.9	850,000	450,000
2075	2.30	684.9	161.1	4,373.8	850,000	450,000
2080	2.30	674.8	157.6	4,317.7	850,000	450,000
2085	2.30	665.0	154.1	4,263.4	850,000	450,000
High Cost:						
2010	1.99	804.6	211.1	4,984.3	472,500	250,000
2015	1.92	752.5	193.8	4,687.0	472,500	250,000
2020	1.85	701.7	178.4	4,386.9	472,500	200,000
2025	1.78	654.3	164.5	4,103.6	472,500	200,000
2030	1.71	610.7	151.8	3,841.8	472,500	200,000
2035	1.70	570.6	140.3	3,601.2	472,500	200,000
2040	1.70	534.1	129.8	3,380.9	472,500	200,000
2045	1.70	500.6	120.2	3,179.1	472,500	200,000
2050	1.70	469.8	111.4	2,993.9	472,500	200,000
2055	1.70	441.6	103.4	2,823.8	472,500	200,000
2060	1.70	415.7	96.0	2,667.1	472,500	200,000
2065	1.70	391.8	89.2	2,522.8	472,500	200,000
2070	1.70	369.8	83.0	2,389.6	472,500	200,000
2075	1.70	349.4	77.2	2,266.4	472,500	200,000
2080	1.70	330.6	71.9	2,152.4	472,500	200,000
2085	1.70	313.2	67.1	2,046.7	472,500	200,000

¹The total fertility rate for any year is the average number of children who would be born to a woman in her lifetime if she were to experience the birth rates by age observed in, or assumed for, the selected year, and if she were to survive the entire childbearing period. The ultimate total fertility rate is assumed to be reached in 2031.

²The age-sex-adjusted death rate is the crude rate that would occur in the enumerated total population as of April 1, 2000, if that population were to experience the death rates by age and sex observed in, or assumed for, the selected year.

³Historical estimates of net legal immigration assume a 25 percent reduction in legal immigration due to legal emigration. Estimates do not include persons legalized under the Immigration Reform and Control Act of 1986.

⁴Net other annual immigration is estimated to have averaged 375,000 persons over the period 1980-89 and 550,000 over the period 1990-99.

⁵Preliminary or estimated.

4. Total Population Estimates

Combining the above assumptions for future fertility, mortality, and net immigration with assumptions on marriage and divorce based on data from the NCHS, projections were made of the population in the Social Security area by age, sex, and marital status as of January 1 of each year 2006 through

Assumptions & Methods

2085. The starting Social Security area population for January 1, 2005, is based on the Census Bureau’s estimate of the residents of the 50 States and D.C., and U.S. Armed Forces overseas. The base estimate is adjusted for net census undercount and increased for other U.S. citizens living abroad (including residents of U.S. territories) and for non-citizens living abroad who are insured for Social Security benefits. This starting population was then projected using assumed rates of birth, death, marriage and divorce, and assumed levels of net immigration.

Table V.A2 shows the historical and projected population as of July 1 by broad age group, for the three alternatives. Also shown are aged and total dependency ratios (see table footnotes for definitions).

Table V.A2.—Social Security Area Population as of July 1 and Dependency Ratios, Calendar Years 1950-2085

Calendar year	Population (in thousands)				Dependency ratio	
	Under 20	20-64	65 and over	Total	Aged ¹	Total ²
Historical data:						
1950	54,466	92,841	12,811	160,118	0.138	0.725
1960	73,076	99,818	17,278	190,172	.173	.905
1965	80,132	104,795	19,091	204,018	.182	.947
1970	80,684	113,158	20,923	214,765	.185	.898
1975	78,437	122,857	23,305	224,599	.190	.828
1980	74,568	134,428	26,237	235,233	.195	.750
1985	73,211	144,957	29,167	247,335	.201	.706
1990	75,060	153,368	32,029	260,458	.209	.698
1995	79,621	160,844	34,322	274,788	.213	.708
2000	82,619	170,240	35,425	288,284	.208	.693
2005	84,394	181,063	37,147	302,604	.205	.671
2006 ³	84,642	183,066	37,516	305,225	.205	.667
Intermediate:						
2010	85,211	190,004	40,031	315,246	.211	.659
2015	85,877	195,886	46,070	327,833	.235	.674
2020	87,512	198,883	53,773	340,167	.270	.710
2025	89,218	199,997	62,577	351,792	.313	.759
2030	90,785	200,966	70,252	362,003	.350	.801
2035	91,782	204,011	74,874	370,667	.367	.817
2040	92,555	208,126	77,415	378,096	.372	.817
2045	93,428	212,145	79,140	384,712	.373	.813
2050	94,596	215,056	81,317	390,968	.378	.818
2055	95,937	217,392	83,905	397,234	.386	.827
2060	97,185	219,357	87,153	403,696	.397	.840
2065	98,260	222,171	89,904	410,335	.405	.847
2070	99,245	225,166	92,568	416,979	.411	.852
2075	100,279	228,289	94,932	423,499	.416	.855
2080	101,418	231,000	97,438	429,857	.422	.861
2085	102,612	233,426	100,094	436,131	.429	.868

Table V.A2.—Social Security Area Population as of July 1 and Dependency Ratios, Calendar Years 1950-2085 (Cont.)

Calendar year	Population (in thousands)			Total	Dependency ratio	
	Under 20	20-64	65 and over		Aged ¹	Total ²
Low Cost:						
2010	85,798	190,821	39,988	316,607	0.210	0.659
2015	87,956	198,095	45,816	331,867	.231	.675
2020	91,863	202,536	53,152	347,551	.262	.716
2025	96,611	205,160	61,425	363,196	.299	.770
2030	101,823	207,876	68,407	378,106	.329	.819
2035	106,471	213,392	72,250	392,112	.339	.838
2040	110,622	220,712	74,049	405,383	.335	.837
2045	114,835	228,599	75,221	418,655	.329	.831
2050	119,431	236,028	77,109	432,569	.327	.833
2055	124,371	243,483	79,624	447,478	.327	.838
2060	129,555	251,029	82,819	463,402	.330	.846
2065	134,653	260,110	85,415	480,178	.328	.846
2070	139,623	270,203	87,784	497,610	.325	.842
2075	144,649	281,086	89,931	515,667	.320	.835
2080	149,917	291,697	92,811	534,425	.318	.832
2085	155,428	302,087	96,462	553,977	.319	.834
High Cost:						
2010	84,687	189,356	40,086	314,129	.212	.659
2015	84,051	194,321	46,391	324,764	.239	.671
2020	83,666	196,387	54,561	334,614	.278	.704
2025	82,659	196,518	64,059	343,235	.326	.747
2030	81,069	196,374	72,663	350,105	.370	.783
2035	79,020	197,682	78,370	355,072	.396	.796
2040	77,131	199,375	82,033	358,539	.411	.798
2045	75,548	200,350	84,763	360,660	.423	.800
2050	74,381	199,616	87,720	361,717	.439	.812
2055	73,402	197,827	90,859	362,088	.459	.830
2060	72,150	195,351	94,599	362,099	.484	.854
2065	70,747	193,249	97,899	361,894	.507	.873
2070	69,397	190,733	101,245	361,375	.531	.895
2075	68,225	187,936	104,227	360,389	.555	.918
2080	67,200	184,852	106,766	358,818	.578	.941
2085	66,225	181,696	108,795	356,715	.599	.963

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 Preliminary or estimated.

Notes:

1. Historical data are subject to revision.

2. Totals do not necessarily equal the sums of rounded components.

5. Life Expectancy Estimates

Life expectancy, or average remaining number of years expected prior to death, is a useful analytical concept. Life expectancy is calculated in two different forms, for two separate purposes.

Period life expectancy is calculated for a given year using the actual or expected death rates at each age for that year. It is a useful summary statistic for illustrating the overall level of the death rates experienced in a single

Assumptions & Methods

year. It is thus closely related to the age-sex-adjusted death rate that is discussed in section V.A.2. Period life expectancy for a particular year may be viewed as the expected remaining life at a selected age *only* if it is assumed that there is no change in death rates after that year.

Cohort life expectancy truly answers the question “What is the expected average remaining lifetime for an individual at a selected age in a given year?” Cohort life expectancy is calculated using death rates not from a single year, but from the series of years in which the individual will actually reach each succeeding age if he or she survives. Cohort life expectancy is shown in table V.A4 for those born on January 1 of each calendar year, and for those attaining age 65 on January 1 of each calendar year.

Tables V.A3 and V.A4 present historical and projected life expectancy calculated on both period and cohort bases. Cohort life expectancy is somewhat greater than period life expectancy for the same year. This is because death rates for any given age tend to decline as time passes and the cohort grows older.

Table V.A3.—Period Life Expectancy¹

Calendar year	Low Cost		Intermediate		High Cost							
	At birth		At age 65		At birth		At age 65					
	Male	Female	Male	Female	Male	Female	Male	Female				
Historical data:												
1940			61.4	65.7	11.9	13.4						
1945			62.9	68.4	12.6	14.4						
1950			65.6	71.1	12.8	15.1						
1955			66.7	72.8	13.1	15.6						
1960			66.7	73.2	12.9	15.9						
1965			66.8	73.8	12.9	16.3						
1970			67.2	74.9	13.1	17.1						
1975			68.7	76.6	13.7	18.0						
1980			69.9	77.5	14.0	18.4						
1985			71.1	78.2	14.4	18.6						
1990			71.8	78.9	15.1	19.1						
1991			72.0	79.0	15.2	19.2						
1992			72.3	79.2	15.3	19.3						
1993			72.1	79.0	15.2	19.0						
1994			72.3	79.1	15.3	19.1						
1995			72.5	79.1	15.4	19.1						
1996			73.0	79.2	15.5	19.1						
1997			73.4	79.4	15.6	19.1						
1998			73.7	79.4	15.7	19.1						
1999			73.8	79.3	15.7	19.0						
2000			74.0	79.4	15.9	19.0						
2001			74.1	79.5	16.1	19.1						
2002			74.2	79.5	16.2	19.1						
2003			74.4	79.6	16.3	19.2						
2004 ²			74.7	79.6	16.3	19.1						
2005 ²			74.8	79.6	16.4	19.1						
2006 ²			75.0	79.7	16.5	19.1						
Projected:												
2010	75.2	79.7	16.6	19.0	75.5	79.9	16.7	19.2	75.9	80.2	16.9	19.3
2015	75.5	79.8	16.7	19.0	76.1	80.3	17.1	19.4	76.8	80.9	17.5	19.8
2020	75.8	80.0	16.8	19.1	76.7	80.7	17.4	19.7	77.7	81.6	18.0	20.3
2025	76.1	80.2	16.9	19.2	77.2	81.1	17.7	19.9	78.6	82.3	18.6	20.8
2030	76.3	80.4	17.0	19.3	77.7	81.6	18.0	20.2	79.4	83.0	19.1	21.3
2035	76.6	80.6	17.2	19.4	78.2	82.0	18.3	20.5	80.2	83.7	19.6	21.8
2040	76.8	80.8	17.3	19.6	78.6	82.4	18.5	20.8	81.0	84.4	20.1	22.3
2045	77.1	81.0	17.4	19.7	79.1	82.7	18.8	21.1	81.7	85.0	20.6	22.8
2050	77.3	81.2	17.5	19.8	79.5	83.1	19.1	21.3	82.4	85.7	21.1	23.2
2055	77.5	81.4	17.6	19.9	79.9	83.5	19.4	21.6	83.1	86.2	21.5	23.7
2060	77.7	81.5	17.7	20.0	80.3	83.8	19.6	21.8	83.7	86.8	22.0	24.1
2065	78.0	81.7	17.8	20.1	80.7	84.2	19.9	22.1	84.4	87.4	22.4	24.5
2070	78.2	81.9	17.9	20.2	81.1	84.5	20.1	22.3	85.0	87.9	22.9	25.0
2075	78.4	82.0	18.0	20.3	81.5	84.8	20.4	22.5	85.6	88.5	23.3	25.4
2080	78.6	82.2	18.1	20.4	81.9	85.1	20.6	22.8	86.2	89.0	23.7	25.8
2085	78.8	82.3	18.2	20.5	82.2	85.4	20.8	23.0	86.7	89.5	24.1	26.2

¹The period life expectancy at a given age for a given year represents the average number of years of life remaining if a group of persons at that age were to experience the mortality rates for that year over the course of their remaining lives.

²Preliminary or estimated.

Table V.A4.—Cohort Life Expectancy¹

Calendar year	Low Cost		Intermediate				High Cost					
	At birth ²		At age 65 ³		At birth ²		At age 65 ³					
	Male	Female	Male	Female	Male	Female	Male	Female				
1940	69.4	75.3	12.7	14.7	69.7	75.7	12.7	14.7	70.1	76.2	12.7	14.7
1945	70.9	76.6	13.0	15.4	71.4	77.2	13.0	15.4	72.0	77.9	13.0	15.4
1950	71.9	77.6	13.1	16.2	72.6	78.4	13.1	16.2	73.4	79.4	13.1	16.2
1955	72.4	78.0	13.1	16.7	73.3	79.0	13.1	16.7	74.4	80.2	13.1	16.7
1960	72.9	78.3	13.2	17.4	74.0	79.5	13.2	17.4	75.4	81.0	13.2	17.4
1965	73.5	78.6	13.5	18.0	74.9	80.0	13.5	18.0	76.6	81.8	13.5	18.0
1970	74.4	79.2	13.8	18.5	75.9	80.8	13.8	18.5	78.0	82.9	13.8	18.5
1975	75.0	79.7	14.2	18.7	76.8	81.5	14.2	18.7	79.2	83.9	14.2	18.7
1980	75.7	80.2	14.7	18.7	77.7	82.1	14.7	18.7	80.5	84.8	14.7	18.7
1985	76.2	80.5	15.2	18.8	78.4	82.7	15.2	18.8	81.5	85.7	15.3	18.9
1990	76.6	80.8	15.7	18.9	79.1	83.2	15.7	19.0	82.5	86.4	15.8	19.1
1991	76.6	80.9	15.8	18.9	79.2	83.3	15.8	19.0	82.6	86.6	15.9	19.1
1992	76.7	80.9	15.8	18.9	79.3	83.4	15.9	19.0	82.8	86.7	16.0	19.2
1993	76.8	81.0	15.9	18.9	79.4	83.5	16.0	19.0	83.0	86.9	16.1	19.2
1994	76.9	81.0	16.0	18.9	79.6	83.5	16.1	19.1	83.2	87.0	16.2	19.3
1995	77.0	81.1	16.1	18.9	79.7	83.7	16.2	19.1	83.4	87.2	16.4	19.3
1996	77.0	81.1	16.2	18.9	79.8	83.7	16.3	19.2	83.6	87.3	16.5	19.4
1997	77.1	81.2	16.3	18.9	79.9	83.8	16.4	19.2	83.7	87.5	16.6	19.5
1998	77.1	81.2	16.3	19.0	80.0	83.9	16.6	19.3	83.9	87.6	16.8	19.6
1999	77.2	81.3	16.4	19.0	80.1	84.0	16.6	19.3	84.0	87.7	16.9	19.7
2000	77.2	81.3	16.5	19.0	80.2	84.1	16.7	19.4	84.2	87.8	17.0	19.7
2001	77.3	81.4	16.5	19.0	80.3	84.1	16.8	19.4	84.3	88.0	17.2	19.8
2002	77.3	81.4	16.6	19.0	80.3	84.2	16.9	19.5	84.5	88.1	17.3	19.9
2003	77.4	81.4	16.6	19.1	80.4	84.3	17.0	19.5	84.6	88.2	17.4	20.0
2004	77.4	81.5	16.7	19.1	80.5	84.4	17.1	19.6	84.8	88.4	17.5	20.1
2005	77.5	81.5	16.7	19.1	80.6	84.4	17.1	19.6	85.0	88.5	17.6	20.2
2006	77.6	81.6	16.7	19.1	80.7	84.5	17.2	19.7	85.1	88.6	17.8	20.3
2010	77.8	81.7	16.8	19.2	81.1	84.8	17.5	19.9	85.7	89.1	18.3	20.7
2015	78.0	81.9	17.0	19.3	81.5	85.2	17.8	20.2	86.4	89.7	18.8	21.3
2020	78.2	82.1	17.1	19.4	81.9	85.5	18.1	20.5	87.1	90.3	19.4	21.8
2025	78.4	82.3	17.2	19.5	82.3	85.8	18.4	20.8	87.7	90.8	20.0	22.3
2030	78.7	82.4	17.3	19.7	82.7	86.1	18.7	21.1	88.3	91.4	20.5	22.8
2035	78.9	82.6	17.4	19.8	83.1	86.4	19.0	21.3	88.9	91.9	21.0	23.3
2040	79.1	82.7	17.5	19.9	83.4	86.7	19.3	21.6	89.5	92.4	21.5	23.8
2045	79.3	82.9	17.6	20.0	83.8	87.0	19.6	21.9	90.0	92.8	22.0	24.3
2050	79.5	83.0	17.8	20.1	84.1	87.3	19.8	22.1	90.6	93.3	22.5	24.8
2055	79.6	83.2	17.9	20.2	84.4	87.6	20.1	22.4	91.1	93.8	23.0	25.2
2060	79.8	83.3	18.0	20.3	84.8	87.8	20.3	22.6	91.6	94.2	23.5	25.7
2065	80.0	83.5	18.1	20.4	85.1	88.1	20.6	22.8	92.1	94.7	23.9	26.1
2070	80.2	83.6	18.2	20.5	85.4	88.3	20.8	23.1	92.6	95.1	24.4	26.5
2075	80.3	83.7	18.3	20.6	85.7	88.6	21.1	23.3	93.0	95.5	24.8	27.0
2080	80.5	83.8	18.4	20.7	86.0	88.8	21.3	23.5	93.5	95.9	25.2	27.4
2085	80.6	84.0	18.5	20.8	86.2	89.1	21.5	23.7	93.9	96.3	25.6	27.8

¹The cohort life expectancy at a given age for a given year represents the average number of years of life remaining if a group of persons at that age were to experience the mortality rates for the series of years in which they reach each succeeding age.

²Cohort life expectancy at birth for those born on January 1 of the calendar year is based on a combination of actual and estimated death rates for birth years prior to 2004. For birth years after 2003, these values are based solely on estimated death rates.

³Age 65 cohort life expectancy for those attaining age 65 on January 1 of the calendar years before 1975 is based on actual data. For 1975 through 2003, these values are based on a combination of actual and estimated death rates. After 2003, these values are based solely on estimated death rates.

B. ECONOMIC ASSUMPTIONS AND METHODS

The basic economic assumptions are embodied in three alternatives that are designed to provide a reasonable range of effects on Social Security's financial status. The intermediate assumptions reflect the Trustees' consensus expectation of moderate economic growth throughout the projection period. The low cost assumptions represent a more optimistic outlook, with relatively strong economic growth. The high cost assumptions represent a relatively pessimistic scenario, with weak economic growth and two recessions in the short-range period.

Based on the latest data and estimates, the economy is assumed to have been above its sustainable potential level of output and employment during the latter half of 2006. Under all three sets of assumptions the economy is assumed to reach the sustainable, potential level of output by the end of the short-range period. Economic cycles are not included in the assumptions beyond the first 5 to 10 years of the projection period because they have little effect on the long-range estimates of financial status.

This report also includes a stochastic projection that provides a probability distribution of possible future outcomes that is centered around the Trustees' intermediate assumptions. Additional economic assumptions and modeling are required for these projections. These are discussed in appendix E.

The following sections 1 through 4 present the principal economic assumptions for the three alternatives that are summarized in table V.B1. The subsequent sections 5 through 7 present additional economic factors, summarized in table V.B2, that are critical to the projections of the future financial status of the combined OASI and DI Trust Funds.

1. Productivity Assumptions

Total U.S. economy productivity is defined as the ratio of real gross domestic product (GDP) to hours worked by all workers.¹ The rate of change in total- economy productivity is a major determinant in the growth of average earnings. For the 40 years from 1965 to 2005, annual increases in total productivity averaged 1.7 percent, the result of average annual increases of 2.0, 1.3, 1.2, and 2.3 percent for the 10-year periods 1965-75, 1975-85, 1985-95, and 1995-2005, respectively. However, it should be noted that this growth

¹ Historical levels of real GDP are from the Bureau of Economic Analysis' (BEA) National Income and Product Accounts (NIPA). Historical total hours worked is an unpublished series provided by the Bureau of Labor Statistics (BLS), and is for all U.S. Armed Forces and civilian employment.

rate of 1.7 percent reflects a shift of employment from low (farm) to high (nonfarm) productivity sectors that is not expected to continue in the future.

Because productivity growth can vary substantially within economic cycles, it is more useful to consider historical average growth rates for complete economic cycles. The annual increase in total productivity averaged 1.6 percent over the last four complete economic cycles (measured from peak to peak), covering the 34-year period from 1966 to 2000. The annual increase in total productivity averaged 2.2, 1.2, 1.2, and 1.6 percent over the economic cycles 1966-73, 1973-78, 1978-89, 1989-2000, respectively.

The ultimate annual increases in productivity are assumed to be 2.0, 1.7, and 1.4 percent for the low cost, intermediate, and high cost assumptions, respectively. These rates of increase are the same as those used in the 2006 report, and reflect the belief that recent strong growth in nonfarm business productivity, after the relatively poor performance from 1973 to 1995, is consistent with future long-term growth that mirrors the long-term trends of the past.

For the intermediate assumptions, the annual change in productivity is assumed to average about 1.9 percent over the 2006 to 2010 period, then gradually decline to the ultimate assumed level of 1.7 percent by 2013. For the low cost assumptions, the annual change in productivity decreases from an average of about 2.1 percent over the 2006 to 2012 period to the ultimate assumed level of 2.0 percent by 2013. For the high cost assumptions, the annual change in productivity decreases from 1.9 percent for 2006 to a cyclic low of 0.1 percent for 2007. Thereafter, the annual change in productivity varies with economic cycles until reaching its ultimate growth rate of 1.4 percent for 2016.

2. Price Inflation Assumptions

Future changes in the Consumer Price Index for Urban Wage Earners and Clerical Workers (hereafter denoted as CPI) will directly affect the OASDI program through the automatic cost-of-living benefit increases. Future changes in the GDP chain-type price index (hereafter, the GDP deflator) affect the nominal levels of GDP, wages, self-employment income, average earnings, and taxable payroll.

Historically, the CPI increased by an average of 4.6 percent for the 40 years from 1965 to 2005, the result of average annual increases of 5.5, 7.0, 3.4, and 2.5 percent for the 10-year periods 1965-75, 1975-85, 1985-95, and 1995-2005, respectively. The GDP deflator increased by 4.1 percent for 1965 to 2005, and by 5.4, 6.3, 2.8, and 2.0 percent annually for the same respective 10-year periods.

The ultimate annual increases in the CPI are assumed to be 1.8, 2.8, and 3.8 percent for the low cost, intermediate, and high cost assumptions, respectively. These rates of increase are the same as those used in the 2006 report, and reflect a belief that future inflationary shocks will likely be offset by succeeding periods of relatively slow inflation due to persistent international competition, and that future monetary policy will be similar to the recent past, with its strong emphasis on holding the growth rate in prices to relatively low levels.

For each alternative, the ultimate annual increase in the GDP deflator is assumed to be equal to the annual increases in the CPI minus a 0.4 percentage point price differential. This differential is based primarily on methodological differences in the construction of the two indices, and is the same as the one used in the 2006 report. Hence, for the intermediate assumptions, the ultimate annual increase in the GDP deflator is 2.4 percent, equal to the 2.8 percent assumed ultimate annual increase in the CPI less the 0.4 percentage point price differential. Similarly, the ultimate annual increases in the GDP deflator are 1.4 and 3.4 percent for the low cost and high cost assumptions, respectively.

For the intermediate assumptions, the annual change in the CPI is assumed to decrease from 3.3 percent for 2006 to 1.9 percent for 2007, then rise gradually to the assumed ultimate rate of 2.8 percent for 2010 and later. For the low cost assumptions, the annual change in the CPI is assumed to be 1.7 percent for 2007, 1.9 percent for 2008, and the assumed ultimate rate of 1.8 percent for 2009 and later. For the high cost assumptions, the annual change in the CPI mostly increases from 2.6 percent for 2007 to 5.7 percent by 2011, then decreases to its assumed ultimate rate of 3.8 percent as of 2015. The price differential, defined as the percent change in the CPI less the GDP deflator percent change, is estimated to be 0.4 percentage point for 2006. For 2007, the price differential is assumed to be -0.1 percentage point, reflecting the relative effects on the two price measures of the decline in oil prices in the second half of 2006. For all three alternatives, the price differential is projected to be approximately 0.4 percentage point for 2008 and later.

3. Average Earnings Assumptions

The level of average (nominal) earnings in OASDI covered employment for each year has a direct effect on the size of the taxable payroll and on the future level of average benefits. In addition, increases in the level of average wages in the U.S. economy directly affect the indexation, under the automatic-adjustment provisions in the law, of the OASDI benefit formulas, the contribution and benefit base, the exempt amounts under the retirement earn-

Assumptions & Methods

ings test, the amount of earnings required for a quarter of coverage, and under certain circumstances, the automatic cost-of-living benefit increases.

Average U.S. earnings is defined as the ratio of the sum of total U.S. wage and salary disbursements and proprietor income to the sum of total U.S. military and total civilian (household) employment. The growth rate in average U.S. earnings for any period is equal to the combined growth rates for total U.S. economy productivity, average hours worked, the ratio of earnings to compensation (which includes fringe benefits), the ratio of compensation to GDP, and the GDP deflator. Assumed future growth rates in productivity and the GDP deflator are discussed in the previous two sections.

The average annual change in average hours worked was -0.3 percent over the last 40 years, and -0.8, -0.1, 0.2, and -0.3 percent for the 10-year periods 1965-75, 1975-85, 1985-95 and 1995-2005, respectively. The average annual change in average hours worked was -0.2 percent over the last four complete economic cycles covering the period from 1966 to 2000. The annual change in average hours worked averaged -0.7, -0.6, 0.0, and 0.1 percent over the economic cycles 1966-73, 1973-78, 1978-89, 1989-2000, respectively.

For the 2007 report, the ultimate annual rates of change for average hours worked are assumed to be 0.1, 0.0, and -0.1 percent for the low cost, intermediate, and high cost assumptions, respectively. These ultimate annual rates of change for average hours worked are the same as those assumed for the 2006 report.

The average annual change in the ratio of earnings to compensation was -0.3 percent from 1965 to 2005. For wage workers, the assumed ultimate annual rates of change in the ratio of earnings to compensation are -0.1, -0.2, and -0.3 percent for the low cost, intermediate, and high cost assumptions, respectively. Under the intermediate assumptions, the ratio of wages to employee compensation is projected to decline from 0.806 for 2006 to 0.697 for 2081. The ratio of compensation to GDP is assumed to be stable.

Thus, the ultimate projected annual growth rate in average U.S. earnings is about 3.9 percent for the intermediate assumptions. This reflects assumed ultimate annual growth rates of about 1.7, -0.2, 0.0, and 2.4 percent for productivity, the ratio of earnings to compensation, average hours worked, and the GDP deflator, respectively. Similarly, the ultimate projected annual growth rate in average nominal U.S. earnings is 3.4 percent for the low cost assumptions and 4.5 percent for the high cost assumptions.

Over long periods of time the average annual growth rates in average U.S. earnings and average earnings in OASDI covered employment are expected to be very close to the average annual growth rates in the average wage in

OASDI covered employment (henceforth the average covered wage). Thus, the assumed ultimate annual growth rates in the average covered wage are 3.4, 3.9, and 4.4 percent for the low cost, intermediate, and high cost assumptions, respectively. For the intermediate assumptions, the annual rate of change in the average covered wage is estimated to be 4.9 percent for 2006, and assumed to fall to 4.6 percent for 2007 and 2008, then to average about 4.2 percent from 2009 to 2012. Thereafter, the annual rate of change in the average covered wage generally declines until reaching its assumed ultimate annual growth rate of 3.9 percent for 2015 and later.

4. Assumed Real-Wage Differentials

For simplicity, real increases in the average OASDI covered wage have traditionally been expressed in the form of real-wage differentials—i.e., the percentage change in the average covered wage minus the percentage change in the CPI. This differential is closely related to assumed growth rates in average earnings and productivity, which are discussed in the previous sections. Over the 40-year period, 1966-2005, the real-wage differential averaged 0.9 percentage point, the result of averages of 0.7, 0.6, 0.7, and 1.6 percentage points for the 10-year periods 1966-75, 1976-85, 1986-95, and 1996-2005, respectively. The assumed ultimate annual average covered real-wage differentials are 1.6, 1.1, and 0.6 percentage point(s) for the low cost, intermediate, and high cost assumptions, respectively.

Based on preliminary data, the real-wage differential is estimated to be 1.6 percentage points for 2006. For the intermediate assumptions, the real-wage differential is projected to rise to about 2.7 percentage points for 2007. The real-wage differential is then projected to generally decline to the ultimate assumed differential of 1.1 percentage points (3.9 percent nominal wage growth less 2.8 percent CPI inflation) by 2015.

For the low cost assumptions, the real-wage differential is assumed to rise to 3.1 percentage points for 2007, then generally decline to the ultimate assumed real-wage differential of 1.6 percentage points for 2014 and later. For the high cost assumptions, the real-wage differential for the short-range period is projected to fluctuate between -0.8 and 2.4 percentage points, eventually stabilizing at about 0.6 percentage point for 2017 and later.

Table V.B1.—Principal Economic Assumptions

Calendar year	Annual percentage change ¹ in—						Real-wage differential ²
	Productivity (Total U.S. economy)	Earnings as a percent of compensation	Average hours worked	GDP price index	Average annual wage in covered employment	Consumer Price Index	
Historical data:							
1960 to 1965.	3.2	-0.2	0.2	1.4	3.2	1.2	2.0
1965 to 1970.	2.0	-4	-7	4.1	5.8	4.2	1.6
1970 to 1975.	2.1	-7	-9	6.7	6.6	6.8	-2
1975 to 1980.	1.0	-6	-2	7.3	8.7	8.9	-3
1980 to 1985.	1.7	-2	.0	5.2	6.7	5.2	1.4
1985 to 1990.	1.3	.1	-1	3.2	4.7	3.8	.9
1990 to 1995.	1.1	-2	.4	2.5	3.6	3.0	.5
1995 to 2000.	2.1	.4	.1	1.7	5.3	2.4	2.9
2000 to 2005.	2.5	-6	-8	2.4	2.8	2.5	.3
1996	2.4	1.1	-1	1.9	4.0	2.9	1.1
1997	1.5	.8	.7	1.7	5.6	2.3	3.4
1998	2.0	.2	.7	1.1	6.1	1.3	4.8
1999	2.4	.1	.5	1.4	4.8	2.2	2.6
2000	2.3	.1	-1.2	2.2	6.1	3.5	2.6
2001	2.0	-.3	-1.3	2.4	2.0	2.7	-7
2002	3.0	-1.5	-1.0	1.7	.8	1.4	-6
2003	3.0	-1.0	-1.4	2.1	2.7	2.2	.5
2004	2.7	.4	.1	2.8	4.6	2.6	2.0
2005	1.8	-.5	-4	3.0	3.9	3.5	.3
2006 ³	2.0	.0	-4	2.9	4.9	3.3	1.6
Intermediate:							
2007	1.7	.1	-1	2.0	4.6	1.9	2.7
2008	2.1	.0	.0	2.0	4.6	2.4	2.2
2009	1.9	-1	.0	2.3	4.3	2.7	1.7
2010	1.9	-1	.0	2.4	4.2	2.8	1.4
2011	1.8	-2	.0	2.4	4.1	2.8	1.3
2012	1.8	-2	.0	2.4	4.2	2.8	1.4
2013	1.7	-2	.0	2.4	4.0	2.8	1.2
2014	1.7	-2	.0	2.4	3.8	2.8	1.0
2015	1.7	-2	.0	2.4	3.9	2.8	1.1
2016	1.7	-2	.0	2.4	3.9	2.8	1.1
2015 to 2020.	1.7	-2	.0	2.4	3.9	2.8	1.1
2020 to 2081.	1.7	-2	.0	2.4	3.9	2.8	1.1
Low Cost:							
2007	2.0	.1	.0	1.8	4.9	1.7	3.1
2008	2.2	.0	.1	1.5	4.4	1.9	2.5
2009	2.2	.0	.1	1.4	3.9	1.8	2.1
2010	2.1	-.1	.1	1.4	3.7	1.8	1.9
2011	2.1	-.1	.1	1.4	3.6	1.8	1.8
2012	2.1	-.1	.1	1.4	3.8	1.8	2.0
2013	2.0	-.1	.1	1.4	3.6	1.8	1.8
2014	2.0	-.1	.1	1.4	3.4	1.8	1.6
2015	2.0	-.1	.1	1.4	3.4	1.8	1.6
2016	2.0	-.1	.1	1.4	3.3	1.8	1.5
2015 to 2020.	2.0	-.1	.1	1.4	3.4	1.8	1.6
2020 to 2081.	2.0	-.1	.1	1.4	3.4	1.8	1.6

Table V.B1.—Principal Economic Assumptions (Cont.)

Calendar year	Annual percentage change ¹ in—						Real-wage differential ²
	Productivity (Total U.S. economy)	Earnings as a percent of compensation	Average hours worked	GDP price index	Average annual wage in covered employment	Consumer Price Index	
High Cost:							
2007	0.1	-0.1	-0.1	2.7	3.0	2.6	0.4
2008	2.6	.0	-1	2.4	5.2	2.8	2.4
2009	1.8	-1	-1	2.5	4.5	2.9	1.6
2010 .....	.2	-3	-1	4.0	3.6	4.4	-8
2011	2.0	-2	-1	5.3	6.7	5.7	1.0
2012	2.1	-3	-1	5.2	7.4	5.6	1.8
2013	1.3	-4	-1	4.3	5.4	4.7	.7
2014	1.3	-3	-1	3.5	4.4	3.9	.4
2015	1.3	-3	-1	3.4	4.3	3.8	.5
2016	1.4	-3	-1	3.4	4.3	3.8	.5
2015 to 2020. . . .	1.4	-3	-1	3.4	4.4	3.8	.6
2020 to 2081. . . .	1.4	-3	-1	3.4	4.4	3.8	.6

¹ For rows with a single year listed, the value is the annual percentage change from the prior year. For rows with a range of years listed, the value is the compound average annual percentage change.

² For rows with a single year listed, the value is the unrounded annual percentage change in the average annual wage in covered employment less the unrounded annual percentage change in the Consumer Price Index. For rows with a range of years listed, the value is the average of unrounded annual values of the differential.

³ Historical data are not available for the full year. Estimated values vary slightly by alternative and are shown for the intermediate alternative.

5. Labor Force and Unemployment Projections

The civilian labor force is projected by age, sex, marital status, and presence of children. Projections of the labor force participation rates for each subgroup take into account the percentages of the population that are disabled or in the military, the levels of Social Security retirement benefits, the state of the economy, and changes in life expectancy. The projections also include a “lagged-cohort effect” that applies changes in participation rates for a cohort at a specific age (relative to earlier cohorts at the same age) to participation rates for that cohort at older ages.

The annual rate of growth in the size of the labor force decreased from an average of about 2.1 percent during the 1970s and 1980s to about 1.2 percent from 1990 to 2006. Further slowing of labor force growth is projected due to a substantial slowing of growth in the working age population in the future—a natural consequence of the baby-boom generation approaching retirement and the succeeding lower-birth-rate cohorts reaching working age. Under the intermediate assumptions, the labor force is projected to increase by about 0.8 percent per year, on average, through 2016. Thereafter, the labor force is projected to increase much more slowly, averaging 0.4 percent over the 2016 to 2021 period, and 0.3 percent over the remainder of the 75-year projection period.

Assumptions & Methods

The ultimate projected labor force participation rates are not basic assumptions. They are derived from a historically-based structural relationship using demographic and economic assumptions specific to each alternative. However, the participation rates are not highly sensitive to most of the demographic and economic assumptions. Thus, the projected labor force participation rates vary modestly into the future and across alternatives.

Historically, labor force participation rates have been influenced substantially by trends in demographics and pensions. Between the mid-1960s and the mid-1980s, labor force participation rates at ages 50 and over declined for males and were fairly stable for females. These overall declines were facilitated by the large numbers of workers entering the labor force from the baby-boom generation, and from the female population in general, during this period. This increasing supply of labor allowed employers to offer early-retirement options that were attractive. Between the mid-1980s and about 1995, these rates roughly stabilized for males and increased for females. Since 1995, however, participation rates for both sexes at ages 50 and over have generally risen significantly, reflecting a decrease in early-out options and relatively strong economic growth.

For the future, changes in available benefit levels from Social Security, increases in the normal retirement age, and the effects of modifying the earnings test are expected to encourage work at higher ages. Some of these factors are modeled directly. However, other factors, like the trend away from private defined-benefit pension plans (that often provided incentives to retire) toward defined-contribution plans, are expected to provide additional upward pressure on labor force participation rates. In addition to this shift in private pensions, the aging of the population is expected to both increase the demand for workers and, through improved health associated with greater life expectancy, improve the ability of the older population to work. Longer life expectancy will also increase the amount of assets that will be needed to live comfortably through retirement years, also influencing workers to stay employed longer. In order to account for these effects, which are directly or indirectly related to increases in life expectancy, projected participation rates for prime age and older males and females are adjusted upward in relation to assumed increases in life expectancy. For the intermediate projections, this adjustment for changes related to life expectancy adds about 1.4 percent to the total labor force by 2081.

For men age 16 and over, the projected age-adjusted labor force participation rates for 2081 are 72.8, 73.3, and 73.9 percent for the low cost, intermediate, and high cost assumptions, respectively, compared to the 2005 level of 73.3 percent. (Age-adjusted labor force participation rates are adjusted to the

2005 age distribution of the civilian noninstitutional U.S. population.) These reflect the net effect of increases due to assumed improvements in life expectancy, and decreases due to higher assumed disability prevalence rates and an increasing proportion of males who are never married. For women age 16 and over, the projected age-adjusted labor force participation rates for 2081 are 60.6, 60.8, and 60.9 percent, for the low cost, intermediate, and high cost assumptions, respectively, compared to the 2005 level of 59.3 percent. These projections are the net effect of decreases due to higher assumed disability prevalence rates, increases due to assumed improvements in life expectancy, and increases due to assumed changes in the proportion of females who are never married, separated, widowed, or divorced.

The unemployment rate presented in table V.B2 is in the most commonly cited form, the civilian rate. For years through 2016, total rates are presented without adjustment for the changing age-sex distribution of the population. For years after 2016, unemployment rates are presented as total age-sex adjusted rates (using the age-sex distribution of the 2005 civilian labor force). Age-sex adjusted rates allow for more meaningful comparisons across longer time periods.

The total unemployment rate reflects the projected levels of unemployment for various age-sex subgroups of the population. The unemployment rate for each subgroup is projected based on a specification (consistent with Okun's Law) relating changes in the unemployment rate to the changes in the economic cycle, as measured by the ratio of the actual to potential GDP. For each alternative, the total unemployment rate is projected to move toward the ultimate assumed rate as the economy moves toward the long-range sustainable growth path.

The ultimate age-sex-adjusted unemployment rate for each alternative is assumed to be reached by 2017. The ultimate assumed unemployment rates are 4.5, 5.5, and 6.5 percent for the low cost, intermediate, and high cost assumptions, respectively. These are the same values assumed for the 2006 report.

6. Gross Domestic Product Projections

The real growth rate in gross domestic product (GDP) equals the combined growth rates for total employment, productivity, and average hours worked. Total employment is the sum of the U.S. Armed Forces and total civilian employment, which is based on the projected total civilian labor force and unemployment rates. For the 40-year period from 1965 to 2005, the average growth rate in real GDP was 3.2 percent, combining the approximate growth

rates of 1.7, 1.7, and -0.3 percent for its components—total employment, productivity, and average hours worked, respectively.

For the intermediate assumptions, the average annual growth in real GDP is projected to be 2.5 percent from 2006 to 2016, a slower rate than the 3.2 percent average observed over the historical 40-year period from 1965 to 2005. This slowdown is primarily due to slower projected growth in total employment. For the low cost assumptions, annual growth in real GDP is projected to average 3.1 percent over the decade ending in 2016. The relatively faster growth is due mostly to a higher assumed rate of growth in worker productivity. For the high cost assumptions, real GDP is assumed to fall in the first three quarters of 2007, resulting in a total decline in real GDP for these three quarters of 1.3 percent. After 10 quarters of recovery, a second recession, with a total decline in real GDP of 1.7 percent, is assumed to begin in the second quarter of 2010 and last 3 quarters. After the second recession, a moderate economic recovery is assumed through 2012, with continued modest economic growth thereafter. For the high cost assumptions, annual growth in real GDP is projected to average 1.7 percent for the decade ending in 2016.

After 2016, no economic cycles are assumed for the three alternatives. Thus, projected rates of growth in real GDP are determined by the projected full-employment rate of growth for total employment, and the assumed full-employment rates of growth for total U.S. economy productivity and average hours worked. For the intermediate assumptions, the projected rate of growth for real GDP falls toward the assumed productivity growth rate because of the projected decline in labor force growth over the period. At the end of the 75-year projection period, the annual growth in real GDP is 1.9 percent, due to the assumed ultimate percent changes of about 0.3, 1.7, and 0.0 for total employment, productivity, and average hours worked, respectively. These projected growth rates are the same as those assumed for the 2006 report.

7. Interest Rates

The average annual nominal and real interest rates are presented in table V.B2. The nominal rate is the average of the nominal interest rates for special U.S. Government obligations issuable to the trust funds in each of the 12 months of the year. Interest for these securities is generally compounded semiannually. The real interest rate (ex post) is defined to be the annual compound yield rate for investments in these securities divided by the annual rate of growth in the CPI for the first year after issuance. The real rate shown for each year reflects the actual realized (historical) or expected (future) annual real yield on securities issuable in the prior year.

For 2006, the average annual nominal interest rate for securities newly issuable to the trust funds was 4.8 percent, an increase of 0.5 percentage point from the average nominal rate of 4.3 percent for 2005. However, because CPI growth is expected to be lower for 2007 than for 2006, the real interest rate is expected to rise from 1.0 percent for 2006 to 2.9 percent for 2007.

In developing a reasonable range of assumed ultimate future real interest rates for the three alternatives, historical experience was examined for the 40 years, 1966-2005, and for each of the 10-year subperiods, 1966-75, 1976-85, 1986-95, and 1996-2005. For the 40-year period, the real interest rate averaged 2.8 percent per year. For the four 10-year subperiods, the real interest rates averaged 0.5, 2.9, 4.7, and 3.2 percent, respectively. The assumed ultimate real interest rates are 3.6 percent, 2.9 percent, and 2.1 percent for the low cost, intermediate, and high cost assumptions, respectively. The ultimate real yields, which are assumed to be reached by the end of the short-range period, are the same as those assumed in the 2006 report. These ultimate real interest rates, when combined with the ultimate CPI assumptions of 1.8, 2.8, and 3.8 percent, yield ultimate nominal interest rates of about 5.4 percent for the low cost assumptions, about 5.7 percent for the intermediate assumptions, and about 5.9 percent for the high cost assumptions.

For the 10-year short-range projection period, nominal interest rates are projected based on changes in the business cycle and in the CPI. Under the intermediate assumptions, the nominal interest rate is projected to rise from 4.8 percent for 2006 to 5.8 percent for 2011 through 2014, reflecting a continued growing economy along with a stable rate of inflation. Thereafter, the nominal interest rate falls to the ultimate assumed level of 5.7 percent for 2015. For the low cost assumptions, the average annual nominal interest rate is assumed to reach an ultimate level of about 5.4 percent for 2015. For the high cost assumptions, it is assumed to peak at 8.7 percent for 2012, and then decline to an ultimate rate of about 5.9 percent for 2015.

Table V.B2.—Additional Economic Factors

Calendar year	Average annual unemployment rate ¹	Annual percentage change ² in—			Average annual interest rate	
		Labor force ³	Total employment ⁴	Real GDP ⁵	Nominal ⁶	Real ⁷
Historical data:						
1960 to 1965.	5.5	1.3	1.6	5.0	4.0	2.5
1965 to 1970.	3.9	2.2	2.1	3.4	5.9	1.0
1970 to 1975.	6.1	2.5	1.5	2.7	6.7	.0
1975 to 1980.	6.8	2.7	2.9	3.7	8.5	-.9
1980 to 1985.	8.3	1.5	1.5	3.2	12.1	6.9
1985 to 1990.	5.9	1.7	2.0	3.3	8.5	5.1
1990 to 1995.	6.6	1.0	.9	2.5	7.0	4.3
1995 to 2000.	4.6	1.5	1.8	4.1	6.2	3.9
2000 to 2005.	5.4	.9	.7	2.4	4.6	2.4
1996.	5.4	1.2	1.4	3.7	6.6	4.0
1997.	4.9	1.8	2.2	4.5	6.6	4.3
1998.	4.5	1.0	1.4	4.2	5.6	5.3
1999.	4.2	1.2	1.5	4.4	5.9	3.4
2000.	4.0	2.3	2.5	3.7	6.2	2.4
2001.	4.7	.8	.0	.8	5.2	3.5
2002.	5.8	.8	-.3	1.6	4.9	3.9
2003.	6.0	1.1	.9	2.5	4.1	2.6
2004.	5.5	.6	1.1	3.9	4.3	1.5
2005.	5.1	1.3	1.7	3.2	4.3	.8
2006 ⁸	4.7	1.3	1.7	3.3	4.8	1.0
Intermediate:						
2007.	4.8	1.1	1.0	2.6	4.6	2.9
2008.	4.9	1.0	.8	3.0	5.2	2.2
2009.	5.0	.9	.9	2.8	5.6	2.5
2010.	5.1	.9	.8	2.6	5.7	2.8
2011.	5.2	.9	.8	2.6	5.8	2.9
2012.	5.3	.7	.6	2.4	5.8	2.9
2013.	5.4	.6	.5	2.2	5.8	3.0
2014.	5.5	.5	.4	2.1	5.8	3.0
2015.	5.5	.5	.5	2.2	5.7	3.0
2016.	5.5	.5	.5	2.2	5.7	2.9
2020.	5.5	.4	.4	2.1	5.7	2.9
2025.	5.5	.3	.3	2.0	5.7	2.9
2030.	5.5	.3	.3	2.0	5.7	2.9
2035.	5.5	.3	.3	2.0	5.7	2.9
2040.	5.5	.4	.4	2.0	5.7	2.9
2045.	5.5	.3	.3	2.0	5.7	2.9
2050.	5.5	.3	.3	2.0	5.7	2.9
2055.	5.5	.3	.3	1.9	5.7	2.9
2060.	5.5	.3	.3	1.9	5.7	2.9
2065.	5.5	.3	.3	2.0	5.7	2.9
2070.	5.5	.3	.3	1.9	5.7	2.9
2075.	5.5	.3	.3	1.9	5.7	2.9
2080.	5.5	.3	.3	1.9	5.7	2.9
2085.	5.5	.2	.2	1.9	5.7	2.9
Low Cost:						
2007.	4.5	1.3	1.4	3.4	4.7	3.1
2008.	4.6	1.1	1.0	3.4	4.9	2.7
2009.	4.7	1.1	1.0	3.4	5.0	3.2
2010.	4.7	1.0	1.0	3.3	5.1	3.2
2011.	4.7	1.1	1.0	3.2	5.3	3.4
2012.	4.7	.9	.9	3.2	5.4	3.5
2013.	4.6	.8	.8	3.0	5.4	3.6
2014.	4.5	.7	.8	2.9	5.5	3.6
2015.	4.5	.7	.7	2.8	5.4	3.7
2016.	4.5	.7	.7	2.8	5.4	3.6

Table V.B2.—Additional Economic Factors (Cont.)

Calendar year	Average annual unemployment rate ¹	Annual percentage change ² in—			Average annual interest rate	
		Labor force ³	Total employment ⁴	Real GDP ⁵	Nominal ⁶	Real ⁷
Low Cost: (Cont.)						
2020	4.5	0.5	0.5	2.6	5.4	3.6
2025	4.5	.4	.4	2.5	5.4	3.6
2030	4.5	.4	.4	2.5	5.4	3.6
2035	4.5	.6	.6	2.7	5.4	3.6
2040	4.5	.6	.6	2.7	5.4	3.6
2045	4.5	.7	.7	2.8	5.4	3.6
2050	4.5	.6	.6	2.7	5.4	3.6
2055	4.5	.7	.7	2.8	5.4	3.6
2060	4.5	.7	.7	2.8	5.4	3.6
2065	4.5	.7	.7	2.8	5.4	3.6
2070	4.5	.8	.8	2.9	5.4	3.6
2075	4.5	.7	.7	2.9	5.4	3.6
2080	4.5	.7	.7	2.8	5.4	3.6
2085	4.5	.7	.7	2.8	5.4	3.6
High Cost:						
2007	5.7	.8	-.2	-.2	4.1	2.2
2008	6.1	.6	.1	2.6	5.6	1.3
2009	5.8	.9	1.2	2.9	5.9	2.7
2010	6.4	.7	.1	.2	6.0	1.5
2011	7.2	.5	-.3	1.6	7.9	.4
2012	6.6	.8	1.4	3.4	8.7	2.4
2013	6.4	.7	.8	2.0	7.2	4.0
2014	6.5	.5	.4	1.6	6.2	3.2
2015	6.5	.5	.5	1.7	5.9	2.4
2016	6.5	.4	.5	1.7	5.9	2.1
2020	6.5	.3	.3	1.6	5.9	2.1
2025	6.5	.2	.2	1.5	5.9	2.1
2030	6.5	.2	.2	1.5	5.9	2.1
2035	6.5	.2	.2	1.5	5.9	2.1
2040	6.5	.1	.1	1.4	5.9	2.1
2045	6.5	.0	.0	1.3	5.9	2.1
2050	6.5	-.1	-.1	1.2	5.9	2.1
2055	6.5	-.1	-.1	1.2	5.9	2.1
2060	6.5	-.2	-.2	1.1	5.9	2.1
2065	6.5	-.2	-.2	1.1	5.9	2.1
2070	6.5	-.2	-.2	1.1	5.9	2.1
2075	6.5	-.2	-.2	1.0	5.9	2.1
2080	6.5	-.3	-.3	1.0	5.9	2.1
2085	6.5	-.3	-.3	1.0	5.9	2.1

¹The unemployment rates for 2017 and later are adjusted to the age-sex distribution of the civilian labor force in 2005. All other rates are unadjusted.

²For rows with a single year listed, the value is the annual percentage change from the prior year. For rows with a range of years listed, the value is the compounded average annual percentage change.

³The U.S. civilian labor force concept is used here.

⁴Total of civilian and military employment in the U.S. economy.

⁵The real GDP (gross domestic product) is the value of total output of goods and services in 2000 dollars.

⁶The average annual nominal 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.

⁷The average annual real interest rate reflects the realized or expected annual real yield for each year on securities issuable in the prior year.

⁸Historical data are not available for the full year. Estimated values vary slightly by alternative and are shown for the intermediate assumptions.

C. PROGRAM-SPECIFIC ASSUMPTIONS AND METHODS

The demographic and economic assumptions and methods described in the previous sections are used in a set of models to project future income and cost under the OASDI program. In some cases, the economic assumptions result in the direct calculation of program parameters as described in the following subsection. These parameters affect the level of payroll taxes collected and the level of benefits paid and are calculated using formulas described explicitly in the Social Security Act. In other cases, the combination of demographic and economic assumptions are used indirectly to drive more complicated models that project the numbers of future workers covered under OASDI and the levels of their covered earnings, and the numbers of future beneficiaries and the expected levels of their benefits. The following subsections provide brief descriptions of the derivations of these program-specific factors.

1. Automatically Adjusted Program Amounts

The Social Security Act specifies that certain program amounts affecting the determination of OASDI benefits are to be adjusted annually, in general, to reflect changes in the economy. The law prescribes specific formulas that, when applied to reported statistics, produce automatic revisions in these program amounts and hence in the benefit-computation procedures. These automatic adjustments are based upon measured changes in the national average wage index (AWI) and the CPI.¹ In this section, values are shown for program amounts that are subject to automatic adjustment, from the time that such adjustments became effective through 2016. Projected values for future years are based on the economic assumptions described in the preceding section of this report.

The following two tables present the historical and projected values of the CPI-based benefit increases, as well as the AWI series and the values of many of the wage-indexed program amounts. In each table, the projections are shown under the three alternative sets of economic assumptions described in the previous section. Table V.C1 includes:

- The annual percentage increases which have been applied to OASDI benefits under automatic cost-of-living adjustment provisions in the Social Security Act, based on increases in the CPI.

¹ Details of these indexation procedures are published annually in the *Federal Register*, and are also available on the Social Security website at www.socialsecurity.gov/OACT/COLA/index.html.

- The annual levels of and percentage increases in the AWI. Under section 215(b)(3) of the Social Security Act, the AWI for each year after 1950 is used to index the taxable earnings of most workers first becoming eligible for benefits in 1979 or later. This procedure converts a worker's past earnings to approximately their equivalent values near the time of the worker's retirement or other eligibility, and these indexed values are used to calculate the worker's benefit. The AWI is also used to adjust most of the other program amounts that are subject to the automatic-adjustment provisions.
- The OASDI contribution and benefit base—the maximum amount of earnings subject to the OASDI payroll tax in the specified year.
- The retirement earnings test exempt amounts—the annual amount of earnings below which beneficiaries are not subject to benefit withholding. A lower exempt amount applies in years before a beneficiary attains normal retirement age (NRA). A higher amount applies for the year in which the beneficiary attains normal retirement age. The retirement test does not apply beginning with the attainment of normal retirement age.

Assumptions & Methods

Table V.C1.—Cost-of-Living Benefit Increases, Average Wage Index, Contribution and Benefit Bases, and Retirement Earnings Test Exempt Amounts, 1975-2016

Calendar year	OASDI benefit increases ¹ (percent)	Average wage index (AWI) ²		OASDI contribution and benefit base ³	Retirement earnings test exempt amount	
		Amount	Increase (percent)		Under NRA ⁴	At NRA ⁵
Historical data:						
1975	8.0	\$8,630.92	7.5	\$14,100	\$2,520	\$2,520
1976	6.4	9,226.48	6.9	15,300	2,760	2,760
1977	5.9	9,779.44	6.0	16,500	3,000	3,000
1978	6.5	10,556.03	7.9	17,700	3,240	4,000
1979	9.9	11,479.46	8.7	22,900	3,480	4,500
1980	14.3	12,513.46	9.0	25,900	3,720	5,000
1981	11.2	13,773.10	10.1	29,700	4,080	5,500
1982	7.4	14,531.34	5.5	32,400	4,440	6,000
1983	3.5	15,239.24	4.9	35,700	4,920	6,600
1984	3.5	16,135.07	5.9	37,800	5,160	6,960
1985	3.1	16,822.51	4.3	39,600	5,400	7,320
1986	1.3	17,321.82	3.0	42,000	5,760	7,800
1987	4.2	18,426.51	6.4	43,800	6,000	8,160
1988	4.0	19,334.04	4.9	45,000	6,120	8,400
1989	4.7	20,099.55	4.0	48,000	6,480	8,880
1990	5.4	21,027.98	4.6	51,300	6,840	9,360
1991	3.7	21,811.60	3.7	53,400	7,080	9,720
1992	3.0	22,935.42	5.2	55,500	7,440	10,200
1993	2.6	23,132.67	.9	57,600	7,680	10,560
1994	2.8	23,753.53	2.7	60,600	8,040	11,160
1995	2.6	24,705.66	4.0	61,200	8,160	11,280
1996	2.9	25,913.90	4.9	62,700	8,280	12,500
1997	2.1	27,426.00	5.8	65,400	8,640	13,500
1998	1.3	28,861.44	5.2	68,400	9,120	14,500
1999	6 ^{2.5}	30,469.84	5.6	72,600	9,600	15,500
2000	3.5	32,154.82	5.5	76,200	10,080	17,000
2001	2.6	32,921.92	2.4	80,400	10,680	25,000
2002	1.4	33,252.09	1.0	84,900	11,280	30,000
2003	2.1	34,064.95	2.4	87,000	11,520	30,720
2004	2.7	35,648.55	4.6	87,900	11,640	31,080
2005	4.1	36,952.94	3.7	90,000	12,000	31,800
Intermediate:						
2006	⁷ 3.3	38,726.37	4.8	⁷ 94,200	⁷ 12,480	⁷ 33,240
2007	1.4	40,461.69	4.5	⁷ 97,500	⁷ 12,960	⁷ 34,440
2008	2.3	42,286.35	4.5	102,300	13,560	36,120
2009	2.7	44,100.37	4.3	106,800	14,160	37,800
2010	2.8	45,946.76	4.2	111,600	14,880	39,480
2011	2.8	47,830.33	4.1	116,400	15,480	41,160
2012	2.8	49,809.01	4.1	121,500	16,080	42,840
2013	2.8	51,785.43	4.0	126,300	16,800	44,640
2014	2.8	53,759.30	3.8	131,700	17,520	46,440
2015	2.8	55,820.55	3.8	136,800	18,120	48,360
2016	2.8	57,963.56	3.8	141,900	18,840	50,160
Low Cost:						
2006	⁷ 3.3	38,753.43	4.9	⁷ 94,200	⁷ 12,480	⁷ 33,240
2007	1.2	40,590.02	4.7	⁷ 97,500	⁷ 12,960	⁷ 34,440
2008	1.8	42,334.80	4.3	102,300	13,560	36,120
2009	1.8	43,947.36	3.8	107,100	14,280	37,920
2010	1.8	45,547.60	3.6	111,900	14,880	39,480
2011	1.8	47,151.60	3.5	116,100	15,360	41,040
2012	1.8	48,896.81	3.7	120,300	15,960	42,480
2013	1.8	50,616.69	3.5	124,500	16,560	44,040
2014	1.8	52,331.64	3.4	129,300	17,160	45,600
2015	1.8	54,077.95	3.3	133,800	17,760	47,280
2016	1.8	55,862.08	3.3	138,300	18,360	48,840

Table V.C1.—Cost-of-Living Benefit Increases, Average Wage Index, Contribution and Benefit Bases, and Retirement Earnings Test Exempt Amounts, 1975-2016 (Cont.)

Calendar year	OASDI benefit increases ¹ (percent)	Average wage index (AWI) ²		OASDI contribution and benefit base ³	Retirement earnings test exempt amount	
		Amount	Increase (percent)		Under NRA ⁴	At NRA ⁵
High Cost:						
2006	7 3.3	\$38,702.80	4.7	7 \$94,200	7 \$12,480	7 \$33,240
2007	2.2	39,852.18	3.0	7 97,500	7 12,960	7 34,440
2008	2.7	41,860.51	5.0	102,300	13,560	36,120
2009	3.0	43,722.09	4.4	105,300	13,920	37,200
2010	4.6	45,294.95	3.6	110,700	14,640	39,000
2011	5.8	48,246.05	6.5	115,500	15,360	40,800
2012	5.5	51,759.46	7.3	119,700	15,840	42,240
2013	4.6	54,564.68	5.4	127,500	16,920	45,000
2014	3.8	56,969.23	4.4	136,800	18,120	48,240
2015	3.8	59,388.31	4.2	144,300	19,080	50,880
2016	3.8	61,920.82	4.3	150,600	19,920	53,160

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

² See table VI.F6 for projected dollar amounts of the AWI beyond 2016.

³ Amounts for 1979-81 were specified by Public Law 95-216. The bases for years after 1989 were increased slightly by changes to the indexing procedure, as required by Public Law 101-239.

⁴ Normal retirement age. See table V.C3 for specific values.

⁵ In 1955-82, the retirement earnings test did not apply at ages 72 and over; in 1983-99, the test did not apply at ages 70 and over; beginning in 2000, it does not apply beginning with the month of attainment of NRA. In the year of attainment of NRA, the higher exempt amount applies to earnings in the year prior to the month of NRA attainment. Amounts for 1978-82 specified by Public Law 95-216; for 1996-2002, Public Law 104-121.

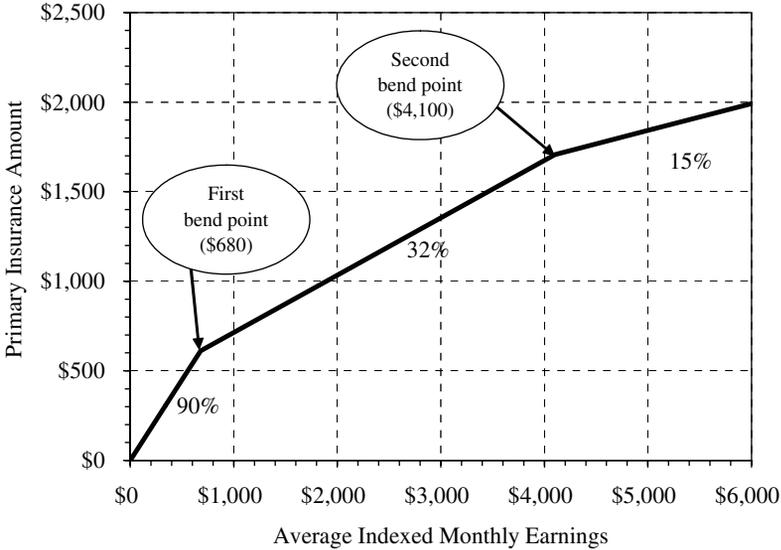
⁶ Originally determined as 2.4 percent, but pursuant to Public Law 106-554, is effectively 2.5 percent.

⁷ Actual amount, as determined under automatic-adjustment provisions.

Other wage-indexed amounts are shown in table V.C2. The table provides historical values from 1978, when the amount of earnings required for a quarter of coverage was first indexed, through 2007, and also shows projected amounts through 2016. These other wage-indexed program amounts are:

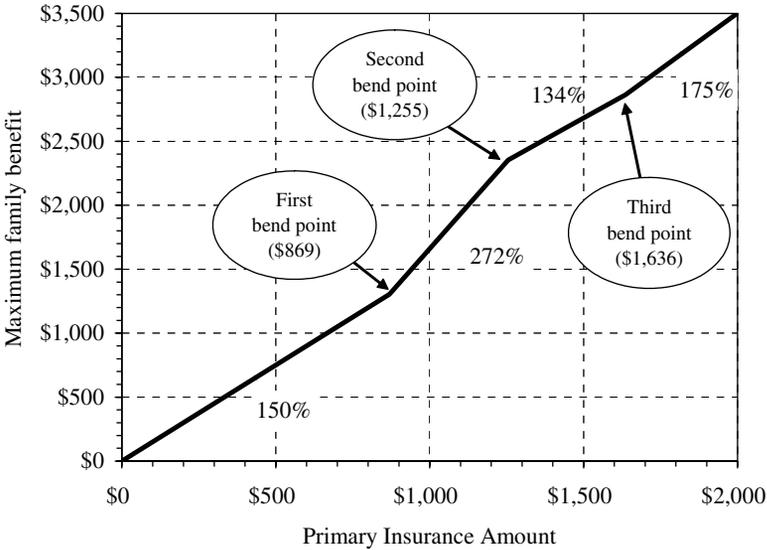
- The bend points in the formula for computing the primary insurance amount (PIA) for workers who reach age 62, become disabled, or die in a given year. As illustrated in figure V.C1, these bend points indicate three ranges in a worker's average indexed monthly earnings (AIME) over which a certain percent factor, 90, 32, or 15 percent respectively, is applied to determine the worker's PIA.

Figure V.C1.—Primary-Insurance-Amount Formula for the 2007 Cohort



- Bend points in the formula used to compute the maximum total amount of monthly benefits payable on the basis of the earnings of a retired or deceased worker. This formula is a function of the worker’s PIA, and, as shown in figure V.C2, relies on four intervals and percentages.

Figure V.C2.—Maximum-Family-Benefit Formula for the 2007 Cohort



- The amount of earnings required in a year to be credited with a quarter of coverage (QC). The number and timing of QCs earned is used to determine an individual's insured status—the basic requirement for benefit eligibility under OASDI.
- The old-law contribution and benefit base—the OASDI contribution and benefit base that would have been in effect in each year after 1977 under the automatic-adjustment provisions as in effect before the enactment of the 1977 amendments. This old-law base is used in determining special-minimum benefits for certain workers who have many years of low earnings in covered employment. 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. In addition, it is used for certain purposes under the Railroad Retirement program and the Employee Retirement Income Security Act of 1974.

**Table V.C2.—Selected Wage-Indexed Program Amounts,
Calendar Years 1978-2016**

Calendar year	AIME bend points in PIA formula ¹		PIA bend points in maximum-family-benefit formula ²			Earnings required for a quarter of coverage	Old-law contribution and benefit base ³
	First	Second	First	Second	Third		
Historical data:							
1978	^{4/}	^{4/}	^{4/}	^{4/}	^{4/}	⁵ \$250	⁵ \$17,700
1979	⁵ \$180	⁵ \$1,085	⁵ \$230	⁵ \$332	⁵ \$433	260	18,900
1980	194	1,171	248	358	467	290	20,400
1981	211	1,274	270	390	508	310	22,200
1982	230	1,388	294	425	554	340	24,300
1983	254	1,528	324	468	610	370	26,700
1984	267	1,612	342	493	643	390	28,200
1985	280	1,691	358	517	675	410	29,700
1986	297	1,790	379	548	714	440	31,500
1987	310	1,866	396	571	745	460	32,700
1988	319	1,922	407	588	767	470	33,600
1989	339	2,044	433	626	816	500	35,700
1990	356	2,145	455	656	856	520	38,100
1991	370	2,230	473	682	890	540	39,600
1992	387	2,333	495	714	931	570	41,400
1993	401	2,420	513	740	966	590	42,900
1994	422	2,545	539	779	1,016	620	45,000
1995	426	2,567	544	785	1,024	630	45,300
1996	437	2,635	559	806	1,052	640	46,500
1997	455	2,741	581	839	1,094	670	48,600
1998	477	2,875	609	880	1,147	700	50,700
1999	505	3,043	645	931	1,214	740	53,700
2000	531	3,202	679	980	1,278	780	56,700
2001	561	3,381	717	1,034	1,349	830	59,700
2002	592	3,567	756	1,092	1,424	870	63,000
2003	606	3,653	774	1,118	1,458	890	64,500
2004	612	3,689	782	1,129	1,472	900	65,100
2005	627	3,779	801	1,156	1,508	920	66,900
2006	656	3,955	838	1,210	1,578	970	69,900
2007	680	4,100	869	1,255	1,636	1,000	72,600

**Table V.C2.—Selected Wage-Indexed Program Amounts,
Calendar Years 1978-2016 (Cont.)**

Calendar year	AIME bend points in PIA formula ¹		PIA bend points in maximum-family-benefit formula ²			Earnings required for a quarter of coverage	Old-law contribution and benefit base ³
	First	Second	First	Second	Third		
Intermediate:							
2008	\$713	\$4,297	\$911	\$1,315	\$1,715	\$1,050	\$75,900
2009	745	4,489	952	1,374	1,792	1,100	79,500
2010	778	4,692	995	1,436	1,872	1,150	83,100
2011	812	4,893	1,037	1,497	1,953	1,190	86,400
2012	846	5,098	1,081	1,560	2,034	1,240	90,000
2013	880	5,307	1,125	1,624	2,118	1,300	93,900
2014	917	5,526	1,171	1,691	2,205	1,350	97,800
2015	953	5,745	1,218	1,758	2,293	1,400	101,700
2016	989	5,964	1,264	1,825	2,380	1,460	105,600
Low Cost:							
2008	713	4,300	911	1,316	1,716	1,050	75,900
2009	747	4,503	955	1,378	1,797	1,100	79,500
2010	779	4,697	996	1,437	1,874	1,150	83,100
2011	809	4,876	1,034	1,492	1,946	1,190	86,100
2012	838	5,053	1,071	1,546	2,017	1,230	89,400
2013	868	5,231	1,109	1,601	2,088	1,280	92,400
2014	900	5,425	1,150	1,660	2,165	1,320	96,000
2015	932	5,616	1,190	1,718	2,241	1,370	99,300
2016	963	5,806	1,231	1,777	2,317	1,420	102,600
High Cost:							
2008	712	4,294	910	1,314	1,714	1,050	75,900
2009	734	4,421	937	1,353	1,765	1,080	78,300
2010	770	4,644	985	1,421	1,853	1,130	82,200
2011	805	4,851	1,028	1,484	1,936	1,180	85,800
2012	834	5,025	1,065	1,538	2,006	1,230	88,800
2013	888	5,353	1,135	1,638	2,136	1,310	94,800
2014	953	5,743	1,217	1,757	2,292	1,400	101,700
2015	1,004	6,054	1,283	1,852	2,416	1,480	107,100
2016	1,049	6,321	1,340	1,934	2,522	1,540	111,900

¹ The formula to compute a PIA is (1) 90% of AIME below the first bend point, plus (2) 32% of AIME in excess of the first bend point but not in excess of the second, plus (3) 15% of AIME in excess of the second bend point. The bend points pertain to the first year a beneficiary becomes eligible for benefits.

² The formula to compute a family maximum is (1) 150% of PIA below the first bend point, plus (2) 272% of PIA in excess of the first bend point but not in excess of the second, plus (3) 134% of PIA in excess of the second bend point but not in excess of the third, plus (4) 175% of PIA in excess of the third bend point.

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

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

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

In addition to the program amounts affecting the determination of OASDI benefits that reflect changes in the economy, there are certain legislated changes that have affected, and will affect, benefits. Two such changes are the scheduled increases in the normal retirement age and in the delayed retirement credits. Table V.C3 shows the scheduled changes in these two important items and their effect on benefits expressed as a percentage of PIA.

Table V.C3.—Legislated Changes in Normal Retirement Age and Delayed Retirement Credits, for Persons Reaching Age 62 in Each Year 1986 and Later

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

2. Covered Employment

Projections of the total labor force and unemployment rate are based on Bureau of Labor Statistics definitions from the Current Population Survey (CPS), and thus represent the average weekly number of employed and unemployed persons, aged 16 and over, in the U.S. in a calendar year. Total covered workers in a year are the number of persons who have any OASDI covered earnings at any time during the year. For those aged 16 and over,

projected covered employment is the sum of age-sex components, each of which is projected as a ratio to the CPS concept of employment. For those under age 16, projected covered employment is the sum of age-sex components, each of which is projected as a ratio to the Social Security area population. The projection methodology accounts for changes in the business cycle, the quarterly pattern of growth in employment within each year, changes in non-OASDI covered employment, the increase in coverage of Federal civilian employment as a result of the 1983 Social Security Amendments, and changes in the number of other immigrants estimated to be residing within the Social Security coverage area.

Covered worker rates are defined as the ratio of OASDI covered workers to the Social Security area population. The age-adjusted coverage rate for males age 16 and over is projected to be 72.5, 72.5, and 72.6 percent for 2081 for the low cost, intermediate, and high cost assumptions, respectively, or approximately unchanged from the 2005 level of about 72.5 percent. (Age-adjusted covered worker rates are adjusted to the 2005 age distribution of the Social Security area population.) For females, the projected age-adjusted coverage rate changes from its 2005 level of 62.1 percent to 63.6, 63.3, and 63.0 percent for 2081 for the low cost, intermediate, and high cost assumptions, respectively.

3. Taxable Payroll and Payroll Tax Revenue

The OASDI taxable payroll is the amount of earnings in a year which, when multiplied by the combined employee-employer tax rate, yields the total amount of taxes due from wages and self-employed income in the year. Taxable payroll is used in estimating OASDI income and in determining income and cost rates and actuarial balances. (See section IV.B.1, Annual Income Rates, Cost Rates, and Balances, for definitions of these terms.) Taxable payroll is computed from taxable earnings, defined as the sum of wages and self-employment earnings subject to the Social Security tax. In computing taxable payroll, wages are adjusted to take into account the “excess wages” earned by workers with multiple jobs whose combined wages exceed the contribution and benefit base. Also, from 1983 through 2001, taxable payroll includes deemed wage credits for military service. Prior to 1984, the self-employed tax rate was less than the combined employee-employer rate, thus taxable self-employed earnings were weighted to reflect this. Also, prior to 1988, employers were exempt from Social Security tax on part of their employees’ tips; taxable payroll was reduced by half of this exempt amount to take this into account.

The computation of taxable earnings for employees, employers, and the self-employed is based on total earnings in covered employment. Covered earnings are summed from component sectors, each of which is based on the projected growth of U.S. earnings and a factor that reflects any projected change in coverage (e.g., the increase in coverage in the Federal civilian sector due to mandatory coverage of newly hired employees). The level of taxable earnings reflects only the portion of covered earnings that is at or below the contribution and benefit base. The portion of covered earnings that is taxable (i.e., at or below the base) was about 89.5, 86.9, and 82.8 percent for 1983, 1994, and 2000, respectively. This ratio of taxable earnings to covered earnings rose to about 85.8 in 2002, then fell to 83.7 by 2005. Our preliminary estimate for 2006 is 83.2 percent. The average annual rate of change in the ratio was about -0.3 percent between 1983 and 2006.

Most of this decline was due to a relative increase in wages for high wage earners. We expect some of this shifting to continue for the intermediate and high cost assumptions. We also expect some additional decline due to the change in the age-sex distribution of the workforce (as the baby-boom generation moves into ages of higher relative earnings). The projected taxable earnings ratios in 2016 are 83.8, 83.0, and 82.2 percent for the low cost, intermediate, and high cost assumptions, respectively. After 2016, the taxable to covered ratio is held approximately constant.

Payroll tax revenue is computed by applying the appropriate tax rates to taxable wages and self-employment income, taking into account the lag between the time the tax liability is incurred and when the taxes are collected. In the case of wages, employers are required to deposit withholding taxes with the Treasury on a schedule determined by the amount of tax liability incurred. (Generally, the higher the amount of liability, the sooner the taxes must be paid—ranging from the middle of the following month to, for companies with very large payrolls, the next banking day after wages are paid.) Self-employed workers are required to make estimated tax payments on their earnings four times during the year, as well as making up any underestimate on their individual income tax return. The pattern of actual receipts by the Treasury is taken into account when estimating self-employed tax collections.

4. Insured Population

Eligibility for benefits under the OASDI program requires some minimal level of work in covered employment. This requirement is established by a worker's accumulation of quarters of coverage (QCs). Prior to 1978, one QC was credited for each calendar quarter in which at least \$50 was earned. In

Assumptions & Methods

1978, when quarterly reporting of earnings was replaced by annual reporting, the amount required to earn a QC (up to a maximum of four per year) was set at \$250. Since then, this amount has been adjusted each year according to changes in the AWI. Its value in 2007 is \$1,000.

There are three types of insured status which can be acquired by a worker under the OASDI program. Each of these statuses is determined by the number and recency of QCs earned. Fully insured status is acquired by any worker whose total number of QCs is greater than or equal to the number of years elapsed after the year of attainment of age 21 (and at least six). Once a worker has accumulated 40 QCs, he or she remains permanently fully insured. Disability-insured status is acquired by any fully insured worker over age 30 who has accumulated 20 QCs during the 40-quarter period ending with the current quarter; any fully insured worker aged 24-30 who has accumulated QCs during one-half of the quarters elapsed after the quarter of attainment of age 21 and up to and including the current quarter; and any fully insured worker under age 24 who has accumulated six QCs during the 12-quarter period ending with the current quarter. Currently insured status is acquired by any worker who has accumulated six QCs during the 13-quarter period ending with the current quarter. Periods of disability are excluded from the above described QC requirements for insured status (but do not reduce the minimum of six QCs).

There are many types of benefits payable to workers and their family members under the OASDI program. One of the requirements of eligibility for these benefits is the insured status of the worker. A worker must be fully insured to be eligible for a primary retirement benefit, and for his or her spouse or children to be eligible for auxiliary benefits. A deceased worker must have been either currently insured or fully insured at the time of death for his or her children (and their mother or father) to be eligible for benefits. If there are no eligible surviving children, the deceased worker must have been fully insured at the time of death for his or her surviving spouse to be eligible. A worker must be disability insured to be eligible for a primary disability benefit, and for his or her spouse or children to be eligible for auxiliary benefits.

Historical estimates of the fully insured population, as a percentage of the Social Security area population, are made by age and sex for each birth cohort beginning with 1900. These percentages are based on 30,000 simulated work histories for each sex and birth cohort, which are constructed from past coverage rates, median earnings, and amounts required for crediting QCs. These work histories are developed by a model which assumes that persons who have recently been out of covered employment are likely to

remain out of covered employment. This model is aligned such that the simulated fully insured percentages reproduce fairly closely the fully insured percentages estimated from the Continuous Work History Sample from 1970 to date. The fully insured population for future years is projected using this model with the additional inputs of estimated future coverage rates, median earnings, and amounts required for crediting QCs.

Projections of the disability-insured population, as a percentage of the fully insured population, are made by age and sex for each birth cohort beginning with 1900. These percentages are based on the same simulated work histories used to project the fully insured percentages. Additional adjustments are made to bring the simulated disability-insured percentages into close agreement with those estimated from the Continuous Work History Sample. The principal adjustment is for periods of disability (which are not explicitly taken into account in the model). These periods (which reduce the normally applicable QC requirements) have a negligible effect on fully insured status at retirement age, but a substantial effect on disability-insured status.

Projections of the currently insured population are not made. This is because the number of beneficiaries who are entitled to benefits based solely on currently insured status has been very small, and is expected to remain small in the future.

Under this procedure, the percentage of the Social Security area population aged 62 and over that is fully insured is projected to increase from its estimated level of 80.5 for December 31, 2004, to 89.5, 90.2, and 90.9 for December 31, 2085, under alternatives I, II, and III, respectively. The percentage for females is projected to increase significantly, while that for males is projected to decline somewhat. Under alternative II, for example, the percentage for males is projected to decrease slightly during this period from 92.4 to 92.1, while that for females is projected to increase from 71.4 to 88.5.

5. Old-Age and Survivors Insurance Beneficiaries

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

For the short-range period, the number of retired-worker beneficiaries is developed by applying award rates to the aged fully insured population less those insured persons entitled to retired-worker, disabled-worker, aged widow(er)'s, or aged spouse's benefits, and by applying termination rates to the number of persons already receiving retired-worker benefits.

Assumptions & Methods

For the long-range period, the number of retired-worker beneficiaries not previously converted from disabled-worker beneficiary status is projected as a percentage of the exposed population, i.e., the aged fully insured population less persons entitled to or converted from disability benefits and insured persons entitled to widow(er)'s benefits. For age 62, a linear regression is developed based on the relationship between the historical exposed percentage and the labor force participation rate. The regression coefficients are then used to project the percentage based on the projected labor force participation rate for age 62. The percentage for ages 70 and over is assumed to be nearly 100, because the retirement earnings test does not apply after normal retirement age and the delayed retirement credit does not apply after age 70. The percentage for each age 63 through 69 is projected based on historical experience with an adjustment for changes in the portion of the primary insurance amount that is payable at each age of entitlement. As the normal retirement age increases, the number of retired-worker beneficiaries not automatically converted from disabled-worker beneficiary status as a percentage of the exposed population, is gradually adjusted downward during the transition period.

For the long-range period also, the number of retired-worker beneficiaries previously converted from disabled-worker beneficiaries is calculated separately in a manner consistent with the calculation of disabled-worker beneficiaries.

The number of aged-spouse beneficiaries (excluding those who are also receiving a retired-worker benefit) is 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, insured aged-spouse beneficiaries are projected concurrently with the retired-worker beneficiaries. Uninsured aged-spouse beneficiaries are projected, on the other hand, by applying award rates to the aged uninsured male or female population, and by applying termination rates to the population already receiving such benefits. In the long-range period, aged-spouse beneficiaries are estimated by marital status. To the number of spouses aged 62 and over in the population, a series of factors are applied, representing the probabilities that the spouse and the wage earner meet *all* of the conditions of eligibility—i.e., the probabilities that (1) the wage earner is 62 or over, (2) the wage earner is insured, (3) the wage earner is receiving benefits, (4) the spouse is not receiving a benefit for the care of an entitled child, (5) the spouse is not insured, and (6) the spouse is not eligible to receive a significant government pension based on earnings in noncovered employment. To the resulting number of spouses a projected

prevalence rate is applied to calculate the estimated number of aged-spouse beneficiaries.

In addition, the same factors are applied to the number of divorced persons aged 62 and over in the population, with three differences. First, an additional factor is required to reflect the probability that the person's former wage-earner spouse is still alive (otherwise, the person may be entitled to a divorced widow(er)'s benefit). Second, a factor is required to reflect the probability that the marriage to the wage-earner spouse was at least 10 years in duration. Third, factor (3) above is 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 and 19, who are eligible for benefits as children of retired-worker beneficiaries, are based on the projected number of children in the population. In the short-range period, the number of entitled children is developed by applying award rates to the number of children in the population where both parents are alive, and by applying termination rates to the number of children already receiving benefits.

In the long-range period, the number of entitled children is projected separately by sex of the wage-earner parent. The number of entitled children is projected for each age under 18 from the latest beneficiary data by reflecting changes in the following: the number of children in the population and the proportion of retired workers age 62 to 71 to the population age 20 to 71. For student beneficiaries, factors are applied to the number of children age 18 and 19 in the population, representing the probabilities that the parent is alive, aged 62 or over, insured, and receiving a retired-worker benefit. Another factor is applied representing the probability that the child is attending a secondary school.

The number of disabled children, age 18 and over, of retired-worker beneficiaries is projected from the adult population. In the short-range period, award rates are applied to the population, and termination rates are applied to the number of disabled children already receiving benefits. In the long-range period, disabled children are projected in a manner similar to that for student children with the inclusion of a factor reflecting the probability of being disabled before age 22.

In the short-range period, the number of entitled young-spouse beneficiaries is developed by applying award rates to the number of awards to children of retired workers, where the children are either under age 16 or disabled, and by applying termination rates to the number of young spouses already receiv-

Assumptions & Methods

ing benefits. In the long-range period, young-spouse beneficiaries are projected as a proportion of the projected number of child beneficiaries of retired workers, taking into account projected changes in average family size.

The number of aged-widow(er) beneficiaries (excluding those who are also receiving a retired-worker benefit) is projected from the population by age and sex. In the short-range period, insured aged-widow(er) beneficiaries are projected concurrently with the retired-worker beneficiaries. Uninsured aged-widow(er) beneficiaries are projected, on the other hand, by applying award rates to the aged uninsured male or female population, and by applying termination rates to the population already receiving such benefits. In the long-range period, aged-widow(er) beneficiaries are projected by marital status. Four factors are applied to the number of widow(er)s in the population aged 60 and over. These factors represent the probabilities that (1) the deceased wage earner is 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)'s benefits. Also, the same factors are applied to the number of divorced persons aged 60 and over in the population, with additional factors representing the probability that the person's former wage-earner spouse is deceased and that the marriage was at least 10 years in duration.

In the short-range period, the number of disabled-widow(er) beneficiaries is developed by applying award rates to the uninsured male or female population, and by applying termination rates to the population already receiving a disabled-widow(er) benefit. In the long-range period, the number is projected for each age 50 up to NRA as percentages of the widowed and divorced populations, adjusted for the insured status of the deceased spouse, the prevalence of disability, and the probability that the disabled spouse is not receiving another type of benefit.

The projected numbers of children under age 18, and students aged 18 and 19, who are eligible for benefits as survivors of deceased workers, are based on the projected number of children in the population whose mothers or fathers are deceased. In the short-range period, the number of entitled children is developed by applying award rates to the number of orphaned children, and by applying termination rates to the number of children already receiving benefits.

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

In the short-range period, the numbers of entitled mother-survivor and father-survivor beneficiaries are developed by applying award rates to the number of awards to child-survivor beneficiaries, where the children are either under age 16 or disabled, and by applying termination rates to the number of mother-survivors and father-survivors already receiving benefits. In the long-range period, mother-survivor and father-survivor beneficiaries, assuming they are not remarried, are estimated from the number of child-survivor beneficiaries, taking into account projected changes in average family size.

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

Table V.C4 shows the projected number of beneficiaries under the OASI program by type of benefit. Included among the beneficiaries who receive retired-worker benefits are some persons who also receive a residual benefit consisting of the excess of an auxiliary benefit over their retired-worker benefit. Estimates of the number of such residual payments are made separately for spouses and widow(er)s.

Table V.C4.—OASI Beneficiaries With Benefits in Current-Payment Status at the End of Calendar Years 1945-2085
[In thousands]

Calendar year	Retired workers and auxiliaries			Survivors				Total
	Worker	Spouse	Child	Widow-widower	Mother-father	Child	Parent	
Historical data:								
1945	518	159	13	94	121	377	6	1,288
1950	1,771	508	46	314	169	653	15	3,477
1955	4,474	1,192	122	701	292	1,154	25	7,961
1960	8,061	2,269	268	1,544	401	1,577	36	14,157
1965	11,101	2,614	461	2,371	472	2,074	35	19,128
1970	13,349	2,668	546	3,227	523	2,688	29	23,030
1975	16,589	2,867	643	3,888	582	2,919	21	27,509
1980	19,564	3,018	639	4,415	563	2,610	15	30,823
1985	22,435	3,069	456	4,863	372	1,918	10	33,123
1986	22,985	3,088	450	4,931	350	1,878	9	33,691
1987	23,444	3,090	439	4,984	329	1,837	8	34,130
1988	23,862	3,086	432	5,028	318	1,809	7	34,542
1989	24,331	3,093	422	5,071	312	1,782	6	35,017
1990	24,841	3,101	421	5,111	304	1,777	6	35,562
1991	25,293	3,104	425	5,158	301	1,792	5	36,078
1992	25,762	3,112	431	5,205	294	1,808	5	36,618
1993	26,109	3,094	436	5,224	289	1,837	5	36,994
1994	26,412	3,066	440	5,232	283	1,865	4	37,303
1995	26,679	3,026	441	5,225	275	1,884	4	37,534
1996	26,905	2,970	442	5,211	242	1,898	4	37,672
1997	27,282	2,922	441	5,053	230	1,893	3	37,825
1998	27,518	2,864	439	4,990	221	1,884	3	37,918
1999	27,784	2,811	442	4,944	212	1,885	3	38,081
2000	28,505	2,798	459	4,901	203	1,878	3	38,748
2001	28,843	2,742	467	4,828	197	1,890	3	38,969
2002	29,195	2,681	477	4,770	194	1,908	2	39,226
2003	29,537	2,622	480	4,705	190	1,910	2	39,446
2004	29,952	2,569	482	4,642	184	1,901	2	39,733
2005	30,461	2,524	488	4,569	178	1,903	2	40,126
2006	30,976	2,476	490	4,494	171	1,899	2	40,508
Intermediate:								
2010	34,297	2,433	547	4,458	156	1,865	1	43,758
2015	40,989	2,353	627	4,414	146	1,862	1	50,392
2020	49,123	2,259	695	4,334	142	1,869	2	58,423
2025	56,335	2,347	747	4,298	143	1,876	2	65,748
2030	62,888	2,353	787	4,305	144	1,891	2	72,369
2035	67,256	2,292	791	4,308	142	1,892	2	76,683
2040	69,507	2,266	788	4,284	139	1,873	2	78,857
2045	71,004	2,293	791	4,267	134	1,840	2	80,330
2050	72,682	2,387	813	4,244	130	1,808	2	82,064
2055	74,850	2,520	829	4,235	127	1,779	2	84,341
2060	77,413	2,623	849	4,243	124	1,751	2	87,004
2065	79,796	2,702	853	4,293	120	1,724	2	89,491
2070	82,066	2,755	862	4,369	117	1,698	2	91,868
2075	84,256	2,805	873	4,445	114	1,672	2	94,165
2080	86,545	2,863	890	4,493	110	1,649	2	96,552
2085	88,963	2,932	909	4,527	108	1,627	2	99,067

Table V.C4.—OASI Beneficiaries With Benefits in Current-Payment Status at the End of Calendar Years 1945-2085 (Cont.)
[In thousands]

Calendar year	Retired workers and auxiliaries			Survivors				Total
	Worker	Spouse	Child	Widow-widower	Mother-father	Child	Parent	
Low Cost:								
2010	34,272	2,434	549	4,455	157	1,872	1	43,741
2015	40,809	2,361	635	4,399	150	1,899	1	50,255
2020	48,458	2,236	704	4,367	138	1,978	2	57,883
2025	55,134	2,318	769	4,370	137	2,065	2	64,795
2030	61,022	2,306	827	4,416	134	2,170	2	70,877
2035	64,674	2,215	848	4,443	131	2,259	2	74,573
2040	66,262	2,152	859	4,416	129	2,321	2	76,140
2045	67,303	2,147	878	4,377	128	2,360	2	77,194
2050	68,716	2,204	916	4,320	128	2,386	2	78,672
2055	70,778	2,298	950	4,272	129	2,418	2	80,846
2060	73,206	2,365	989	4,241	131	2,461	2	83,395
2065	75,394	2,397	1,009	4,250	133	2,509	2	85,693
2070	77,392	2,407	1,035	4,281	135	2,556	2	87,808
2075	79,500	2,422	1,066	4,324	137	2,601	2	90,052
2080	82,256	2,463	1,115	4,369	139	2,647	2	92,989
2085	85,680	2,542	1,168	4,429	141	2,696	2	96,657
High Cost:								
2010	34,332	2,432	546	4,462	155	1,858	1	43,786
2015	41,197	2,351	621	4,433	143	1,826	1	50,571
2020	49,831	2,313	683	4,309	144	1,755	2	59,036
2025	57,640	2,435	722	4,227	142	1,682	2	66,850
2030	65,076	2,497	748	4,186	139	1,614	2	74,261
2035	70,475	2,487	742	4,163	132	1,540	2	79,541
2040	73,764	2,507	729	4,142	123	1,459	2	82,724
2045	76,151	2,581	718	4,146	113	1,379	2	85,089
2050	78,581	2,712	727	4,150	104	1,313	2	87,589
2055	81,336	2,882	730	4,165	96	1,251	2	90,461
2060	84,429	3,028	732	4,181	88	1,190	2	93,651
2065	87,402	3,152	723	4,240	80	1,132	2	96,731
2070	90,331	3,243	720	4,322	73	1,077	2	99,768
2075	93,007	3,320	715	4,401	67	1,027	2	102,538
2080	95,269	3,384	710	4,430	61	982	2	104,837
2085	97,067	3,433	705	4,426	56	940	2	106,629

Notes:

1. The number of beneficiaries does not include uninsured individuals who receive benefits under Section 228 of the Social Security Act. Costs are reimbursed from the General Fund of the Treasury for most of these individuals.
2. Totals do not necessarily equal the sums of rounded components.

6. Disability Insurance Beneficiaries

Benefits are paid from the DI Trust Fund to individuals who satisfy the disability-insured requirements, who are unable to engage in substantial gainful activity due to medically determinable physical or mental impairment severe enough to satisfy the requirements of the program, and who have not yet attained normal retirement age. Spouses and children of such disabled workers may also receive DI benefits provided they satisfy certain criteria, principally meeting age requirements. In projecting future benefit outlays from the

Assumptions & Methods

DI Trust Fund, the number of DI beneficiaries is projected for each type of beneficiary separately, by the sex of the disabled worker on whose earnings the benefits are based, and the age of the beneficiary. Such projections are accomplished using standard actuarial methods reflecting future additions to the DI rolls through awards of new benefits, and subtractions from the rolls due to death, recovery, or conversion upon attainment of normal retirement age from status as a disabled-worker beneficiary to status as a retired-worker beneficiary. The long-range and short-range models used to make these projections are both constructed from this basic outline, but differ in some details reflecting their respective uses.

The number of new entitlements to disabled-worker benefits during each year is projected by applying assumed age-sex-specific disability incidence rates to the projected disability-exposed population.¹ Long-range ultimate disability incidence rates are selected based on careful analysis of historical patterns and expected future conditions, including the impact of scheduled increases in the normal retirement age.² Incidence rates for the first half of the short-range period reflect the most recent actual experience along with consideration of other factors expected to affect the processing of disability claims in the near term. Over the latter half of the short-range period, incidence rates are assumed to trend into levels consistent with the long-range ultimate incidence rate assumptions.

These assumed incidence rates are summarized in figure V.C3 and table V.C5. As illustrated in figure V.C3, incidence rates have varied within a wide range over the past 30 years. Although not completely explained, this variation is attributed in large part to a variety of demographic and economic factors, along with the effects of changes due to legislation and program administration.³ The solid lines in figure V.C3 illustrate values of the summarized incidence rate, age-sex adjusted to the distribution of the disability-exposed population for 2000. Such adjustment facilitates meaningful comparisons over long periods of time. From a historically high level of about 7.2 awards per thousand insured in 1975, age-sex-adjusted rates declined to about 3.7 per thousand by 1982. Following a gradual trend upward, rates

¹ The disability-exposed population is the disability-insured population that is not currently entitled for disabled-worker benefits.

² Incidence rates are adjusted upward to account for the additional workers who are expected to file for disability benefits rather than for reduced retirement benefits that are even more reduced when the NRA is greater than age 65.

³ A more detailed discussion of the recent history of the DI program is presented in Actuarial Study 118, "Social Security Disability Insurance Program Worker Experience," June 2005. This study can be found at www.socialsecurity.gov/OACT/NOTES/s2000s.html.

increased to about 5.8 per thousand by 1992, but declined from that point to about 4.7 per thousand in 2000. As described in chapter IV, in the discussion of the short-range DI estimates, the incidence rate experience for 2001-06, and the projections for 2007-10, are affected by a one-time special workload. In addition to historical values, figure V.C3 displays the age-sex-adjusted short-range incidence rates under the three alternative sets of assumptions. Gross (unadjusted) incidence rates are also shown in figure V.C3 in dashed lines. These unadjusted rates are heavily influenced by the changing age-sex distribution of the exposed population over time. This is especially noticeable in the period after 2000 when the aging baby-boom generation will be concentrated in the ages of highest disability incidence.

Figure V.C3.—DI Disabled Worker Incidence Rates, 1970-2016
 [Awards per thousand disability exposed]

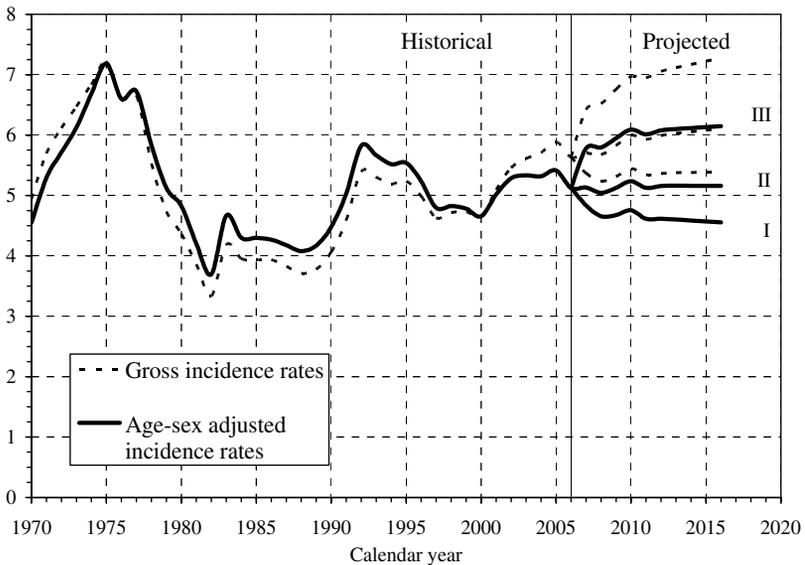


Table V.C5 presents the long-range ultimate incidence rate assumptions age-sex adjusted to the disability-exposed population as of January 1, 2000 for ages through 64. The table also indicates the year in which the ultimate values are attained, along with an indication of the relationship between those ultimate rates and the rates for the base period (1994-96) that was used to develop relative levels of disability incidence by age and sex for long-range assumptions.

Table V.C5.—Long-Range Ultimate Disabled Worker Age-Sex-Adjusted Incidence Rates¹

	Ultimate incidence rate	Year ultimate rate is attained ²	Percent change from base period ³ to ultimate rate
Intermediate assumption	5.5	2027	+2
Low cost assumption	4.4	2027	-19
High cost assumption	6.6	2027	+22

¹ Number of annual new disabled-worker entitlements per thousand disability-exposed, age-sex-adjusted to the disability-exposed population as of January 1, 2000.

² The transition to ultimate incidence rates is generally completed in 2026. However, for ages 61 through 66 incidence rates are adjusted through 2027 in order to reflect increases in the normal retirement age (NRA) that are scheduled in the law.

³ Base period rate for long-range incidence rate assumptions is 5.4 per thousand representing the average age-sex-adjusted incidence rate for 1994-96.

For the 2007 report, the ultimate age-sex-adjusted incidence rates for all three assumptions are lower than in last year’s report. The reduction in the assumed age-sex-adjusted incidence rates reflects the trend over the last 30 years, including a closing differential between male and female incidence rates. The ultimate male age-adjusted incidence rates are 10 percent lower than last year’s rates; while the ultimate female age-adjusted incidence rates are less than 1 percent higher than last year’s rates.

The number of disabled-worker beneficiaries having their benefits terminated during each year is projected by applying assumed termination rates to the disabled-worker population. The termination rates are developed by age, sex, and reason for termination.¹ In addition, in the long-range period, termination rates are also assumed to vary by duration of entitlement to disabled-worker benefits. To this number of terminations is added the number of disabled-worker beneficiaries who would be automatically converted to retired-worker beneficiaries upon attainment of the normal retirement age.

In the short-range period, gross death rates under the intermediate assumptions are projected to gradually decline to about 27 deaths per thousand disabled workers. The pattern of projected recovery rates under the intermediate assumptions is consistent with the temporarily lower levels of continuing disability reviews assumed in the preparation of the President’s FY 2008 Budget. Following temporary resource constraints over the period 2006-07, projected recovery rates return to levels required to fulfill the legislative mandate for regular reviews of all disabled beneficiaries. Under low cost (high cost) assumptions, total termination rates due to death, recovery, and

¹ Reasons for termination reflected in the projections include death, recovery and (in the short range only) a small residual category of terminations for special administrative reasons.

other reasons increase (decrease) to levels roughly 5-10 percent higher (lower) than those under the intermediate assumptions.

For the long-range period, projection of death and recovery rates begins with an analysis of such rates by age, sex, and duration of entitlement over the base period 1996-2000¹. For all three sets of assumptions, the ultimate recovery rates are reached in the twentieth year of the projection period. In contrast, death rates by age and sex are assumed to change throughout the long-range period at the same rate as for death rates in the general population.

For the 2007 report, the projection methods for death and recovery rates are improved. Under the prior method, the base-period death and recovery rates were multiplied by projection factors by sex and year to estimate future death and recovery rates. Under the new method, these projection factors are determined by age group, sex and year. The new methodology has a negligible effect on the long-range actuarial balance (less than 0.005 percent of taxable payroll).

In 2006, the age-adjusted² recovery rates were 9 and 8 per thousand disabled beneficiaries for men and women, respectively, and the age-adjusted² death rates were 29.1 and 21.4 per thousand disabled beneficiaries for men and women, respectively. Under the intermediate assumptions, the age-adjusted recovery rates are projected to remain relatively stable, reaching ultimate levels of 10 and 9 per thousand disabled beneficiaries for men and women, respectively. In addition, the age-adjusted death rates are projected to gradually decline to levels of 14.7 and 11.5 per thousand disabled beneficiaries for men and women, respectively, in 2085.

Under the low cost assumptions, recovery rates and death rates are assumed to be higher than the corresponding levels assumed for the intermediate assumptions. The ultimate age-adjusted recovery rates are 12 and 11 per thousand disabled beneficiaries for men and women, respectively. The age-adjusted death rates are projected to gradually decline to levels of 22.3 and 17.1 per thousand disabled beneficiaries for men and women, respectively, in 2085.

¹ The termination rate analysis was based on work presented in Actuarial Study 118, "Social Security Disability Insurance Program Worker Experience," June 2005. This study can be found on the Social Security website at www.socialsecurity.gov/OACT/NOTES/s2000s.html.

² Males are age adjusted to the male disabled workers in current-pay as of January 1, 2000. Females are age adjusted to the female disabled workers in current-pay as of January 1, 2000.

Assumptions & Methods

Under the high cost assumptions, recovery rates and death rates are assumed to be lower than the corresponding levels assumed for the intermediate assumptions. The ultimate age-adjusted recovery rates are 8 and 7 per thousand disabled beneficiaries for men and women, respectively. The age-adjusted death rates are projected to gradually decline to levels of 7.8 and 6.0 per thousand disabled beneficiaries for men and women, respectively, in 2085.

These detailed projections of disabled-worker entitlements and terminations are combined using standard multiple decrement techniques to produce numbers of disabled workers in current-payment status over the 75-year projection period. The projection is presented in table V.C6. As indicated in that table, the number of disabled workers in current-payment status is projected to grow from 6.8 million at the end of 2006, to 11.6 million, 12.7 million, or 13.5 million at the end of 2085, under the low cost, intermediate, or high cost assumptions, respectively. Of course, much of this growth is a direct result of the growth and aging of the population described earlier in this chapter.

Another way to view this projected growth in disabled workers is to compare the size of the projected disabled-worker population to the size of the underlying disability-insured population reflecting the age-sex distribution of the insured population as of January 1, 2000. Such a ratio eliminates the effects of the aging population and is referred to as the disabled worker age-sex-adjusted prevalence rate. Expressed in these terms, the prevalence of disability for ages through 64 is projected to grow from 39.0 per thousand disability insured at the beginning of 2006, to 46.6 per thousand, and 59.5 per thousand at the beginning of 2085, under the intermediate, and high cost assumptions, respectively. Under the low cost assumptions, the disability prevalence rate is projected to decrease to 35.0 per thousand.

Table V.C6 also presents projections of the numbers of auxiliary beneficiaries paid from the DI Trust Fund. As indicated at the beginning of this subsection, such auxiliary beneficiaries consist of qualifying spouses and children of disabled workers. In the case of children, the child must be either (1) under age 18, (2) age 18 or 19 and still a student in high school, or (3) over age 18 and disabled prior to age 22. In the case of spouses, the spouse must either be at least age 62, or have an eligible child beneficiary who is either under age 16 or disabled in his or her care.

In general, such auxiliary beneficiaries are projected in a manner that is related to the projected number of disabled-worker beneficiaries. In the short-range period, this is accomplished for family members of disabled-worker beneficiaries by projecting incidence and termination rates for each category of auxiliary beneficiary. In the long-range period, the child beneficiaries at ages 18 and under are projected in relation to the projected number

of children in the population, by applying factors representing the probability that either of their parents is insured and disabled. Spouses eligible because they have an eligible child in care are projected relative to the projected number of such children. The remaining categories of children and spouses are projected in relation to the projected number of disabled-worker beneficiaries.

Table V.C6.—DI Beneficiaries With Benefits in Current-Payment Status at the End of Calendar Years 1960-2085
[In thousands]

Calendar year	Disabled worker	Auxiliaries		Total
		Spouse	Child	
Historical data:				
1960.....	455	77	155	687
1965.....	988	193	558	1,739
1970.....	1,493	283	889	2,665
1975.....	2,488	453	1,411	4,351
1980.....	2,856	462	1,359	4,677
1985.....	2,653	306	945	3,904
1986.....	2,725	301	965	3,991
1987.....	2,782	291	968	4,041
1988.....	2,826	281	963	4,070
1989.....	2,891	271	962	4,124
1990.....	3,007	266	989	4,261
1991.....	3,191	266	1,052	4,509
1992.....	3,464	271	1,151	4,886
1993.....	3,721	273	1,255	5,249
1994.....	3,958	271	1,350	5,579
1995.....	4,179	264	1,409	5,852
1996.....	4,378	224	1,463	6,065
1997.....	4,501	207	1,438	6,146
1998.....	4,691	190	1,446	6,327
1999.....	4,870	176	1,468	6,514
2000.....	5,036	165	1,466	6,667
2001.....	5,268	157	1,482	6,907
2002.....	5,539	152	1,526	7,217
2003.....	5,869	151	1,571	7,590
2004.....	6,198	153	1,599	7,950
2005.....	6,519	157	1,633	8,309
2006.....	6,807	156	1,652	8,615
Intermediate:				
2010.....	7,769	158	1,747	9,674
2015.....	8,613	156	1,825	10,594
2020.....	9,091	162	1,924	11,176
2025.....	9,755	193	2,055	12,003
2030.....	9,830	195	2,182	12,206
2035.....	9,999	195	2,276	12,470
2040.....	10,286	204	2,338	12,828
2045.....	10,794	216	2,380	13,389
2050.....	11,115	226	2,420	13,762
2055.....	11,422	235	2,471	14,129
2060.....	11,511	235	2,523	14,269
2065.....	11,718	239	2,573	14,530
2070.....	11,959	243	2,615	14,817
2075.....	12,238	249	2,652	15,139
2080.....	12,491	254	2,692	15,436
2085.....	12,691	258	2,735	15,684

Table V.C6.—DI Beneficiaries With Benefits in Current-Payment Status at the End of Calendar Years 1960-2085 (Cont.)
[In thousands]

Calendar year	Disabled worker	Auxiliaries		Total
		Spouse	Child	
Low Cost:				
2010.....	7,480	150	1,673	9,302
2015.....	7,959	142	1,684	9,784
2020.....	8,111	137	1,745	9,993
2025.....	8,352	153	1,832	10,336
2030.....	8,111	142	1,931	10,183
2035.....	8,092	132	2,029	10,253
2040.....	8,253	133	2,114	10,500
2045.....	8,636	139	2,189	10,964
2050.....	8,908	144	2,263	11,316
2055.....	9,198	150	2,359	11,706
2060.....	9,362	150	2,472	11,983
2065.....	9,670	152	2,592	12,414
2070.....	10,071	156	2,708	12,935
2075.....	10,585	162	2,822	13,569
2080.....	11,098	169	2,936	14,203
2085.....	11,573	177	3,056	14,805
High Cost:				
2010.....	8,277	173	1,886	10,336
2015.....	9,718	178	2,067	11,963
2020.....	10,741	205	2,238	13,184
2025.....	11,762	254	2,372	14,388
2030.....	11,983	267	2,459	14,709
2035.....	12,256	275	2,495	15,025
2040.....	12,632	291	2,490	15,414
2045.....	13,256	310	2,470	16,035
2050.....	13,614	321	2,463	16,398
2055.....	13,919	330	2,462	16,711
2060.....	13,899	327	2,446	16,672
2065.....	13,952	329	2,420	16,701
2070.....	13,946	329	2,385	16,660
2075.....	13,869	328	2,348	16,544
2080.....	13,737	326	2,317	16,380
2085.....	13,545	323	2,293	16,161

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

7. Average Benefits

Average benefits are 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 are calculated from projected distributions of beneficiaries by duration from year of award, average awarded PIAs, and increases thereto since the year of award, reflecting automatic benefit increases, recomputations to reflect additional covered earnings, and other factors. Average awarded PIAs are calculated from projected earnings histories, which are developed using a combination of the actual earnings histories associated with a sample of awards made in

2003, and more recent actual earnings levels by age and sex for covered workers.

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 are based on projections of age distributions at initial entitlement.

8. Benefit Payments

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

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

9. Administrative Expenses

The projection of administrative expenses through 2016 is based on historical experience and the expected growth in average wages. Additionally, estimates for the first several years of the projection are provided by the Office of Budget. For years after 2016, administrative expenses are assumed to increase because of increases in the number of beneficiaries and increases in the average wage which will more than offset assumed improvements in administrative productivity.

10. Railroad Retirement Financial Interchange

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

income tax that would be received with allowances for interest from railroad workers.

The effect of the financial interchange with the Railroad Retirement program is evaluated on the basis of trends similar to those used in estimating the cost of OASDI benefits. The resulting effect is annual short-range costs of about \$4-5 billion and a long-range summarized cost of 0.03 percent of taxable payroll to the OASDI program.

11. Benefits to Uninsured Persons

Some older persons had little or no chance to become fully insured for Social Security benefits during their working lifetimes. Special payments from the OASI Trust Fund may be granted to uninsured persons who either: (1) attained age 72 before 1968, or (2) attained age 72 in 1968 or later and had 3 quarters of coverage for each year after 1966 and before the year of attainment of age 72. Benefits and costs associated with uninsured persons of the first type above are reimbursable from the General Fund of the Treasury. All projected costs associated with reimbursable and non-reimbursable payments to uninsured persons are insignificant.

12. Military-Service Transfers

Beginning in 1966, the OASI and DI Trust Funds were reimbursed annually for the cost (including administrative expenses) of providing additional benefit payments resulting from noncontributory wage credits for military service performed prior to 1957. The 1983 amendments modified the reimbursement mechanism and the timing of the reimbursements, and required a transfer in 1983 to include all future costs attributable to the wage credits. The amendments also require adjustments to that 1983 transfer every fifth year, beginning with 1985, to account for actual data.

13. Income From Taxation of Benefits

Under present law, the OASI and DI Trust Funds are credited with the additional income taxes attributable to the taxation of up to the first 50 percent of OASI and DI benefit payments. (The remainder of the income taxes attributable to the taxation of up to 85 percent of OASI and DI benefit payments is credited to the HI Trust Fund.)

For the short-range period, income to the trust funds from such taxation is estimated by applying the following two factors to total OASI and DI benefit payments: (1) the percentage of benefit payments (limited to 50 percent) that is taxable, and (2) the average marginal tax rate applicable to those benefits.

For the long-range period, income to the trust funds from such taxation is estimated by applying projected ratios of taxation of OASI and DI benefits to total OASI and DI benefit payments. Because the income thresholds used for benefit taxation are, by law, constant in the future, their values in relation to future income and benefit levels will decline. Thus, ratios of income from taxation of benefits to the amount of benefits are projected to increase gradually. Ultimate tax ratios for OASI and DI benefits are estimated by eliminating the current threshold amounts for taxation of OASDI benefits completely and adjusting the OASDI beneficiary distribution in a recent Current Population Survey for the projected 75th year age-sex distribution of the SSA beneficiary population.

VI. APPENDICES

A. HISTORY OF OASI AND DI TRUST FUND OPERATIONS

The Federal Old-Age and Survivors Insurance (OASI) Trust Fund was established on January 1, 1940, as a separate account in the United States Treasury. The Federal Disability Insurance (DI) Trust Fund, another separate account in the United States Treasury was established on August 1, 1956. All the financial operations of the OASI and DI programs are handled through these respective funds. The Board of Trustees is responsible for overseeing the financial operations of these funds. The following paragraphs describe the various components of trust fund income and outgo. The tables at the end of this section present the historical operations of the separate trust funds since their inception, as well as the operations of the combined trust funds during the period when they have co-existed.

The primary receipts of these two funds are amounts appropriated to each of them under permanent authority on the basis of contributions payable by workers, their employers, and individuals with self-employment income, in work covered by the OASDI program. All employees, and their employers, in covered employment are required to pay contributions with respect to their wages. Employees, and their employers, are also required to pay contributions with respect to cash tips, if the individual's monthly cash tips amount to at least \$20. All self-employed persons are required to pay contributions with respect to their covered net earnings from self-employment. In addition to paying the required employer contributions on the wages of covered Federal employees, the Federal Government also pays amounts equivalent to the combined employer and employee contributions that would be paid on deemed wage credits attributable to military service performed between 1957 and 2001 if such wage credits were covered wages.

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

The monthly benefit amount to which an individual (or his or her spouse and children) may become entitled under the OASDI program is based on the individual's taxable earnings during his or her lifetime. For almost all per-

sons who first become eligible to receive benefits in 1979 or later, the earnings used in the computation of benefits are indexed to reflect increases in average wage levels.

The contribution, or tax, rates applicable under current law in each calendar year and the allocation of these rates between the OASI and DI Trust Funds are shown in table VI.A1.¹ The maximum amount of earnings on which OASDI contributions are payable in a year, which is also the maximum amount of earnings creditable in that year for benefit-computation purposes, is called the contribution and benefit base. The contribution and benefit base for each year through 2006 is also shown in table VI.A1.

Table VI.A1.—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

¹ The contribution rates for the Hospital Insurance (HI) program, and for the OASDI and HI programs combined, are shown in table VI.F1.

Table VI.A1.—Contribution and Benefit Base and Contribution Rates (Cont.)

Calendar years	Contribution and benefit base	Contribution rates (percent)					
		Employees and employers, each			Self-employed		
		OASDI	OASI	DI	OASDI	OASI	DI
1989 ¹	\$48,000	6.060	5.530	0.530	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
1993.....	57,600	6.200	5.600	.600	12.4000	11.2000	1.2000
1994.....	60,600	6.200	5.260	.940	12.4000	10.5200	1.8800
1995.....	61,200	6.200	5.260	.940	12.4000	10.5200	1.8800
1996.....	62,700	6.200	5.260	.940	12.4000	10.5200	1.8800
1997.....	65,400	6.200	5.350	.850	12.4000	10.7000	1.7000
1998.....	68,400	6.200	5.350	.850	12.4000	10.7000	1.7000
1999.....	72,600	6.200	5.350	.850	12.4000	10.7000	1.7000
2000.....	76,200	6.200	5.300	.900	12.4000	10.6000	1.8000
2001.....	80,400	6.200	5.300	.900	12.4000	10.6000	1.8000
2002.....	84,900	6.200	5.300	.900	12.4000	10.6000	1.8000
2003.....	87,000	6.200	5.300	.900	12.4000	10.6000	1.8000
2004.....	87,900	6.200	5.300	.900	12.4000	10.6000	1.8000
2005.....	90,000	6.200	5.300	.900	12.4000	10.6000	1.8000
2006.....	94,200	6.200	5.300	.900	12.4000	10.6000	1.8000
2007.....	97,500	6.200	5.300	.900	12.4000	10.6000	1.8000
2008 and later....	²	6.200	5.300	.900	12.4000	10.6000	1.8000

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

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

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

Beginning in 1984, up to one-half of an individual's or couple's OASDI benefits was subject to Federal income taxation under certain circumstances. Effective for taxable years beginning after 1993, the maximum percentage of benefits subject to taxation was increased from 50 percent to 85 percent. The

proceeds from taxation of up to 50 percent of benefits are credited to the OASI and DI Trust Funds in advance, on an estimated basis, at the beginning of each calendar quarter, with no reimbursement to the general fund for interest costs attributable to the advance transfers.¹ 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.²

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

The Social Security Act authorizes the issuance of special public-debt obligations for purchase exclusively by the trust funds. The Act provides that the interest rate on new special obligations will be the average market yield, as of the last business day of a month, on all of the outstanding marketable U.S. obligations that are due or callable more than 4 years in the future. The rate so calculated is rounded to the nearest one-eighth of one percent and applies to new issues in the following month. Beginning January 1999, in calculating the average market yield rate for this purpose, the Treasury incorporates the yield to the call date when a callable bond's market price is above par.

Although the special issues cannot be bought or sold in the open market, they are nonetheless redeemable at any time at par value and thus bear no risk of fluctuations in principal value due to changes in market yield rates. Just as in the case of marketable Treasury securities held by the public, all of the

¹ The additional tax revenues resulting from the increase to 85 percent are transferred to the HI Trust Fund.

² A special provision applies to benefits paid to nonresident aliens. Under Public Law 103-465, effective for taxable years beginning after 1994, a flat-rate tax, usually 25.5 percent, is withheld from the benefits before they are paid and, therefore, remains in the trust funds. From 1984 to 1994 the flat-rate tax that was withheld was usually 15 percent.

Appendices

investments held by the trust funds are backed by the full faith and credit of the U.S. Government.

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

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

The expenditures of the trust funds also include (1) the 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) net costs resulting from the provisions of the Railroad Retirement Act which provide for a system of coordination and financial interchange between the Railroad Retirement program and the Social Security program. Under the latter provisions, transfers between the Railroad Retirement program's Social Security Equivalent Benefit Account and the trust funds are made on an annual basis in order to place each trust fund in the same position in which it would have been if railroad employment had always been covered under Social Security.

The net worth of facilities and other fixed capital assets is not carried in the statements of the operations of the trust funds presented in this report. This is because the value of fixed capital assets is not available in the form of a financial asset redeemable for the payment of benefits or administrative

expenditures, and therefore is not considered in assessing the actuarial status of the trust funds.

**Table VI.A2.—Historical Operations of the OASI Trust Fund,
Calendar Years 1937-2006**
[Amounts in billions]

Calendar year	Income				Expenditures				Assets		
	Total ¹	Net contributions ²	Taxation of benefits	Net interest ³	Total	Benefit payments ⁴	Administrative costs	RRB inter-change	Net increase during year	Amount at end of year	Trust Fund ratio ⁵
1937 ...	\$0.8	\$0.8	—	6/	6/	6/	—	—	\$0.8	\$0.8	100
1938 ...	.4	.4	—	6/	6/	6/	—	—	.4	1.1	7,660
1939 ...	.6	.6	—	6/	6/	6/	—	—	.6	1.7	8,086
1940 ...	.4	.3	—	6/	\$0.1	6/	6/	—	.3	2.0	2,781
1941 ...	.8	.8	—	\$0.1	.1	\$0.1	6/	—	.7	2.8	1,782
1942 ...	1.1	1.0	—	.1	.2	.1	6/	—	.9	3.7	1,737
1943 ...	1.3	1.2	—	.1	.2	.2	6/	—	1.1	4.8	1,891
1944 ...	1.4	1.3	—	.1	.2	.2	6/	—	1.2	6.0	2,025
1945 ...	1.4	1.3	—	.1	.3	.3	6/	—	1.1	7.1	1,975
1946 ...	1.4	1.3	—	.2	.4	.4	6/	—	1.0	8.2	1,704
1947 ...	1.7	1.6	—	.2	.5	.5	6/	—	1.2	9.4	1,592
1948 ...	2.0	1.7	—	.3	.6	.6	\$0.1	—	1.4	10.7	1,542
1949 ...	1.8	1.7	—	.1	.7	.7	.1	—	1.1	11.8	1,487
1950 ...	2.9	2.7	—	.3	1.0	1.0	.1	—	1.9	13.7	1,156
1951 ...	3.8	3.4	—	.4	2.0	1.9	.1	—	1.8	15.5	698
1952 ...	4.2	3.8	—	.4	2.3	2.2	.1	—	1.9	17.4	681
1953 ...	4.4	3.9	—	.4	3.1	3.0	.1	—	1.3	18.7	564
1954 ...	5.6	5.2	—	.4	3.7	3.7	.1	6/	1.9	20.6	500
1955 ...	6.2	5.7	—	.5	5.1	5.0	.1	6/	1.1	21.7	405
1956 ...	6.7	6.2	—	.5	5.8	5.7	.1	6/	.9	22.5	371
1957 ...	7.4	6.8	—	.6	7.5	7.3	.2	6/	-.1	22.4	300
1958 ...	8.1	7.6	—	.6	8.6	8.3	.2	\$0.1	-.5	21.9	259
1959 ...	8.6	8.1	—	.5	10.3	9.8	.2	.3	-1.7	20.1	212
1960 ...	11.4	10.9	—	.5	11.2	10.7	.2	.3	.2	20.3	180
1961 ...	11.8	11.3	—	.5	12.4	11.9	.2	.3	-.6	19.7	163
1962 ...	12.6	12.1	—	.5	14.0	13.4	.3	.4	-1.4	18.3	141
1963 ...	15.1	14.5	—	.5	14.9	14.2	.3	.4	.1	18.5	123
1964 ...	16.3	15.7	—	.6	15.6	14.9	.3	.4	.6	19.1	118
1965 ...	16.6	16.0	—	.6	17.5	16.7	.3	.4	-.9	18.2	109
1966 ...	21.3	20.6	—	.6	19.0	18.3	.3	.4	2.3	20.6	96
1967 ...	24.0	23.1	—	.8	20.4	19.5	.4	.5	3.7	24.2	101
1968 ...	25.0	23.7	—	.9	23.6	22.6	.5	.4	1.5	25.7	103
1969 ...	29.6	27.9	—	1.2	25.2	24.2	.5	.5	4.4	30.1	102
1970 ...	32.2	30.3	—	1.5	29.8	28.8	.5	.6	2.4	32.5	101
1971 ...	35.9	33.7	—	1.7	34.5	33.4	.5	.6	1.3	33.8	94
1972 ...	40.1	37.8	—	1.8	38.5	37.1	.7	.7	1.5	35.3	88
1973 ...	48.3	46.0	—	1.9	47.2	45.7	.6	.8	1.2	36.5	75
1974 ...	54.7	52.1	—	2.2	53.4	51.6	.9	.9	1.3	37.8	68
1975 ...	59.6	56.8	—	2.4	60.4	58.5	.9	1.0	-.8	37.0	63
1976 ...	66.3	63.4	—	2.3	67.9	65.7	1.0	1.2	-1.6	35.4	54
1977 ...	72.4	69.6	—	2.2	75.3	73.1	1.0	1.2	-2.9	32.5	47
1978 ...	78.1	75.5	—	2.0	83.1	80.4	1.1	1.6	-5.0	27.5	39
1979 ...	90.3	87.9	—	1.8	93.1	90.6	1.1	1.4	-2.9	24.7	30

**Table VI.A2.—Historical Operations of the OASI Trust Fund,
Calendar Years 1937-2006 (Cont.)**
[Amounts in billions]

Calendar year	Income				Expenditures				Assets		
	Total ¹	Net contributions ²	Taxation of benefits	Net interest ³	Total	Benefit payments ⁴	Administrative costs	RRB interchange	Net increase during year	Amount at end of year	Trust Fund ratio ⁵
1980 ...	\$105.8	\$103.5	—	\$1.8	\$107.7	\$105.1	\$1.2	\$1.4	-\$1.8	\$22.8	23
1981 ...	125.4	122.6	—	2.1	126.7	123.8	1.3	1.6	-1.3	21.5	18
1982 ...	125.2	123.7	—	.8	142.1	138.8	1.5	1.8	.6	22.1	15
1983 ...	150.6	138.3	—	6.7	153.0	149.2	1.5	2.3	-2.4	19.7	14
1984 ...	169.3	164.1	\$2.8	2.3	161.9	157.8	1.6	2.4	7.4	27.1	20
1985 ...	184.2	177.0	3.2	1.9	171.2	167.2	1.6	2.3	78.7	35.8	24
1986 ...	197.4	190.7	3.4	3.1	181.0	176.8	1.6	2.6	7 3.2	39.1	28
1987 ...	210.7	202.7	3.3	4.7	187.7	183.6	1.5	2.6	23.1	62.1	30
1988 ...	240.8	229.8	3.4	7.6	200.0	195.5	1.8	2.8	40.8	102.9	41
1989 ...	264.7	250.2	2.4	12.0	212.5	208.0	1.7	2.8	52.2	155.1	59
1990 ...	286.7	267.5	4.8	16.4	227.5	223.0	1.6	3.0	59.1	214.2	78
1991 ...	299.3	272.6	5.9	20.8	245.6	240.5	1.8	3.4	53.7	267.8	87
1992 ...	311.2	281.0	5.9	24.3	259.9	254.9	1.8	3.1	51.3	319.2	103
1993 ...	323.3	290.9	5.3	27.0	273.1	267.8	2.0	3.4	50.2	369.3	117
1994 ...	328.3	293.3	5.0	29.9	284.1	279.1	1.6	3.4	44.1	413.5	130
1995 ...	342.8	304.6	5.5	32.8	297.8	291.6	2.1	4.1	45.0	458.5	139
1996 ...	363.7	321.6	6.5	35.7	308.2	302.9	1.8	3.6	55.5	514.0	149
1997 ...	397.2	349.9	7.4	39.8	322.1	316.3	2.1	3.7	75.1	589.1	160
1998 ...	424.8	371.2	9.1	44.5	332.3	326.8	1.9	3.7	92.5	681.6	177
1999 ...	457.0	396.4	10.9	49.8	339.9	334.4	1.8	3.7	117.2	798.8	201
2000 ...	490.5	421.4	11.6	57.5	358.3	352.7	2.1	3.5	132.2	931.0	223
2001 ...	518.1	441.5	11.9	64.7	377.5	372.3	2.0	3.3	140.6	1,071.5	247
2002 ...	539.7	455.2	12.9	71.2	393.7	388.1	2.1	3.5	146.0	1,217.5	272
2003 ...	543.8	456.1	12.5	75.2	406.0	399.8	2.6	3.6	137.8	1,355.3	300
2004 ...	566.3	472.8	14.6	79.0	421.0	415.0	2.4	3.6	145.3	1,500.6	322
2005 ...	604.3	506.9	13.8	84.0	441.9	435.4	3.0	3.6	162.4	1,663.0	340
2006 ...	642.2	534.8	15.6	91.8	461.0	454.5	3.0	3.5	181.3	1,844.3	361

¹ Includes payments from the General Fund of the Treasury to the trust funds (1) in 1947-51 and in 1966 and later, costs of noncontributory wage credits for military service performed before 1957; (2) in 1971-82, costs of deemed wage credits for military service performed after 1956; and (3) in 1968 and later, costs of benefits to certain uninsured persons who attained age 72 before 1968. Differences in past year total income and sum of individual column amounts are due to these payments. OASI historical payments from the General Fund of the Treasury may be found on the Internet at www.socialsecurity.gov/OACT/STATS/t4aIncome.html.

² Beginning in 1983, includes transfers from the General Fund of the Treasury representing contributions that would have been paid on deemed wage credits for military service in 1957 through 2001, if such credits were considered to be covered wages.

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

⁴ 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 The "Trust fund ratio" column represents assets at the beginning of a year as a percentage of expenditures during the year. For years 1984-90, assets at the beginning of a year include January advance tax transfers.

⁶ Less than \$50 million.

⁷ Reflects offset for repayment from the OASI Trust Fund of amounts borrowed from the DI and HI Trust Funds in 1982. The amount repaid in 1985 was \$4.4 billion; in 1986, the amount was \$13.2 billion.

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

History of Trust Fund Operations

**Table VI.A3.—Historical Operations of the DI Trust Fund,
Calendar Years 1957-2006**
[Amounts in billions]

Calendar year	Income				Expenditures				Assets		
	Total ¹	Net contributions ²	Taxation of benefits	Net interest ³	Total	Benefit payments ⁴	Administrative costs	RRB interchange	Net increase during year	Amount at end of year	Trust Fund ratio ⁵
1957...	\$0.7	\$0.7	—	¢	\$0.1	\$0.1	¢	—	\$0.6	\$0.6	100
1958...	1.0	1.0	—	¢	.3	.2	¢	—	.7	1.4	249
1959...	.9	.9	—	¢	.5	.5	\$0.1	¢	.4	1.8	284
1960...	1.1	1.0	—	\$0.1	.6	.6	¢	¢	.5	2.3	304
1961...	1.1	1.0	—	.1	1.0	.9	.1	¢	.1	2.4	239
1962...	1.1	1.0	—	.1	1.2	1.1	.1	¢	-.1	2.4	206
1963...	1.2	1.1	—	.1	1.3	1.2	.1	¢	-.1	2.2	183
1964...	1.2	1.2	—	.1	1.4	1.3	.1	¢	-.2	2.0	159
1965...	1.2	1.2	—	.1	1.7	1.6	.1	¢	-.4	1.6	121
1966...	2.1	2.0	—	.1	1.9	1.8	.1	¢	.1	1.7	82
1967...	2.4	2.3	—	.1	2.1	2.0	.1	¢	.3	2.0	83
1968...	3.5	3.3	—	.1	2.5	2.3	.1	¢	1.0	3.0	83
1969...	3.8	3.6	—	.2	2.7	2.6	.1	¢	1.1	4.1	111
1970...	4.8	4.5	—	.3	3.3	3.1	.2	¢	1.5	5.6	126
1971...	5.0	4.6	—	.4	4.0	3.8	.2	¢	1.0	6.6	140
1972...	5.6	5.1	—	.4	4.8	4.5	.2	¢	.8	7.5	140
1973...	6.4	5.9	—	.5	6.0	5.8	.2	¢	.5	7.9	125
1974...	7.4	6.8	—	.5	7.2	7.0	.2	¢	.2	8.1	110
1975...	8.0	7.4	—	.5	8.8	8.5	.3	¢	-.8	7.4	92
1976...	8.8	8.2	—	.4	10.4	10.1	.3	¢	-1.6	5.7	71
1977...	9.6	9.1	—	.3	11.9	11.5	.4	¢	-2.4	3.4	48
1978...	13.8	13.4	—	.3	13.0	12.6	.3	¢	.9	4.2	26
1979...	15.6	15.1	—	.4	14.2	13.8	.4	¢	1.4	5.6	30
1980...	13.9	13.3	—	.5	15.9	15.5	.4	¢	-2.0	3.6	35
1981...	17.1	16.7	—	.2	17.7	17.2	.4	¢	-.6	3.0	21
1982...	22.7	22.0	—	.5	18.0	17.4	.6	¢	-.4	2.7	17
1983...	20.7	18.0	—	1.6	18.2	17.5	.6	¢	2.5	5.2	15
1984...	17.3	15.9	\$0.2	1.2	18.5	17.9	.6	¢	-1.2	4.0	35
1985...	19.3	17.2	.2	.9	19.5	18.8	.6	¢	72.4	6.3	27
1986...	19.4	18.4	.2	.8	20.5	19.9	.6	\$0.1	71.5	7.8	38
1987...	20.3	19.7	¢	.6	21.4	20.5	.8	.1	-1.1	6.7	44
1988...	22.7	22.0	.1	.6	22.5	21.7	.7	.1	.2	6.9	38
1989...	24.8	24.0	.1	.7	23.8	22.9	.8	.1	1.0	7.9	38
1990...	28.8	28.5	.1	.9	25.6	24.8	.7	.1	3.2	11.1	40
1991...	30.4	29.1	.2	1.1	28.6	27.7	.8	.1	1.8	12.9	39
1992...	31.4	30.1	.2	1.1	32.0	31.1	.8	.1	-.6	12.3	40
1993...	32.3	31.2	.3	.8	35.7	34.6	1.0	.1	-3.4	9.0	35
1994...	52.8	51.4	.3	1.2	38.9	37.7	1.0	.1	14.0	22.9	23
1995...	56.7	54.4	.3	2.2	42.1	40.9	1.1	.1	14.6	37.6	55
1996...	60.7	57.3	.4	3.0	45.4	44.2	1.2	¢	15.4	52.9	83
1997...	60.5	56.0	.5	4.0	47.0	45.7	1.3	.1	13.5	66.4	113
1998...	64.4	59.0	.6	4.8	49.9	48.2	1.6	.2	14.4	80.8	133
1999...	69.5	63.2	.7	5.7	53.0	51.4	1.5	.1	16.5	97.3	152
2000...	77.9	71.1	.7	6.9	56.8	55.0	1.6	.2	21.1	118.5	171
2001...	83.9	74.9	.8	8.2	61.4	59.6	1.7	¢	22.5	141.0	193
2002...	87.4	77.3	.9	9.2	67.9	65.7	2.0	.2	19.5	160.5	208
2003...	88.1	77.4	.9	9.7	73.1	70.9	2.0	.2	15.0	175.4	219
2004...	91.4	80.3	1.1	10.0	80.6	78.2	2.2	.2	10.8	186.2	218
2005...	97.4	86.1	1.1	10.3	88.0	85.4	2.3	.3	9.4	195.6	212
2006...	102.6	90.8	1.2	10.6	94.5	91.7	2.3	.4	8.2	203.8	207

Appendices

¹ Includes payments from the General Fund of the Treasury to the trust funds (1) beginning in 1966 and later, costs of noncontributory wage credits for military service performed before 1957 and (2) in 1971-82, costs of deemed wage credits for military service performed after 1956. Differences in past year total income and sum of individual column amounts are due to these payments. DI historical payments from the General Fund of the Treasury may be found on the Internet at www.socialsecurity.gov/OACT/STATS/t4a2Income.html.

² Beginning in 1983, includes transfers from the General Fund of the Treasury representing contributions that would have been paid on deemed wage credits for military service in 1957 through 2001, if such credits were considered to be covered wages.

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

⁴ 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 The "Trust fund ratio" column represents assets at the beginning of a year as a percentage of expenditures during the year. For years 1984-90, assets at the beginning of a year include January advance tax transfers.

⁶ Less than \$50 million.

⁷ Reflects offset for repayment from the OASI Trust Fund of amounts borrowed from the DI Trust Fund in 1982. An amount of \$2.5 billion was repaid in each year 1985 and 1986.

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

Table VI.A4.—Historical Operations of the Combined OASI and DI Trust Funds, Calendar Years 1957-2006
[Amounts in billions]

Calendar year	Income				Expenditures				Assets		
	Total ¹	Net contributions ²	Taxation of benefits	Net interest ³	Total	Benefit payments ⁴	Administrative costs	RRB interchange	Net increase during year	Amount at end of year	Trust Fund ratio ⁵
1957 ...	\$8.1	\$7.5	—	\$0.6	\$7.6	\$7.4	\$0.2	^{6/}	\$0.5	\$23.0	298
1958 ...	9.1	8.5	—	.6	8.9	8.6	.2	\$0.1	.2	23.2	259
1959 ...	9.5	8.9	—	.6	10.8	10.3	.2	.3	-1.3	22.0	215
1960 ...	12.4	11.9	—	.6	11.8	11.2	.2	.3	.6	22.6	186
1961 ...	12.9	12.3	—	.6	13.4	12.7	.3	.3	-.5	22.2	169
1962 ...	13.7	13.1	—	.6	15.2	14.5	.3	.4	-1.5	20.7	146
1963 ...	16.2	15.6	—	.6	16.2	15.4	.3	.4	^{6/}	20.7	128
1964 ...	17.5	16.8	—	.6	17.0	16.2	.4	.4	.5	21.2	122
1965 ...	17.9	17.2	—	.7	19.2	18.3	.4	.5	-1.3	19.8	110
1966 ...	23.4	22.6	—	.7	20.9	20.1	.4	.5	2.5	22.3	95
1967 ...	26.4	25.4	—	.9	22.5	21.4	.5	.5	3.9	26.3	99
1968 ...	28.5	27.0	—	1.0	26.0	25.0	.6	.5	2.5	28.7	101
1969 ...	33.3	31.5	—	1.3	27.9	26.8	.6	.5	5.5	34.2	103
1970 ...	37.0	34.7	—	1.8	33.1	31.9	.6	.6	3.9	38.1	103
1971 ...	40.9	38.3	—	2.0	38.5	37.2	.7	.6	2.4	40.4	99
1972 ...	45.6	42.9	—	2.2	43.3	41.6	.9	.7	2.3	42.8	93
1973 ...	54.8	51.9	—	2.4	53.1	51.5	.8	.8	1.6	44.4	80
1974 ...	62.1	58.9	—	2.7	60.6	58.6	1.1	.9	1.5	45.9	73
1975 ...	67.6	64.3	—	2.9	69.2	67.0	1.2	1.0	-1.5	44.3	66
1976 ...	75.0	71.6	—	2.7	78.2	75.8	1.2	1.2	-3.2	41.1	57
1977 ...	82.0	78.7	—	2.5	87.3	84.7	1.4	1.2	-5.3	35.9	47
1978 ...	91.9	88.9	—	2.3	96.0	93.0	1.4	1.6	-4.1	31.7	37
1979 ...	105.9	103.0	—	2.2	107.3	104.4	1.5	1.5	-1.5	30.3	30
1980 ...	119.7	116.7	—	2.3	123.6	120.6	1.5	1.4	-3.8	26.5	25
1981 ...	142.4	139.4	—	2.2	144.4	141.0	1.7	1.6	-1.9	24.5	18
1982 ...	147.9	145.7	—	1.4	160.1	156.2	2.1	1.8	.2	24.8	15
1983 ...	171.3	156.3	—	8.3	171.2	166.7	2.2	2.3	.1	24.9	14
1984 ...	186.6	180.1	\$3.0	3.4	180.4	175.7	2.3	2.4	6.2	31.1	21
1985 ...	203.5	194.1	3.4	2.7	190.6	186.1	2.2	2.4	^{7/} 11.1	42.2	24
1986 ...	216.8	209.1	3.7	3.9	201.5	196.7	2.2	2.7	^{7/} 4.7	46.9	29
1987 ...	231.0	222.4	3.2	5.3	209.1	204.1	2.4	2.6	21.9	68.8	31
1988 ...	263.5	251.8	3.4	8.2	222.5	217.1	2.5	2.9	41.0	109.8	41
1989 ...	289.4	274.2	2.5	12.7	236.2	230.9	2.4	2.9	53.2	163.0	57
1990 ...	315.4	296.1	5.0	17.2	253.1	247.8	2.3	3.0	62.3	225.3	75
1991 ...	329.7	301.7	6.1	21.9	274.2	268.2	2.6	3.5	55.5	280.7	82
1992 ...	342.6	311.1	6.1	25.4	291.9	286.0	2.7	3.2	50.7	331.5	96
1993 ...	355.6	322.1	5.6	27.9	308.8	302.4	3.0	3.4	46.8	378.3	107
1994 ...	381.1	344.7	5.3	31.1	323.0	316.8	2.7	3.5	58.1	436.4	117
1995 ...	399.5	359.0	5.8	35.0	339.8	332.6	3.1	4.1	59.7	496.1	128
1996 ...	424.5	378.9	6.8	38.7	353.6	347.1	3.0	3.6	70.9	567.0	140
1997 ...	457.7	406.0	7.9	43.8	369.1	362.0	3.4	3.7	88.6	655.5	154
1998 ...	489.2	430.2	9.7	49.3	382.3	375.0	3.5	3.8	107.0	762.5	171
1999 ...	526.6	459.6	11.6	55.5	392.9	385.8	3.3	3.8	133.7	896.1	194
2000 ...	568.4	492.5	12.3	64.5	415.1	407.6	3.8	3.7	153.3	1,049.4	216
2001 ...	602.0	516.4	12.7	72.9	438.9	431.9	3.7	3.3	163.1	1,212.5	239
2002 ...	627.1	532.5	13.8	80.4	461.7	453.8	4.2	3.6	165.4	1,378.0	263
2003 ...	631.9	533.5	13.4	84.9	479.1	470.8	4.6	3.7	152.8	1,530.8	288
2004 ...	657.7	553.0	15.7	89.0	501.6	493.3	4.5	3.8	156.1	1,686.8	305
2005 ...	701.8	592.9	14.9	94.3	529.9	520.7	5.3	3.9	171.8	1,858.7	318
2006 ...	744.9	625.6	16.9	102.4	555.4	546.2	5.3	3.8	189.5	2,048.1	335

Appendices

¹ Includes payments from the General Fund of the Treasury to the trust funds (1) beginning in 1966 and later, costs of noncontributory wage credits for military service performed before 1957; (2) in 1971-82, costs of deemed wage credits for military service performed after 1956; and (3) in 1968 and later, costs of benefits to certain uninsured persons who attained age 72 before 1968. Differences in past year total income and sum of individual column amounts are due to these payments. OASDI historical payments from the General Fund of the Treasury may be found on the Internet at www.socialsecurity.gov/OACT/STATS/t4a3Income.html.

² Beginning in 1983, includes transfers from the General Fund of the Treasury representing contributions that would have been paid on deemed wage credits for military service in 1957 through 2001, if such credits were considered to be covered wages.

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

⁴ 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 The "Trust fund ratio" column represents assets at the beginning of a year as a percentage of expenditures during the year. For years 1984-90, assets at the beginning of a year include January advance tax transfers.

⁶ Less than \$50 million.

⁷ Reflects offset for repayment from the OASI Trust Fund of amounts borrowed from the HI Trust Fund in 1982. The amount repaid in 1985 was \$1.8 billion; in 1986, the amount was \$10.6 billion.

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

Tables VIA5 and VIA6 show the total assets of the OASI Trust Fund and the DI Trust Fund, respectively, at the end of each calendar year 2005 and 2006. These assets are separated by interest rate and year of maturity. Assets grouped with multiple years of maturity are distributed evenly across those years. Bonds issued to the trust funds in 2006 had an interest rate of 5.125 percent, compared with an interest rate of 4.125 percent for bonds issued in 2005.

Table VI.A5.—Assets of the OASI Trust Fund, End of Calendar Years 2005 and 2006
 [In thousands]

	December 31, 2005	December 31, 2006
Obligations sold only to the trust funds (special issues):		
Certificates of indebtedness:		
4.500 percent, 2007	—	\$69,954,173
4.625 percent, 2006	\$94,140,199	—
4.750 percent, 2007	—	11,593,669
5.250 percent, 2007	—	41,491,126
Bonds:		
3.500 percent, 2007	9,513,751	—
3.500 percent, 2008-15	76,110,008	76,110,008
3.500 percent, 2016-17	19,027,504	19,027,504
3.500 percent, 2018	86,900,994	86,900,994
4.125 percent, 2007	10,516,947	—
4.125 percent, 2008-19	126,203,352	126,203,352
4.125 percent, 2020	106,585,700	106,585,700
4.625 percent, 2007	9,167,662	—
4.625 percent, 2008-15	73,341,312	73,341,312
4.625 percent, 2016-18	27,502,989	27,502,989
4.625 percent, 2019	96,068,657	96,068,657
5.125 percent, 2008-09	—	23,135,730
5.125 percent, 2010-19	—	115,678,660
5.125 percent, 2020	—	11,567,769
5.125 percent, 2021	—	118,153,469
5.250 percent, 2006	9,235,911	—
5.250 percent, 2007	9,235,912	—
5.250 percent, 2008-15	73,887,296	73,887,296
5.250 percent, 2016	9,235,911	9,235,911
5.250 percent, 2017	77,387,242	77,387,242
5.625 percent, 2006	9,621,438	—
5.625 percent, 2007-11	48,107,190	48,107,190
5.625 percent, 2012-15	38,485,748	38,485,748
5.625 percent, 2016	68,151,331	68,151,331
5.875 percent, 2006	6,169,273	—
5.875 percent, 2007-12	37,015,638	37,015,638
5.875 percent, 2013	43,258,869	43,258,869
6.000 percent, 2006	6,693,627	—
6.000 percent, 2007-11	33,468,135	33,468,135
6.000 percent, 2012-13	13,387,256	13,387,256
6.000 percent, 2014	49,952,497	49,952,497
6.250 percent, 2006	3,150,975	—
6.250 percent, 2007	3,150,974	3,150,974
6.250 percent, 2008	23,350,034	23,350,034
6.500 percent, 2006	11,008,650	—
6.500 percent, 2007-09	33,025,950	33,025,950
6.500 percent, 2010	38,320,240	38,320,240
6.500 percent, 2011-14	34,309,584	34,309,584
6.500 percent, 2015	58,529,893	58,529,893
6.875 percent, 2006	3,975,271	—
6.875 percent, 2007-09	11,925,813	11,925,813
6.875 percent, 2010-11	7,950,544	7,950,544
6.875 percent, 2012	37,089,596	37,089,596
7.000 percent, 2006	3,371,480	—
7.000 percent, 2007-10	13,485,920	13,485,920
7.000 percent, 2011	33,114,324	33,114,324
7.250 percent, 2006	3,961,556	—
7.250 percent, 2007-08	7,923,114	7,923,114
7.250 percent, 2009	27,311,591	27,311,591
7.375 percent, 2006	3,575,474	—
7.375 percent, 2007	20,199,060	20,199,060
8.125 percent, 2006	16,623,586	—
Total investments	1,663,725,978	1,845,338,862
Undisbursed balances ¹	-688,652	-1,035,134
Total assets	1,663,037,326	1,844,303,728

¹ Negative figures represent an extension of credit against securities to be redeemed within the following few days.

Note: Amounts of special issues are shown at par value. Special issues are always purchased and redeemed at par value. Where equal amounts mature in two or more years at a given interest rate, they are grouped.

Appendices

Table VI.A6.—Assets of the DI Trust Fund, End of Calendar Years 2005 and 2006
[In thousands]

	December 31, 2005	December 31, 2006
Obligations sold only to the trust funds (special issues):		
Certificates of indebtedness:		
4.500 percent, 2007	—	\$8,252,811
4.625 percent, 2006	\$8,339,100	—
3.500 percent, 2007	1,115,128	—
3.500 percent, 2008-11	4,460,512	4,460,512
3.500 percent, 2012-15	4,460,508	4,460,508
3.500 percent, 2016-17	2,230,256	2,230,256
3.500 percent, 2018	11,378,384	11,378,384
4.125 percent, 2007	677,386	—
4.125 percent, 2008-11	2,709,544	2,709,544
4.125 percent, 2012-17	4,064,310	4,064,310
4.125 percent, 2018-19	1,354,772	1,354,772
4.125 percent, 2020	12,911,283	12,911,283
4.625 percent, 2007	855,496	—
4.625 percent, 2008	855,496	855,496
4.625 percent, 2009-11	2,566,491	2,566,491
4.625 percent, 2012-15	3,421,992	3,421,992
4.625 percent, 2016-18	2,566,491	2,566,491
4.625 percent, 2019	12,233,881	12,233,881
5.125 percent, 2008	—	665,132
5.125 percent, 2009-17	—	5,986,179
5.125 percent, 2018-19	—	1,330,260
5.125 percent, 2020	—	665,115
5.125 percent, 2021	—	13,576,398
5.250 percent, 2007	1,363,407	—
5.250 percent, 2008-11	5,453,628	5,453,628
5.250 percent, 2012-16	6,817,040	6,817,040
5.250 percent, 2017	10,263,256	10,263,256
5.625 percent, 2007	1,524,968	—
5.625 percent, 2008-13	9,149,808	9,149,808
5.625 percent, 2014-15	3,049,934	3,049,934
5.625 percent, 2016	8,899,848	8,899,848
5.875 percent, 2006	159,252	—
5.875 percent, 2007	916,286	—
5.875 percent, 2008-12	4,581,430	4,581,430
5.875 percent, 2013	5,361,805	5,361,805
6.000 percent, 2006	695,965	—
6.000 percent, 2007	695,966	—
6.000 percent, 2008-12	3,479,830	3,479,830
6.000 percent, 2013	695,967	695,967
6.000 percent, 2014	6,057,772	6,057,772
6.500 percent, 2006	3,464,768	—
6.500 percent, 2007	3,464,767	3,301,315
6.500 percent, 2008	4,381,228	4,381,228
6.500 percent, 2009-13	6,585,540	6,585,540
6.500 percent, 2014	1,317,109	1,317,109
6.500 percent, 2015	7,374,881	7,374,881
6.875 percent, 2006	265,250	—
6.875 percent, 2007	265,250	265,250
6.875 percent, 2008-09	530,498	530,498
6.875 percent, 2010-12	13,336,560	13,336,560
7.000 percent, 2006	1,116,151	—
7.000 percent, 2007-08	2,232,302	2,232,302
7.000 percent, 2009	4,180,271	4,180,271
7.375 percent, 2006	47,601	—
7.375 percent, 2007	916,460	916,460
8.125 percent, 2006	868,859	—
Total investments	195,714,687	203,921,547
Undisbursed balances ¹	-91,890	-113,509
Total assets	195,622,797	203,808,038

¹ Negative figures represent an extension of credit against securities to be redeemed within the following few days.

Note: Amounts of special issues are shown at par value. Special issues are always purchased and redeemed at par value. Where equal amounts mature in two or more years at a given interest rate, they are grouped.

B. HISTORY OF ACTUARIAL BALANCE ESTIMATES

This appendix chronicles the history of the principal summary measure of long-range actuarial status, namely the actuarial balance, since 1983. The 1983 report was the last report for which the actuarial balance was positive. Actuarial balance is defined in detail in section IV.B.4 Summarized Income Rates, Cost Rates, and Balances. 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 cost for the period, each divided by the present value of taxable payroll for all years in the period. Also included in the calculation of the actuarial balance are:

- The amount of the trust fund balances on hand at the beginning of the valuation period, as shown in the reports for 1988 and later, and
- The present value of a target trust fund balance equal to 100 percent of the amount of annual cost 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 demographic and economic 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.

Appendices

As a result of legislation enacted in 1977 and in 1983, substantial increases in the trust funds were estimated to occur well into the 21st century, so that the program was partially advance funded, rather than being funded on a pay-as-you-go basis. Also, because of reductions 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 reintroduced.

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 VI.B1 shows the estimated OASDI actuarial balances, as well as the summarized income and cost rates, for the annual reports 1982-2006, along with the estimates for the current report. The values shown are based on the alternative II assumptions, or alternative II-B for years prior to 1991.

**Table VI.B1.—Long-Range OASDI Actuarial Balances¹ as Shown
in the Trustees Reports for 1982-2007**
[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	2/
1983	12.87	12.84	+0.02	+1.84
1984	12.90	12.95	-0.06	-0.08
1985	12.94	13.35	-0.41	-0.35
1986	12.96	13.40	-0.44	-0.03
1987	12.89	13.51	-0.62	-0.18
1988	12.94	13.52	-0.58	+0.04
1989	13.02	13.72	-0.70	-0.13
1990	13.04	13.95	-0.91	-0.21
1991	13.11	14.19	-1.08	-0.17
1992	13.16	14.63	-1.46	-0.38
1993	13.21	14.67	-1.46	2/
1994	13.24	15.37	-2.13	-0.66
1995	13.27	15.44	-2.17	-0.04
1996	13.33	15.52	-2.19	-0.02
1997	13.37	15.60	-2.23	-0.03
1998	13.45	15.64	-2.19	+0.04
1999	13.49	15.56	-2.07	+0.12
2000	13.51	15.40	-1.89	+0.17
2001	13.58	15.44	-1.86	+0.03
2002	13.72	15.59	-1.87	-0.01
2003	13.78	15.70	-1.92	-0.04
2004	13.84	15.73	-1.89	+0.03
2005	13.87	15.79	-1.92	-0.04
2006	13.88	15.90	-2.02	-0.09
2007	13.92	15.87	-1.95	+0.06

¹ Values shown are based on the alternative II assumptions for 1991-2007, and on the alternative II-B assumptions for 1982-90.

² Between -0.005 and 0.005 percent of taxable payroll.

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

For several of the years included in the table, significant legislative changes or definitional changes affected the estimated actuarial balance. The Social Security Amendments of 1983 accounted for the largest single change in recent history. 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 the 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

Appendices

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 the actuarial balance. In 1992, changes in disability assumptions and the method for projecting average benefit levels accounted for most of the change in the actuarial balance. In 1993, numerous small changes in assumptions and methods had offsetting effects on the actuarial balance. In 1994, changes in the real-wage assumptions, disability rates, and the earnings sample used for projecting average benefit levels accounted for most of the change in the actuarial balance. In 1995, numerous small changes had largely offsetting effects on the actuarial balance, including a substantial reallocation of the payroll tax rate, which reduced the OASI actuarial balance, but increased the DI actuarial balance.

In 1996, a change in the method of projecting dually-entitled beneficiaries produced a large increase in the actuarial balance, which almost totally offset decreases produced by changes in the valuation period and in the demographic and economic assumptions. Various changes in assumptions and methods for the 1997 report had roughly offsetting effects on the actuarial balance. In 1998, increases caused by changes in the economic assumptions, although partially offset by decreases produced by changes in the valuation period and in the demographic assumptions, accounted for most of the changes in the estimated actuarial balance. In 1999, increases caused by changes in the economic assumptions (related to improvements in the CPI by the Bureau of Labor Statistics) accounted for most of the changes in the estimated actuarial balance. For the 2000 report, changes in the actuarial balance resulted from changes in economic assumptions and methodology; however, these increases in the balance were partially offset by reductions caused by the change in valuation period and changes in demographic assumptions.

For the 2001 report, increases caused by changes in the demographic starting values, although partially offset by a decrease produced by the change in the valuation period, accounted for most of the changes in the estimated actuarial balance. For the 2002 report, the changes in the valuation period and the demographic assumptions—both decreases in the actuarial balance—were offset by changes in the economic assumptions, while the increase due to disability assumptions was slightly more than offset by the decrease due to changes in the projection methods and data. For the 2003 report, the increase due to the change in program assumptions was more than offset by decreases due to the change in valuation period and changes in demographic assumptions. For the 2004 report, increases due to changing the method of project-

ing benefit levels for higher earners more than offset decreases in the actuarial balance arising from the change in the valuation period and the net effect of other changes in programmatic data and methods. For the 2005 report, the increase due to changing the method of projecting future average benefit levels was more than offset by decreases due to changes in the valuation period, updated starting values for the economic assumptions, and other methodological changes.

In 2006, decreases in the actuarial balance due to the change in the valuation period, a reduction in the ultimate annual real interest rate, and improvements in calculating mortality for disabled workers, were greater in aggregate than increases in the actuarial balance due to changes in demographic starting values and the ultimate total fertility rate, as well as other programmatic data and method changes.

Changes affecting the actuarial balance shown for the 2007 report are described in section IV.B.7 Reasons for Change in Actuarial Balance From Last Report.

C. FISCAL YEAR HISTORICAL DATA AND PROJECTIONS THROUGH 2016

Tables VI.C1, VI.C2, and VI.C3 present detailed operations of the OASI, DI, and the combined OASI and DI Trust Funds, respectively, for fiscal year 2006, the most recent fiscal year for which complete actual information is available. These tables are similar to the calendar year operations tables in section III.A. Please see that section for a description of the various items of income and outgo.

Table VI.C1.—Operations of the OASI Trust Fund, Fiscal Year 2006
[In millions]

Total assets, September 30, 2005		<u>\$1,615,623</u>
Receipts:		
Contributions:		
Employment taxes	\$531,899	
Payments from the General Fund of the Treasury for contributions subject to refund	<u>-1,892</u>	
Net contributions		530,006
Income based on taxation of benefit payments:		
Withheld from benefit payments to nonresident aliens	144	
All other, not subject to withholding	<u>15,032</u>	
Total income from taxation of benefits		15,176
Reimbursement from the general fund for costs of noncontributory wage credits for military service before 1957		-350
Reimbursement from the general fund for costs of payments to uninsured persons who attained age 72 before 1968		1/
Investment income and interest adjustments:		
Interest on investments	86,810	
Interest adjustments ²	<u>514</u>	
Total investment income and interest adjustments		87,324
Gifts		<u>1/</u>
Total receipts		632,157
Disbursements:		
Benefit payments:		
Gross benefit payments	455,487	
Offset for collected overpayments	-1,183	
Reimbursement from general fund for excess amounts of voluntary income tax withholding	-5,063	
Reimbursement from the general fund for unnegotiated checks	<u>-51</u>	
Net benefit payments		449,191
Transfer to the Railroad Retirement "Social Security Equivalent Benefit Account"		3,458
Payment for costs of vocational rehabilitation services for disabled beneficiaries		3
Administrative expenses:		
Costs incurred by:		
Social Security Administration	2,288	
Department of the Treasury	625	
Offsetting receipts from sales of supplies, materials, etc.	<u>1/</u>	
Miscellaneous reimbursements from the general fund ³	<u>-4</u>	
Net administrative expenses		2,908
Total disbursements		<u>455,560</u>
Net increase in assets		<u>176,597</u>
Total assets, September 30, 2006		<u>1,792,220</u>

¹ Between -\$500,000 and \$500,000.

² Includes (1) 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, (2) interest arising from the revised allocation of administrative expenses among the trust funds, and (3) interest on certain reimbursements to the trust fund.

³ Reimbursements for costs incurred in performing certain legislatively mandated activities not directly related to administering the OASI program.

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

Table VI.C2.—Operations of the DI Trust Fund, Fiscal Year 2006
[In millions]

Total assets, September 30, 2005		<u>\$193,298</u>
Receipts:		
Contributions:		
Employment taxes	\$90,322	
Payments from the General Fund of the Treasury for contributions subject to refund	-321	
Net contributions		90,001
Income based on taxation of benefit payments:		
Withheld from benefit payments to nonresident aliens	4	
All other, not subject to withholding	1,170	
Total income from taxation of benefits		1,174
Investment income and interest adjustments:		
Interest on investments	10,347	
Interest adjustments ¹	49	
Total investment income and interest adjustments		10,396
Total receipts		<u>101,571</u>
Disbursements:		
Benefit payments:		
Gross benefit payments	91,371	
Offset for collected overpayments	-695	
Reimbursement from general fund for excess amounts of voluntary income tax withholding	-588	
Reimbursement from the general fund for unnegotiated checks	-25	
Net benefit payments		90,064
Transfer to the Railroad Retirement "Social Security Equivalent Benefit Account"		388
Payment for costs of vocational rehabilitation services for disabled beneficiaries		65
Administrative expenses:		
Costs incurred by:		
Social Security Administration	2,298	
Department of the Treasury	110	
Miscellaneous reimbursements from the general fund ²	6	
Total administrative expenses		2,415
Total disbursements		<u>92,932</u>
Net increase in assets		<u>8,640</u>
Total assets, September 30, 2006		<u>201,938</u>

¹ Includes (1) 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, (2) interest arising from the revised allocation of administrative expenses among the trust funds, and (3) interest on certain reimbursements to the trust fund.

² Reimbursements for costs incurred in performing certain legislatively mandated activities not directly related to administering the DI program.

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

Appendices

Table VI.C3.—Operations of the Combined OASI and DI Trust Funds, Fiscal Year 2006
[In millions]

Total assets, September 30, 2005		<u>\$1,808,922</u>
Receipts:		
Contributions:		
Employment taxes	\$622,221	
Payments from the General Fund of the Treasury for contributions subject to refund	-2,213	
Net contributions		620,007
Income based on taxation of benefit payments:		
Withheld from benefit payments to nonresident aliens	149	
All other, not subject to withholding	16,202	
Total income from taxation of benefits		16,351
Reimbursement from the general fund for costs of noncontributory wage credits for military service before 1957		-350
Reimbursement from the general fund for costs of payments to uninsured persons who attained age 72 before 1968		1/
Investment income and interest adjustments:		
Interest on investments	97,157	
Interest adjustments ²	564	
Total investment income and interest adjustments		97,720
Gifts		1/
Total receipts		<u>733,728</u>
Disbursements:		
Benefit payments:		
Gross benefit payments	546,859	
Offset for collected overpayments	-1,878	
Reimbursement from general fund for excess amounts of voluntary income tax withholding	-5,651	
Reimbursement from the general fund for unnegotiated checks	-76	
Net benefit payments		539,254
Transfer to the Railroad Retirement "Social Security Equivalent Benefit Account"		3,846
Payment for costs of vocational rehabilitation services for disabled beneficiaries		68
Administrative expenses:		
Costs incurred by:		
Social Security Administration	4,586	
Department of the Treasury	735	
Offsetting receipts from sales of supplies, materials, etc.	1/	
Miscellaneous reimbursements from the general fund ³	2	
Net administrative expenses		5,323
Total disbursements		<u>548,492</u>
Net increase in assets		<u>185,237</u>
Total assets, September 30, 2006		<u>1,994,158</u>

¹ Between -\$500,000 and \$500,000.

² Includes (1) interest on transfers between the trust funds and the general fund account for the Supplemental Security Income program due to adjustments in the allocation of administrative expenses, (2) interest arising from the revised allocation of administrative expenses among the trust funds, and (3) interest on certain reimbursements to the trust fund.

³ Reimbursements for costs incurred in performing certain legislatively mandated activities not directly related to administering the OASI and DI programs.

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

Estimates of the operations and status of the OASI, DI and the combined OASI and DI Trust Funds during fiscal years (12 months ending on

September 30) 2002-16 are presented in tables VI.C4, VI.C5 and VI.C6, respectively.

Table VI.C4.—Operations of the OASI Trust Fund in Fiscal Years 2002-16
[Amounts in billions]

Fiscal year	Income				Cost				Assets		
	Total ¹	Net contributions	Taxation of benefits	Net interest	Total	Benefit payments	Administrative costs	RRB interchange	Net increase during year	Amount at end of year	Trust fund ratio ²
Historical data:											
2002..	\$529.3	\$448.1	\$12.6	\$68.1	\$389.5	\$383.9	\$2.1	\$3.5	\$139.7	\$1,173.6	265
2003..	542.3	456.0	12.3	74.0	402.8	396.7	2.5	3.6	139.5	1,313.1	291
2004..	556.5	466.8	13.3	76.4	417.1	411.2	2.3	3.6	139.5	1,452.6	315
2005..	600.0	503.0	15.3	81.7	436.9	430.4	2.9	3.6	163.1	1,615.6	332
2006..	632.2	530.0	15.2	87.3	455.6	449.2	2.9	3.5	176.6	1,792.2	355
Intermediate:											
2007..	665.0	552.7	16.8	95.5	484.9	478.4	3.0	3.5	180.1	1,972.3	370
2008..	701.2	580.5	18.4	102.3	506.0	499.5	3.1	3.4	195.1	2,167.5	390
2009..	747.1	614.2	20.2	112.7	532.0	525.4	3.1	3.5	215.1	2,382.6	407
2010..	796.6	648.9	22.3	125.4	564.9	558.3	3.1	3.5	231.7	2,614.3	422
2011..	847.8	683.2	25.0	139.6	601.3	594.6	3.1	3.6	246.5	2,860.7	435
2012..	895.9	713.8	27.8	154.2	641.3	634.4	3.1	3.8	254.6	3,115.4	446
2013..	946.3	746.0	31.0	169.4	687.0	680.0	3.2	3.9	259.3	3,374.6	453
2014..	996.5	777.7	33.7	185.1	737.5	730.3	3.2	4.0	259.0	3,633.6	458
2015..	1,048.3	810.8	36.8	200.7	791.5	784.0	3.3	4.2	256.8	3,890.4	459
2016..	1,110.2	854.1	40.1	216.0	849.4	841.8	3.4	4.3	260.8	4,151.2	458
Low Cost:											
2007..	666.0	553.6	16.8	95.6	484.8	478.3	3.0	3.5	181.2	1,973.5	370
2008..	708.4	587.4	18.3	102.7	504.8	498.3	3.1	3.4	203.6	2,177.0	391
2009..	751.2	618.4	20.1	112.7	528.3	521.7	3.1	3.4	222.9	2,400.0	412
2010..	798.0	652.7	22.0	123.3	556.2	549.6	3.1	3.5	241.8	2,641.8	431
2011..	846.1	686.0	24.4	135.8	586.0	579.4	3.1	3.5	260.2	2,901.9	451
2012..	891.7	715.5	26.8	149.4	618.4	611.7	3.1	3.6	273.4	3,175.3	469
2013..	941.1	747.1	29.5	164.4	655.7	648.9	3.1	3.7	285.4	3,460.6	484
2014..	990.9	778.5	31.9	180.5	696.9	690.0	3.2	3.8	294.0	3,754.7	497
2015..	1,041.8	810.1	34.4	197.3	740.6	733.6	3.2	3.9	301.2	4,055.8	507
2016..	1,101.9	851.2	37.2	213.5	787.3	780.2	3.2	3.9	314.6	4,370.4	515
High Cost:											
2007..	661.2	549.0	16.8	95.4	485.1	478.6	3.0	3.5	176.1	1,968.3	369
2008..	681.5	562.9	18.5	100.1	509.4	502.8	3.1	3.4	172.0	2,140.4	386
2009..	732.1	600.0	20.5	111.6	538.4	531.8	3.1	3.5	193.6	2,334.0	398
2010..	778.4	632.0	22.7	123.8	573.9	567.2	3.1	3.6	204.5	2,538.5	407
2011..	827.0	664.5	25.8	136.8	619.8	612.9	3.2	3.7	207.3	2,745.8	410
2012..	908.6	716.2	29.4	163.0	678.5	671.3	3.3	4.0	230.1	2,975.9	405
2013..	980.6	759.6	33.6	187.4	746.2	738.5	3.4	4.2	234.4	3,210.3	399
2014..	1,040.3	798.6	37.3	204.4	816.0	807.9	3.5	4.6	224.3	3,434.6	393
2015..	1,096.2	838.0	41.1	217.0	885.0	876.6	3.5	4.9	211.1	3,645.7	388
2016..	1,160.6	886.5	45.2	228.8	957.9	949.2	3.6	5.1	202.7	3,848.4	381

¹“Total Income” column includes transfers made between the OASI Trust Fund and the General Fund of the Treasury that are not included in the separate components of income shown. These transfers consist of payments for (1) the cost of noncontributory wage credits for military service before 1957, and (2) the cost of benefits to certain uninsured persons who attained age 72 before 1968. Transfers for the cost of pre-1957 military service noncontributory wage credits were: (1) \$414 million from the General Fund of the Treasury to the OASI Trust Fund in February 2002, and (2) \$350 million from the trust fund to the general fund in December 2005. After fiscal year 2006, such transfers are estimated to be less than \$500,000 in each year.

²The “Trust fund ratio” column represents assets at the beginning of a year (which are identical to assets at the end of the prior year shown in the “Amount at end of year” column) as a percentage of cost for the year.

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

Appendices

Table VI.C5.—Operations of the DI Trust Fund in Fiscal Years 2002-16
[Amounts in billions]

Fiscal year	Income				Cost				Assets		
	Total ¹	Net contributions	Taxation of benefits	Net interest	Total	Benefit payments	Administrative costs	RRB inter-change	Net increase during year	Amount at end of year	Trust fund ratio ²
Historical data:											
2002 ..	\$85.7	\$76.1	\$0.9	\$8.7	\$66.4	\$64.2	\$2.0	\$0.2	\$19.4	\$155.3	205
2003 ..	87.9	77.4	.9	9.6	71.9	69.8	2.0	.2	16.0	171.3	216
2004 ..	90.1	79.3	1.0	9.8	78.5	76.2	2.1	.2	11.6	182.9	218
2005 ..	96.8	85.4	1.2	10.2	86.4	83.7	2.3	.3	10.4	193.3	212
2006 ..	101.6	90.0	1.2	10.4	92.9	90.1	2.4	.4	8.6	201.9	208
Intermediate:											
2007 ..	105.9	93.8	1.4	10.7	100.1	97.4	2.4	.4	5.8	207.7	202
2008 ..	110.8	98.6	1.5	10.7	105.2	102.4	2.5	.4	5.6	213.4	197
2009 ..	117.0	104.3	1.7	11.0	111.3	108.3	2.6	.4	5.7	219.1	192
2010 ..	123.5	110.2	2.0	11.3	118.7	115.5	2.8	.5	4.7	223.8	185
2011 ..	129.8	116.0	2.2	11.5	125.2	121.8	2.9	.5	4.6	228.4	179
2012 ..	135.6	121.2	2.6	11.8	133.5	129.8	3.1	.5	2.1	230.4	171
2013 ..	141.5	126.7	2.9	11.9	141.7	137.9	3.3	.5	-2	230.2	163
2014 ..	147.1	132.1	3.2	11.9	149.7	145.7	3.5	.5	-2.6	227.6	154
2015 ..	152.9	137.7	3.4	11.7	158.3	154.1	3.7	.5	-5.4	222.2	144
2016 ..	160.2	145.0	3.7	11.4	167.2	162.8	3.9	.5	-7.0	215.1	133
Low Cost:											
2007 ..	106.0	94.0	1.4	10.7	99.1	96.4	2.4	.4	6.9	208.9	204
2008 ..	112.1	99.7	1.5	10.8	102.7	99.8	2.5	.4	9.4	218.3	203
2009 ..	118.0	105.0	1.7	11.3	107.1	104.1	2.6	.4	10.9	229.2	204
2010 ..	124.5	110.8	1.9	11.7	112.2	109.0	2.7	.5	12.3	241.5	204
2011 ..	130.9	116.5	2.1	12.3	116.3	112.9	2.9	.5	14.6	256.1	208
2012 ..	136.9	121.5	2.3	13.0	121.8	118.2	3.1	.5	15.1	271.2	210
2013 ..	143.3	126.9	2.6	13.8	127.2	123.4	3.2	.5	16.2	287.3	213
2014 ..	149.7	132.2	2.8	14.7	132.3	128.4	3.4	.5	17.4	304.8	217
2015 ..	156.3	137.6	3.0	15.7	137.8	133.8	3.6	.5	18.4	323.2	221
2016 ..	164.4	144.5	3.2	16.7	143.6	139.4	3.7	.4	20.8	344.0	225
High Cost:											
2007 ..	105.3	93.2	1.4	10.7	102.3	99.6	2.4	.4	3.0	204.9	197
2008 ..	107.5	95.6	1.6	10.3	110.6	107.8	2.5	.4	-3.1	201.8	185
2009 ..	113.9	101.9	1.9	10.2	119.5	116.5	2.6	.4	-5.6	196.2	169
2010 ..	119.3	107.3	2.2	9.8	130.1	126.9	2.7	.5	-10.8	185.4	151
2011 ..	124.5	112.8	2.5	9.1	140.9	137.4	3.0	.6	-16.4	169.0	132
2012 ..	132.9	121.6	3.0	8.3	155.7	151.9	3.3	.5	-22.8	146.2	109
2013 ..	139.5	129.0	3.5	7.0	170.7	166.6	3.5	.6	-31.2	115.0	86
2014 ..	144.9	135.6	3.9	5.3	184.7	180.4	3.7	.6	-39.8	75.2	62
2015 ..	150.2	142.3	4.3	3.5	198.6	194.0	3.9	.6	-48.4	26.8	38
2016 ..	3 ³	150.5	4.7	3 ³	213.0	208.2	4.2	.6	3 ³	3 ³	13

¹ “Total Income” column includes transfers made between the DI Trust Fund and the General Fund of the Treasury that are not included in the separate components of income shown. These transfers consist of payments for the cost of noncontributory wage credits for military service before 1957. In particular, a transfer is expected to be made in December 2007 in the amount of \$7.7 million from the General Fund of the Treasury to the DI Trust Fund. Thereafter such transfers are estimated to be less than \$500,000 in each year.

² The “Trust fund ratio” column represents assets at the beginning of a year (which are identical to assets at the end of the prior year shown in the “Amount at end of year” column) as a percentage of cost for the year.

³ Under the high cost assumptions, the DI Trust Fund is projected to be exhausted in 2016. Therefore, certain trust fund operation values for that year are not meaningful under present law and are not shown in this table.

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

**Table VI.C6.—Operations of the Combined OASI and DI Trust Funds
in Fiscal Years 2002-16**
[Amounts in billions]

Fiscal year	Income			Cost			Assets				
	Total ¹	Net contributions	Taxation of benefits	Net interest	Total	Benefit payments	Administrative costs	RRB inter-change	Net increase during year	Amount at end of year	Trust fund ratio ²
Historical data:											
2002..	\$615.0	\$524.2	\$13.5	\$76.8	\$455.9	\$448.1	\$4.1	\$3.6	\$159.1	\$1,328.8	257
2003..	630.3	533.4	13.3	83.5	474.7	466.5	4.5	3.7	155.5	1,484.3	280
2004..	646.6	546.1	14.3	86.2	495.5	487.3	4.3	3.8	151.1	1,635.4	300
2005..	696.8	588.4	16.5	91.8	523.3	514.2	5.2	3.9	173.5	1,808.9	313
2006..	733.7	620.0	16.4	97.7	548.5	539.3	5.3	3.8	185.2	1,994.2	330
Intermediate:											
2007..	770.9	646.6	18.2	106.2	585.0	575.8	5.4	3.9	185.9	2,180.1	341
2008..	812.0	679.1	19.9	113.0	611.2	601.9	5.6	3.8	200.8	2,380.8	357
2009..	864.1	718.5	22.0	123.7	643.3	633.7	5.7	3.9	220.8	2,601.7	370
2010..	920.1	759.1	24.3	136.7	683.7	673.8	5.9	4.0	236.4	2,838.1	381
2011..	977.6	799.2	27.3	151.1	726.5	716.4	6.1	4.1	251.0	3,089.1	391
2012..	1,031.4	835.1	30.4	166.0	774.8	764.2	6.3	4.3	256.7	3,345.8	399
2013..	1,087.8	872.7	33.9	181.3	828.8	817.8	6.5	4.4	259.1	3,604.8	404
2014..	1,143.6	909.7	36.9	197.0	887.3	876.0	6.7	4.6	256.4	3,861.2	406
2015..	1,201.2	948.5	40.2	212.5	949.8	938.1	7.0	4.7	251.4	4,112.5	407
2016..	1,270.4	999.1	43.8	227.5	1,016.6	1,004.6	7.2	4.8	253.8	4,366.3	405
Low Cost:											
2007..	772.1	647.6	18.1	106.3	583.9	574.6	5.4	3.9	188.2	2,182.3	342
2008..	820.5	687.2	19.8	113.5	607.5	598.1	5.6	3.8	213.0	2,395.3	359
2009..	869.2	723.4	21.8	124.0	635.3	625.8	5.7	3.9	233.8	2,629.2	377
2010..	922.5	763.6	23.8	135.1	668.4	658.6	5.8	4.0	254.1	2,883.2	393
2011..	977.0	802.4	26.5	148.1	702.3	692.3	6.0	4.0	274.8	3,158.0	411
2012..	1,028.6	837.0	29.1	162.5	740.2	729.9	6.2	4.1	288.5	3,446.5	427
2013..	1,084.4	874.0	32.2	178.3	782.9	772.4	6.4	4.2	301.5	3,748.0	440
2014..	1,140.6	910.7	34.7	195.2	829.2	818.4	6.6	4.2	311.5	4,059.4	452
2015..	1,198.1	947.7	37.4	213.0	878.5	867.4	6.8	4.3	319.6	4,379.0	462
2016..	1,266.3	995.7	40.4	230.2	930.9	919.6	7.0	4.3	335.4	4,714.4	470
High Cost:											
2007..	766.5	642.2	18.2	106.0	587.4	578.1	5.4	3.9	179.1	2,173.2	339
2008..	789.0	658.5	20.1	110.4	620.0	610.6	5.6	3.8	169.0	2,342.2	351
2009..	846.0	701.9	22.4	121.8	657.9	648.3	5.7	3.9	188.0	2,530.2	356
2010..	897.7	739.3	24.8	133.6	703.9	694.0	5.8	4.1	193.7	2,724.0	359
2011..	951.5	777.3	28.3	145.9	760.7	750.3	6.2	4.2	190.8	2,914.8	358
2012..	1,041.5	837.8	32.4	171.3	834.2	823.2	6.6	4.5	207.3	3,122.1	349
2013..	1,120.1	888.5	37.2	194.3	916.9	905.2	6.9	4.8	203.2	3,325.3	341
2014..	1,185.2	934.2	41.3	209.7	1,000.6	988.3	7.2	5.2	184.5	3,509.8	332
2015..	1,246.3	980.3	45.4	220.5	1,083.6	1,070.6	7.5	5.5	162.7	3,672.5	324
2016..	1,316.5	1,037.0	50.0	229.5	1,170.9	1,157.4	7.8	5.7	145.6	3,818.1	314

¹ "Total Income" column includes transfers made between the OASI and DI Trust Funds and the General Fund of the Treasury that are not included in the separate components of income shown. These transfers consist of payments for (1) the cost of noncontributory wage credits for military service before 1957, and (2) the cost of benefits to certain uninsured persons who attained age 72 before 1968.

² The "Trust fund ratio" column represents assets at the beginning of a year (which are identical to assets at the end of the prior year shown in the "Amount at end of year" column) as a percentage of cost for the year.

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

D. LONG-RANGE SENSITIVITY ANALYSIS

This appendix presents estimates which illustrate the sensitivity of the long-range actuarial status of the OASDI program to changes in selected individual assumptions. The estimates based on the three alternative sets of assumptions (see sections IV.B, V.A, V.B, and V.C) 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 appendix, the intermediate alternative II projection is used as the reference point, and one assumption at a time is varied within that alternative. The variation used for each individual assumption reflects the levels used for that assumption in the low cost alternative I and high cost alternative III projections. Similar variations in the selected assumptions within the other alternatives would result in similar relative variations in the long-range estimates.

Each table in this section shows the effects of changing a particular assumption on the OASDI summarized income rates, summarized cost rates, and actuarial balances for 25-year, 50-year, and 75-year valuation periods. Because the annual payroll tax rate is constant for the entire 75-year valuation period, the income rate varies only slightly with changes in assumptions and, therefore, 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 VI.D1 shows the estimated OASDI income rates, cost rates, and actuarial balances, on the basis of alternative II with various assumptions about the ultimate total fertility rate. These assumptions are that the ultimate total fertility rate will be 1.7, 2.0, and 2.3 children per woman as assumed for alternatives III, II, and I, respectively. The rate is assumed to change gradually from its current level and to reach the various ultimate values in 2031.

Table VI.D1.—Sensitivity to Varying Fertility Assumptions
 [As a percentage of taxable payroll]

Valuation period	Ultimate total fertility rate ^{1,2}		
	1.7	2.0	2.3
Summarized income rate:			
25-year: 2007-31	14.70	14.70	14.71
50-year: 2007-56	14.11	14.10	14.09
75-year: 2007-81	13.96	13.92	13.88
Summarized cost rate:			
25-year: 2007-31	14.11	14.13	14.16
50-year: 2007-56	15.41	15.33	15.25
75-year: 2007-81	16.25	15.87	15.51
Actuarial balance:			
25-year: 2007-31	+59	+57	+54
50-year: 2007-56	-1.31	-1.23	-1.16
75-year: 2007-81	-2.29	-1.95	-1.63
Annual balance for 2081	-7.59	-5.20	-3.23
Year of combined trust fund exhaustion	2041	2041	2041

¹The total fertility rate for any year is the average number of children who would be born to a woman in her lifetime if she were to experience the birth rates by age observed in, or assumed for, the selected year, and if she were to survive the entire childbearing period. The ultimate total fertility rate is assumed to be reached in 2031.

²Ultimate total fertility rates used for this analysis are 1.7 from the alternative III assumptions, 2.0 from the alternative II assumptions, and 2.3 from the alternative I assumptions. All other assumptions used for this analysis are from alternative II.

For the 25-year period, the cost rate for the three fertility assumptions varies by only about 0.05 percent of taxable payroll. In contrast, the 75-year cost rate varies over a wide range, decreasing from 16.25 to 15.51 percent, as the assumed ultimate total fertility rate increases from 1.7 to 2.3. Similarly, while the 25-year actuarial balance varies by only 0.05 percent of taxable payroll, the 75-year actuarial balance varies over a much wider range, from -2.29 to -1.63 percent.

During the 25-year period, the very slight increases in the working population resulting from increases in fertility are more than offset by decreases in the female labor force and increases in the number of child beneficiaries. Hence, the program cost slightly increases with higher fertility. For the 75-year long-range period, however, changes in fertility have a relatively greater impact on the labor force than on the beneficiary population. As a result, an increase in fertility significantly reduces the cost rate. Each increase of 0.1 in the ultimate total fertility rate increases the long-range actuarial balance by about 0.11 percent of taxable payroll.

2. Death Rates

Table VI.D2 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 for the period 2006-81. These assumptions are the same as those used for alternatives I, II, and III, which are described in section V.A.2. The age-sex-adjusted death rates decline at average annual rates of 0.30 percent, 0.71 percent, and 1.26 percent for alternatives I, II, and III, respectively.

Table VI.D2.—Sensitivity to Varying Death-Rate Assumptions
[As a percentage of taxable payroll]

Valuation period	Average annual death-rate reduction ^{1, 2}		
	0.30 percent	0.71 percent	1.26 percent
Summarized income rate:			
25-year: 2007-31	14.70	14.70	14.70
50-year: 2007-56	14.08	14.10	14.11
75-year: 2007-81	13.90	13.92	13.95
Summarized cost rate:			
25-year: 2007-31	13.97	14.13	14.30
50-year: 2007-56	14.91	15.33	15.80
75-year: 2007-81	15.26	15.87	16.60
Actuarial balance:			
25-year: 2007-31	+0.73	+0.57	+0.40
50-year: 2007-56	-0.83	-1.23	-1.69
75-year: 2007-81	-1.36	-1.95	-2.65
Annual balance for 2081	-3.72	-5.20	-6.97
Year of combined trust fund exhaustion	2044	2041	2038

¹The average annual death-rate reduction is the average annual geometric rate of decline in the age-sex-adjusted death rate between 2006 and 2081. The overall decreases from the age-sex-adjusted death rate in 2006 to the corresponding rate in 2081 are, in order, 20 percent, 41 percent, and 61 percent.

²The average annual death-rate reductions used for this analysis are 0.30 percent from the alternative I assumptions, 0.71 percent from the alternative II assumptions, and 1.26 percent from the alternative III assumptions. All other assumptions used for this analysis are from alternative II.

The variation in cost for the 25-year period is less pronounced than the variation for the 75-year period because the decreases in death rates are assumed to occur gradually. The 25-year cost rate increases from 13.97 percent (for an average annual death-rate reduction of 0.30 percent) to 14.30 percent (for an average annual death-rate reduction of 1.26 percent). The 75-year cost rate increases from 15.26 to 16.60 percent. The actuarial balance decreases from +0.73 to +0.40 percent for the 25-year period, and from -1.36 to -2.65 percent for the 75-year period.

Lower death rates cause both the income (through increased taxable payroll) and the cost of the OASDI program to be higher than they would otherwise be. The relative increase in cost, however, exceeds the relative increase in

taxable payroll. For any given year, reductions in the death rates for people who are age 62 and over (ages at which 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 at ages 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 at these pre-retirement ages, which are ages of high disability incidence. 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, cost increases at a rate greater than the rate of growth in payroll, thereby resulting in higher cost rates and, therefore, lower actuarial balances. Each additional 0.1-percentage-point reduction in the average annual death-rate reduction decreases the long-range actuarial balance by about 0.13 percent of taxable payroll.

3. Net Immigration

Table VI.D3 shows the estimated OASDI income rates, cost rates, and actuarial balances, under alternative II with various assumptions about the magnitude of net immigration. These assumptions are that the annual net immigration will be 672,500 persons, 900,000 persons, and 1,300,000 persons as assumed for alternatives III, II, and I, respectively.

Table VI.D3.—Sensitivity to Varying Net-Immigration Assumptions
 [As a percentage of taxable payroll]

Valuation period	Ultimate net immigration per year ^{1, 2}		
	672,500	900,000	1,300,000
Summarized income rate:			
25-year: 2007-31	14.73	14.70	14.67
50-year: 2007-56	14.13	14.10	14.05
75-year: 2007-81	13.95	13.92	13.87
Summarized cost rate:			
25-year: 2007-31	14.26	14.13	13.96
50-year: 2007-56	15.53	15.33	15.05
75-year: 2007-81	16.09	15.87	15.57
Actuarial balance:			
25-year: 2007-31	+0.47	+0.57	+0.70
50-year: 2007-56	-1.40	-1.23	-1.00
75-year: 2007-81	-2.14	-1.95	-1.70
Annual balance for 2081	-5.55	-5.20	-4.71
Year of combined trust fund exhaustion	2039	2041	2043

¹ Net immigration per year is the assumed annual net immigration to the Social Security area, including both legal and other immigration.

² The ultimate net immigration per year assumptions used for this analysis are 672,500 from the alternative III assumptions, 900,000 from the alternative II assumptions, and 1,300,000 from the alternative I assumptions. All other assumptions used for this analysis are from alternative II.

For all three periods, the cost rate decreases with increasing rates of net immigration. For the 25-year period, the cost rate decreases from 14.26 percent of taxable payroll (for annual net immigration of 672,500 persons) to 13.96 percent (for annual net immigration of 1,300,000 persons). For the 50-year period, it decreases from 15.53 percent to 15.05 percent, and for the 75-year period, it decreases from 16.09 percent to 15.57 percent. The actuarial balance increases from +0.47 to +0.70 percent for the 25-year period, from -1.40 to -1.00 percent for the 50-year period, and from -2.14 to -1.70 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 100,000 net immigrants increases the long-range actuarial balance by about 0.07 percent of taxable payroll.

4. Real-Wage Differential

Table VI.D4 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, 1.1 percentage points, and 1.6 percentage points as assumed for alternatives III, II, and I, respectively. In each

case, the ultimate annual increase in the CPI is assumed to be 2.8 percent (as assumed for alternative II), yielding ultimate percentage increases in average annual wages in covered employment of 3.4, 3.9, and 4.4 percent.

For the 25-year period, the cost rate decreases from 14.57 percent (for a real-wage differential of 0.6 percentage point) to 13.71 percent (for a differential of 1.6 percentage points). For the 50-year period, it decreases from 15.98 to 14.69 percent, and for the 75-year period it decreases from 16.58 to 15.18 percent. The actuarial balance increases from +0.24 to +0.89 percent for the 25-year period, from -1.75 to -0.72 percent for the 50-year period, and from -2.51 to -1.40 percent for the 75-year period.

Table VI.D4.—Sensitivity to Varying Real-Wage Assumptions
[As a percentage of taxable payroll]

Valuation period	Ultimate percentage increase in wages-CPI ^{1, 2}		
	3.4-2.8	3.9-2.8	4.4-2.8
Summarized income rate:			
25-year: 2007-31	14.81	14.70	14.60
50-year: 2007-56	14.23	14.10	13.97
75-year: 2007-81	14.07	13.92	13.78
Summarized cost rate:			
25-year: 2007-31	14.57	14.13	13.71
50-year: 2007-56	15.98	15.33	14.69
75-year: 2007-81	16.58	15.87	15.18
Actuarial balance:			
25-year: 2007-31	+24	+57	+89
50-year: 2007-56	-1.75	-1.23	-.72
75-year: 2007-81	-2.51	-1.95	-1.40
Annual balance for 2081	-6.66	-5.20	-3.90
Year of combined trust fund exhaustion	2037	2041	2047

¹The 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 ultimate real-wage differential.

²The ultimate real-wage differentials of 0.6, 1.1, and 1.6 percentage points are the same as in alternatives III, II, and I, respectively. All other assumptions used for this analysis are from alternative II.

The cost rate decreases with increasing real-wage differentials. This is because higher wages increase taxable payroll immediately, but increase benefit levels only gradually as new beneficiaries become entitled. In addition, cost-of-living adjustments (COLAs) to benefits are not affected by changes in wages, but only in prices. Each 0.5-percentage-point increase in the assumed real-wage differential increases the long-range actuarial balance by about 0.56 percent of taxable payroll.

5. Consumer Price Index

Table VI.D5 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 1.8 percent, 2.8 percent, and 3.8 percent as assumed for alternatives I, II, and III, respectively. 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 2.9, 3.9, and 4.9 percent.

Table VI.D5.—Sensitivity to Varying CPI-Increase Assumptions
 [As a percentage of taxable payroll]

Valuation period	Ultimate percentage increase in wages-CPI ^{1, 2}		
	2.9-1.8	3.9-2.8	4.9-3.8
Summarized income rate:			
25-year: 2007-31	14.75	14.70	14.66
50-year: 2007-56	14.13	14.10	14.06
75-year: 2007-81	13.95	13.92	13.89
Summarized cost rate:			
25-year: 2007-31	14.29	14.13	13.98
50-year: 2007-56	15.55	15.33	15.12
75-year: 2007-81	16.12	15.87	15.64
Actuarial balance:			
25-year: 2007-31	+0.45	+0.57	+0.68
50-year: 2007-56	-1.42	-1.23	-1.05
75-year: 2007-81	-2.17	-1.95	-1.74
Annual balance for 2081	-5.53	-5.20	-4.87
Year of combined trust fund exhaustion	2039	2041	2042

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 ultimate real-wage differential.

² The ultimate CPI increases of 1.8, 2.8, and 3.8 percent are the same as in alternatives I, II, and III, respectively. The ultimate real-wage differential of 1.1 percentage points is the same as in alternative II. All other assumptions used for this analysis are also from alternative II.

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 14.29 (for CPI increases of 1.8 percent) to 13.98 percent (for CPI increases of 3.8 percent). For the 50-year period, it decreases from 15.55 to 15.12 percent, and for the 75-year period, it decreases from 16.12 to 15.64 percent. The actuarial balance increases from +0.45 to +0.68 percent for the 25-year period, from -1.42 to -1.05 percent for the 50-year period, and from -2.17 to -1.74 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 combination with a constant real-wage differential), the effect on taxable payroll due to a greater rate of increase in average wages is experienced immediately, while the effect on benefits due to a larger COLA is experienced with a lag of about 1 year. Thus, the higher taxable payrolls have a stronger effect than the higher benefits, thereby resulting in lower cost rates. The effect of each 1.0-percentage-point increase in the rate of change assumed for the CPI is an increase in the long-range actuarial balance of about 0.22 percent of taxable payroll.

6. Real Interest Rate

Table VI.D6 shows the estimated OASDI income rates, cost rates, and actuarial balances, on the basis of alternative II with various assumptions about the annual real interest rate for special public-debt obligations issuable to the trust funds, which are compounded semiannually. These assumptions are that the ultimate annual real interest rate will be 2.1 percent, 2.9 percent, and 3.6 percent as assumed for alternatives III, II, and I, respectively. In each case, the ultimate annual increase in the CPI is assumed to be 2.8 percent (as assumed for alternative II), resulting in ultimate annual yields of 5.0, 5.8, and 6.5 percent.

Table VI.D6.—Sensitivity to Varying Real-Interest Assumptions
[As a percentage of taxable payroll]

Valuation period	Ultimate annual real interest rate ^{1, 2}		
	2.1 percent	2.9 percent	3.6 percent
Summarized income rate:			
25-year: 2007-31	14.61	14.70	14.79
50-year: 2007-56	13.97	14.10	14.21
75-year: 2007-81	13.79	13.92	14.05
Summarized cost rate:			
25-year: 2007-31	14.29	14.13	14.01
50-year: 2007-56	15.61	15.33	15.09
75-year: 2007-81	16.26	15.87	15.55
Actuarial balance:			
25-year: 2007-31	+32	+57	+78
50-year: 2007-56	-1.63	-1.23	-.88
75-year: 2007-81	-2.47	-1.95	-1.50
Annual balance for 2081	-5.20	-5.20	-5.20
Year of combined trust fund exhaustion	2038	2041	2044

¹The ultimate real interest rate is defined to be the effective annual yield on assets held by the trust funds divided by the annual rate of growth in the CPI.

²The ultimate annual real interest rates used for this analysis are 2.1 percent from the alternative III assumptions, 2.9 percent from the alternative II assumptions, and 3.6 percent from the alternative I assumptions. All other assumptions used for this analysis are from alternative II.

For the 25-year period, the cost rate decreases slightly with increasing real interest rates from 14.29 percent (for an ultimate real interest rate of 2.1 percent) to 14.01 percent (for an ultimate real interest rate of 3.6 percent). For the 50-year period, it decreases from 15.61 to 15.09 percent, and for the 75-year period, it decreases from 16.26 to 15.55 percent. The actuarial balance increases from +0.32 to +0.78 percent for the 25-year period, from -1.63 to -0.88 percent for the 50-year period, and from -2.47 to -1.50 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 0.32 percent of taxable payroll.

7. Disability Incidence Rates

Table VI.D7 shows the estimated OASDI income rates, cost rates, and actuarial balances, on the basis of alternative II with various assumptions concerning future disability incidence rates. For all three alternatives, incidence rates by age and sex are assumed to vary during the early years of the projection period before attaining ultimate levels in 2027. In comparison to the corresponding annual rates experienced during the base period 1994-96, the ultimate age-sex-adjusted incidence rate is 2 percent higher for alternative II, 19 percent lower for alternative I, and 22 percent higher for alternative III.

Table VI.D7.—Sensitivity to Varying 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: 2007-31	14.70	14.70	14.71
50-year: 2007-56	14.09	14.10	14.10
75-year: 2007-81	13.91	13.92	13.93
Summarized cost rate:			
25-year: 2007-31	13.97	14.13	14.39
50-year: 2007-56	15.09	15.33	15.61
75-year: 2007-81	15.62	15.87	16.17
Actuarial balance:			
25-year: 2007-31	+0.73	+0.57	+0.32
50-year: 2007-56	-1.00	-1.23	-1.51
75-year: 2007-81	-1.70	-1.95	-2.24
Annual balance for 2081	-4.87	-5.20	-5.51
Year of combined trust fund exhaustion	2043	2041	2038

For the 25-year period, the cost rate increases with increasing disability incidence rates from 13.97 percent (for the relatively low rates assumed for

alternative I) to 14.39 percent (for the relatively high rates assumed for alternative III). For the 50-year period, it increases from 15.09 to 15.61 percent, and for the 75-year period, it increases from 15.62 to 16.17 percent. The actuarial balance decreases from +0.73 to +0.32 percent for the 25-year period, from -1.00 to -1.51 percent for the 50-year period, and from -1.70 to -2.24 percent for the 75-year period.

8. Disability Termination Rates

Table VI.D8 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, deaths rates are assumed to decline throughout the long-range period. For alternative II, the age-sex-adjusted¹ death rate is assumed to decline to a level at the end of the 75-year period that is about 47 percent lower than the level in 2006. For alternative I, the age-sex-adjusted death rate is assumed to decline to a level at the end of the 75-year period that is about 22 percent lower than the level in 2006. For alternative III, the age-sex-adjusted death rate is assumed to decline to a level at the end of the 75-year period that is about 71 percent lower than the level in 2006.

For all three alternatives, ultimate recovery-termination rates by age, sex, and duration are assumed to be attained in the twentieth year of the projection period. For alternative II, the age-sex-adjusted¹ recovery rate in 2026 is about 10 recoveries per thousand disabled-worker beneficiaries. For alternative I, the age-sex-adjusted recovery rate in 2026 is about 11 recoveries per thousand disabled worker beneficiaries. For alternative III, the age-sex-adjusted recovery rate in 2026 is about 8 recoveries per thousand disabled-worker beneficiaries.

¹ Age adjusted to the total disabled workers in current-pay as of January 1, 2000.

Table VI.D8.—Sensitivity to Varying 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: 2007-31	14.70	14.70	14.70
50-year: 2007-56	14.10	14.10	14.10
75-year: 2007-81	13.92	13.92	13.92
Summarized cost rate:			
25-year: 2007-31	14.09	14.13	14.17
50-year: 2007-56	15.28	15.33	15.37
75-year: 2007-81	15.83	15.87	15.91
Actuarial balance:			
25-year: 2007-31	+0.61	+0.57	+0.53
50-year: 2007-56	-1.19	-1.23	-1.27
75-year: 2007-81	-1.91	-1.95	-1.99
Annual balance for 2081	-5.16	-5.20	-5.20
Year of combined trust fund exhaustion	2041	2041	2040

For the 25-year period, the cost rate increases with decreasing disability termination rates from 14.09 percent (for the relatively high rates assumed for alternative I) to 14.17 percent (for the relatively low rates assumed for alternative III). For the 50-year period, it increases from 15.28 to 15.37 percent, and for the 75-year period, it increases from 15.83 to 15.91 percent. The actuarial balance decreases from +0.61 to +0.53 percent for the 25-year period, from -1.19 to -1.27 percent for the 50-year period, and from -1.91 to -1.99 percent for the 75-year period.

E. STOCHASTIC PROJECTIONS

Significant uncertainty surrounds the estimates under the intermediate assumptions, especially for a period as long as 75 years. This appendix presents a way to illustrate the uncertainty of these estimates. It is intended to supplement the traditional methods of examining such uncertainty and to illustrate the potential value of new techniques.

1. Background

The Trustees Report has traditionally shown additional estimates using the low cost and high cost sets of specified assumptions to reflect the presence of uncertainty. These additional estimates provide a range of possible outcomes for the projections. However, they provide no indication of the probability that actual future experience will be inside or outside the range of these estimates. This appendix presents the results of a model, based on stochastic modeling techniques, that estimates a probability distribution of future outcomes of the financial status of the combined OASI and DI Trust Funds.

It should be noted that this model is subject to further development. Future improvements and refinements are expected to be more likely to expand rather than reduce the indicated range of uncertainty.

2. Methodology

Other sections of this report provide estimates of the financial status of the combined OASI and DI Trust Funds using a “deterministic” model. For the deterministic model, certain assumptions are made regarding levels of fertility, changes in mortality, immigration levels, emigration levels, net other immigration levels, the Consumer Price Index, average real wages, unemployment rates, trust fund real yield rates, and disability incidence and recovery rates. Each of these variables will reach an assumed ultimate value at a specific point during the long-range period and will maintain that value throughout the remainder of the period. As mentioned above, three deterministic scenarios are developed assuming separate, specified values for each of these variables.

In contrast, the results of 5,000 independent stochastic simulations are presented in this appendix. Each of the 5,000 simulations is determined by allowing the above variables to vary throughout the long-range period. The fluctuation in each variable is projected by using standard time-series modeling, a method designed to help make inferences based on historical data. Generally, each variable is modeled by an equation that captures a relationship between current and prior years’ values of the variable and introduces year-by-year random variation, as reflected in the historical period. For some

Appendices

variables, the equations additionally reflect relationships with other variables. Parameters for the equations are estimated using historical data for periods between 20 years and 110 years depending on the nature and quality of data available. Each time-series equation is designed such that, in the absence of random variation, the value of the variable would equal the value assumed under the intermediate set of assumptions. More detail on this model, and stochastic modeling in general, is available on the Social Security website.¹

For each simulation of the model, values of the variables listed above are determined by using Monte Carlo techniques to randomly assign the year-by-year variations. Each simulation produces an estimate of the financial status of the combined OASI and DI Trust Funds. Results shown in this section, based on the 5,000 simulations of the model, reflect the distribution of results.

The results from this model should be interpreted with caution and with a full understanding of the inherent limitations. Results are very sensitive to equation specifications, degrees of interdependence among variables, and the historical periods used for the estimates. For some variables, using the variations exhibited in a relatively recent historical period may not provide a realistic representation of the potential variation for the future. In addition, results would differ if random variations had been applied to additional variables other than those mentioned above (such as labor force participation rates, retirement rates, marriage rates, and divorce rates). Furthermore, additional variability could result from incorporating statistical approaches that would more fully model change in the long-range central tendencies of the variables. The historical period available for most variables is relatively homogeneous and does not reflect many substantial shifts. The time-series modeling reflects what occurred in the historical period. As a result, the variation indicated in this appendix should be viewed as the minimum plausible variation for the future. Substantial shifts, as predicted by many experts and as seen in prior centuries, are not fully reflected in the current model.

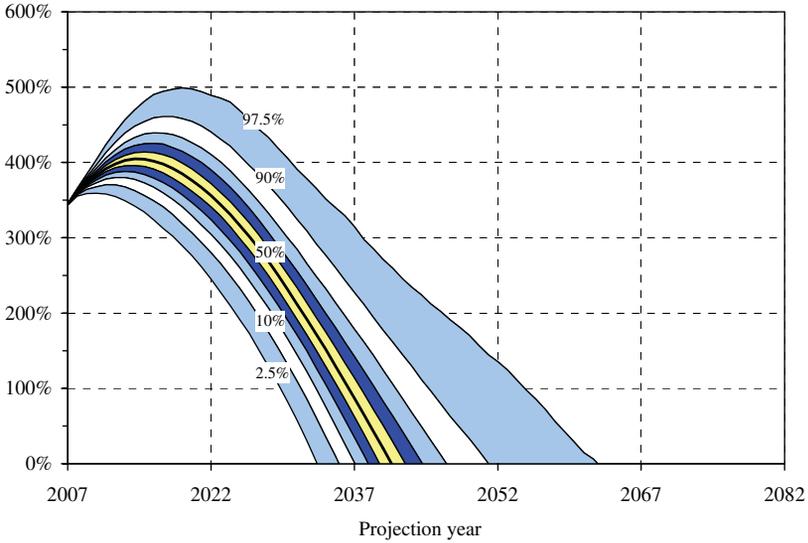
¹ www.socialsecurity.gov/OACT/stochastic/index.html

3. Results

Simulated probability distributions of the annual trust fund ratios for the combined OASI and DI Trust Funds are shown in figure VI.E1. The two extreme lines in this figure illustrate the range within which future annual trust fund ratios are estimated to occur 95 percent of the time (i.e., a 95-percent confidence interval). In other words, actual future trust fund ratios in a given year would be expected to exceed the upper bound only 2.5 percent of the time or to fall below the lower bound 2.5 percent of the time. Other lines in the figure display additional confidence intervals (80-percent, 60-percent, 40-percent, and 20-percent) around future annual trust fund ratios. The median estimate for each year indicates the trust fund ratio which is projected by this model to fall exactly in the middle of possible outcomes for that year. It is important to note that these lines do not represent the results of individual stochastic simulations. Instead, for each given year, they represent the percentile distribution of trust fund ratios based on all stochastic simulations for that year.

The median estimate for each year indicates that the assets of the combined OASI and DI Trust Funds would be exhausted by the end of 2040 with a probability of 50 percent. This exhaustion date is 1 year earlier than the year of exhaustion projected under the intermediate assumptions. Figure VI.E1 shows that the 95-percent confidence interval for the trust fund ratio in 2030 ranges from 406 to 83 percent of annual cost. In comparison, the 2030 trust fund ratios for the low cost and high cost alternatives are each outside this range, at 454 and 22 percent, respectively. By 2081, the range represented by the low cost and high cost projections increases substantially beyond the boundaries of the 95-percent stochastic confidence interval, as seen from the values for the open group unfunded obligation in table VI.E1. This increased variation of the alternatives relative to the stochastic confidence interval is also seen in the positive trust fund ratio for the low cost scenario for 2081.

Figure VI.E1.—Annual Trust Fund Ratios



The probability distribution of the year-by-year OASDI cost rates (i.e., cost as a percentage of taxable payroll) is shown in figure VI.E2. The range of the cost rates widens as the projections move further into the future, reflecting increasing uncertainty. The income rate under the intermediate assumptions is also included in the figure in order to give some indication of the patterns of cash flow for the OASDI program. Only this income rate is included because of the relatively small variation in income rates throughout the projection period. The lines in figure VI.E2 display the median set (50th percentile) of estimated annual cost rates and the 95-percent, 80-percent, 60-percent, 40-percent, and 20-percent confidence intervals expected for future annual cost rates. It is important to note that these lines do not represent the results of individual stochastic simulations. Instead, for each given year, they represent the percentile distribution of cost rates based on all stochastic simulations for that year. The projected cost rates for the year 2035 for the low cost and high cost alternatives described earlier are 14.80 percent of payroll and 19.82 percent of payroll, respectively. These are close to the limits of the 95-percent confidence interval, as can be seen in figure VI.E2. By 2081, the cost rates for these alternatives, 13.38 and 26.38 percent of payroll, are still fairly close to the limits of the 95-percent confidence interval (14.17 and 26.39 percent of payroll).

Figure VI.E2.—Annual Cost Rates

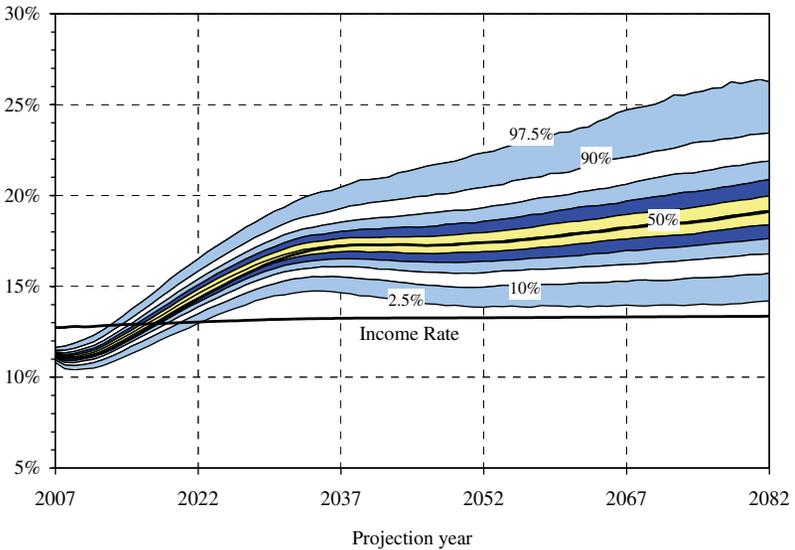


Table VI.E1 displays long-range actuarial estimates that illustrate uncertainty for the combined OASDI program using both the deterministic and stochastic approaches. Actuarial estimates included in the table are for the long-range period, 2007-81. Stochastic estimates are shown for the median (50th percentile) and for the 95-percent and 80-percent confidence intervals. For comparison, deterministic estimates are shown for the intermediate, low cost, and high cost assumptions. Each individual stochastic estimate displayed in the table represents the level at that percentile from the distribution of the 5,000 simulations. However, for each given percentile, the stochastic estimates shown for the different long-range actuarial measures are generally not from the same stochastic simulation.

Median stochastic estimates for the actuarial measures displayed in table VI.E1 are the same or slightly more pessimistic for the combined OASI and DI Trust Funds than those projected under the intermediate assumptions. The median estimate of the long-range actuarial balance is -2.05 percent of taxable payroll, about 0.10 percentage point lower than projected under the intermediate assumptions. The median estimate for the first year cost exceeds tax income is 2017. This is the same as projected under the intermediate assumptions. The median estimate for the year assets first become exhausted is 2040. This is 1 year earlier than the year projected under the intermediate assumptions. The median estimate for the annual cost in the 75th year of the projection period is 19.30 as a percentage of taxable payroll

and 6.51 as a percentage of GDP. The comparable estimates using the intermediate assumptions are 18.55 and 6.29, respectively.

The 95-percent confidence interval determined by the stochastic modeling projections can be compared to the range of variation defined by the traditional low cost and high cost alternatives. For three of the measures in table VI.E1 (the actuarial balance, the open group unfunded obligation, and the year assets become exhausted), the 95-percent stochastic projection range is narrower than the range defined by the low cost and high cost alternatives. That is, for these measures, the estimates under the low cost and high cost alternatives fall outside the 95-percent confidence interval determined by the stochastic modeling projections. In contrast, for two other measures in the table (the first year cost exceeds tax income and the annual cost in the 75th year of the projection period expressed as a percentage of GDP), the 95-percent stochastic projection range includes the estimates under the low cost and high cost alternatives. For the remaining measure in the table (the annual cost in the 75th year of the projection period expressed as a percentage of taxable payroll), the 95-percent stochastic projection range includes the estimate under the high cost alternative, but does not include the low cost estimate.

Table VI.E1.—Long-Range Estimates Relating to the Actuarial Status of the Combined OASDI Program

[Comparison of deterministic and stochastic results]

	Traditional deterministic model			Stochastic model				
	Interme- diate	Low Cost	High Cost	Median 50th percentile	80-Percent confidence interval		95-Percent confidence interval	
					10th percentile	90th percentile	2.5th percentile	97.5th percentile
Actuarial balance	-1.95	0.36	-5.05	-2.05	-3.24	-1.04	-3.89	-0.56
Open group unfunded obligation (in trillions)	\$4.7	-\$1.2	\$12.8	\$5.0	\$8.3	\$2.4	\$10.2	\$1.1
First year cost exceeds tax income	2017	2022	2013	2017	2014	2020	2013	2022
Year assets become exhausted	2041	¹	2030	2040	2035	2051	2033	2062
Annual cost in 75th year (percent of taxable payroll)	18.55	13.37	26.38	19.30	15.74	23.61	14.15	26.69
Annual cost in 75th year (percent of GDP)	6.29	4.90	8.23	6.51	5.31	7.96	4.77	9.00

¹ The fund is not estimated to be exhausted within the projection period.

F. ESTIMATES FOR OASDI AND HI, SEPARATE AND COMBINED

In this appendix, long-range actuarial estimates for the OASDI and Hospital Insurance (HI) programs are presented separately and on a combined basis. These estimates facilitate analysis of the adequacy of the income and assets of these programs relative to their cost under current law. Estimates for the Supplementary Medical Insurance (SMI) program are not included in this appendix because adequate financing is guaranteed in the law, and because the SMI program is not financed through a payroll tax.

The emphasis in this appendix on combined operations, while significant, should not obscure the analysis of the financial status of the individual trust funds, which are legally separate and cannot be commingled. In addition, the factors which determine the costs of the OASI, DI, and HI programs differ substantially.

1. Estimates as a Percentage of Taxable Payroll

Comparing and combining cost and income rates for the OASDI and HI programs as percentages of taxable payroll require a note of caution. The taxable payrolls for the HI program are larger than those estimated for the OASDI program because (1) a larger maximum taxable amount was established for the HI program in 1991, with the maximum being eliminated altogether for the HI program in 1994, (2) a larger proportion of Federal, State, and local government employees have their wages covered under the HI program, and (3) the earnings of railroad workers are included directly in the HI taxable payroll but not in the OASDI taxable payroll (railroad contributions for the equivalent of OASDI benefits are accounted for in a net interchange that occurs annually between the OASDI and Railroad Retirement programs). As a result, the HI taxable payroll is about 25 percent larger than the OASDI taxable payroll throughout the long-range period. Nonetheless, combined OASDI and HI rates shown in this section 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.

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 VI.F1.

Table VI.F1.—Contribution Rates for the OASDI and HI Programs
[In percent]

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

¹ See footnote 1 under table VI.A1 in the appendix titled “History of OASI and DI Trust Fund Operations” for a description of tax credits allowed against the combined OASDI and HI taxes on net earnings from self-employment in 1984-89.

Table VI.F2 shows estimated annual income rates and cost rates for the OASDI program, the HI program, and the combined OASDI and HI programs, based on the low cost, intermediate, and high cost sets of assumptions (alternatives I, II, and III) described earlier in this report. These annual rates are intended to indicate the cash-flow operation of the programs. Therefore, income rates exclude interest earned on trust fund assets. Table VI.F2 also shows the differences between income rates and cost rates, called balances. Estimates shown for the combined trust funds are theoretical because no authority currently exists for borrowing by or transfers among these trust funds.

Under all three sets of assumptions, the combined OASDI and HI cost rate is projected to rise above current levels, with the sharpest increase occurring during the period 2010-30. Under the high cost set of assumptions, annual deficits are projected to occur beginning in 2012, and to continue for the remainder of the 75-year projection period. The cost rate is projected to rise to about three and a half times its current level by the end of the projection period. Under the intermediate assumptions, annual deficits begin in 2016, with the cost rate more than doubling by the end of the projection period. Under the low cost assumptions, the cost rate is projected to increase by about 34 percent, by the end of the period, with annual deficits beginning in 2022.

Table VI.F2.—Estimated OASDI and HI Annual Income Rates, Cost Rates, and Balances, Calendar Years 2007-85
 [As a percentage of taxable payroll¹]

Calendar year	OASDI			HI			Combined		
	Income rate	Cost rate	Balance	Income rate	Cost rate	Balance	Income rate	Cost rate	Balance
Intermediate:									
2007	12.75	11.21	1.54	3.09	3.11	-0.02	15.84	14.32	1.52
2008	12.76	11.03	1.74	3.09	3.16	-.07	15.86	14.19	1.67
2009	12.78	11.07	1.72	3.11	3.22	-.11	15.89	14.28	1.61
2010	12.80	11.20	1.60	3.12	3.28	-.16	15.92	14.48	1.44
2011	12.83	11.33	1.50	3.13	3.33	-.20	15.96	14.66	1.30
2012	12.86	11.56	1.30	3.15	3.40	-.25	16.00	14.95	1.05
2013	12.89	11.84	1.05	3.16	3.48	-.32	16.05	15.31	.74
2014	12.91	12.13	.78	3.17	3.57	-.39	16.08	15.70	.38
2015	12.93	12.43	.50	3.19	3.65	-.46	16.12	16.08	.04
2016	12.95	12.74	.21	3.20	3.74	-.54	16.15	16.48	-.33
2020	13.03	14.00	-.97	3.25	4.21	-.96	16.28	18.22	-1.94
2025	13.12	15.44	-2.33	3.30	4.99	-1.69	16.41	20.43	-4.02
2030	13.19	16.59	-3.40	3.34	5.91	-2.57	16.53	22.50	-5.97
2035	13.24	17.17	-3.94	3.36	6.82	-3.46	16.59	23.99	-7.40
2040	13.25	17.27	-4.02	3.36	7.60	-4.23	16.62	24.87	-8.25
2045	13.25	17.22	-3.97	3.37	8.23	-4.87	16.62	25.45	-8.83
2050	13.26	17.26	-3.99	3.37	8.77	-5.40	16.63	26.02	-9.39
2055	13.28	17.43	-4.16	3.37	9.26	-5.89	16.65	26.70	-10.04
2060	13.29	17.67	-4.38	3.38	9.79	-6.41	16.68	27.47	-10.79
2065	13.31	17.89	-4.59	3.39	10.34	-6.95	16.70	28.23	-11.53
2070	13.32	18.10	-4.78	3.40	10.85	-7.45	16.72	28.95	-12.23
2075	13.33	18.29	-4.96	3.40	11.31	-7.91	16.74	29.60	-12.86
2080	13.35	18.50	-5.16	3.41	11.71	-8.30	16.76	30.21	-13.46
2085	13.36	18.71	-5.35						
Low Cost:									
2007	12.75	11.11	1.64	3.08	3.00	.09	15.83	14.10	1.73
2008	12.76	10.87	1.89	3.09	2.99	.10	15.85	13.86	1.99
2009	12.78	10.83	1.94	3.10	2.99	.11	15.88	13.82	2.06
2010	12.79	10.86	1.93	3.11	2.99	.12	15.90	13.85	2.06
2011	12.82	10.89	1.93	3.12	2.98	.14	15.94	13.87	2.07
2012	12.84	10.99	1.85	3.14	2.98	.16	15.97	13.97	2.00
2013	12.86	11.14	1.73	3.15	3.00	.16	16.02	14.13	1.88
2014	12.87	11.30	1.57	3.16	3.01	.15	16.03	14.31	1.73
2015	12.89	11.49	1.41	3.17	3.02	.15	16.06	14.51	1.55
2016	12.91	11.69	1.22	3.18	3.04	.14	16.09	14.73	1.36
2020	12.97	12.67	.30	3.22	3.17	.05	16.19	15.84	.35
2025	13.04	13.78	-.74	3.26	3.41	-.15	16.30	17.19	-.89
2030	13.10	14.56	-1.46	3.29	3.67	-.38	16.39	18.23	-1.85
2035	13.12	14.80	-1.68	3.30	3.85	-.55	16.42	18.65	-2.23
2040	13.12	14.58	-1.46	3.30	3.98	-.68	16.42	18.56	-2.14
2045	13.11	14.25	-1.14	3.29	4.08	-.79	16.40	18.33	-1.93
2050	13.10	14.02	-.91	3.29	4.20	-.91	16.39	18.22	-1.83
2055	13.10	13.90	-.80	3.29	4.38	-1.10	16.39	18.28	-1.90
2060	13.10	13.84	-.74	3.29	4.63	-1.35	16.39	18.47	-2.08
2065	13.10	13.72	-.62	3.28	4.89	-1.61	16.38	18.61	-2.22
2070	13.09	13.56	-.46	3.28	5.13	-1.85	16.37	18.69	-2.32
2075	13.09	13.42	-.33	3.27	5.35	-2.07	16.36	18.77	-2.40
2080	13.09	13.38	-.29	3.27	5.54	-2.27	16.36	18.92	-2.56
2085	13.09	13.42	-.33						

Table VI.F2.—Estimated OASDI and HI Annual Income Rates, Cost Rates, and Balances, Calendar Years 2007-85 (Cont.)
 [As a percentage of taxable payroll¹]

Calendar year	OASDI			HI			Combined		
	Income rate	Cost rate	Balance	Income rate	Cost rate	Balance	Income rate	Cost rate	Balance
High Cost:									
2007	12.76	11.50	1.26	3.09	3.27	-0.18	15.85	14.78	1.07
2008	12.78	11.47	1.31	3.10	3.38	-.28	15.88	14.85	1.03
2009	12.80	11.61	1.19	3.11	3.49	-.38	15.91	15.11	.80
2010	12.82	11.91	.91	3.13	3.66	-.53	15.95	15.57	.39
2011	12.86	12.15	.71	3.14	3.78	-.64	16.00	15.93	.07
2012	12.89	12.46	.43	3.16	3.90	-.74	16.05	16.36	-.31
2013	12.93	12.90	.03	3.18	4.08	-.90	16.11	16.97	-.86
2014	12.95	13.33	-.38	3.19	4.26	-1.07	16.15	17.60	-1.45
2015	12.98	13.72	-.75	3.21	4.45	-1.24	16.19	18.17	-1.98
2016	13.01	14.15	-1.15	3.23	4.65	-1.42	16.23	18.80	-2.57
2020	13.10	15.65	-2.55	3.28	5.65	-2.37	16.38	21.30	-4.92
2025	13.20	17.34	-4.14	3.33	7.36	-4.02	16.54	24.70	-8.16
2030	13.30	18.83	-5.53	3.38	9.59	-6.20	16.68	28.42	-11.74
2035	13.36	19.82	-6.46	3.42	12.15	-8.73	16.78	31.97	-15.19
2040	13.40	20.37	-6.97	3.44	14.58	-11.14	16.84	34.96	-18.11
2045	13.43	20.79	-7.36	3.45	16.69	-13.24	16.88	37.48	-20.60
2050	13.46	21.32	-7.86	3.47	18.39	-14.92	16.93	39.71	-22.78
2055	13.50	22.00	-8.50	3.49	19.68	-16.19	16.99	41.68	-24.69
2060	13.55	22.80	-9.25	3.51	20.81	-17.29	17.06	43.60	-26.54
2065	13.60	23.64	-10.04	3.54	21.96	-18.42	17.14	45.60	-28.46
2070	13.65	24.54	-10.89	3.57	23.05	-19.49	17.22	47.59	-30.38
2075	13.70	25.41	-11.71	3.59	24.03	-20.44	17.29	49.44	-32.15
2080	13.75	26.23	-12.49	3.61	24.89	-21.27	17.36	51.12	-33.76
2085	13.78	26.91	-13.12						

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

Notes:

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

In table VI.F3 values are summarized over the 25-year, 50-year, and 75-year valuation periods (for which beginning fund balances are included in the summarized income rates, and the cost of accumulating an ending fund balance equal to 100 percent of annual cost by the end of the period is included in the summarized cost rates). Estimates shown for the combined trust funds are theoretical because no authority currently exists for borrowing by or transfers among these trust funds.

Table VI.F3.—Summarized OASDI and HI Income Rates and Cost Rates for Valuation Periods,¹ Calendar Years 2007-81
 [As a percentage of taxable payroll²]

Valuation period	OASDI			HI			Combined		
	Income rate	Cost rate	Actuarial balance	Income rate	Cost rate	Actuarial balance	Income rate	Cost rate	Actuarial balance
Intermediate:									
25-years:									
2007-31	14.70	14.13	0.57	3.42	4.43	-1.01	18.12	18.56	-0.44
50-years:									
2007-56	14.10	15.33	-1.23	3.40	5.90	-2.50	17.50	21.23	-3.73
75-years:									
2007-81	13.92	15.87	-1.95	3.40	6.95	-3.55	17.32	22.82	-5.50
Low Cost:									
25-years:									
2007-31	14.64	12.92	1.72	3.40	3.33	.08	18.05	16.25	1.80
50-years:									
2007-56	14.00	13.43	.57	3.36	3.62	-2.6	17.36	17.05	.31
75-years:									
2007-81	13.79	13.43	.36	3.34	3.95	-.61	17.13	17.37	-.25
High Cost:									
25-years:									
2007-31	14.76	15.69	-.93	3.45	6.13	-2.68	18.21	21.82	-3.61
50-years:									
2007-56	14.19	17.72	-3.53	3.45	10.27	-6.82	17.64	27.99	-10.35
75-years:									
2007-81	14.06	19.11	-5.05	3.47	13.00	-9.53	17.53	32.11	-14.58

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

² The taxable payroll for HI is significantly larger than the taxable payroll for OASDI because the HI taxable maximum amount was eliminated beginning 1994, and because HI covers all Federal civilian employees, including those hired before 1984, all State and local government employees hired after April 1, 1986, and railroad employees. Combined OASDI and HI rates are computed as the sum of the separately derived rates for each program.

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

Under the high cost assumptions, the combined OASDI and HI system is projected to experience large actuarial deficits for the 25-year, 50-year, and 75-year valuation periods. Under the intermediate assumptions, actuarial deficits smaller than those for the high cost assumptions are projected for all three valuation periods. Under the low cost assumptions, the combined OASDI and HI system is projected to have positive actuarial balances for the 25-year and the 50-year valuation periods, and a very small negative actuarial balance for the 75-year valuation period.

2. Estimates as a Percentage of Gross Domestic Product

This section presents long-range projections of the operations of the combined Old-Age and Survivors Insurance and Disability Insurance (OASI and DI) Trust Funds and of the Hospital Insurance (HI) Trust Fund expressed as a percentage of gross domestic product (GDP). While expressing these fund operations as a percentage of taxable payroll is the most useful approach for assessing the financial status of the programs (see table IV.B1 and section IV.B.1), 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 VI.F4 shows estimated income excluding interest, total cost, 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 VI.F4. 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 cost consists of benefit payments, administrative expenses, net transfers from the trust funds to the Railroad Retirement program, and payments for vocational rehabilitation services for disabled beneficiaries. For HI, income excluding interest consists of payroll-tax contributions (including contributions from railroad employment) and proceeds from taxation of OASDI benefits. Total cost consists of outlays (benefits and administrative expenses) for insured beneficiaries. Both the HI income and cost are on an incurred basis.

The OASDI annual balance (income excluding interest, less cost) as a percentage of GDP is projected to be positive on the basis of the low cost assumptions until 2022. After 2021, deficits increase to a peak in about 2035, and decrease thereafter. The OASDI balance is projected to be positive until 2017 on the basis of the intermediate assumptions and until 2013 on the basis of the high cost assumptions, at which time balances become permanently negative, with generally increasing deficits. The projected HI balance as a percentage of GDP, is positive through 2021 on the basis of the low cost assumptions. The HI balance is projected to be negative in the first projection year under the intermediate and high cost assumptions, with deficits increasing steadily thereafter. The combined OASDI and HI balance as a percentage of GDP is projected to be positive through 2021 under the low cost assumptions, through 2014 under the intermediate assumptions, and through 2010 under the high cost assumptions. Between 2010 and about 2035, under all three sets of assumptions, both the OASDI and HI balances as percentages of GDP are projected to decline (or deficits increase) substantially

because the baby-boom generation reaches retirement eligibility age during these years. After balances cease to be positive under the intermediate and high cost assumptions, the annual deficits increase fairly steadily for the combined OASDI and HI programs.

By 2080, the combined OASDI and HI balances as percentages of GDP, are projected to range from a deficit of 1.15 percent for the low cost assumptions to a deficit of 12.39 percent for the high cost assumptions. Projected balances differ by a much smaller amount for the tenth year, 2016, ranging from a positive balance of 0.53 percent for the low cost assumptions to a deficit of 1.11 percent for the high cost assumptions.

The summarized long-range (75-year) balance as a percentage of GDP for the combined OASDI and HI programs varies among the three alternatives, by a relatively large amount (from a deficit of 0.15 percent, based on the low cost assumptions, to a deficit of 6.02 percent, based on the high cost assumptions). The 25-year summarized balance varies by a smaller amount (from a positive balance of 0.70 percent to a deficit of 1.61 percent). Summarized rates are calculated on the present-value basis including the trust fund balances on January 1, 2007 and the cost of reaching a target trust fund level equal to 100 percent of the following year's annual cost at the end of the period. (See section IV.B.4 for further explanation.)

Table VI.F4.—OASDI and HI Annual and Summarized Income, Cost, and Balance as a Percentage of GDP, Calendar Years 2007-85

Calendar year	Percentage of GDP									GDP in dollars (billions)
	OASDI			HI			Combined			
	Income ¹	Cost	Balance	Income ¹	Cost	Balance	Income ¹	Cost	Balance	
Intermediate:										
2007	4.86	4.29	.57	1.47	1.49	-0.01	6.34	5.77	0.56	\$13,858
2008	4.88	4.24	.63	1.49	1.52	-0.03	6.36	5.76	.60	14,550
2009	4.91	4.26	.65	1.50	1.55	-.05	6.41	5.81	.59	15,302
2010	4.92	4.32	.60	1.50	1.58	-.08	6.42	5.90	.53	16,083
2011	4.93	4.36	.57	1.51	1.60	-.10	6.44	5.97	.47	16,900
2012	4.94	4.44	.49	1.51	1.63	-.12	6.45	6.08	.37	17,721
2013	4.94	4.54	.39	1.52	1.67	-.15	6.46	6.22	.24	18,550
2014	4.94	4.65	.29	1.52	1.71	-.19	6.46	6.36	.10	19,398
2015	4.94	4.76	.18	1.53	1.75	-.22	6.46	6.50	-.04	20,304
2016	4.93	4.86	.07	1.53	1.79	-.26	6.46	6.65	-.19	21,253
2020	4.93	5.31	-.38	1.54	2.00	-.46	6.47	7.31	-.84	25,415
2025	4.92	5.80	-.88	1.55	2.35	-.80	6.47	8.15	-1.68	31,596
2030	4.90	6.17	-1.28	1.55	2.75	-1.20	6.45	8.93	-2.47	39,216
2035	4.87	6.33	-1.46	1.55	3.15	-1.60	6.42	9.48	-3.06	48,782
2040	4.83	6.31	-1.48	1.54	3.48	-1.94	6.37	9.79	-3.42	60,729
2045	4.79	6.24	-1.45	1.53	3.74	-2.21	6.32	9.98	-3.66	75,592
2050	4.75	6.20	-1.44	1.52	3.95	-2.43	6.27	10.14	-3.88	93,857
2055	4.71	6.20	-1.49	1.51	4.13	-2.63	6.22	10.34	-4.12	116,365
2060	4.68	6.23	-1.55	1.50	4.33	-2.83	6.17	10.56	-4.39	144,256
2065	4.64	6.25	-1.61	1.49	4.53	-3.04	6.12	10.78	-4.66	178,920
2070	4.60	6.26	-1.66	1.48	4.71	-3.24	6.08	10.98	-4.90	221,875
2075	4.56	6.27	-1.71	1.47	4.87	-3.40	6.03	11.14	-5.11	275,164
2080	4.52	6.28	-1.76	1.45	5.00	-3.54	5.98	11.28	-5.30	340,992
2085	4.49	6.30	-1.81							422,371
Summarized rates:²										
25-year:										
2007-31	5.58	5.37	.22	1.63	2.11	-.48	7.21	7.48	-.26	
50-year:										
2007-56	5.26	5.71	-.46	1.59	2.75	-1.17	6.85	8.46	-1.63	
75-year:										
2007-81	5.11	5.82	-.72	1.56	3.19	-1.63	6.67	9.01	-2.35	
Low Cost:										
2007	4.85	4.25	.60	1.47	1.43	.04	6.32	5.68	.64	13,951
2008	4.90	4.19	.71	1.49	1.44	.05	6.38	5.62	.76	14,643
2009	4.93	4.19	.74	1.50	1.44	.05	6.42	5.63	.79	15,350
2010	4.95	4.21	.74	1.50	1.44	.06	6.45	5.65	.80	16,074
2011	4.96	4.22	.74	1.51	1.44	.07	6.47	5.66	.81	16,825
2012	4.97	4.26	.71	1.51	1.44	.08	6.48	5.70	.78	17,601
2013	4.98	4.32	.66	1.52	1.44	.08	6.50	5.76	.73	18,386
2014	4.98	4.38	.60	1.52	1.45	.07	6.50	5.83	.67	19,190
2015	4.99	4.45	.53	1.52	1.45	.07	6.51	5.91	.60	20,007
2016	4.99	4.53	.46	1.53	1.46	.07	6.52	5.99	.53	20,851
2020	5.00	4.89	.11	1.54	1.52	.02	6.54	6.41	.13	24,481
2025	5.00	5.29	-.29	1.55	1.62	-.07	6.55	6.92	-.37	29,729
2030	5.00	5.57	-.57	1.56	1.74	-.18	6.55	7.30	-.75	36,082
2035	4.98	5.63	-.65	1.56	1.82	-.26	6.54	7.45	-.91	43,996
2040	4.96	5.52	-.56	1.55	1.87	-.32	6.51	7.39	-.88	53,887
2045	4.93	5.38	-.44	1.54	1.91	-.37	6.47	7.28	-.81	66,154
2050	4.91	5.27	-.35	1.53	1.96	-.43	6.44	7.22	-.78	81,203
2055	4.89	5.20	-.31	1.52	2.03	-.51	6.41	7.23	-.82	99,714
2060	4.87	5.16	-.29	1.52	2.14	-.62	6.39	7.30	-.91	122,541
2065	4.85	5.09	-.24	1.51	2.25	-.74	6.36	7.34	-.98	150,897
2070	4.83	5.01	-.18	1.50	2.35	-.85	6.33	7.36	-1.03	186,104
2075	4.80	4.94	-.13	1.49	2.44	-.95	6.30	7.38	-1.08	229,655
2080	4.78	4.90	-.12	1.49	2.52	-1.03	6.27	7.42	-1.15	283,213
2085	4.77	4.90	-.13							348,928

Table VI.F4.—OASDI and HI Annual and Summarized Income, Cost, and Balance as a Percentage of GDP, Calendar Years 2007-85 (Cont.)

Calendar year	Percentage of GDP									GDP in dollars (billions)
	OASDI			HI			Combined			
	Income ¹	Cost	Balance	Income ¹	Cost	Balance	Income ¹	Cost	Balance	
Low Cost (cont.):										
Summarized rates:²										
25-year:										
2007-31 . . .	5.65	4.98	0.66	1.63	1.59	0.04	7.28	6.57	0.70	
50-year:										
2007-56 . . .	5.36	5.14	.22	1.59	1.72	-.12	6.95	6.86	.10	
75-year:										
2007-81 . . .	5.23	5.10	.14	1.57	1.86	-.29	6.80	6.96	-.15	
High Cost:										
2007	4.91	4.41	.50	1.47	1.56	-.09	6.39	5.97	.41	\$13,548
2008	4.84	4.41	.43	1.49	1.62	-.13	6.33	6.03	.30	14,238
2009	4.89	4.45	.44	1.50	1.68	-.18	6.39	6.13	.26	15,015
2010	4.91	4.58	.34	1.50	1.75	-.25	6.42	6.33	.09	15,646
2011	4.89	4.63	.25	1.50	1.81	-.30	6.39	6.44	-.05	16,747
2012	4.84	4.69	.15	1.51	1.86	-.35	6.35	6.55	-.20	18,215
2013	4.84	4.84	³	1.52	1.94	-.43	6.36	6.79	-.43	19,369
2014	4.86	5.01	-.16	1.52	2.03	-.51	6.37	7.04	-.67	20,375
2015	4.86	5.15	-.29	1.52	2.11	-.59	6.38	7.26	-.88	21,429
2016	4.85	5.29	-.44	1.53	2.20	-.67	6.38	7.49	-1.11	22,540
2020	4.84	5.79	-.96	1.53	2.64	-1.11	6.37	8.43	-2.06	27,505
2025	4.81	6.33	-1.52	1.54	3.40	-1.86	6.35	9.73	-3.38	35,109
2030	4.78	6.78	-2.00	1.54	4.37	-2.83	6.32	11.15	-4.83	44,722
2035	4.74	7.04	-2.31	1.54	5.47	-3.93	6.28	12.51	-6.23	56,911
2040	4.69	7.14	-2.46	1.53	6.48	-4.95	6.22	13.62	-7.40	72,223
2045	4.64	7.19	-2.56	1.51	7.32	-5.80	6.15	14.51	-8.36	91,338
2050	4.58	7.27	-2.69	1.50	7.95	-6.45	6.08	15.23	-9.14	114,856
2055	4.53	7.40	-2.87	1.49	8.40	-6.91	6.02	15.80	-9.78	144,039
2060	4.48	7.56	-3.08	1.48	8.76	-7.28	5.96	16.31	-10.35	180,174
2065	4.43	7.73	-3.29	1.47	9.12	-7.65	5.90	16.84	-10.94	225,107
2070	4.39	7.90	-3.52	1.46	9.44	-7.98	5.85	17.34	-11.49	280,547
2075	4.34	8.07	-3.73	1.45	9.70	-8.25	5.79	17.77	-11.98	349,413
2080	4.29	8.21	-3.92	1.44	9.91	-8.47	5.73	18.12	-12.39	434,368
2085	4.25	8.30	-4.06							540,196
Summarized rates:²										
25-year:										
2007-31 . . .	5.49	5.84	-.35	1.62	2.87	-1.26	7.11	8.71	-1.61	
50-year:										
2007-56 . . .	5.12	6.40	-1.28	1.57	4.68	-3.11	6.69	11.08	-4.39	
75-year:										
2007-81 . . .	4.95	6.73	-1.78	1.55	5.79	-4.24	6.50	12.52	-6.02	

¹ Income for individual years excludes interest on the trust funds. Interest is implicitly reflected in all summarized values.

² Summarized rates are calculated on the present-value basis including the value of the trust funds on January 1, 2007 and the cost of reaching a target trust fund level equal to 100 percent of annual cost at the end of the period.

³ Between -0.005 and 0.005 percent of GDP.

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

The difference between trust fund operations expressed as percentages of taxable payroll and those expressed as percentages of GDP can be understood by analyzing the estimated ratios of OASDI taxable payroll to GDP, which are presented in table VI.F5. HI taxable payroll is about 25 percent larger than the OASDI taxable payroll throughout the long-range period (see

Appendices

appendix VI.F.1 for a detailed description of the difference). The cost as a percentage of GDP is equal to the cost as a percentage of taxable payroll multiplied by the ratio of taxable payroll to GDP.

Table VI.F5.—Ratio of OASDI Taxable Payroll to GDP, Calendar Years 2007-85

Calendar year	Intermediate	Low Cost	High Cost
2007	0.382	0.382	0.384
2008	.385	.385	.385
2009	.385	.387	.383
2010	.385	.388	.384
2011	.385	.388	.381
2012	.385	.388	.376
2013	.384	.388	.376
2014	.383	.388	.376
2015	.383	.388	.376
2016	.382	.388	.374
2020	.379	.386	.370
2025	.376	.384	.365
2030	.372	.382	.360
2035	.369	.380	.355
2040	.365	.379	.351
2045	.362	.377	.346
2050	.359	.376	.341
2055	.356	.374	.336
2060	.352	.373	.332
2065	.349	.371	.327
2070	.346	.369	.322
2075	.343	.368	.317
2080	.340	.366	.313
2085	.337	.365	.309

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

Over the long-range period, projected growth in taxable payroll differs from projected growth in GDP primarily due to the assumed trend in the ratio of wages to total employee compensation—i.e., wages plus fringe benefits. The ratio of earnings to total worker compensation declined at an average annual rate of 0.27 percent for the 40 years from 1965 to 2005. For the 10-year periods 1965-75, 1975-85, 1985-95, and 1995-2005, the average annual rates of decline were 0.54, 0.39, 0.07, and 0.07 percent, 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 the low cost, intermediate, and high cost assumptions, 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 wages to covered wages, as a result of the relatively greater increases in wages for persons earning above the contribution and benefit base. This decline in the taxable ratio is assumed to continue at a slower pace through 2016, with no further decline thereafter.

3. Estimates in Dollars

This section 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. Meaningful comparison of current dollar values over long periods of time can be difficult because of the effect of 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 VI.F6 presents five such indices for adjustment. Adjustment of any series of values is accomplished by dividing the value for each year by the corresponding index values for the year. This adjustment removes the inflation in the index from the series of values.

One of the most common forms of standardization is based on some measure of change in the prices of consumer goods. One such price index is the Consumer Price Index for Urban Wage Earners and Clerical Workers (CPI-W, hereafter referred to as CPI), which is published by the Bureau of Labor Statistics, Department of Labor. This is the index used to determine annual increases in OASDI monthly benefits payable after the year of initial eligibility. The CPI is assumed to increase ultimately at annual rates of 1.8, 2.8, and 3.8 percent for the low cost, intermediate, and high cost sets of assumptions, respectively. Constant-dollar values (those calculated by dividing by the adjusted CPI in table VI.F6) indicate the relative purchasing power of the values over time. Constant-dollar values are provided in table VI.F7.

Another type of standardization combines the effects of price inflation and real-wage growth. The wage index presented here is the national average wage index, as defined in section 215(i)(1)(G) of the Social Security Act. This index is used to make annual adjustments to many earnings-related quantities embodied in the Social Security Act, such as the contribution and benefit base. The average annual wage is assumed to increase ultimately by 3.4, 3.9, and 4.4 percent under the low cost, intermediate, and high cost assumptions, respectively. Wage-indexed values indicate the level of a series relative to the standard-of-living of workers over time.

The taxable payroll index adjusts for the effects of changes in the number of workers and changes in the proportion of earnings that are taxable, as well as

Appendices

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

The 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 VI.F.2) 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 demographic and economic assumptions, as discussed in sections V.A and V.B, respectively.

Discounting at the rate of interest is another way of adjusting current dollars. The series of interest-rate factors included here is based on the average of the assumed annual interest rates for special public-debt obligations issuable to the trust funds for each year. This series is slightly different from the interest rates used to create summarized values elsewhere in this report, where the actual yield on currently-held trust fund assets is used for each year. Ultimate nominal interest rates, which, in practice, are compounded semiannually, are assumed to be approximately 5.4, 5.7, and 5.9 percent for the low cost, intermediate, and high cost assumptions, respectively.

Table VI.F6.—Selected Economic Variables, Calendar Years 2006-85
 [GDP and taxable payroll in billions]

Calendar year	Adjusted CPI ¹	Average wage index ²	Taxable payroll ³	Gross domestic product	Compound interest-rate factor ⁴
Intermediate:					
2006	98.14	\$38,726.37	\$5,038	\$13,245	0.9556
2007	100.00	40,461.69	5,301	13,858	1.0000
2008	102.37	42,286.35	5,597	14,550	1.0525
2009	105.11	44,100.37	5,896	15,302	1.1121
2010	108.05	45,946.76	6,198	16,083	1.1766
2011	111.08	47,830.33	6,507	16,900	1.2453
2012	114.19	49,809.01	6,816	17,721	1.3179
2013	117.39	51,785.43	7,121	18,550	1.3948
2014	120.67	53,759.30	7,438	19,398	1.4761
2015	124.05	55,820.55	7,771	20,304	1.5616
2016	127.52	57,963.56	8,115	21,253	1.6520
2020	142.42	67,513.90	9,633	25,415	2.0685
2025	163.50	81,630.57	11,866	31,596	2.7396
2030	187.71	98,753.66	14,591	39,216	3.6285
2035	215.51	119,654.40	17,986	48,782	4.8059
2040	247.41	145,147.30	22,196	60,729	6.3653
2045	284.05	176,008.57	27,385	75,592	8.4306
2050	326.10	213,251.30	33,696	93,857	11.1661
2055	374.39	258,202.86	41,398	116,365	14.7891
2060	429.82	312,601.72	50,850	144,256	19.5878
2065	493.46	378,580.63	62,488	178,920	25.9435
2070	566.52	458,626.89	76,771	221,875	34.3614
2075	650.41	555,604.14	94,320	275,164	45.5106
2080	746.71	672,984.32	115,787	340,992	60.2775
2085	857.27	815,650.39	142,183	422,371	79.8358
Low Cost:					
2006	98.31	38,753.43	5,044	13,260	.9549
2007	100.00	40,590.02	5,335	13,951	1.0000
2008	101.93	42,334.80	5,641	14,643	1.0501
2009	103.77	43,947.36	5,939	15,350	1.1030
2010	105.63	45,547.60	6,234	16,074	1.1605
2011	107.53	47,151.60	6,530	16,825	1.2222
2012	109.47	48,896.81	6,829	17,601	1.2888
2013	111.45	50,616.69	7,130	18,386	1.3597
2014	113.45	52,331.64	7,444	19,190	1.4352
2015	115.49	54,077.95	7,759	20,007	1.5134
2016	117.57	55,862.08	8,082	20,851	1.5959
2020	126.27	63,813.85	9,452	24,481	1.9744
2025	138.05	75,302.48	11,421	29,729	2.5761
2030	150.93	88,824.63	13,792	36,082	3.3612
2035	165.01	104,912.06	16,739	43,996	4.3857
2040	180.41	124,119.79	20,414	53,887	5.7224
2045	197.24	146,853.21	24,957	66,154	7.4664
2050	215.64	173,656.50	30,506	81,203	9.7421
2055	235.76	205,382.69	37,305	99,714	12.7113
2060	257.76	242,925.34	45,655	122,541	16.5854
2065	281.81	287,418.38	55,985	150,897	21.6403
2070	308.10	340,191.80	68,758	186,104	28.2359
2075	336.84	402,703.66	84,489	229,655	36.8417
2080	368.27	476,574.03	103,744	283,213	48.0703
2085	402.63	564,262.93	127,361	348,928	62.7212

Table VI.F6.—Selected Economic Variables, Calendar Years 2006-85 (Cont.)
 [GDP and taxable payroll in billions]

Calendar year	Adjusted CPI ¹	Average wage index ²	Taxable payroll ³	Gross domestic product	Compound interest-rate factor ⁴
High Cost:					
2006	97.47	\$38,702.80	\$5,033	\$13,232	0.9599
2007	100.00	39,852.18	5,197	13,548	1.0000
2008	102.81	41,860.51	5,475	14,238	1.0564
2009	105.79	43,722.09	5,756	15,015	1.1193
2010	110.44	45,294.95	6,010	15,646	1.1879
2011	116.74	48,246.05	6,384	16,747	1.2841
2012	123.23	51,759.46	6,855	18,215	1.3986
2013	129.00	54,564.68	7,273	19,369	1.5008
2014	134.08	56,969.23	7,663	20,375	1.5949
2015	139.17	59,388.31	8,047	21,429	1.6907
2016	144.46	61,920.82	8,432	22,540	1.7915
2020	167.70	73,537.32	10,179	27,505	2.2600
2025	202.08	91,138.23	12,820	35,109	3.0215
2030	243.50	113,106.23	16,110	44,722	4.0395
2035	293.42	140,587.61	20,225	56,911	5.4007
2040	353.57	174,866.42	25,327	72,223	7.2204
2045	426.06	217,292.63	31,600	91,338	9.6533
2050	513.40	269,678.53	39,186	114,856	12.9060
2055	618.65	334,238.19	48,452	144,039	17.2547
2060	745.47	414,085.65	59,744	180,174	23.0687
2065	898.29	513,052.61	73,576	225,107	30.8418
2070	1,082.44	635,788.72	90,377	280,547	41.2339
2075	1,304.33	787,898.07	110,939	349,413	55.1277
2080	1,571.72	976,353.82	135,919	434,368	73.7031
2085	1,893.92	1,211,072.06	166,726	540,196	98.5374

¹ The adjusted CPI is the CPI-W indexed to calendar year 2007.

² The average wage index is used to automatically adjust the contribution and benefit base and other wage-indexed program amounts. (See “Average wage index” in the glossary.)

³ Taxable payroll consists of total earnings subject to OASDI contribution rates, adjusted to include deemed wages based on military service through calendar year 2001 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 VI.F7 shows estimated operations of the combined OASI and DI Trust Funds in constant 2007 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 cost, 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. Cost consists of benefit payments, administrative expenses, net transfers from the OASI and DI Trust Funds to the Railroad Retirement program under the financial-interchange provisions, and payments for vocational rehabilitation services for disabled beneficiaries. These estimates are based on the low cost, intermediate, and high cost sets of assumptions.

**Table VI.F7.—Operations of the Combined OASI and DI Trust Funds,
in Constant 2007 Dollars,¹ Calendar Years 2007-85**
[In billions]

Calendar year	Income excluding interest	Interest income	Total income	Cost	Assets at end of year
Intermediate:					
2007	\$673.7	\$109.2	\$782.8	\$594.3	\$2,236.6
2008	693.1	115.2	808.3	603.0	2,390.0
2009	715.0	123.7	838.7	620.7	2,545.7
2010	732.3	133.0	865.3	642.5	2,699.3
2011	750.0	142.7	892.7	663.9	2,854.5
2012	766.1	152.0	918.1	689.8	3,005.0
2013	780.1	161.1	941.2	718.0	3,146.5
2014	793.6	169.6	963.2	747.7	3,276.3
2015	807.8	177.3	985.0	778.6	3,393.5
2016	822.2	184.2	1,006.5	810.7	3,496.9
2020	879.4	206.4	1,085.8	947.2	3,752.1
2025	949.9	204.4	1,154.3	1,120.8	3,634.2
2030	1,023.2	169.9	1,193.1	1,289.7	2,951.7
2035	1,102.2	105.3	1,207.5	1,433.1	1,734.9
2040 ²	1,186.1	16.3	1,202.5	1,549.5	89.6
Low Cost:					
2007	676.3	109.5	785.8	592.6	2,241.3
2008	703.3	116.3	819.6	601.3	2,417.1
2009	729.1	124.6	853.7	619.9	2,608.2
2010	752.8	133.8	886.6	640.8	2,807.8
2011	776.6	144.3	920.8	661.0	3,018.0
2012	799.5	155.5	955.0	685.5	3,234.2
2013	821.1	167.4	988.5	712.5	3,452.9
2014	842.7	179.9	1,022.6	741.4	3,673.1
2015	864.0	191.8	1,055.8	771.6	3,892.4
2016	885.4	203.6	1,089.0	803.3	4,109.1
2020	969.1	253.3	1,222.4	948.7	4,915.8
2025	1,076.9	299.1	1,376.0	1,140.1	5,716.4
2030	1,194.4	328.0	1,522.3	1,330.5	6,233.4
2035	1,328.3	345.8	1,674.1	1,501.1	6,556.2
2040	1,481.4	362.6	1,844.0	1,649.8	6,877.9
2045	1,655.1	387.1	2,042.2	1,802.9	7,357.3
2050	1,849.5	421.6	2,271.2	1,982.7	8,027.0
2055	2,068.5	465.6	2,534.1	2,200.0	8,870.1
2060	2,315.6	517.2	2,832.8	2,451.1	9,858.4
2065	2,596.6	579.1	3,175.7	2,725.1	11,050.5
2070	2,915.4	656.9	3,572.3	3,025.3	12,554.2
2075	3,275.2	755.9	4,031.1	3,365.5	14,465.0
2080	3,678.1	877.5	4,555.6	3,768.1	16,802.3
2085	4,131.1	1,019.3	5,150.4	4,243.7	19,517.2
High Cost:					
2007	665.7	107.8	773.5	597.8	2,223.8
2008	670.8	112.5	783.3	610.6	2,335.5
2009	694.7	120.4	815.0	631.9	2,452.9
2010	696.1	126.5	822.6	648.3	2,523.9
2011	700.9	134.4	835.3	664.5	2,558.6
2012	715.4	148.9	864.3	693.2	2,595.1
2013	726.9	157.1	884.0	727.2	2,635.8
2014	737.9	160.7	898.6	762.0	2,672.5
2015	748.2	161.9	910.1	793.6	2,691.2
2016	757.2	161.9	919.1	826.1	2,685.8
2020	793.1	143.3	936.4	949.9	2,418.5
2025 ²	835.5	93.3	928.7	1,099.9	1,502.3

¹The adjustment from current to constant dollars is by the adjusted CPI indexing series shown in table VI.F6.

²Estimates for later years are not shown because the combined OASI and DI Trust Funds are estimated to become exhausted in 2041 under the intermediate assumptions and in 2030 under the high cost assumptions. Note: Totals do not necessarily equal the sums of rounded components.

Figure VI.F1 provides a comparison of annual cost with total annual income (including interest) and annual income excluding interest, for the OASDI program under intermediate assumptions. All values are expressed in constant dollars, as shown in table VI.F7. The difference between the income values for each year is equal to the trust fund interest earnings. Thus the figure illustrates the fact that, under intermediate assumptions, combined OASDI cost will be payable from (1) current tax income alone through 2016, (2) current tax income plus amounts from the trust funds that are less than annual interest income for years 2017 through 2026, and (3) current tax income plus amounts from the trust funds that are greater than annual interest income for years 2027 through 2040, i.e., through the year preceding the year of trust fund exhaustion.

Figure VI.F1.—Estimated OASDI Income and Cost in Constant Dollars, Based on Intermediate Assumptions
[In billions]

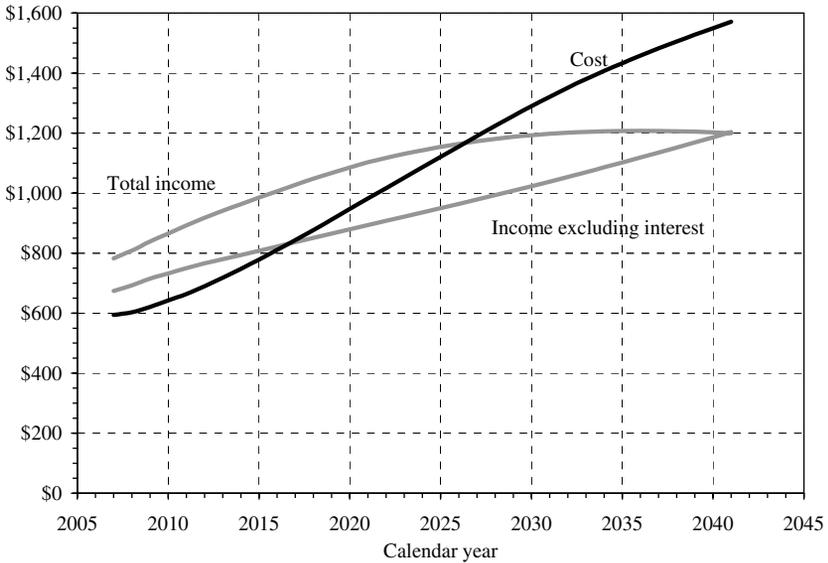


Table VI.F8 shows estimated operations of the combined OASI and DI Trust Funds in current dollars—that is in dollars unadjusted for price inflation. Items included in the table are: income excluding interest, interest income, total income, total cost, and assets at the end of the year. These estimates, based on the low cost, intermediate, and high cost sets of demographic and economic assumptions, are presented to facilitate independent analysis.

**Table VI.F8.—Operations of the Combined OASI and DI Trust Funds,
in Current Dollars, Calendar Years 2007-85**
[In billions]

Calendar year	Income excluding interest	Interest income	Total income	Cost	Assets at end of year
Intermediate:					
2007	\$673.7	\$109.2	\$782.8	\$594.3	\$2,236.6
2008	709.5	117.9	827.5	617.3	2,446.8
2009	751.6	130.0	881.6	652.5	2,675.9
2010	791.2	143.7	935.0	694.2	2,916.6
2011	833.1	158.5	991.6	737.4	3,170.8
2012	874.8	173.6	1,048.4	787.6	3,431.5
2013	915.8	189.1	1,104.9	842.8	3,693.6
2014	957.6	204.7	1,162.3	902.3	3,953.6
2015	1,002.0	219.9	1,221.9	965.9	4,209.7
2016	1,048.5	235.0	1,283.5	1,033.8	4,459.3
2020	1,252.5	293.9	1,546.4	1,349.0	5,343.6
2025	1,553.1	334.3	1,887.4	1,832.6	5,942.1
2030	1,920.6	318.9	2,239.5	2,420.9	5,540.7
2035	2,375.3	226.8	2,602.1	3,088.5	3,738.9
2040 ¹	2,934.7	40.4	2,975.1	3,833.6	221.6
Low Cost:					
2007	676.3	109.5	785.8	592.6	2,241.3
2008	716.9	118.5	835.4	613.0	2,463.8
2009	756.6	129.3	885.9	643.3	2,706.4
2010	795.2	141.3	936.5	676.9	2,966.0
2011	835.1	155.1	990.2	710.8	3,245.4
2012	875.2	170.2	1,045.4	750.4	3,540.5
2013	915.1	186.5	1,101.7	794.1	3,848.1
2014	956.1	204.1	1,160.2	841.1	4,167.2
2015	997.8	221.5	1,219.3	891.2	4,495.3
2016	1,041.0	239.4	1,280.4	944.5	4,831.2
2020	1,223.7	319.9	1,543.5	1,197.9	6,207.2
2025	1,486.6	412.9	1,899.5	1,574.0	7,891.5
2030	1,802.7	495.0	2,297.7	2,008.1	9,408.0
2035	2,191.8	570.6	2,762.4	2,476.9	10,818.5
2040	2,672.6	654.1	3,326.7	2,976.4	12,408.2
2045	3,264.6	763.5	4,028.1	3,556.0	14,511.5
2050	3,988.4	909.2	4,897.6	4,275.6	17,309.5
2055	4,876.8	1,097.6	5,974.4	5,186.8	20,912.1
2060	5,968.7	1,333.1	7,301.8	6,318.0	25,410.7
2065	7,317.3	1,632.0	8,949.3	7,679.5	31,140.8
2070	8,982.3	2,024.0	11,006.3	9,321.0	38,679.1
2075	11,032.3	2,546.2	13,578.4	11,336.3	48,724.2
2080	13,545.3	3,231.6	16,776.9	13,876.6	61,877.8
2085	16,632.9	4,104.1	20,737.0	17,086.4	78,581.6
High Cost:					
2007	665.7	107.8	773.5	597.8	2,223.8
2008	689.6	115.7	805.3	627.8	2,401.3
2009	734.9	127.3	862.2	668.5	2,595.0
2010	768.9	139.7	908.5	716.0	2,787.5
2011	818.2	156.9	975.1	775.7	2,986.9
2012	881.5	183.5	1,065.0	854.2	3,197.8
2013	937.7	202.7	1,140.4	938.1	3,400.1
2014	989.4	215.5	1,204.9	1,021.7	3,583.3
2015	1,041.3	225.3	1,266.6	1,104.4	3,745.4
2016	1,093.9	233.9	1,327.7	1,193.3	3,879.9
2020	1,330.1	240.3	1,570.4	1,593.0	4,055.9
2025 ¹	1,688.3	188.5	1,876.8	2,222.7	3,035.9

¹ Estimates for later years are not shown because the combined OASI and DI Trust Funds are estimated to become exhausted in 2041 under the intermediate assumptions and in 2030 under the high cost assumptions.

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

Appendices

Table VI.F9 shows, in current dollars, estimated income (excluding interest) and estimated total cost (excluding the cost of accumulating target trust fund balances) of the combined OASI and DI Trust Funds, of the HI Trust Fund, and of the combined OASI, DI, and HI Trust Funds, based on the low cost, intermediate, and high cost sets of assumptions described earlier in this report. For OASDI, income excluding interest consists of payroll-tax contributions, proceeds from taxation of OASDI benefits, and miscellaneous transfers from the General Fund of the Treasury. Cost consists of benefit payments, administrative expenses, net transfers from the trust funds to the Railroad Retirement program, and payments for vocational rehabilitation services for disabled beneficiaries. For HI, income excluding interest consists of payroll-tax contributions (including contributions from railroad employment) and proceeds from the taxation of OASDI benefits. Total cost consists of outlays (scheduled benefits and administrative expenses) for insured beneficiaries. Income and cost estimates are shown on a cash basis for the OASDI program and on an incurred basis for the HI program.

Table VI.F9 also shows the difference between income excluding interest and cost, which is called the balance. The balance indicates the size of the difference between tax income and cost.

Table VI.F9.—OASDI and HI Annual Income Excluding Interest, Cost, and Balance in Current Dollars, Calendar Years 2007-85
[In billions]

Calendar year	OASDI			HI			Combined		
	Income excluding interest	Cost	Balance	Income excluding interest	Cost	Balance	Income excluding interest	Cost	Balance
Intermediate:									
2007	\$674	\$594	\$79	\$204	\$206	-\$1	\$878	\$800	\$78
2008	710	617	92	216	221	-5	926	838	88
2009	752	652	99	229	237	-8	981	890	91
2010	791	694	97	242	254	-12	1,033	948	85
2011	833	737	96	255	271	-16	1,088	1,009	79
2012	875	788	87	268	290	-22	1,143	1,077	66
2013	916	843	73	282	310	-28	1,198	1,153	45
2014	958	902	55	295	332	-36	1,253	1,234	19
2015	1,002	966	36	310	355	-45	1,312	1,321	-9
2016	1,049	1,034	15	325	380	-55	1,374	1,414	-40
2020	1,252	1,349	-97	392	508	-116	1,644	1,857	-213
2025	1,553	1,833	-279	490	741	-251	2,043	2,574	-531
2030	1,921	2,421	-500	609	1,080	-470	2,530	3,501	-971
2035	2,375	3,089	-713	757	1,537	-780	3,132	4,625	-1,493
2040	2,935	3,834	-899	936	2,113	-1,177	3,871	5,947	-2,076
2045	3,622	4,716	-1,094	1,155	2,826	-1,671	4,777	7,542	-2,765
2050	4,459	5,815	-1,356	1,423	3,705	-2,282	5,882	9,520	-3,637
2055	5,484	7,217	-1,733	1,752	4,810	-3,057	7,236	12,027	-4,790
2060	6,745	8,988	-2,243	2,159	6,248	-4,089	8,904	15,236	-6,332
2065	8,298	11,182	-2,883	2,660	8,107	-5,447	10,958	19,289	-8,331
2070	10,206	13,896	-3,690	3,275	10,459	-7,184	13,481	24,355	-10,874
2075	12,550	17,254	-4,704	4,032	13,398	-9,365	16,582	30,652	-14,070
2080	15,421	21,423	-6,002	4,961	17,040	-12,080	20,382	38,463	-18,082
2085	18,954	26,602	-7,648						
Low Cost:									
2007	676	593	84	206	200	6	882	792	90
2008	717	613	104	218	211	7	935	824	111
2009	757	643	113	230	221	8	986	864	122
2010	795	677	118	241	232	10	1,037	909	128
2011	835	711	124	253	242	12	1,089	953	136
2012	875	750	125	266	253	13	1,141	1,003	138
2013	915	794	121	279	265	14	1,194	1,059	135
2014	956	841	115	292	278	14	1,248	1,119	129
2015	998	891	107	305	291	14	1,303	1,182	121
2016	1,041	944	97	319	305	14	1,360	1,249	111
2020	1,224	1,198	26	377	371	6	1,601	1,569	32
2025	1,487	1,574	-87	461	483	-22	1,948	2,057	-109
2030	1,803	2,008	-205	562	627	-65	2,365	2,636	-271
2035	2,192	2,477	-285	685	800	-115	2,877	3,276	-400
2040	2,673	2,976	-304	835	1,007	-173	3,507	3,984	-476
2045	3,265	3,556	-291	1,018	1,263	-244	4,283	4,819	-536
2050	3,988	4,276	-287	1,243	1,589	-346	5,232	5,865	-633
2055	4,877	5,187	-310	1,520	2,027	-507	6,397	7,213	-817
2060	5,969	6,318	-349	1,860	2,623	-762	7,829	8,940	-1,112
2065	7,317	7,679	-362	2,280	3,395	-1,115	9,597	11,074	-1,477
2070	8,982	9,321	-339	2,797	4,377	-1,580	11,779	13,698	-1,919
2075	11,032	11,336	-304	3,433	5,607	-2,174	14,465	16,943	-2,478
2080	13,545	13,877	-331	4,215	7,131	-2,917	17,760	21,008	-3,248
2085	16,633	17,086	-453						

Table VI.F9.—OASDI and HI Annual Income Excluding Interest, Cost, and Balance in Current Dollars, Calendar Years 2007-85 (Cont.)
[In billions]

Calendar year	OASDI			HI			Combined		
	Income excluding interest	Cost	Balance	Income excluding interest	Cost	Balance	Income excluding interest	Cost	Balance
High Cost:									
2007	\$666	\$598	\$68	\$200	\$212	-\$12	\$865	\$809	\$56
2008	690	628	62	212	231	-19	901	859	43
2009	735	669	66	225	252	-28	960	921	39
2010	769	716	53	235	274	-39	1,004	990	13
2011	818	776	42	252	303	-51	1,070	1,079	-9
2012	882	854	27	275	339	-64	1,156	1,193	-37
2013	938	938	^{1/}	293	376	-83	1,231	1,314	-83
2014	989	1,022	-32	309	413	-103	1,299	1,435	-136
2015	1,041	1,104	-63	326	452	-126	1,368	1,556	-189
2016	1,094	1,193	-99	344	495	-152	1,438	1,689	-251
2020	1,330	1,593	-263	422	727	-305	1,752	2,320	-567
2025	1,688	2,223	-534	541	1,193	-653	2,229	3,416	-1,187
2030	2,137	3,033	-897	690	1,954	-1,265	2,827	4,988	-2,161
2035	2,696	4,009	-1,313	875	3,111	-2,235	3,571	7,120	-3,548
2040	3,386	5,160	-1,773	1,103	4,677	-3,574	4,490	9,837	-5,348
2045	4,234	6,570	-2,336	1,383	6,682	-5,299	5,617	13,252	-7,635
2050	5,264	8,355	-3,091	1,724	9,134	-7,411	6,987	17,490	-10,502
2055	6,528	10,661	-4,133	2,145	12,094	-9,949	8,673	22,755	-14,082
2060	8,078	13,620	-5,542	2,664	15,775	-13,111	10,742	29,395	-18,653
2065	9,983	17,390	-7,406	3,306	20,519	-17,212	13,290	37,908	-24,619
2070	12,310	22,176	-9,867	4,094	26,474	-22,380	16,404	48,650	-32,247
2075	15,165	28,193	-13,028	5,065	33,893	-28,828	20,230	62,086	-41,856
2080	18,644	35,658	-17,014	6,250	43,037	-36,786	24,894	78,694	-53,800
2085	22,933	44,862	-21,929						

¹ Between -\$500 million and \$500 million.

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

Table VI.F10 shows projected future benefit amounts payable upon retirement at either the normal retirement age (NRA) or age 65, for workers attaining age 65 in 2007 and subsequent years. Illustrative benefit levels are shown for workers with four separate pre-retirement earnings patterns. All estimates are based on the intermediate assumptions in this report. The benefit amounts are shown in constant 2007 dollars (adjusted to 2007 levels by the CPI indexing series shown in table VI.F6). Benefit amounts are also shown as percentages of the career-average relative earnings level for each case, wage indexed to the year prior to retirement. These percentages thus represent the benefit “replacement rate” of the career-average level of earnings.

The normal retirement age is 65 for individuals who reached age 62 before 2000, was increased to age 66 during the period 2000-05 (at a rate of 2 months per year as workers attained age 62) and is scheduled to increase to age 67 during the period 2017-22 (also by 2 months per year as workers

attain age 62). Thus, for the illustrative cases shown in table VI.F10, benefit levels shown for retirement at 65 are lower than the levels shown for retirement at NRA, primarily because of the actuarial reduction for “early” (pre-NRA) retirement.

Four different pre-retirement earnings patterns are represented in table VI.F10. Three of these cases are for workers with scaled-earnings patterns,¹ reflecting low, medium, and high career-average levels of pre-retirement earnings starting at age 21. The fourth case is the steady maximum earner. The three scaled-earnings cases have earnings patterns that reflect differences by age in the probability of work and in average earnings levels experienced by insured workers during the period 1991-2003. The general, career-average level of earnings for the scaled cases is set relative to the national average wage index (AWI) so that benefit levels are consistent with levels for “steady-earnings” cases that were shown in the 2000 and earlier Trustees Reports. For the scaled medium earner, the general, career-average earnings level is about equal to the AWI. For the scaled low and high earners, the general, career-average earnings level is set at about 45 percent and 160 percent of the AWI, respectively. The steady maximum earner is assumed to have earnings at (or above) the OASDI contribution and benefit base for each year prior to retirement starting at age 22.

As noted above, the scaled-earnings cases were constructed so that their career-average earnings levels are consistent with those of the corresponding steady low, average, and high earners that were illustrated in the 2000 and earlier Trustees Reports. As a result, values in this table for benefits under the present-law Social Security benefit formula are essentially comparable to those in earlier reports. Scaled-earnings cases are now being used instead of steady-earnings cases because they more accurately illustrate the differences in benefit levels under the wide variety of reform proposals considered in recent years.

¹ More details are provided on scaled-earnings patterns in the Social Security Administration Actuarial Note Number 2006.3, located at the following internet address: www.socialsecurity.gov/OACT/NOTES/ran3/an2006-3.html.

Table VI.F10.—Estimated Annual Scheduled Benefit Amounts¹ for Retired Workers With Various Pre-Retirement Earnings Patterns Based on Intermediate Assumptions, Calendar Years 2007-85

Year attain age 65 ²	Retirement at normal retirement age			Retirement at age 65		
	Age at retirement	Constant 2007 dollars ³	Percent of earnings	Age at retirement	Constant 2007 dollars ³	Percent of earnings
Scaled low earnings:⁴						
2007	65:10	\$9,921	56.0	65:0	\$9,443	54.2
2010	66:0	9,941	53.4	65:0	9,284	50.5
2015	66:0	10,979	55.7	65:0	10,249	52.6
2020	66:2	11,618	55.9	65:0	10,709	52.1
2025	67:0	12,244	55.5	65:0	10,608	49.0
2030	67:0	12,891	55.4	65:0	11,175	49.0
2035	67:0	13,589	55.3	65:0	11,776	49.0
2040	67:0	14,339	55.2	65:0	12,426	48.9
2045	67:0	15,154	55.3	65:0	13,135	48.9
2050	67:0	16,009	55.3	65:0	13,872	49.0
2055	67:0	16,894	55.4	65:0	14,640	49.0
2060	67:0	17,816	55.4	65:0	15,439	49.0
2065	67:0	18,789	55.3	65:0	16,285	49.0
2070	67:0	19,819	55.3	65:0	17,178	49.0
2075	67:0	20,914	55.3	65:0	18,125	49.0
2080	67:0	22,070	55.3	65:0	19,127	49.0
2085	67:0	23,286	55.3	65:0	20,180	49.0
Scaled medium earnings:⁵						
2007	65:10	16,361	41.5	65:0	15,570	40.2
2010	66:0	16,394	39.6	65:0	15,295	37.5
2015	66:0	18,099	41.3	65:0	16,891	39.0
2020	66:2	19,143	41.4	65:0	17,652	38.7
2025	67:0	20,173	41.1	65:0	17,479	36.4
2030	67:0	21,240	41.1	65:0	18,409	36.3
2035	67:0	22,388	41.0	65:0	19,406	36.3
2040	67:0	23,627	41.0	65:0	20,477	36.3
2045	67:0	24,968	41.0	65:0	21,638	36.3
2050	67:0	26,372	41.0	65:0	22,857	36.3
2055	67:0	27,832	41.1	65:0	24,121	36.3
2060	67:0	29,353	41.1	65:0	25,437	36.3
2065	67:0	30,955	41.0	65:0	26,827	36.3
2070	67:0	32,655	41.0	65:0	28,299	36.3
2075	67:0	34,456	41.0	65:0	29,863	36.3
2080	67:0	36,360	41.0	65:0	31,511	36.3
2085	67:0	38,363	41.0	65:0	33,247	36.3
Scaled high earnings:⁶						
2007	65:10	21,640	34.6	65:0	20,604	33.5
2010	66:0	21,732	32.8	65:0	20,282	31.1
2015	66:0	23,995	34.3	65:0	22,388	32.3
2020	66:2	25,386	34.3	65:0	23,411	32.0
2025	67:0	26,745	34.1	65:0	23,180	30.1
2030	67:0	28,164	34.0	65:0	24,407	30.1
2035	67:0	29,682	34.0	65:0	25,724	30.1
2040	67:0	31,327	33.9	65:0	27,151	30.1
2045	67:0	33,102	34.0	65:0	28,689	30.1
2050	67:0	34,965	34.0	65:0	30,304	30.1
2055	67:0	36,897	34.0	65:0	31,979	30.1
2060	67:0	38,913	34.0	65:0	33,726	30.1
2065	67:0	41,037	34.0	65:0	35,565	30.1
2070	67:0	43,291	34.0	65:0	37,518	30.1
2075	67:0	45,680	34.0	65:0	39,588	30.1
2080	67:0	48,202	34.0	65:0	41,775	30.1
2085	67:0	50,857	34.0	65:0	44,076	30.1

**Table VI.F10.—Estimated Annual Scheduled Benefit Amounts¹ for Retired Workers
With Various Pre-Retirement Earnings Patterns Based on
Intermediate Assumptions, Calendar Years 2007-85 (Cont.)**

Year attain age 65 ²	Retirement at normal retirement age			Retirement at age 65		
	Age at retirement	Constant 2007 dollars ³	Percent of earnings	Age at retirement	Constant 2007 dollars ³	Percent of earnings
Steady maximum earnings:⁷						
2007	65:10	\$25,213	28.5	65:0	\$24,004	27.9
2010	66:0	25,944	27.0	65:0	24,011	25.6
2015	66:0	29,163	27.6	65:0	27,071	26.0
2020	66:2	30,999	27.5	65:0	28,487	25.6
2025	67:0	32,870	27.3	65:0	28,278	24.0
2030	67:0	34,652	27.3	65:0	29,821	24.0
2035	67:0	36,537	27.2	65:0	31,445	23.9
2040	67:0	38,527	27.2	65:0	33,160	23.9
2045	67:0	40,719	27.2	65:0	35,049	23.9
2050	67:0	42,950	27.3	65:0	36,969	24.0
2055	67:0	45,327	27.3	65:0	39,018	24.0
2060	67:0	47,799	27.3	65:0	41,147	24.0
2065	67:0	50,406	27.3	65:0	43,392	24.0
2070	67:0	53,171	27.3	65:0	45,770	24.0
2075	67:0	56,105	27.3	65:0	48,296	24.0
2080	67:0	59,203	27.3	65:0	50,963	24.0
2085	67:0	62,464	27.3	65:0	53,770	24.0

¹ Annual scheduled benefit amounts are the total for the 12-month period starting with the month of retirement.

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

³ The adjustment for constant dollars is made using the adjusted CPI indexing series shown in table VI.F6.

⁴ Career-average earnings at about 45 percent of the national average wage index (AWI).

⁵ Career-average earnings at about 100 percent of the AWI.

⁶ Career-average earnings at about 160 percent of the AWI.

⁷ Earnings for each year equal to the OASDI contribution and benefit base.

G. ANALYSIS OF BENEFIT DISBURSEMENTS FROM THE OASI TRUST FUND WITH RESPECT TO DISABLED BENEFICIARIES

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

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

On December 31, 2006, about 839,000 persons were receiving monthly benefits from the OASI Trust Fund because of their disabilities or the disabilities of children. This total includes 27,000 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 \$6,737 million in calendar year 2006. Table VI.G1 shows these and similar figures for selected calendar years during 1960-2006, and estimated experience for 2007-16 based on the intermediate set of assumptions.

**Table VI.G1.—Benefit Disbursements From the OASI Trust Fund
With Respect to Disabled Beneficiaries**

[Beneficiaries in thousands; benefit payments in millions]

Calendar year	Disabled beneficiaries, end of year			Amount of benefit payments ¹		
	Total	Children ²	Widows-widowers ³	Total	Children ²	Widows-widowers ⁴
Historical data:						
1960	117	117	—	\$59	\$59	—
1965	214	214	—	134	134	—
1970	316	281	36	301	260	\$41
1975	435	376	58	664	560	104
1980	519	460	59	1,223	1,097	126
1985	594	547	47	2,072	1,885	187
1986	614	565	49	2,219	2,022	197
1987	629	580	49	2,331	2,128	203
1988	640	591	48	2,518	2,307	211
1989	651	602	49	2,680	2,459	221
1990	662	613	49	2,882	2,649	233
1991	687	627	61	3,179	2,875	304
1992	715	643	72	3,459	3,079	380
1993	740	659	81	3,752	3,296	456
1994	758	671	86	3,973	3,481	492
1995	772	681	91	4,202	3,672	531
1996	782	687	94	4,410	3,846	565
1997	789	693	96	4,646	4,050	596
1998	797	698	99	4,838	4,210	627
1999	805	702	102	4,991	4,336	655
2000	811	707	104	5,203	4,523	680
2001	817	712	105	5,520	4,802	718
2002	823	717	106	5,773	5,024	749
2003	826	721	105	5,746	4,979	764
2004	828	723	105	5,945	5,162	781
2005	835	727	108	6,288	5,386	843
2006	839	732	108	6,737	5,848	885
Estimates:						
2007	849	743	106	7,102	6,200	890
2008	859	754	105	7,370	6,461	899
2009	871	767	104	7,687	6,756	918
2010	882	779	103	8,056	7,101	940
2011	894	792	101	8,539	7,556	964
2012	904	804	100	8,989	7,977	989
2013	913	816	98	9,447	8,407	1,015
2014	922	826	96	9,896	8,839	1,030
2015	929	836	93	10,363	9,286	1,047
2016	936	845	91	10,843	9,749	1,060

¹ Beginning in 1966, includes payments for vocational rehabilitation services.² Also includes certain mothers and fathers (see text).³ In 1984 and later years, only disabled widows and widowers aged 50-59 are included because disabled widows and widowers aged 60-64 would be eligible for the same benefit as a nondisabled aged widow or widower; therefore, they are not receiving benefits solely because of a disability.⁴ In 1983 and prior years, reflects the offsetting effect of lower benefits payable to disabled widows and widowers who continued to receive benefits after attaining age 60 (62, for disabled widowers, prior to 1973) as compared to the higher nondisabled widow's and widower's benefits that would otherwise be payable. In 1984 and later years, only benefit payments to disabled widows and widowers aged 50-59 are included (see footnote 3).

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

Total benefit payments from the OASI Trust Fund with respect to disabled beneficiaries are estimated to increase from \$7,102 million in calendar year 2007 to \$10,843 million in calendar year 2016, based on the intermediate assumptions.

Appendices

In calendar year 2006, 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 \$99,182 million. Of this amount, \$6,737 million or 6.8 percent represented payments from the OASI Trust Fund. These and similar figures for selected calendar years during 1960-2006 and estimates for calendar years 2007-16 are presented in table VI.G2.

**Table VI.G2.—Benefit Disbursements Under the OASDI Program
With Respect to Disabled Beneficiaries**

[Amounts in millions]

Calendar year	Total ¹	DI Trust Fund ²	OASI Trust Fund	
			Amount ³	Percentage of total
Historical data:				
1960	\$627	\$568	\$59	9.4
1965	1,707	1,573	134	7.9
1970	3,386	3,085	301	8.9
1975	9,169	8,505	664	7.2
1980	16,738	15,515	1,223	7.3
1985	20,908	18,836	2,072	9.9
1986	22,075	19,856	2,219	10.1
1987	22,858	20,527	2,331	10.2
1988	24,226	21,708	2,518	10.4
1989	25,591	22,911	2,680	10.5
1990	27,717	24,835	2,882	10.4
1991	30,877	27,698	3,179	10.3
1992	34,583	31,124	3,459	10.0
1993	38,378	34,626	3,752	9.8
1994	41,730	37,757	3,973	9.5
1995	45,140	40,937	4,202	9.3
1996	48,615	44,205	4,410	9.1
1997	50,358	45,712	4,646	9.2
1998	53,062	48,224	4,838	9.1
1999	56,390	51,399	4,991	8.9
2000	60,204	55,001	5,203	8.6
2001	65,157	59,637	5,520	8.5
2002	71,493	65,721	5,773	8.1
2003	76,698	70,952	5,746	7.5
2004	84,197	78,251	5,945	7.1
2005	91,674	85,386	6,288	6.9
2006	99,182	⁴ 92,446	6,737	6.8
Estimates:				
2007	106,405	99,303	7,102	6.7
2008	110,792	103,422	7,370	6.7
2009	117,680	109,993	7,687	6.5
2010	125,536	117,480	8,056	6.4
2011	131,834	123,294	8,539	6.5
2012	141,011	132,022	8,989	6.4
2013	149,271	139,824	9,447	6.3
2014	157,672	147,776	9,896	6.3
2015	166,618	156,255	10,363	6.2
2016	175,901	165,059	10,843	6.2

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

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

³ Benefit payments to disabled children aged 18 and over, to certain mothers and fathers (see text), and to disabled widows and widowers (see footnote 4, table VI.G1).

⁴ Excludes reimbursement in 2006 of \$0.7 billion for excess amounts of voluntary income tax withholding in 1999-2005.

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

H. 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.

Administrative expenses. Expenses incurred by the Social Security Administration and the Department of the Treasury in administering the OASDI program and the provisions of the Internal Revenue Code relating to the collection of contributions. Such administrative expenses are paid from the OASI and DI Trust Funds.

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

Alternatives I, II, or III. See “Assumptions.”

Annual balance. The difference between the income rate and the cost rate in a given year.

Assets. Treasury notes and bonds, other securities guaranteed by the Federal Government, certain Federally sponsored agency obligations, and cash, held by the trust funds for investment purposes.

Assumptions. Values relating to future trends in certain key factors which affect the balance in the trust funds. Demographic assumptions include fertility, mortality, net immigration, marriage, and divorce. Economic assumptions include unemployment rates, average earnings, inflation, interest rates, and productivity. Program-specific assumptions include retirement patterns, and disability incidence and termination rates. Three sets of demographic, economic, and program-specific assumptions are presented in this report—

- Alternative II is the intermediate set of assumptions, and represents the Trustees’ best estimates of likely future demographic, economic, and program-specific conditions.
- Alternative I is characterized as a low cost set—it assumes relatively rapid economic growth, low inflation, and favorable (from the standpoint of program financing) demographic conditions.
- Alternative III is characterized as a high cost set—it assumes relatively slow economic growth, high inflation, and unfavorable (from the standpoint of program financing) demographic conditions.

See tables V.A1, V.B1, and V.B2.

Automatic cost-of-living benefit 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 (CPI-W) 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 net increase in the CPI over a 2-year period. See table V.C1.

Auxiliary benefits. 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—AWI. The average amount of total wages for each year after 1950, including wages in noncovered employment and wages in covered employment in excess of the OASDI contribution and benefit base. (See Title 20, Chapter III, section 404.211(c) of the Code of Federal Regulations for a more precise definition.) These average wage amounts are used to index the taxable 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 table V.C1.

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 V.C2.

Beneficiary. A person who has been awarded benefits on the basis of his or her own or another's earnings record. The benefits may be either in current-payment status or withheld.

Benefit award. See "Award."

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

Benefit termination. See “Termination.”

Best estimate assumptions. See “Assumptions.”

Board of Trustees. A Board established by the Social Security Act to oversee the financial operations of the Federal Old-Age and Survivors Insurance Trust Fund and the Federal Disability Insurance Trust Fund. The Board is composed of six members, four of whom serve automatically by virtue of their positions in the Federal Government: the Secretary of the Treasury, who is the Managing Trustee, the Secretary of Labor, the Secretary of Health and Human Services, and the Commissioner of Social Security. The other two members are appointed by the President to serve as public representatives.

Cash flow. The cash flow for the OASI and DI Trust Funds is defined generally as actual or projected revenue and costs reflecting the levels of tax rates and benefits scheduled in the law. Net cash flow is the difference between tax revenue and cost on this basis.

Closed group unfunded obligation. This measure is computed like the open group unfunded obligation except that individuals under the age of 15 (or not yet born) are excluded. In other words, only persons who attain age 15 or older during the first year of the projection period are included in the calculations.

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

Consumer Price Index—CPI. An official measure of inflation in consumer prices. In this report, all references to the CPI relate to the Consumer Price Index for Urban Wage Earners and Clerical Workers (CPI-W). Historical values for the CPI-W are published by the Bureau of Labor Statistics, Department of Labor.

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 V.C1 and VI.A1. See “HI contribution base.”

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

- employers and employees on wages from employment under the Federal Insurance Contributions Act,
- the self-employed on net earnings from self-employment under the Self-Employment Contributions Act, and

Appendices

- 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. The cost for a year is defined to include scheduled 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 inter-fund borrowing provisions.

Cost-of-living adjustment. See “Automatic cost-of-living benefit increase.”

Cost rate. The cost rate for a year is the ratio of the cost of the program to the taxable payroll for the year.

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

Covered employment. All employment for which earnings are creditable for Social Security purposes. Almost all employment is covered under the program. Some exceptions are:

- State and local government employees whose employer has not elected to be covered under Social Security and who are participating in an employer-provided pension plan.
- Current Federal civilian workers hired before 1984 who have not elected to be covered.
- Self-employed workers earning less than \$400 in a calendar year.

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.

Creditable earnings. Wage or self-employment earnings posted to a worker’s earnings record, upon which eligibility for and amount of benefits on that worker’s record is based. The maximum amount of creditable earnings for each worker in a calendar year is determined by the contribution and benefit base.

Current-cost financing. See “Pay-as-you-go financing.”

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

Current-payment status. Status of a beneficiary to whom a benefit is being paid for a given month (with or without deductions, provided the deductions add to less than a full month's benefit).

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

Delayed Retirement Credit. Increases the benefit amount for certain individuals who did not receive benefits for months after attainment of the normal retirement age but before age 70. Delayed retirement credits are applicable for January benefits of the year following the year they are earned or for the month of attainment of age 70, whichever comes first. See table V.C3.

Demographic assumptions. See "Assumptions."

Deterministic model. A model with specified assumptions for and relationships among variables. Under such a model, any specified set of assumptions determines a single outcome directly reflecting the specifications.

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

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

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

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

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

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

Disbursements. Actual expenditures (outgo) made or expected to be made under current law, including benefits paid or payable, 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 bene-

ficiaries; 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.

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 normal retirement age have earnings in excess of certain exempt amounts. See table V.C1.

Economic assumptions. See “Assumptions.”

Effective interest rate. See “Interest rate.”

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

Expenditures. See “Disbursements.”

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

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

Fiscal year. The accounting year of the United States Government. Since 1976, a fiscal year is the 12-month period ending September 30. For example, fiscal year 2007 began October 1, 2006 and will end September 30, 2007.

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

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

General fund reimbursements. Transfers from the General Fund of the Treasury to the trust funds for specific purposes defined in the law, such as:

- The costs associated with providing special payments made to uninsured persons who attained age 72 before 1968, and who had fewer than 3 quarters of coverage.
- Payments corresponding to the employee-employer taxes on deemed wage credits for military personnel.
- Interest on checks which are not negotiated 6 months after the month of issue. (For checks issued before October, 1989, the principal was returned to the trust funds as a general fund reimbursement; since that time, the principal amount is automatically returned to the issuing fund when the check is uncashed after a year.)
- Administrative expenses incurred as a result of furnishing information on deferred vested benefits to pension plan participants, as required by the Employee Retirement Income Security Act of 1974 (Public Law 93-406).

Gross domestic product—GDP. The total dollar value of all goods and services produced by labor and property located in the United States, regardless of who supplies the labor or property.

HI contribution base. Annual dollar amount above which earnings in employment covered under the HI program are not taxable. (Also referred to as maximum contribution base, taxable maximum, and maximum taxable.) Beginning in 1994, the HI contribution base was eliminated.

High cost assumptions. See “Assumptions.”

Hospital Insurance (HI) Trust Fund. See “Trust fund.”

Immigration. See “Legal immigration” and “Other immigration.”

Income. Income for a given year is the sum of tax revenues on a liability basis (payroll-tax contributions and income from the taxation of scheduled benefits) and interest credited to the trust funds.

Income rate. Ratio of income from tax revenues on a liability basis (payroll-tax contributions and income from the taxation of scheduled benefits) to the OASDI taxable payroll for the year.

Inflation. An increase in the volume of money and credit relative to available goods, resulting in an increase in the general price level.

Insured status. The state or condition of having sufficient quarters of coverage to meet the eligibility requirements for retired-worker or disabled-worker benefits, or to permit the worker’s spouse and children or survivors to establish eligibility for benefits in the event of his or her disability, retirement, or death. See “Quarters of coverage.”

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

Interest rate. Interest rates on new public-debt obligations issuable to Federal trust funds (see “Special public-debt obligation”) are determined monthly. Such rates are set equal to the average market yield on all outstanding marketable U.S. securities not due or callable until after 4 years from the date the rate is determined. See table V.B2 for historical and assumed future interest rates on new special-issue securities. The effective interest rate for a trust fund is the ratio of the interest earned by the fund over a given period of time to the average level of assets held by the fund during the period. The effective rate of interest thus represents a measure of the overall average interest earnings on the fund’s portfolio of assets.

Interfund borrowing. The borrowing of assets by a trust fund (OASI, DI, or HI) from another of the trust funds when the first fund is in danger of exhaustion. Interfund borrowing was permitted by the Social Security Act only during 1982 through 1987; all amounts borrowed were to be repaid prior to the end of 1989. The only exercise of this authority occurred in 1982, when the OASI Trust Fund borrowed assets from the DI and HI Trust Funds. The final repayment of borrowed amounts occurred in 1986.

Intermediate assumptions. See “Assumptions.”

Legal immigration. Consistent with the U.S. Citizenship and Immigration Services, legal immigrants are individuals who are admitted to the United States for legal permanent residence.

Life expectancy. Average remaining number of years expected prior to death. Period life expectancy is calculated for a given year using the actual or expected death rates at each age for that year. Cohort life expectancy, sometimes referred to as generational life expectancy, is calculated for individuals at a specific age in a given year using actual or expected death rates from the years in which the individuals would actually reach each succeeding age if he or she survives.

Long range. The next 75 years. Long-range actuarial estimates are made for this period because it is approximately the maximum remaining lifetime of current Social Security participants.

Low cost assumptions

See “Assumptions.”

Lump-sum death benefit. A lump sum, generally \$255, payable on the death of a fully or currently insured worker. The lump sum is payable to the surviving spouse of the worker, under most circumstances, or to the worker’s children.

Maximum family benefit. The maximum monthly amount that can be paid on a worker’s earnings record. Whenever the total of the individual monthly benefits payable to all the beneficiaries entitled on one earnings record exceeds the maximum, each dependent’s or survivor’s benefit is proportion-

ately 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 age 65 and over. In 1972, coverage was extended to people receiving Social Security Disability Insurance payments for 2 years, and people with End-Stage Renal Disease. In 2006, prescription drug coverage was also added. Medicare consists of two separate but coordinated programs—Hospital Insurance (HI, Part A) and Supplementary Medical Insurance (SMI). The SMI program is composed of three separate accounts—the Part B Account, the Part D Account, and the Transitional Assistance Account. Almost all persons who are aged 65 and over or disabled and who are entitled to HI are eligible to enroll in Part B and Part D on a voluntary basis by paying monthly premiums. Health insurance protection is available to Medicare beneficiaries without regard to income.

Military service wage credits. Credits recognizing that military personnel receive wages in kind (such as food and shelter) in addition to their basic pay and other cash payments. Noncontributory wage credits of \$160 were provided for each month of active military service from September 16, 1940, through December 31, 1956. For years after 1956, the basic pay of military personnel is covered under the Social Security program on a contributory basis. In addition to the contributory credits for basic pay, noncontributory wage credits of \$300 were granted for each calendar quarter, from January 1957 through December 1977, in which a person received pay for military service. Noncontributory wage credits of \$100 were granted for each \$300 of military wages, up to a maximum credit of \$1,200 per calendar year, from January 1978 through December 2001.

National average wage index—AWI. See “Average wage index—AWI.”

Normal retirement age. The age at which a person may first become entitled to retirement benefits without reduction based on age. For persons reaching age 62 before 2000, the normal retirement age is 65. It will increase gradually to 67 for persons reaching that age in 2027 or later, beginning with an increase to 65 years and 2 months for persons reaching age 65 in 2003. See table V.C3.

Old-Age and Survivors Insurance (OASI) Trust Fund. See “Trust fund.”

Old-law base. Amount the contribution and benefit base would have been if the discretionary increases in the base under the 1977 amendments had not been enacted. The Social Security Amendments of 1972 provided for automatic annual indexing of the contribution and benefit base. The Social Security Amendments of 1977 provided ad hoc increases to the bases for

1979-81, with subsequent bases updated in accordance with the normal indexing procedure. See table V.C2.

Open group unfunded obligation. This measure is computed as the excess of the present value of the projected cost of the program over a specified time period (for example the next 75 years or the infinite future) over the sum of (1) the value of trust fund assets at the beginning of the period and (2) the present value of the projected tax income of the program, assuming scheduled tax rates and benefit levels.

Other immigration. Individuals who enter the United States and are not admitted for legal permanent residence. This includes individuals who are legally admitted, but not seeking permanent residence as well as those who are unauthorized.

Outgo. See “Disbursements.”

Par value. The value printed on the face of a bond. For both public and special issues held by the trust funds, par value is also the redemption value at maturity.

Partial advance funding. A financing scheme where taxes are scheduled to provide a substantial accumulation of trust fund assets, thereby generating additional interest income to the trust funds and reducing the need for payroll tax increases in periods when costs are relatively high. (Higher general taxes or additional borrowing may be required, however, to support the payment of such interest.) While substantial, the trust fund buildup under partial advance funding is much smaller than it would be with full advance funding.

Pay-as-you-go financing. A financing scheme where taxes are scheduled to produce just as much income as required to pay current benefits, with trust fund assets built up only to the extent needed to prevent exhaustion of the fund by random economic fluctuations.

Payment cycling. Beneficiaries on the rolls before May 1, 1997, are paid on the third of the month. Persons applying for OASDI benefits after April 1997, however, generally are paid on the second, third, or fourth Wednesday of the month following the month for which payment is due. The particular Wednesday payment date is based on the wage earner’s date of birth. For those born on the first through tenth, the benefit payment day is the second Wednesday of the month; for those born on the eleventh through the twentieth, the benefit payment day is the third Wednesday of the month; and for those born after the twentieth of the month, the payment day is the fourth Wednesday of the month.

Payroll taxes. A tax levied on the gross wages of workers. See tables VI.A1 and VI.F1.

Population in the Social Security area. The population comprised of (i) residents of the 50 States and the District of Columbia (adjusted for net cen-

sus undercount); (ii) civilian residents of Puerto Rico, the Virgin Islands, Guam, American Samoa and the Northern Mariana Islands; (iii) Federal civilian employees and persons in the U.S. Armed Forces abroad and their dependents; (iv) crew members of merchant vessels; and (v) all other U.S. citizens abroad.

Present value. The equivalent value, at the present time, of a future stream of payments (either income or cost). 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. Present values are widely used in calculations involving financial transactions over long periods of time to account for the time value of money (interest). For the purpose of present-value calculations for this report, values are discounted by the effective yield on trust fund assets.

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 V.C2 for historical and assumed future bend points and table V.C1 for historical and assumed future benefit increases.

Quarters of coverage. Basic unit of measurement for determining insured status. In 2007, a worker receives one quarter of coverage (up to a total of four) for each \$1,000 of annual covered earnings. The amount of earnings required for a quarter of coverage is subject to annual automatic increases in proportion to increases in average wages. For amounts applicable for years after 1978, see table V.C2.

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 V.B1.

Recession. A period of adverse economic conditions; in particular, two or more successive calendar quarters of negative growth in gross domestic product.

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

Retirement earnings test. See “Earnings test.”

Retirement eligibility age. The age (62) at which a fully insured individual first becomes eligible to receive retired-worker benefits.

Retirement test. See “Earnings test.”

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

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

Short range. The next 10 years. Short-range actuarial estimates are prepared for this period because of the short-range test of financial adequacy. The Social Security Act requires estimates for 5 years; estimates are prepared for an additional 5 years to help clarify trends which are only starting to develop in the mandated first 5-year period.

Social Security Act. Provisions of the law governing most operations of the Social Security program. Original Social Security Act is Public Law 74-271, enacted August 14, 1935. With subsequent amendments, the Social Security Act consists of 20 titles, of which four have been repealed. The Old-Age, Survivors, and Disability Insurance program is authorized by title II of the Social Security Act.

Solvency. A program is solvent at a point in time if it is able to pay scheduled benefits when due with scheduled financing. For example, the OASDI program is considered solvent over any period for which the trust funds maintain a positive balance throughout the period.

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 has been to spread the holdings of special issues, as of each June 30, so that the amounts maturing in each of the next 15 years are approximately equal. Special public-debt obligations are redeemable at par

value at any time and carry interest rates determined by law (see “Interest rate”). See tables VI.A5 and VI.A6 for a listing of the obligations held by the OASI and DI Trust Funds, respectively.

Statutory blindness. Central visual acuity of 20/200 or less in the better eye with the use of a correcting lens or tunnel vision of 20° or less.

Stochastic model. A model used for projecting a probability distribution of potential outcomes. Such models allow for random variation in one or more variables through time. The random variation is generally based on fluctuations observed in historical data for a selected period. Distributions of potential outcomes are derived from a large number of simulations, each of which reflects random variation in the variable(s).

Substantial gainful activity—SGA. The level of work activity used to establish disability. A finding of disability requires that a person be unable to engage in substantial gainful activity. A person who is earning more than a certain monthly amount (net of impairment-related work expenses) is ordinarily considered to be engaging in SGA. The amount of monthly earnings considered as SGA depends on the nature of a person’s disability. The Social Security Act specifies a higher SGA amount for statutorily blind individuals; Federal regulations specify a lower SGA amount for non-blind individuals. Both SGA amounts increase with increases in the national average wage index.

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 cost to the present value of the taxable payroll for the years in a given period, expressed as a percentage. This percentage can be used as a measure of the relative level of cost 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 cost 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 cost. Accordingly, the adjusted summarized cost rate is equal to the ratio of (a) the sum of the present value of the cost 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 scheduled tax income to the present value of taxable payroll for the years in a given period, expressed as a percentage. This percentage 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. Accord-

ingly, 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.

Sustainable solvency. Sustainable solvency for the financing of the program is achieved when the program has positive trust fund ratios throughout the 75-year projection period and these ratios are stable or rising at the end of the period.

Taxable earnings. Wages and/or self-employment income, in employment covered by the OASDI and/or HI programs, that is under the applicable annual maximum taxable limit. For 1994 and later, no maximum taxable limit applies to the HI program.

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

Taxable self-employment income. The maximum amount of net earnings from self employment by an earner which, when added to any taxable wages, does not exceed the contribution and benefit base. For HI beginning in 1994, all of net earnings from self employment.

Taxable wages. See “Taxable earnings.”

Taxation of benefits. During 1984-93, up to one-half of an individual’s or a couple’s OASDI benefits was potentially subject to Federal income taxation under certain circumstances. The revenue derived from this provision was allocated to the OASI and DI Trust Funds on the basis of the income taxes paid on the benefits from each fund. Beginning in 1994, the maximum portion of OASDI benefits potentially subject to taxation was increased to 85 percent. The additional revenue derived from taxation of benefits in excess of one-half, up to 85 percent, is allocated to the HI Trust Fund.

Taxes. See “Contributions.”

Termination. Cessation of payment of a specific type of benefit because the beneficiary is no longer entitled to receive it. For example, benefits might terminate as a result of the death of the beneficiary, the recovery of a disabled beneficiary, or the attainment of age 18 by a child beneficiary. In some cases, the individual may become immediately entitled to another type of

benefit (such as the conversion of a disabled-worker beneficiary at normal retirement age to a retired-worker beneficiary).

Test of long-range close actuarial balance. Summarized income rates and cost rates are calculated for each of 66 valuation periods within the full 75-year long-range projection period. The first of these periods consists of the next 10 years. Each succeeding period becomes longer by 1 year, culminating with the period consisting of the next 75 years. The long-range test is met if, for each of the 66 valuation periods, the actuarial balance is not less than zero or is negative by, at most, a specified percentage of the summarized cost rate for the same time period. The percentage allowed for a negative actuarial balance is 0 percent for the 10-year period, grading uniformly to 5 percent for the full 75-year period. The criterion for meeting the test is less stringent for the longer periods in recognition of the greater uncertainty associated with estimates for more distant years. The test is applied to OASI and DI separately, as well as combined, based on the intermediate 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 set of assumptions.

Total fertility rate. The average number of children who would be born to a woman in her lifetime if she were to experience the birth rates by age observed in, or assumed for, a specified year, and if she were to survive the entire childbearing period.

Trust fund. Separate accounts in the United States Treasury in which are deposited the taxes received under the Federal Insurance Contributions Act and the Self-Employment Contributions Act, as well as taxes 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. Also known as Medicare Part A.
- **Supplementary Medical Insurance (SMI).** The Medicare trust fund composed of the Part B Account, the Part D Account, and the Transitional Assistance Account. The Part B Account pays for a portion of the costs of physicians' services, outpatient hospital services, and other related medical and health services for voluntarily enrolled aged and disabled individuals. The Part D Account pays private plans to provide prescription drug coverage, beginning in 2006. The Transitional Assistance Account paid for transitional assistance under the prescription drug card program in 2004 and 2005.

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 cost during the year. The trust fund ratio represents the proportion of a year's cost which could be paid with the funds available at the beginning of the year.

Unfunded obligation. See "Open group unfunded obligation" and "Closed group unfunded obligation".

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.

II. OVERVIEW

II.B1	Summary of 2006 Trust Fund Financial Operations	4
II.B2	Tax Rates for 2006 and Later	4
II.C1	Ultimate Values of Key Demographic and Economic Assumptions for the Long-Range (75-year) Projection Period	6
II.D1	Projected Maximum Trust Fund Ratios Attained and Trust Fund Exhaustion Dates Under the Intermediate Assumptions	10
II.D2	Reasons for Change in the 75-Year Actuarial Balance Under Intermediate Assumptions	13

III. FINANCIAL OPERATIONS OF THE TRUST FUNDS AND LEGISLATIVE CHANGES IN THE LAST YEAR

III.A1	Operations of the OASI Trust Fund, Calendar Year 2006	20
III.A2	Operations of the DI Trust Fund, Calendar Year 2006	24
III.A3	Operations of the Combined OASI and DI Trust Funds, Calendar Year 2006	25
III.A4	Comparison of Actual Calendar Year 2006 Trust Fund Operations With Estimates Made in Prior Reports	26
III.A5	Distribution of Benefit Payments by Type of Beneficiary or Payment, Calendar Years 2005 and 2006	27
III.A6	Administrative Expenses as a Percentage of Contribution Income and of Total Expenditures, Calendar Years 2002-06	28
III.A7	Trust Fund Investment Transactions, Calendar Year 2006	28

IV. ACTUARIAL ESTIMATES

IV.A1	Operations of the OASI Trust Fund, Calendar Years 2002-16	33
IV.A2	Operations of the DI Trust Fund, Calendar Years 2002-16	36
IV.A3	Operations of the Combined OASI and DI Trust Funds, Calendar Years 2002-16	38
IV.A4	Reasons for Change in Trust Fund Ratios at the Beginning of the Tenth Year of Projection	40
IV.B1	Estimated Annual Income Rates, Cost Rates, and Balances, Calendar Years 1990-2085	44
IV.B2	Covered Workers and Beneficiaries, Calendar Years 1945-2085	48
IV.B3	Estimated Trust Fund Ratios, Calendar Years 2007-85	53
IV.B4	Components of Summarized Income Rates and Cost Rates, Calendar Years 2007-81	57
IV.B5	Components of 75-Year Actuarial Balance Under Intermediate Assumptions (2007-81)	58

IV.B6	Unfunded OASDI Obligations for 1935 (Program Inception) Through the Infinite Horizon	60
IV.B7	Present Values of OASDI Cost Less Tax Revenue and Unfunded Obligations for Program Participants	61
IV.B8	Comparison of Estimated Long-Range Actuarial Balances With the Minimum Allowable in the Test for Close Actuarial Balance, Based on Intermediate Assumptions	64
IV.B9	Reasons for Change in the 75-Year Actuarial Balance Under Intermediate Assumptions	66

**V. ASSUMPTIONS AND METHODS UNDERLYING
ACTUARIAL ESTIMATES**

V.A1	Principal Demographic Assumptions, Calendar Years 1940-2085	76
V.A2	Social Security Area Population as of July 1 and Dependency Ratios, Calendar Years 1950-2085	78
V.A3	Period Life Expectancy	81
V.A4	Cohort Life Expectancy	82
V.B1	Principal Economic Assumptions	88
V.B2	Additional Economic Factors	94
V.C1	Cost-of-Living Benefit Increases, Average Wage Index, Contribution and Benefit Bases, and Retirement Earnings Test Exempt Amounts, 1975-2016	98
V.C2	Selected Wage-Indexed Program Amounts, Calendar Years 1978-2016	101
V.C3	Legislated Changes in Normal Retirement Age and Delayed Retirement Credits, for Persons Reaching Age 62 in Each Year 1986 and Later	103
V.C4	OASI Beneficiaries With Benefits in Current-Payment Status at the End of Calendar Years 1945-2085	112
V.C5	Long-Range Ultimate Disabled Worker Age-Sex-Adjusted Incidence Rates	116
V.C6	DI Beneficiaries With Benefits in Current-Payment Status at the End of Calendar Years 1960-2085	119

VI. APPENDICES

A. HISTORY OF OASI AND DI TRUST FUND OPERATIONS

VI.A1 Contribution and Benefit Base and Contribution Rates 125
VI.A2 Historical Operations of the OASI Trust Fund,
Calendar Years 1937-2006 129
VI.A3 Historical Operations of the DI Trust Fund,
Calendar Years 1957-2006 131
VI.A4 Historical Operations of the Combined OASI and DI Trust
Funds, Calendar Years 1957-2006 133
VI.A5 Assets of the OASI Trust Fund, End of Calendar Years
2005 and 2006 135
VI.A6 Assets of the DI Trust Fund, End of Calendar Years
2005 and 2006 136

B. HISTORY OF ACTUARIAL BALANCE ESTIMATES

VI.B1 Long-Range OASDI Actuarial Balances as Shown in the
Trustees Reports for 1982-2007 139

**C. FISCAL YEAR HISTORICAL DATA AND
PROJECTIONS THROUGH 2016**

VI.C1 Operations of the OASI Trust Fund, Fiscal Year 2006. 142
VI.C2 Operations of the DI Trust Fund, Fiscal Year 2006 143
VI.C3 Operations of the Combined OASI and DI Trust Funds,
Fiscal Year 2006 144
VI.C4 Operations of the OASI Trust Fund in Fiscal Years 2002-16 . . 145
VI.C5 Operations of the DI Trust Fund in Fiscal Years 2002-16 146
VI.C6 Operations of the Combined OASI and DI Trust Funds
in Fiscal Years 2002-16 147

D. LONG-RANGE SENSITIVITY ANALYSIS

VI.D1 Sensitivity to Varying Fertility Assumptions 149
VI.D2 Sensitivity to Varying Death-Rate Assumptions 150
VI.D3 Sensitivity to Varying Net-Immigration Assumptions 152
VI.D4 Sensitivity to Varying Real-Wage Assumptions 153
VI.D5 Sensitivity to Varying CPI-Increase Assumptions 154
VI.D6 Sensitivity to Varying Real-Interest Assumptions 155
VI.D7 Sensitivity to Varying Disability Incidence Assumptions. 156
VI.D8 Sensitivity to Varying Disability Termination Assumptions. . . 158

E. STOCHASTIC PROJECTIONS

VI.E1 Long-Range Estimates Relating to the Actuarial Status of the Combined OASDI Program 164

F. ESTIMATES FOR OASDI AND HI, SEPARATE AND COMBINED

VI.F1 Contribution Rates for the OASDI and HI Programs. 166

VI.F2 Estimated OASDI and HI Annual Income Rates, Cost Rates, and Balances, Calendar Years 2007-85 167

VI.F3 Summarized OASDI and HI Income Rates and Cost Rates for Valuation Periods, Calendar Years 2007-81 169

VI.F4 OASDI and HI Annual and Summarized Income, Cost, and Balance as a Percentage of GDP, Calendar Years 2007-85 . . . 172

VI.F5 Ratio of OASDI Taxable Payroll to GDP, Calendar Years 2007-85 174

VI.F6 Selected Economic Variables, Calendar Years 2006-85 177

VI.F7 Operations of the Combined OASI and DI Trust Funds, in Constant 2007 Dollars, Calendar Years 2007-85 179

VI.F8 Operations of the Combined OASI and DI Trust Funds, in Current Dollars, Calendar Years 2007-85 181

VI.F9 OASDI and HI Annual Income Excluding Interest, Cost, and Balance in Current Dollars, Calendar Years 2007-85 183

VI.F10 Estimated Annual Scheduled Benefit Amounts for Retired Workers With Various Pre-Retirement Earnings Patterns Based on Intermediate Assumptions, Calendar Years 2007-85 186

G. ANALYSIS OF BENEFIT DISBURSEMENTS FROM THE OASI TRUST FUND WITH RESPECT TO DISABLED BENEFICIARIES

VI.G1 Benefit Disbursements From the OASI Trust Fund With Respect to Disabled Beneficiaries 189

VI.G2 Benefit Disbursements Under the OASDI Program With Respect to Disabled Beneficiaries 190

II. OVERVIEW

II.D1 Short-Range OASDI Trust Fund Ratios 7
II.D2 OASDI Income and Cost Rates Under Intermediate Assumptions 8
II.D3 Number of Covered Workers Per OASDI Beneficiary. 10
II.D4 Cumulative OASDI Income Less Cost, Based on Present Law Tax Rates and Scheduled Benefits 11
II.D5 OASDI Cost and Scheduled Tax Revenue as a Percentage of GDP 12
II.D6 OASDI Annual Balances: 2006 and 2007 Trustees Reports. . . 14
II.D7 Long-Range OASDI Trust Fund Ratios Under Alternative Assumptions 15

IV. ACTUARIAL ESTIMATES

IV.A1 Short-Range OASI and DI Trust Fund Ratios. 32
IV.B1 Long-Range OASI and DI Annual Income Rates and Cost Rates 47
IV.B2 Number of OASDI Beneficiaries Per 100 Covered Workers . . 50
IV.B3 Long-Range OASI and DI Trust Fund Ratios 54
IV.B4 Test of Long-Range Close Actuarial Balance 65
IV.B5 OASDI Annual Balances: 2006 and 2007 Reports 68

V. ASSUMPTIONS AND METHODS UNDERLYING ACTUARIAL ESTIMATES

V.C1 Primary-Insurance-Amount Formula for the 2007 Cohort 100
V.C2 Maximum-Family-Benefit Formula for the 2007 Cohort. 100
V.C3 DI Disabled Worker Incidence Rates, 1970-2016 115

VI. APPENDICES

VI.E1 Annual Trust Fund Ratios 162
VI.E2 Annual Cost Rates 163
VI.F1 Estimated OASDI Income and Cost in Constant Dollars, Based on Intermediate Assumptions 180

A

Actuarial balance 7, 10, 41, 104, 137, 148
 Actuarial balance, long-range test 64
 Actuarial deficit 2, 10, 16, 56, 169
 Actuarial estimates, LR 41
 Actuarial estimates, SR 30
 Adjusted program amounts 96
 Administrative expenses 4, 27, 42, 121, 128, 142, 170, 178
 Advance tax transfers 51, 130
 Amendments 29
 Annual balance 13, 41, 66
 Assets 2, 4, 7, 22, 30, 42, 128, 142, 155, 165, 176
 Assumptions 2, 7, 42, 70, 83, 96, 137, 148, 166, 170, 175, 188
 Automatic cost-of-living benefit increase 4, 34, 84, 96
 Auxiliary benefits 106
 Average benefits 120
 Average earnings assumptions 85
 Average indexed monthly earnings (AIME) 99
 Average wage index 96, 175
 Award 107

B

Baby-boom generation 2, 8, 16, 35, 43, 89, 115, 171
 Bend points 99
 Beneficiaries, DI 113
 Beneficiary 9, 34, 47, 70, 97, 140, 149, 170, 178, 188
 Beneficiary, OASI 107
 Benefit payments 4, 8, 31, 42, 121, 128, 142, 155, 170, 178, 189
 Benefit termination 6, 37
 Best estimate 6, 16, 30, 70
 Board of Trustees 30, 83, 124

C

Close actuarial balance 41, 61
 Closed group unfunded obligation 60, 61, 193
 Constant dollars 180
 Consumer Price Index 84, 154, 175, 192
 Contribution and benefit base 32, 85, 97, 125, 175, 192
 Contributions 4, 124, 142, 165, 170, 178, 191
 Cost rate 3, 8, 42, 104, 165
 Cost-of-living adjustment 96
 Covered earnings 4, 96, 174
 Covered employment 6, 32, 85, 103, 124, 153
 Covered worker 47, 103, 151

Index

Creditable earnings 194
Current dollars 175
Current-payment status 34, 118, 192

D

Deemed wage credit 42, 104, 124
Delayed retirement credit 103
Demographic assumptions 6, 13, 30, 42, 71, 90, 96, 137, 176, 191
Deterministic model 159, 164, 195
DI beneficiaries 113
Disability 124, 151, 188
Disability incidence rate 52, 70, 114, 151, 156, 191
Disability Insurance Trust Fund 193
Disability termination rate 157
Disabled-worker benefit 114, 195
Disbursements 18, 20, 21, 23, 24, 25, 30, 142, 143, 144, 189, 190

E

Earnings 2, 4, 31, 42, 85, 97, 124, 138, 165, 174, 175, 191
Earnings test 85, 97, 192
Economic assumptions 6, 13, 30, 40, 42, 83, 90, 96, 137, 176, 191
Excess wages 42, 104, 176
Expenditures 2, 4, 6, 22, 26, 28, 30, 34, 37, 128, 129, 131, 133, 195

F

Federal Insurance Contributions Act 165, 193
Fertility assumptions 71
Financial interchange 4, 121, 128
Fiscal year 74, 130, 142
Full advance funding 196

G

General Fund of the Treasury 33, 34, 122, 126, 170, 178, 191, 194
General fund reimbursement 196
Gross domestic product 3, 47, 70, 83, 170
Gross domestic product projections 91

H

High cost assumptions 6, 14, 31, 43, 70, 83, 116, 148, 166, 170, 175, 191
Hospital Insurance program 125, 165, 199
Hospital Insurance Trust Fund 170

I

Immigration 6, 70, 71, 74, 76, 151, 159, 191, 197
Immigration assumptions 74
Income rate 3, 8, 42, 165

Inflation 6, 70, 84, 175, 191
Inflation assumptions 84
Insured population 6, 105
Insured status 35, 101
Interest 31, 92, 127, 137, 142, 166, 170, 176, 191
Interest rate 32, 70, 127, 137, 155, 176, 191
Interest rate projections 92
Interfund borrowing 130, 194
Intermediate assumptions 30, 32, 34, 43, 70, 116, 148, 166, 170, 175, 179, 180, 188, 191

L

Labor force projections 89
Legal immigration 74, 77, 198
Life expectancy 2, 16, 70, 80, 89, 198
Life expectancy estimates 79
Long range 7, 41, 71, 83, 108, 137, 165, 170, 175
Low cost assumptions 6, 14, 34, 43, 70, 116, 148, 166, 175, 191
Lump-sum death payment 121

M

Medicare 72, 199
Military service 33, 42, 86, 104, 122, 124, 197

N

National average wage index 96, 175
Normal retirement age 97, 184, 195

O

OASI beneficiaries 107
Old-Age and Survivors Insurance Trust Fund 124, 193
Old-law base 101
Open group unfunded obligation 2, 7, 14, 41, 57, 58, 164, 193, 200
Other immigration 75, 152, 159, 200

P

Par value 127
Partial advance funding 200
Pay-as-you-go financing 137
Payroll taxes 2, 16, 55, 56, 96, 104, 140, 148, 165, 178
Population estimates 77
Population in the Social Security area 32, 49, 77, 89, 104, 152
Present value 137
Primary insurance amount (PIA) 99
Productivity assumptions 83

Index

Q

Quarters of coverage 42, 194

R

Railroad Retirement 42, 101, 121, 128, 142, 165, 170, 178, 194

Reallocation of tax rates 201

Real-wage differential 87, 152

Recession 30, 83

Retired-worker benefit 107, 151, 188

Retirement age 37, 97, 184, 195

Retirement earnings test 85, 97

Retirement eligibility age 1, 8, 43, 47, 151, 171

S

Self-employment 42, 84, 104, 124, 166, 193

Self-Employment Contributions Act 193

Sensitivity analysis 148

Short range 7, 30, 51, 83, 107, 116

Social Security Act 96, 127, 175, 188, 193

Social Security amendments 29

Solvency 13, 31, 41, 202

Special public-debt obligation 34, 95, 127, 155, 176

Stochastic projections 83, 159

Substantial gainful activity 113, 195

Summarized balance 171

Summarized income and cost rates 55, 137, 148, 168, 191

Supplemental Security Income 35, 142

Supplementary Medical Insurance program 165, 199

Survivor benefit 2, 5, 111, 192

T

Taxable earnings 31, 49, 97, 124, 138, 174, 192

Taxable payroll 2, 7, 16, 42, 84, 104, 137, 149, 165, 170, 175, 194

Taxable self-employment income 124, 204

Taxable wages 105, 126, 204

Taxation of benefits 4, 42, 122, 170, 178, 197

Taxes 4, 96, 124, 166, 194

Termination 37, 70

Termination rate 6, 37, 107, 157, 191

Test of short-range financial adequacy 31, 62, 202

Total fertility rate 72, 148

Trust fund financial operations 4, 18, 31, 124

Trust fund ratio 7, 30, 41, 50, 130, 145, 206

U

Unemployment projections 89

Unfunded obligation 2, 7, 11, 13, 14, 41, 57, 58, 61, 164, 193, 200, 206

Uninsured persons 122

Unnegotiated check 130, 142

V

Valuation period 10, 41, 137, 148, 168, 191

Vocational rehabilitation 42, 128, 143, 170, 178, 190, 194

Y

Year of exhaustion 8, 10, 16, 41, 53

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 based upon sound principles of actuarial practice and are generally accepted within the actuarial profession; and (2) the assumptions used and the resulting actuarial estimates are, individually and in the aggregate, reasonable for the purpose of evaluating the financial and actuarial status of the trust funds, taking into consideration the past experience and future expectations for the population, the economy, and the program.

A handwritten signature in black ink that reads "Stephen C. Goss". The signature is written in a cursive, flowing style.

Stephen C. Goss,

*Associate of the Society of Actuaries,
Member of the American Academy of Actuaries,
Chief Actuary, Social Security Administration*