2001 ANNUAL REPORT OF THE BOARD OF TRUSTEES OF THE FEDERAL HOSPITAL INSURANCE TRUST FUND

COMMUNICATION

From

**THE BOARD OF TRUSTEES,
FEDERAL HOSPITAL INSURANCE
TRUST FUND**

Transmitting

**THE 2001 ANNUAL REPORT OF
THE BOARD OF TRUSTEES OF THE
FEDERAL HOSPITAL INSURANCE
TRUST FUND**

LETTER OF TRANSMITTAL

BOARD OF TRUSTEES OF THE
FEDERAL HOSPITAL INSURANCE TRUST FUND
Washington, D.C., March 19, 2001

HONORABLE J. Dennis Hastert
Speaker of the House of Representatives
Washington, D.C.

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

GENTLEMEN:

We have the honor of transmitting to you the 2001 Annual Report of the Board of Trustees of the Federal Hospital Insurance Trust Fund (the 36th such report).

Respectfully,

/S/
Paul H. O'Neill, *Secretary of the Treasury, and Managing Trustee of the Trust Fund.*

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

/S/
Tommy G. Thompson, *Secretary of Health and Human Services, and Trustee.*

/S/
William A. Halter, *Acting Commissioner of Social Security, and Trustee.*

/S/
John L. Palmer, *Trustee*.

/S/
Thomas R. Saving, *Trustee*.

/S/
Michael McMullan, *Acting Deputy Administrator of the Health Care Financing Administration, and Secretary, Board of Trustees.*

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I. OVERVIEW

A. INTRODUCTION

The Hospital Insurance (HI) program, or Medicare Part A, helps pay for hospital, home health, skilled nursing facility, and hospice care for the aged and disabled. The HI program is financed primarily by payroll taxes paid by workers and employers. The taxes paid each year are used mainly to pay benefits for current beneficiaries. Income not currently needed to pay benefits and related expenses is held in the HI trust fund and invested in U.S. Treasury securities.

The Board of Trustees was established under the Social Security Act to oversee the financial operations of the HI trust fund. 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 are appointed by the President and confirmed by the Senate to serve as public representatives: John L. Palmer and Thomas R. Saving, the current public Trustees, began serving their 4-year terms on October 28, 2000. The Administrator of the Health Care Financing Administration (HCFA) is designated as Secretary of the Board.

This 2001 report is the 36th to be submitted. It describes both the near-term and the longer-term financial outlook throughout a 75-year valuation period. Because the future is uncertain, the financial condition of the HI trust fund is examined under three alternative sets of assumptions: "low cost," "intermediate," and "high cost." These alternatives are intended to illustrate a reasonable range of possible outcomes. The intermediate set of assumptions represents the Trustees' best estimate of the expected future economic and demographic trends.

B. HIGHLIGHTS

The major findings of this report are summarized below. Unless otherwise noted, all estimates are based on the intermediate assumptions.

- The financial outlook for the HI program, as shown in this annual report, presents a mixed picture. In the short range (2001-2010), the financial status of the HI trust fund is favorable and continues to improve. Over the full long-range projection period, however, use of improved assumptions indicates a greater actuarial deficit than previously projected.
- The HI trust fund meets the Trustees' test of short-range financial adequacy for only the second time since 1991. HI income exceeded program expenditures by $36.1 billion in calendar year 2000—the third consecutive trust fund surplus. Income increased significantly as a result of robust economic growth, and expenditures increased by only 0.4 percent from their 1999 level. This slow growth was due to continuing implementation of the Balanced Budget Act of 1997 (including a further transfer of home health care costs to the Supplementary Medical Insurance (SMI) program), low increases in health care costs generally, additional efforts to combat fraud and abuse in the Medicare program, and a reduction in the utilization of home health and skilled nursing facility services.
- Under the intermediate assumptions, the HI trust fund is estimated to be depleted in 2029—a significant improvement over last year's estimate of 2025. Income from all sources is projected to continue to exceed expenditures for the next 20 years under the Trustees' intermediate assumptions. Thereafter, income would fall short of expenditures, but by drawing down on trust fund assets, the program could continue to pay benefits for another 8 years.
- Projected HI tax income would meet only a declining share of expenditures under present law. Tax income is expected to equal 112 percent of expenditures in 2001 but would fall short of expenditures by a rapidly growing margin after 2015. Tax revenues would represent 68 percent of costs in 2029 (when the fund is estimated to be depleted) and only 32 percent 75 years from now.
- The HI trust fund fails by a wide margin to meet the Trustees' long-range test of close actuarial balance. Specifically, an actuarial imbalance of 1.97 percent of taxable payroll is projected. To bring the HI program into actuarial balance over the next 75 years, either outlays would have to be reduced by 37 percent or income

increased by 60 percent (or some combination of the two) throughout the 75-year period.

- The long-range cost projections shown in this report are much higher than projected in the 2000 annual report because of a revision to the long-range Medicare expenditure growth rate assumptions. The change was recommended by the 2000 Medicare Technical Review Panel, an independent, expert group of actuaries and economists convened by the Trustees to review the Medicare projections. Reflecting an expected continuing impact of advances in medical technology on health care costs—both in Medicare and the health sector as a whole—per beneficiary HI expenditures are now assumed to increase in the long range at the rate of per capita GDP growth plus 1 percentage point. This assumption change is primarily responsible for the increase of 0.76 percent of taxable payroll in the 75-year actuarial deficit compared to last year's estimate.

- The future operations of the HI trust fund will be very sensitive to future economic, demographic, and health-cost trends and could differ substantially from the intermediate projections. Under the Trustees' "low cost" assumptions, for example, HI assets would increase steadily throughout the projection. Under the "high cost" alternative, however, assets would be depleted in 2016.

- There are expected to be 3.7 workers per HI beneficiary when the baby boom generation begins to reach age 65 in 2010. Then the worker/beneficiary ratio is expected to swiftly decline to 2.3 in 2030 as the last of the baby boomers reaches age 65. The ratio is expected to continue declining thereafter (but more gradually) as life expectancy continues to lengthen and birth rates remain at roughly the same level as during the last 2 decades.

- In the long range, HI expenditures are projected to grow rapidly as a fraction of workers' earnings, from 2.7 percent in 2000 to 10.7 percent in 2075. As a fraction of the Gross Domestic Product (GDP), expenditures would grow somewhat more slowly, from 1.3 percent in 2000 to 4.7 percent in 2075. Expenditure growth results from increases in both the number of beneficiaries and the average cost of health services per beneficiary.

- Although this report focuses on the financial status of the HI trust fund, it is important to recognize the financial challenges facing the Medicare program as a whole and the need for integrated solutions. Combined HI and SMI expenditures as a percent of GDP are projected to increase rapidly, from 2.24 percent in 2000 to 5.03 percent in 2035 and then to 8.49 percent in 2075.

- Despite the improvement in the short-range financial outlook for the HI trust fund, we should determine effective solutions to the remaining long-range problems. The development of further reforms should occur in the relatively near future, since the sooner solutions are enacted, the more flexible and gradual they can be. At the same time, however, solutions determined and implemented today will likely need adjustment over time. We believe that solutions can and must be found to ensure the financial integrity of the HI program in the long term. Effective and decisive action is necessary to build upon the strong steps taken in recent reforms.

Key HI Data for Calendar Year 2000:

- In 2000, the HI program provided protection against the costs of hospital and other medical care to about 39 million people (34 million aged and 5 million disabled beneficiaries). Approximately 22 percent of these individuals actually received medical services covered by HI during the year. The total number of HI beneficiaries increased by 1 percent in 2000 and by 16.2 percent over the last 10 years.
- HI benefits amounted to $128.5 billion, a 0.2-percent decrease over the prior year. Average benefits per HI enrollee decreased by 1 percent to $3,272.
- Administrative costs were 2 percent of program expenditures.
- Summary of HI trust fund operations in 2000 (in billions):

Fund Assets (12/31/99)	$141.4
Income	167.2
Expenditures	131.1
Fund Assets (12/31/00)	177.5
Net Change in Assets	36.1

- Payroll taxes, paid by 156 million covered workers, accounted for 86 percent of total HI income. Interest represented 7 percent, and revenue from the income taxation of Social Security benefits was another 5 percent. The remaining 2 percent was received from miscellaneous sources, primarily premiums paid by uninsured persons to enroll in the HI program.
- Payments for the costs of fee-for-service inpatient hospital care represented an estimated 68 percent of HI benefits in 2000. Skilled nursing accounted for about 9 percent, and home health care accounted for another 4 percent of the total. Payments to managed care plans represented 17 percent, and hospice benefits accounted for the final 2 percent.

C. 2000 TRUST FUND FINANCIAL OPERATIONS

Total HI income in calendar year 2000 was $167.2 billion, and total expenditures were $131.1 billion. The assets of the fund therefore increased by a net total of $36.1 billion. As of December 31, 2000, the HI trust fund had $177.5 billion in assets.

1. Income

The $167.2 billion in income received by the HI program last year was derived from the following sources:

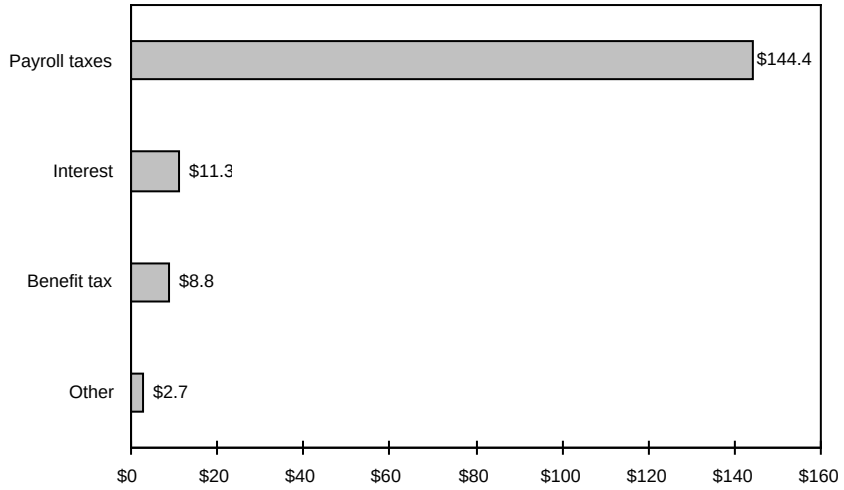
- Payroll taxes. The primary source of financing for the HI program is the payroll tax on covered earnings. Employees and their employers each pay 1.45 percent of earnings, while self-employed workers pay 2.9 percent of their net income. HI payroll taxes amounted to $144.4 billion in calendar year 2000, or 86 percent of total HI income.

- Interest. Interest income of $11.3 billion was paid in 2000 on the U.S. Treasury securities held by the trust fund. This income accounted for 7 percent of HI revenue. The average rate of interest earned on trust fund assets in 2000 was 7.3 percent.

- Taxation of benefits. A portion of the federal income taxes that people pay on their Social Security benefits is allocated to the HI trust fund. In 2000, $8.8 billion was deposited in the trust fund from taxation of Social Security benefits, accounting for 5 percent of total HI income.

- Other. An additional $2.7 billion in miscellaneous revenue, representing about 2 percent of total HI income, was also received in 2000. (See section II.B for a discussion of these items.)

Figure I.C1.—HI Income in Calendar Year 2000
[In billions]



2. Expenditures

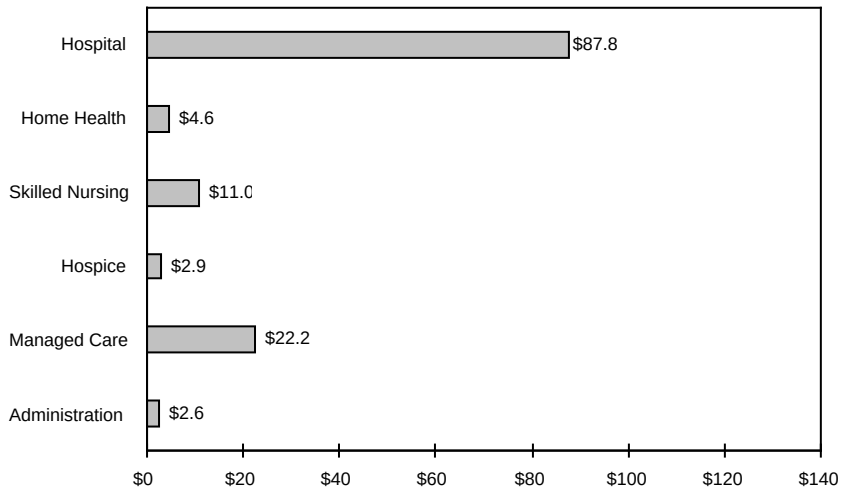
The HI fund spent $131.1 billion in calendar year 2000. The major expenditures consisted of the following:

- Benefit payments. Benefit payments represented 98 percent of HI outlays. About 68 percent of these payments were for fee-for-service inpatient hospital services. The distributions of the fee-for-service benefits into provider types are estimated and will be refined when final calendar year 2000 data are received. Hospital payments remained about the same from 1998 to 1999, followed by an estimated 2-percent increase in 2000. The average complexity of hospital admissions declined in 2000 for the third consecutive year. Payments to skilled nursing facilities and home health agencies, while much smaller than hospital payments, had generally been increasing at double-digit rates. However, in 1999, which was the first full year of the new prospective payment system for skilled nursing facilities, payments to such facilities decreased by 18 percent. In 2000, payments to these facilities increased by 2 percent, reflecting an increase in payment rates per day of care but a decline in the total number of days. A 40-percent decrease in home health expenditures in 2000 reflected both the reduction in HI use of services offered by home health agencies and the transfer of an additional portion of home health costs to the SMI program under the Balanced Budget Act of 1997. About one-fourth of this drop was due to a reduction in use of services. Expenditures for

hospice care increased 12 percent in 2000. Managed care costs in 2000 increased about 1 percent from the prior year.

- Administrative expenses. Administrative expenses represented 2 percent of HI outlays during 2000. Such expenses increased by 38 percent from 1999 due to a large increase in funding for the health care fraud and abuse control program, as provided for by the Health Insurance Portability and Accountability Act of 1996. The fraud and abuse program cost $1.4 billion in 2000. Administrative expenses also include federal salaries and related expenses and funds to support the fiscal intermediaries (generally insurance companies) that assist in administering HI.

Figure I.C2.—HI Expenditures in Calendar Year 2000
[In billions]



D. ECONOMIC AND DEMOGRAPHIC ASSUMPTIONS

Actual future HI expenditures will depend on a number of factors, including the size and composition of the population eligible for benefits, hospital and skilled nursing facility admission rates, home health agency visit rates, and changes in the price per service. Future trust fund income will depend on the size and characteristics of the covered work force and the level of workers' earnings. These factors will depend in turn upon future birth rates, death rates, labor force participation rates, wage increases, and many other economic and demographic circumstances affecting the HI program.

To illustrate the uncertainty and sensitivity inherent in estimates of future program operations, projections have been prepared under a "low cost" and a "high cost" set of assumptions in addition to the intermediate assumptions. For simplicity of presentation, much of the analysis in this overview centers on the projections under intermediate assumptions. However, it is important to recognize that actual conditions are very likely to differ from that scenario or from any other specific set of assumptions.

Many of the demographic and economic variables that determine HI costs and income are common to the Old-Age, Survivors, and Disability Insurance (OASDI) program and to the Supplementary Medical Insurance (SMI) program and are explained in detail in the report of the OASDI Board of Trustees. As shown in table I.D1 below, these variables include changes in the Consumer Price Index (CPI) and wages, real interest rates, fertility rates, and mortality rates. ("Real" indicates that the effects of inflation have been removed.) The assumptions vary, in most cases, from year to year during the first 5 to 30 years before reaching their so-called "ultimate" values for the remainder of the 75-year projection period. These ultimate values are shown in table I.D1.

Table I.D1.—Ultimate Assumptions

	Intermediate	Low Cost	High Cost
Annual percentage change in:			
Consumer Price Index (CPI)	3.3	2.3	4.3
Average wage in covered employment	4.3	3.8	4.8
Real-wage differential (percent)	1.0	1.5	0.5
Real interest rate (percent)	3.0	3.7	2.2
Total fertility rate (children per woman)	1.95	2.2	1.7
Average annual percentage reduction in total age-sex adjusted death rates from 2025 to 2075[1]	0.68	0.31	1.20

[1]Actual ultimate assumptions for reductions in death rates are specified in detail—by age group, sex, and cause of death.

Other assumptions are specific to the HI program. As with all of the assumptions underlying the Trustees' financial projections, the

HI-specific assumptions are reviewed annually and updated based on the latest available data and analysis of trends. In addition, the assumptions and projection methodology are subject to periodic review by independent panels of expert actuaries and economists.

The most recent such review was conducted by the 2000 Medicare Technical Review Panel, which issued its findings in December 2000. Based on their comprehensive review, the panel members found the assumptions and methods to be reasonable, with the exception of the long-range Medicare expenditure growth rates, which they believed to be too low (as discussed further below). They also made a number of recommendations for refining some of the other assumptions and projection methods. The projections in this year's annual report reflect the panel recommendations that could be implemented within the available time frame. Other recommendations will be considered for future implementation, as time and available health research knowledge permit. The panel's report is available on the HCFA Internet web site at http://www.hcfa.gov/pubforms/actuary/TechnicalPanel/.

The long-range growth rate assumption, mentioned above, is one of the most critical determinants of the projected cost of HI-covered health care services in the more distant future. The HI expenditure projections shown in this year's report reflect the panel's recommended change to this assumption. In past reports, HI costs per unit of service were assumed to increase at the rate of average hourly earnings after the first 25 years. In this report, the long-range increase in average expenditures per beneficiary (excluding demographic impacts) is assumed to equal growth in per capita GDP plus 1 percentage point. During the initial 25-year period, per beneficiary cost growth is assumed to increase gradually from recent past levels to the ultimate growth rate of per capita GDP plus 1 percentage point.

The expert panel believed that, in the long run, Medicare and overall health care spending would have the same per capita growth rate. Their conclusion that both Medicare costs and overall health care spending will grow faster than GDP was largely based on the historical impact of advances in medical technology on health care cost increases, which they expected to continue indefinitely. They also considered other factors contributing to health care cost increases, the assumptions of other forecasters, and the "sustainability" of such cost increases in the very long range. Based on the analysis of the

expert panel, the Board of Trustees has adopted the recommended long-range growth rate.

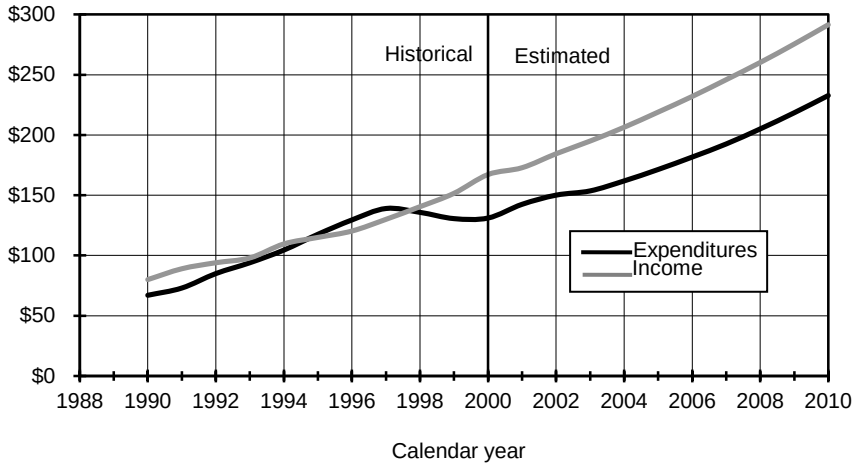
For the high cost assumptions, the annual increase in program costs (relative to taxable payroll) during the initial 25-year period is assumed to be 2 percentage points greater than under the intermediate assumptions. Under low cost assumptions, the increase during the same period is assumed to be 2 percentage points less than under intermediate assumptions. The 2-percent differentials for the high and low assumptions are assumed to decline gradually until 2050, when the same rate of increase in program costs (relative to taxable payroll) is assumed for all three sets of assumptions.

While it is reasonable to expect that actual trust fund experience will fall within the range defined by the three alternative sets of assumptions, no definite assurance can be given in light of the wide variations in experience that have occurred since the beginning of the program. In general, a greater degree of confidence can be placed in the assumptions and estimates for the earlier years than for the later years. Nonetheless, even for the earlier years, the estimates are only an indication of the expected trend and the general range of future program experience.

E. 10-YEAR ACTUARIAL ESTIMATES (2001-2010)

The Balanced Budget Act of 1997 (BBA) and subsequent developments have substantially improved the short-range financial status of the HI trust fund. Prior to the BBA, HI expenditures were estimated to grow at an average rate of over 8 percent. During 1998 through 2002, annual growth is estimated to average only 3 percent as a result of the BBA and because of assumed favorable price and utilization trends. From then on, however, expenditure growth is expected to return to the level of about 6 percent. The deceleration during 1998-2002 allows HI income to "catch up," creating significant surpluses each year in the fund operations. After 2011, these surpluses are projected to gradually decline until turning to deficits in 2021 and later.

Figure I.E1.—HI Expenditures and Income
[In billions]



The BBA reduced the rate of growth in HI expenditures through a combination of measures. New prospective payment systems were implemented—in 1998 for Medicare payments to skilled nursing facilities and in 2000 for home health agencies. In addition, annual payment updates for all HI health care providers are constrained. Finally, the majority of home health care services were reclassified as an SMI benefit, shifting the cost of such services over a 6-year period from the HI trust fund to the SMI trust fund. The Medicare, Medicaid, and SCHIP Balanced Budget Refinement Act of 1999 and the Medicare, Medicaid, and SCHIP Benefits Improvement and Protection Act of 2000 ease certain of these provisions somewhat, but

the overall net impact of all these Acts still reduces HI expenditures substantially.

Table I.E1 presents the projected operations of the HI trust fund under the intermediate assumptions for the next decade. At the beginning of 2001, HI assets were above the level of annual program expenditures. The Board of Trustees has recommended that assets be maintained at a level at least equal to annual expenditures, to serve as an adequate contingency reserve in the event of adverse economic or other conditions. This guideline represents a more stringent standard than just maintaining a positive balance.

Based on the 10-year projection shown in table I.E1, the Board of Trustees applies an explicit test of short-range financial adequacy, which is described in section II.D of this report. For the second consecutive year, the HI trust fund meets this test.

Table I.E1.—Estimated Operations of the HI Trust Fund under Intermediate Assumptions, Calendar Years 2000-2010

[Dollar amounts in billions]

Calendar year	Total income	Total expenditures	Change in fund	Fund at year end	Ratio of assets to expenditures[1] (percent)
2000[2]	$167.2	$131.1	$36.1	$177.5	108
2001	172.8	142.5	30.4	207.9	125
2002	184.4	150.1	34.3	242.2	139
2003	195.0	153.6	41.4	283.6	158
2004	206.4	161.9	44.5	328.1	175
2005	219.0	171.4	47.6	375.7	191
2006	232.0	181.7	50.3	426.0	207
2007	245.9	192.6	53.3	479.3	221
2008	260.2	205.0	55.1	534.5	234
2009	275.5	218.4	57.0	591.5	245
2010	291.5	232.7	58.7	650.2	254

[1]Ratio of assets in the fund at the beginning of the year to expenditures during the year.
[2]Figures for 2000 represent actual experience.

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

The estimates shown in table I.E1 represent an improvement from those shown in the 2000 annual report. The improvement arises from higher payroll and other tax revenues and lower benefit expenditures in 2000 than had been estimated, together with adjustments to projected income and expenditure growth for the future based on this experience. Robust economic growth in 2000 led to the increase in HI payroll tax revenues. In addition, there was a large, positive adjustment to past transfers for income taxes on Social Security benefits. Lower HI expenditures reflected slow increases in health care costs generally, continuing efforts to combat fraud and abuse in the Medicare program, a reduction in utilization of skilled nursing facility services, and a reduction in the average complexity of hospital

admissions. In 2000, HI income exceeded expenditures by $36 billion—the third consecutive year that the trust fund has experienced a positive cash flow.

The assets of the HI trust fund would grow steadily through 2020 under the intermediate assumptions. Under the low cost assumptions, trust fund assets would increase very rapidly throughout the next 10 years (and beyond). Under the high cost assumptions, however, depletion would occur not long after the short-range projection period, in 2016. The wide variation in asset growth under the three alternative sets of assumptions illustrates the extreme sensitivity of the HI program to even moderate variations in expenditure growth rates. This sensitivity necessitates continued careful monitoring of actual trust fund performance as it develops, even though the expected outlook currently appears very favorable in the short range.

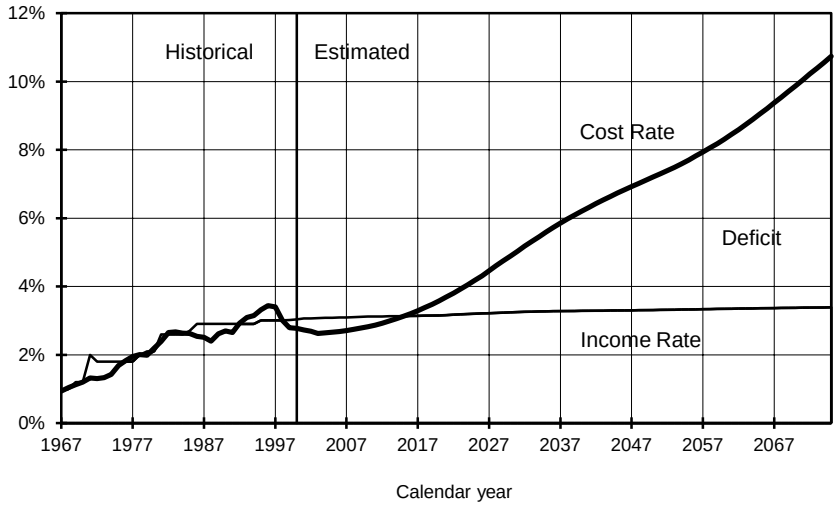
F. 75-YEAR ACTUARIAL ESTIMATES (2001-2075)

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

Because of the difficulty in comparing dollar values for different periods without some type of relative scale, income and expenditure amounts are shown relative to the earnings in covered employment that are taxable under the HI program (referred to as "taxable payroll"). The ratio of tax income (including both payroll taxes and income from taxation of Social Security benefits, but excluding interest income) to taxable payroll is called the "income rate," and the ratio of expenditures to taxable payroll is the "cost rate."

The long-range cost growth assumptions underlying the Medicare financial projections have been revised upward, as discussed in section I.D. This change was based on the recommendation of the 2000 Medicare Technical Review Panel. In prior reports, per beneficiary HI expenditures were assumed to increase at the same rate as average hourly earnings in the economy. Beginning with the projections shown in this report, the long-range growth assumption is increased to the level of per capita GDP growth plus 1 percentage point—which is approximately 1 percentage point per year faster than the prior assumption. As a result, after 2030 the HI cost rate is projected to be substantially greater than that shown in last year's report. Based on the findings of the expert panel, the Trustees believe this to be a more realistic projection.

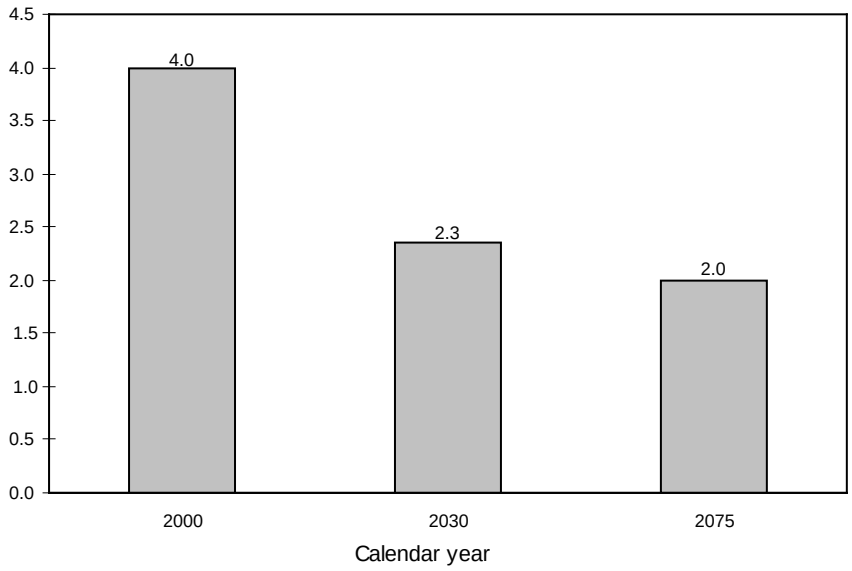
Figure I.F1.—Long-Range HI Income and Cost as a Percentage of Taxable Payroll, Intermediate Assumptions



As indicated in figure I.F1, HI cost rates are projected to exceed tax income by a rapidly growing margin after 2015. Income rates are projected to remain fairly steady, while cost rates sharply escalate between 2010 and 2030 and continue to increase throughout the period. By 2075, projected expenditures would be fully three times the level of scheduled tax revenues—a very substantial deficit by any standard.

Since HI payroll tax rates are not scheduled to change in the future under present law, payroll tax income as a percentage of taxable payroll will remain constant at 2.90 percent. Income from taxation of benefits will increase only gradually as a greater proportion of Social Security beneficiaries become subject to such taxation over time. Thus, the income rate is not expected to increase significantly over current levels.

Figure I.F2.—Workers per HI Beneficiary
[Based on intermediate assumptions]

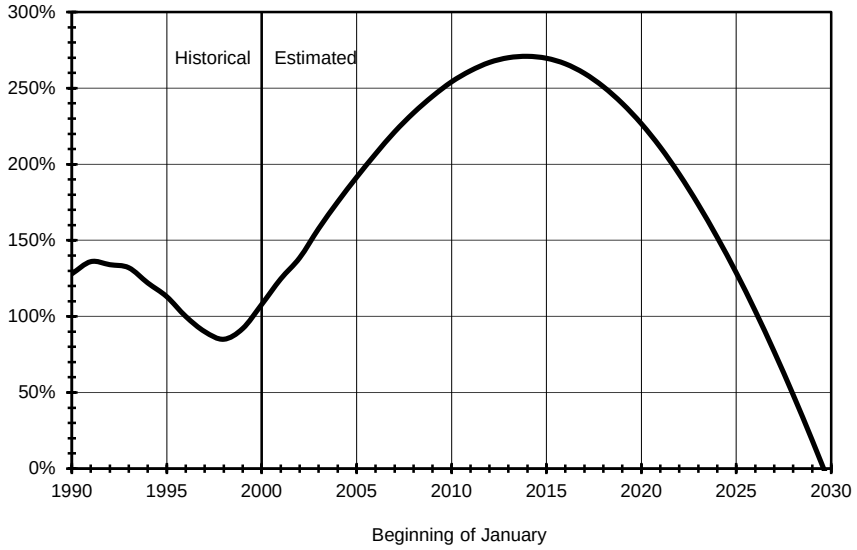


The cost rates, though, will sharply escalate—in part due to health care cost increases that exceed wage growth, but also due to the retirement of those born during the 1946-1965 baby boom. For the most part, current benefits are paid for by current workers. The retirement of the baby boom generation will therefore be financed by the relatively small number of persons born after the baby boom. For example, in 2000 there were 39 million beneficiaries with 156 million workers to support them. In 2030, as the last baby boomer turns 65, there would be an estimated 77 million beneficiaries with 180 million workers to support them. This means that every beneficiary in 2000 had 4.0 workers to pay for his or her HI benefit, but in 2030 there would be only about 2.3 workers. The ratio would then continue to decline until there are only 2 workers per beneficiary by 2075, reflecting an assumed continuation of fertility rates at roughly the same level as the last 2 decades and further improvements in life expectancy.

Under the intermediate assumptions, the assets of the HI trust fund would increase from about 125 percent of annual expenditures at the beginning of 2001 to 271 percent at the beginning of 2014. Thereafter, assets would decline relative to annual expenditures and, without corrective legislation, would be exhausted in 2029, as illustrated in

figure I.F3. To the extent that actual future conditions vary from the intermediate assumptions, the date of exhaustion could differ substantially in either direction from this estimate.

Figure I.F3.—HI Trust Fund Balance at Beginning of Year as a Percentage of Annual Expenditures



The year-by-year cost rates and income rates shown in figure I.F1 can be summarized into single values representing, in effect, the average value over a given period. (Sections II.E and III.D describe how these summarized values are calculated.) The difference between the summarized income and cost rates is called the "actuarial balance." Based on the intermediate assumptions, an actuarial balance deficit of 1.97 percent of taxable payroll is projected for the 75-year period, representing the difference between the summarized income rate of 3.29 percent and the corresponding cost rate of 5.26 percent. The actuarial balance varies from a slight surplus of 0.2 percent of taxable payroll under the low cost assumptions to a deficit of 6.3 percent under the high cost assumptions. The actuarial balance has traditionally served as a convenient single measurement to summarize the financial status of the program. It can be interpreted as the percentage-point change in the tax rate that would be required to bring the program into balance if no other changes were made. (See section II for details and limitations of summary measures.)

The deficit of 1.97 percent of taxable payroll under the intermediate assumptions is a little less than one-half of the level estimated prior

to the Balanced Budget Act of 1997, but also represents a significant upward revision from the deficit of 1.21 percent of payroll estimated in the 2000 annual report. (As noted previously, this large increase in the long-range deficit is almost entirely due to the higher long-range expenditures growth rate assumption.) To correct the remaining financial imbalance under the intermediate assumptions, the 2.90-percent payroll tax (for employees and employers combined) would have to be immediately increased to 4.87 percent, or expenditures would have to be reduced by a corresponding amount (or some combination of such changes). More realistically, the tax and/or benefit changes could be made gradually, rather than immediately, but would ultimately have to reach much more substantial levels to eliminate the deficit throughout the long-range period.

The HI program thus continues to fail the Trustees' test for long-range solvency (discussed in section II), which is based on the actuarial balance. The magnitude of this failure is considerable. The test is met under the low cost assumptions but would fail by a very wide margin under the high cost assumptions. The fact that the trust fund is projected to be in or near deficit under a broad range of economic and demographic assumptions reinforces the importance of addressing the remaining long-range imbalance through further legislation.

G. FINANCIAL OUTLOOK FOR HI AND SMI, COMBINED

The primary purpose of this report is to evaluate the financial status of the HI trust fund. To that end, projections are shown for HI tax revenues, total income, and expenditures, and the Trustees apply formal tests of financial status for both the short range and the long range. Often, however, individuals may focus primarily on HI and place less emphasis on the financial aspects of the other half of Medicare—Supplementary Medical Insurance.

This imbalance occurs in large part because of the very different ways in which HI and SMI are financed. HI is subject to substantial variation in asset growth, since program financing is established through statutory tax rates that cannot be adjusted except by enactment of new legislation. In contrast, SMI premiums and general revenue financing are reestablished annually to match expected costs for the following year. (Beneficiary premiums cover approximately 25 percent of SMI expenditures, with general revenues making up the balance.) As such, the SMI trust fund is free from periodic financing crises, and attention to its expenditure growth and financing requirements tends to be muted.

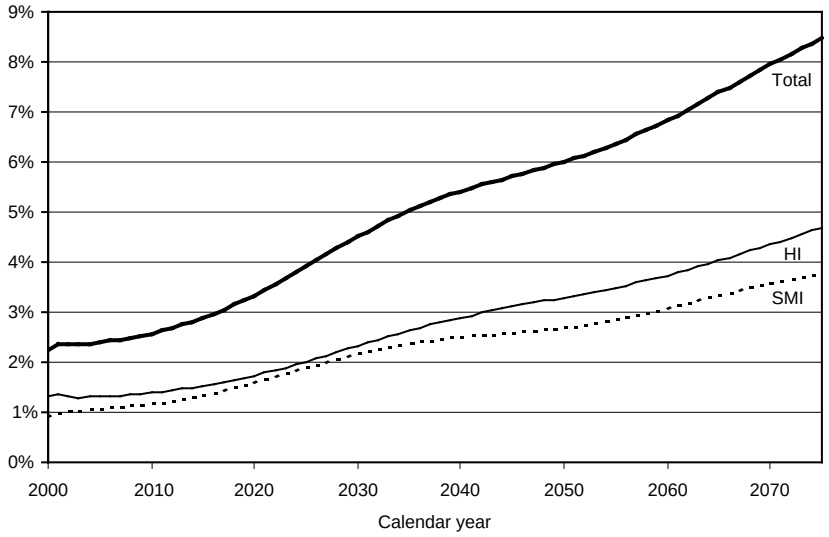
Despite the significant differences in eligibility rules, benefit provisions, and financing between HI and SMI, the two parts of Medicare are closely related. Efforts to improve and reform either part must necessarily involve the other part as well. In view of the anticipated growth in Medicare expenditures, it is also important to consider the balance among the various sources of revenues for financing Medicare, and the manner in which these will change over time under present law.

In this section, the projected total expenditures for the Medicare program are considered, along with the primary sources of financing. Further details are available in appendices III.B and III.C of this report.

Figure I.G1 shows projected costs as a percentage of GDP. Medicare expenditures represented 2.24 percent of GDP in 2000. Most of the factors affecting HI cost growth, as described previously in this report, will have a similar impact on SMI. As a result, total Medicare spending is projected to increase to about 5 percent of GDP over the next 35 years under the intermediate assumptions and to more than 8 percent of GDP by the end of the 75-year period. For comparison, that cost would represent roughly one-fourth more than today's cost

for Medicare and Social Security combined. (These estimates reflect the conclusion of the 2000 Medicare Technical Panel that in the long run both Medicare and overall health care spending will grow at a rate 1 percentage point faster than GDP per capita, which implies that overall health care spending would also account for an expanding share of GDP.)

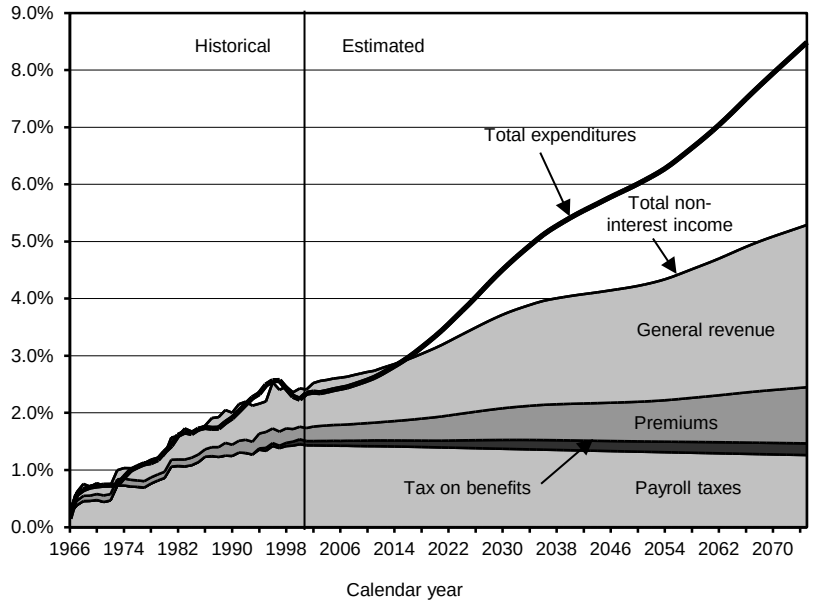
Figure I.G1.—Medicare Incurred Disbursements as a Percent of Gross Domestic Product



The past and projected amounts of Medicare revenues are shown in figure I.G2, based on the intermediate assumptions. Interest income is excluded since, under present law, it would not be a significant part of program financing in the long range. Medicare revenues—from HI payroll taxes, HI income from the taxation of Social Security benefits, HI and SMI premiums, and SMI general revenues—are compared to total Medicare expenditures. As one would expect, the two amounts are generally very similar in past years, since these revenues represented the major sources of program financing. Over the next 15 years, such Medicare revenues are estimated to slightly exceed program expenditures, reflecting the automatic financing of SMI plus the expected excess of HI tax income over expenditures described in the previous section. Thereafter, however, overall expenditures are projected to exceed aggregate revenues. Again, the growing difference arises from the projected imbalance between HI tax income and expenditures. Throughout this period, SMI revenues would continue

to approximately match SMI expenditures, due to the annual adjustment of program financing.

Figure I.G2.—Medicare Sources of Income and Expenditures as a Percent of Gross Domestic Product



As shown in figure I.G2, payroll tax revenues increased rapidly as a percentage of GDP in the past, as a result of increases in the tax rate and maximum taxable earnings base (eliminated in 1994). In the future, however, payroll taxes are not projected to grow faster than GDP primarily because no further increases in the tax rate are scheduled in present law. (The ratio decreases slowly over time, since wages, salaries, and self-employment income are expected to decline gradually as a share of total compensation, with faster growth in fringe benefits making up the difference.) HI revenue from income taxes on Social Security benefits would increase as a share of GDP as additional beneficiaries become subject to such taxes.

By comparison, growth in SMI premiums and general fund transfers is expected to continue to outpace GDP growth and HI payroll tax growth in the future. This phenomenon occurs primarily because, under present law, SMI revenue increases at the same rate as expenditures, whereas HI revenue does not. Thus, as the HI sources of revenue become increasingly inadequate to cover HI costs, SMI revenues would represent a growing share of total Medicare

revenues. Indeed, if nothing were done to address the large financing gap projected for HI under current law and total program expenditures exceed future income as shown in figure I.G2, then general revenue transfers would ultimately constitute the largest single source of income to the Medicare program as a whole—and would place a large burden on the federal budget. Although a smaller share of the total, SMI premiums would grow just as rapidly as general revenues, which would also place a growing burden on beneficiaries. (Section II.F of the SMI report provides a further assessment of the implications of SMI cost growth for the federal budget and for beneficiaries.)

Under present law, the two trust funds are separate and distinct, each with its own sources of revenues and mandated expenditures. Accordingly, the financial status of each Medicare trust fund is assessed separately, as is appropriate. The total financial obligation posed by Medicare, and how it is financed, is an important issue for policy makers and the public to consider.

H. CONCLUSION

The short-range financial projections shown for the HI program in this year's report represent a significant improvement over those shown last year. The improvement arises from higher payroll tax revenues and lower benefit expenditures in 2000 than had been estimated, together with adjustments to projected income and expenditure growth for the future based on this experience. The higher payroll taxes in 2000 resulted from robust economic growth, particularly the rapid growth in productivity and wages. Lower-than-estimated HI expenditures reflected a reduction in the utilization of skilled nursing services, low increases in health care costs generally, and continuing efforts to combat fraud and abuse in the Medicare program. In 2000, HI income exceeded expenditures by $36 billion—the third consecutive year that the trust fund has experienced a positive cash flow. Collectively, these impacts are estimated to postpone the depletion of the HI trust fund from 2025 until 2029. For the second consecutive year, the HI trust fund meets our short-range test of financial adequacy. This is a welcome improvement in the nearer-term financial outlook for the HI program.

The long-range financial projections shown for the HI program, however, represent a significant decline in the financial status of the HI trust fund. This decline is largely a result of the adoption of the recommendation by the 2000 Medicare Technical Review Panel on long-term cost growth. The expert panel recommended that per beneficiary long-term health care spending be assumed to grow at a rate 1 percentage point above per capita GDP growth, which is approximately 1 percent per year faster than the prior assumption. As a result of this new assumption, the long-range HI actuarial deficit in this year's report has been increased by over one-half (from 1.21 percent of taxable payroll to 1.97 percent), based on our intermediate set of assumptions.

Accordingly, the HI program remains substantially out of financial balance in the long range. Based on our intermediate assumptions, income from all sources is projected to continue to exceed expenditures for the next 20 years, but to fall short by steadily increasing amounts in 2021 and later. Costs are expected to exceed program tax revenues after 2015, indicating that HI would increasingly draw on interest payments on invested assets and subsequently the redemption of those assets. While the projected tax shortfalls can be temporarily met in this way, future income and assets would be sufficient to support projected program expenditures

only until 2029 under the intermediate assumptions. Thus, without additional legislation, the fund would be exhausted in the future—initially producing payment delays, but very quickly leading to a curtailment of health care services to beneficiaries.

Despite the change in the long-term cost growth assumption, the long-range actuarial deficit is still less than one-half of the level projected prior to the Balanced Budget Act of 1997. This is certainly a major improvement. Even so, the long-range outlook remains unfavorable. The HI program fails by a wide margin to meet our long-range test of close actuarial balance. To bring the HI program into actuarial balance over the next 75 years under the intermediate assumptions, either outlays would have to be reduced by 37 percent or income increased by 60 percent (or some combination of the two) throughout the 75-year period. That is, the current HI payroll tax of 1.45 percent (for employees and employers, each) would have to be immediately raised to about 2.44 percent, or outlays reduced by a comparable amount. (While such changes would eliminate the overall deficit, they would not balance income and expenditures year by year. Such a change would close only about one-fourth of the projected imbalance in 2075.) These substantial changes in income and/or outlays are needed, in part as a result of the impending retirement of the baby boom generation. Starting in about 2010, the ratio of workers to HI beneficiaries will begin to decline from its current level of about 4 to 1, rapidly reaching a ratio of approximately 2 to 1.

The Medicare changes in the Balanced Budget Act of 1997 build upon past measures to reduce growth in expenditures—by introducing new prospective payment systems for providers of HI services that previously received cost-based reimbursements, and by limiting payment increases to all HI providers. Such steps constrain growth in HI expenditures while encouraging increased operating efficiencies by providers. Further improvement in the HI trust fund's financial position is attributable to the transfer of a substantial portion of home health care services from HI to SMI, although this change increases SMI costs correspondingly. Substantial as these recent changes are, additional strong measures will be needed to prevent trust fund depletion as the full baby boom generation reaches age 65 and starts receiving benefits.

As further reform measures are considered, it must be recognized that the nation's health care system is changing rapidly. Over time, information on the performance—in terms of quality and cost—of alternative modes of treatment and service delivery should contribute

to better legislative decisions regarding the long-range outlook for HI. Solutions to HI's financial problems also provide the opportunity to enhance the quality of medical care by tapping into the tremendous potential for improvements in underlying health care productivity. While we continue to believe in the critical need to address the HI program's long-range financial imbalance, we also recognize that solutions determined and implemented today will likely need adjustment over the years to match new circumstances and conditions as they evolve in the future.

The time gained by the later depletion of the HI trust fund must be used productively to determine effective solutions to the remaining long-range problems. Consideration of further reforms should occur in the relatively near future. The unexpectedly favorable conditions resulting in the anticipated trust fund surpluses over the next 2 decades could change, and deficits could recur sooner than projected. In addition, the sooner the solutions are enacted, the more flexible and gradual they can be. Finally, the early introduction of further reforms increases the time available for affected individuals and organizations—including health care providers, beneficiaries, and taxpayers—to adjust their expectations.

Although this report focuses on the financial status of the HI trust fund, the need for further SMI reforms should not be overlooked. Integrated solutions are necessary to address the financial challenges facing the Medicare program as a whole. In the absence of legislative change, total costs for Medicare as a percentage of GDP are projected to more than double over the next 35 years—and nearly quadruple by the end of the 75-year projection period.

The projections shown in this report, while encouraging in comparison to prior estimates for the short run, continue to demonstrate the need for timely and effective action to address the remaining financial imbalance facing the HI trust fund. We believe that solutions can and must be found to ensure the financial integrity of the HI program in the long term and to provide effective means of controlling SMI costs. We are encouraged by the widespread interest in Congress and the Administration in improving Medicare's financial status. We believe that effective and decisive action is necessary to build upon the strong steps taken in recent reforms.

II. ACTUARIAL ANALYSIS

A. MEDICARE AMENDMENTS SINCE THE 2000 REPORT

Since the 2000 annual report was transmitted to Congress on April 20, 2000, two laws have been enacted that affect the HI program in a significant way.

The Military Construction Appropriations Act for 2001 (Public Law 106-246, enacted on July 13, 2000) included a provision affecting the HI program. This legislation authorized adjustments to the HI interest earnings for fiscal year 1999-2000 and to the interest and maturity structure of HI assets to correct for certain trust fund accounting errors that occurred in fiscal year 1999. As described in section II.C, this legislation permitted restoration of the asset portfolio that would have been in effect in the absence of such errors.

The Medicare, Medicaid, and SCHIP Benefits Improvement and Protection Act of 2000 (Public Law 106-554, enacted on December 21, 2000) included a number of provisions affecting the HI program. The more important provisions, from an actuarial standpoint, are described in the following paragraphs. Certain provisions with a relatively minor financial impact on the HI program, but which are important from a policy perspective, are described as well.

- Effective July 1, 2001, the 24-month waiting period (otherwise required for an individual to establish Medicare eligibility on the basis of a disability) is waived for persons with amyotrophic lateral sclerosis. The entitlement to Medicare begins with the first month of the Social Security Administration's determination of eligibility for Disability Insurance benefits.

- For discharges occurring on or after April 1, 2001, all hospitals are eligible to receive disproportionate share (DSH) payments when their DSH percentage (threshold amount) exceeds 15 percent. The DSH payment formulas for sole community hospitals (SCHs), rural referral centers (RRCs), rural hospitals that are both SCHs and RRCs, small rural hospitals, and urban hospitals with less than 100 beds are modified to give these hospitals higher DSH payments.

- A full market basket update is established for fiscal year 2001 for all hospitals. For discharges occurring on or after October 1, 2000 and before April 1, 2001, hospitals will receive the market basket percentage increase minus 1.1 percentage points (as mandated by the Balanced Budget Act of 1997); for discharges occurring on or

after April 1, 2001 and before October 1, 2001, hospitals will receive the market basket percentage increase plus 1.1 percentage points. This payment increase does not apply to discharges occurring after fiscal year 2001. For fiscal years 2002 and 2003, hospitals will receive the market basket percentage increase minus 0.55 percentage points. For fiscal year 2004 and subsequently, hospitals will receive the full market basket increase.

- Teaching hospitals receive 6.25 percent of the indirect medical education payment adjustment (for each 10-percent increase in teaching intensity) for discharges occurring on or after October 1, 2000 and before April 1, 2001. The indirect medical education adjustment increases to 6.75 percent for discharges occurring on or after April 1, 2001 and before October 1, 2001. This payment increase does not apply to discharges occurring after fiscal year 2001. The indirect medical education percentage adjustment will then be maintained at 6.5 percent in fiscal year 2002 before decreasing to 5.5 percent in fiscal year 2003 and in subsequent years.

- Total payments for rehabilitation hospitals in fiscal year 2002 are to equal the amounts of payments that would have been made if the rehabilitation prospective payment system (PPS) had not been enacted. Rehabilitation facilities may, for one time only, elect before the start of the PPS to be paid at the full federal rate rather than at a blend of the federal rate and a facility-specific rate.

- For the cost reporting periods beginning on or after October 1, 2000, and for this 1 cost year only, the national cap for long-term care hospitals excluded from the PPS is increased by 2 percent, and the facility-specific target amount is increased by 25 percent. Though both the national cap and the target amount are increased, excluded long-term care hospitals are still paid at the lower of the cap or target. Neither these payments nor the increased bonus payments provided by the Balanced Budget Refinement Act of 1999 (BBRA) will be factored into the development of the PPS for these hospitals.

- The schedule and payment rates for skilled nursing facility (SNF) PPS are updated, effective April 1, 2001. In fiscal years 2002 and 2003, the updates equal the market basket index increase minus 0.5 percentage point. For the period April 1, 2001 through September 30, 2001, SNFs receive the market basket index increase plus 1 percentage point—an increase that is not included

when determining payment rates for the subsequent period. Temporary increases in the federal per-diem rates provided by the BBRA are in addition to these increases.

- The nursing component of the federal payment rate is increased by 16.66 percent for SNF care furnished on or after April 1, 2001 and before October 1, 2002.

- For hospice care furnished on or after April 1, 2001, the base Medicare daily payment rates for fiscal year 2001 are increased by 5 percentage points, and this adjustment will continue to apply after fiscal year 2001. The temporary increase in payment rates provided in the BBRA for fiscal years 2001 and 2002 (0.5 percent and 0.75 percent, respectively) remain in effect.

- The aggregate amount of Medicare payments to home health agencies in the second year of the PPS (fiscal year 2002) must equal the aggregate payments in the first year of the PPS, updated by the market basket index increase minus 1.1 percentage points; therefore, the 15-percent reduction to aggregate home health PPS amounts—which, under the BBRA, would go into effect October 1, 2001—is delayed until October 1, 2002. In addition, if the Secretary identifies changes in aggregate payments due to changes in coding or classification of beneficiaries' service needs that do not reflect real changes in case mix, the Secretary may adjust PPS amounts, effective for home health episodes concluding on or after October 1, 2001, to eliminate the effect of such coding or classification changes.

- The home health PPS payment updates are modified. For 60-day episodes (or visits) ending on or after April 1, 2001 and before October 1, 2001, rates are increased by 2.2 percent. This results in the full home health market basket increase for payments for fiscal year 2001. This increase is included in determining subsequent payment amounts.

- The homebound benefit is clarified to specify that beneficiaries who require home health services may attend adult day-care for therapeutic, psychosocial, or medical treatment and still remain eligible for the home health benefit. Homebound beneficiaries may also attend religious services without being disqualified from receiving home health benefits.

- For home health services furnished in certain rural areas between April 1, 2001 and April 1, 2003, Medicare payments are increased

by 10 percent, without regard to budget neutrality for the overall home health PPS. This temporary increase is not included in determining subsequent payments.

- For cost reporting periods beginning during fiscal year 2002, the direct graduate medical education payment floor for hospitals is increased from 70 percent of a geographically adjusted national average per-resident amount to 85 percent of that amount.

- Effective for cost reports beginning during fiscal year 2001 and in subsequent years, the amount that Medicare will reimburse hospitals for beneficiary bad debt is increased from 55 percent to 70 percent of the allowable costs.

- The minimum payment amount for Medicare+Choice capitation rates is increased to $525, beginning March 1, 2001, within the 50 States and the District of Columbia in a Metropolitan Statistical Area with a population of more than 250,000. For all other areas within the 50 States and the District of Columbia, the minimum payment amount is increased to $475. For any area outside the 50 States and the District of Columbia, the $525 and $475 minimum amounts also apply, except that the 2001 minimum payment amount may not exceed 120 percent of the 2000 minimum payment amount.

- Beginning March 1, 2001, the 2-percent minimum update for Medicare+Choice capitation rates is increased to 3 percent in 2001. Thereafter, a minimum update of 2 percent will again apply.

- The phase-in of risk adjustment for payments to Medicare+Choice organizations is extended from 5 years to 8 years. The current risk adjustment methodology (in which 10 percent of payments are based on risk-adjusted inpatient data, and 90 percent are adjusted solely using the older demographic method) will continue through 2003. Beginning in 2004, the risk adjustment will be based on data from inpatient hospital and ambulatory settings (comprehensive risk adjustment). The phase-in of the portion of payment subject to risk adjustment will then be as follows: 30 percent for 2004, 50 percent for 2005, 75 percent for 2006, and 100 percent for 2007 and subsequent years.

- The Secretary is required to appropriately adjust Medicare+Choice payment rates for enrollees with end-stage renal disease (ESRD) to reflect the demonstration rate (including the risk-adjustment methodology) of social health maintenance organizations' ESRD

capitation demonstrations. These revised rates, which will be effective beginning January 1, 2002, must include adjustments for factors such as renal treatment modality, age, and underlying cause of the disease.

- For 1 year only, beginning on January 1, 2001, an exception to the Medicare+Choice risk-adjustment phase-in exists for congestive heart failure enrollees. While generally only 10 percent of payment is subject to risk adjustment, full risk-adjusted payment is implemented for enrollees who had a qualifying congestive heart failure inpatient diagnosis (as determined by the Secretary) between July 1, 1999 and June 30, 2000, if those individuals were enrolled in a coordinated care plan offered on January 1, 2001. This payment amount is excluded from the determination of the budget neutrality factor.

Detailed information regarding these changes and other less significant changes can be found in documents prepared by and for the Congress. The actuarial estimates shown in this report reflect the anticipated effects of these changes.

B. NATURE OF THE TRUST FUND

The Federal Hospital Insurance Trust Fund was established on July 30, 1965 as a separate account in the U.S. Treasury. All the financial operations of the HI program are handled through this fund.

The trust fund's primary source of income consists of amounts appropriated to it, under permanent authority, on the basis of taxes paid by workers, their employers, and individuals with self-employment income, in work covered by the HI program. Included in the HI program are workers covered under the OASDI program, those covered under the Railroad Retirement program, and certain federal, state, and local employees not otherwise covered under the OASDI program.

All employees in employment covered by the program—and their employers—are required to pay taxes on the wages of individual workers, including cash tips. All covered self-employed persons are required to pay taxes on their net self-employment income.

HI taxes are payable on a covered individual's total wages and self-employment income, without limit. For calendar years prior to

1994, taxes were computed on a person's annual earnings up to a specified maximum annual amount, called the maximum tax base.

The HI tax rates applicable to taxable earnings in each of the calendar years 1966 and later are shown in table II.B1. For 2002 and thereafter, the tax rates shown are the rates scheduled in the provisions of present law. The tax bases for 1966-1993 are also presented.

Table II.B1.—Tax Rates and Maximum Tax Bases

		Tax rate (Percent of taxable earnings)	
Calendar years	Maximum tax base	Employees and employers, each	Self-employed
Past experience:			
1966	$6,600	0.35	0.35
1967	6,600	0.50	0.50
1968-71	7,800	0.60	0.60
1972	9,000	0.60	0.60
1973	10,800	1.00	1.00
1974	13,200	0.90	0.90
1975	14,100	0.90	0.90
1976	15,300	0.90	0.90
1977	16,500	0.90	0.90
1978	17,700	1.00	1.00
1979	22,900	1.05	1.05
1980	25,900	1.05	1.05
1981	29,700	1.30	1.30
1982	32,400	1.30	1.30
1983	35,700	1.30	1.30
1984	37,800	1.30	2.60
1985	39,600	1.35	2.70
1986	42,000	1.45	2.90
1987	43,800	1.45	2.90
1988	45,000	1.45	2.90
1989	48,000	1.45	2.90
1990	51,300	1.45	2.90
1991	125,000	1.45	2.90
1992	130,200	1.45	2.90
1993	135,000	1.45	2.90
1994-2001	no limit	1.45	2.90
Scheduled in present law:			
2002 & later	no limit	1.45	2.90

All taxes are collected by the Internal Revenue Service and are deposited in the general fund of the Treasury as internal revenue collections. The taxes received are automatically appropriated, on an estimated basis, to the trust fund. The exact amount of taxes received is not known initially, since HI taxes, OASDI taxes, and individual income taxes are not separately identified in collection reports received by the Treasury Department. Periodic adjustments are subsequently made to the extent that the estimates are found to differ from the amounts of taxes actually payable on the basis of reported earnings.

Up to 85 percent of an individual's or couple's OASDI benefits may be subject to federal income taxation if their income exceeds certain thresholds. The income tax revenue attributable to the first 50 percent of OASDI benefits is allocated to the OASI and DI trust funds. The revenue associated with the amount between 50 and 85 percent of benefits is allocated to the HI trust fund.

Another substantial source of trust fund income is interest credited from investments in government securities held by the fund. The investment procedures of the fund are described later in this section.

The income and expenditures of the trust fund are also affected by the provisions of the Railroad Retirement Act, which provide for a system of coordination and financial interchange between the Railroad Retirement program and the HI program. This financial interchange requires that the Railroad Board and the Secretary of Health and Human Services (HHS) determine a transfer that would place the HI trust fund in the same position in which it would have been if railroad employment had always been covered under the Social Security Act.

The Social Security Act grants certain wage credits to individuals who serve in the military. Section 217(g) of the Act provides for periodic transfers between the general fund of the Treasury and the HI trust fund, if transfers are needed to adjust prior payments for the costs arising from wage credits granted for military service before 1957. Section 229(b) authorizes annual payments from the general fund of the Treasury equivalent to the combined employee and employer payroll taxes that would be paid on the current year's wage credits if such credits were covered wages.

Two sections of the statute authorize HI benefits for certain uninsured persons aged 65 and over. Section 103 of the Social Security Amendments of 1965 provided entitlement to HI benefits to

almost all persons aged 65 and over, or near that age, when the HI program began operations. Section 278 of the Tax Equity and Fiscal Responsibility Act of 1982 added similar transitional entitlement for those federal employees who would retire before having had a chance to earn sufficient quarters of Medicare-qualified federal employment. The costs of such coverage, including administrative expenses, are paid initially from the HI trust fund, with subsequent reimbursement from the general fund of the Treasury.

Section 1818 of the Social Security Act provides that certain persons not eligible for HI protection—either on an insured basis or on the uninsured basis described in the previous paragraph—may obtain protection by enrolling in the program and paying a monthly premium.

Section 201(i) of the Social Security Act authorizes the Managing Trustee to accept and deposit in the trust fund unconditional money gifts or bequests made for the benefit of the fund or any activity financed through the fund.

Expenditures for benefit payments and administrative expenses under the HI program are paid from the trust fund. Charged to the trust fund are all expenses incurred by the Department of HHS, the Social Security Administration (SSA), and the Treasury Department in carrying out the provisions of Title XVIII of the Social Security Act pertaining to the HI program and of the Internal Revenue Code relating to the collection of taxes. The Secretary of HHS certifies benefit payments to the Managing Trustee, who makes the payments from the trust fund. Administrative expenses are allocated and charged to each of the four trust funds—OASI, DI, HI, and SMI—on the basis of provisional estimates. Similarly, the expenses of administering other programs of HCFA are also allocated and charged to the general fund of the Treasury on a provisional basis. Periodically, as actual experience develops and is analyzed, the allocations of administrative expenses are adjusted by interfund transfers. This adjustment includes transfers between (1) the HI and SMI trust funds and (2) the program management general fund account, with appropriate interest allowances.

The Social Security Act authorizes the Secretary of HHS to develop and conduct a broad range of experiments and demonstration projects designed to determine various methods of increasing efficiency and economy in providing health care services, while maintaining the quality of such services, under the HI and SMI programs. The costs of

these experiments and demonstration projects are paid from the HI and SMI trust funds.

The Health Insurance Portability and Accountability Act of 1996 established a health care fraud and abuse control account within the HI trust fund. Monies derived from the fraud and abuse control program are transferred from the general fund of the Treasury to the HI trust fund. Amounts necessary to carry out certain functions of the control program, subject to specific limits, are appropriated from the HI trust fund to the Health Care Fraud and Abuse Control Account, from which they are disbursed to fund those functions.

Congress has authorized expenditures from the trust funds for construction, rental and lease, or purchase contracts of office buildings and related facilities for use in connection with the administration of the HI program. Both the capital costs of construction financed directly from the trust fund, and the rental and lease or purchase contract costs of acquiring facilities, are included in trust fund expenditures. Whatever the manner of acquisition, the net worth of facilities and other fixed capital assets is not carried in the statement of trust fund assets presented in this report, since the value of fixed capital assets does not represent funds available for benefit or administrative expenditures and is not, therefore, considered in assessing the actuarial status of the funds.

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

The Social Security Act authorizes the issuance of special public-debt obligations for purchase exclusively by the trust fund. The law requires that these special public-debt obligations bear interest, at a rate based on the average market yield (computed on the basis of market quotations as of the end of the calendar month immediately preceding the date of such issue), on all marketable interest-bearing

obligations of the United States forming a part of the public debt that are not due or callable until after the expiration of 4 years from the end of such month.

From December 29, 1981 until January 1, 1988, the Social Security Act authorized borrowing among the OASI, DI, and HI trust funds when necessary "to best meet the need for financing the benefit payments" from the three funds. Interfund loans under the borrowing authority were made to the OASI trust fund from the DI and HI trust funds in 1982 and were fully repaid with interest by May 1986. Currently, no further provision for interfund borrowing exists.

C. OPERATIONS OF THE TRUST FUND, FISCAL YEAR 2000

A statement of the revenue and disbursements of the Federal Hospital Insurance Trust Fund in fiscal year 2000, and of the assets of the fund at the beginning and end of the fiscal year, is presented in table II.C1.

Table II.C1.—Statement of Operations of the HI Trust Fund during Fiscal Year 2000
[In thousands]

Total assets of the trust fund, beginning of period	$138,687,261
Revenue:	
Appropriation of employment taxes	$137,736,670
Deposits arising from State agreements	1,534
Income from taxation of OASDI benefits	8,787,000
Interest on investments	10,533,141
Premiums collected from voluntary participants	1,391,796
Transfer from Railroad Retirement account	418,000
Reimbursement, transitional uninsured coverage	470,000
Military service credits of 2000	1,874
Reimbursement, program management general fund	116,045
Interest on reimbursements, SSA[1]	286
Interest on reimbursements, HCFA[1]	-110,305
Interest on reimbursements, Railroad Retirement	47,276
Other	760
Reimbursement, Union Activity	1,061
Gifts	6
Fraud and abuse control receipts:	
Criminal fines	57,209
Civil monetary penalties	5,220
Civil penalties and damages, HCFA	23,251
Civil penalties and damages, Department of Justice	124,017
Fraud and abuse appropriation for FBI	76,000
Total revenue	$159,680,840
Disbursements:	
Net benefit payments	$127,933,963
Administrative expenses:	
Treasury administrative expenses	40,200
Salaries and expenses, SSA[2]	487,659
Salaries and expenses, HCFA[3]	723,732
Salaries and expenses, Office of the Secretary, HHS	5,654
Medicare Payment Advisory Commission	4,209
Fraud and abuse control expenses:	
HHS Medicare integrity program	848,168
HHS Office of Inspector General	134,536
Department of Justice	29,949
FBI	76,000
Total disbursements	$130,284,070
Total assets of the trust fund, end of period	$168,084,032

[1]A positive figure represents a transfer to the HI trust fund from the other trust funds. A negative figure represents a transfer from the HI trust fund to the other funds.
[2]For facilities, goods, and services provided by SSA.
[3]Includes administrative expenses of the intermediaries.

The total assets of the trust fund amounted to $138,687 million on September 30, 1999. During fiscal year 2000, total revenue amounted to $159,681 million, and total disbursements were $130,284 million. Total assets thus increased by $29,397 million during the year, to $168,084 million on September 30, 2000.

Actuarial Analysis

1. Revenues

Included in total revenue during fiscal year 2000 was $137,737 million in taxes appropriated to the trust fund. In addition, $1.5 million was transferred to the trust fund from State and local governments, representing residual payments from previous State agreements for coverage of State and local government employees.

Total HI payroll tax income amounted to $137,738 million—an increase of 2.5 percent over the amount of $134,385 million for the preceding 12-month period. This increase would have been about 7 percent except for certain tax adjustments; that is, in the last quarter of fiscal year 1999, a positive adjustment of over $4.0 billion was made, followed by a negative adjustment of $2.7 billion in the first quarter of fiscal year 2000. In general, growth in tax income results primarily from the higher level of earnings in covered employment, together with an increase in the number of covered workers in the labor force.

Income from the taxation of OASDI benefits, as described in section II.B, amounted to $8,787 million in fiscal year 2000. This amount was significantly larger than normal, as a result of a large, positive adjustment to earlier transfers made on an estimated basis.

Section II.B referred to reimbursement received by the HI trust fund from the general fund of the Treasury for program costs attributable to otherwise uninsured persons having entitlement under transitional provisions. In fiscal year 2000, this reimbursement amounted to $470 million: $468 million for estimated benefit payments and $2 million for administrative expenses. The $468 million for benefit payments consisted of $347 million for non-federal uninsured and $121 million for federal uninsured beneficiaries. (While benefit payments for non-federal uninsured beneficiaries for fiscal year 2000 were estimated to be $109 million, adjustments for prior years, including interest on these adjustments, raised the amount for that component of the transfer to $347 million.)

Section II.B referred to provisions of the Social Security Act under which certain persons not otherwise eligible for HI protection may obtain coverage by enrolling in the program and paying a monthly premium. Premiums collected from such voluntary participants in fiscal year 2000 amounted to about $1,392 million.

In accordance with the provisions of the Railroad Retirement Act, a transfer of $418 million in principal and about $28 million in interest from the Railroad Retirement program's Social Security Equivalent Benefit Account to the HI trust fund balanced the two systems as of September 30, 1999, as described in section II.B. This amount, together with interest to the date of transfer totaling about $19 million, was transferred to the trust fund in June 2000.

In accordance with statutory provisions, discussed in section II.B, for the appropriation to the trust fund of amounts equivalent to HI taxes on 2000 noncontributory military wage credits, the trust fund should have been credited with approximately $63 million on July 1, 2000. Due to problems involving the budget appropriation for the Department of Defense, the full reimbursement was not made, and only about $2 million was received. Recovery of the reimbursement shortfall is being pursued.

Section II.B referred to the health care fraud and abuse control program established by the Health Insurance Portability and Accountability Act of 1996. During fiscal year 2000, the trust fund was credited with about $286 million in receipts from this program.

The remaining $10,541 million of revenue consisted almost entirely of interest credited from the investments held by the trust fund.

2. Disbursements

Of the $130,284 million in total disbursements, $127,934 million represented net benefits paid directly from the trust fund for health services covered under Title XVIII of the Social Security Act. Net benefit payments decreased 1.2 percent in fiscal year 2000 over the corresponding amount of $129,463 million paid during the preceding fiscal year. This decrease reflected the continuing impact of the Balanced Budget Act of 1997 (as modified by subsequent legislation in 1999), including the further transfer of a portion of costs for home health care services to the SMI trust fund. In addition, utilization of home health care and skilled nursing facilities declined in 2000, reducing Medicare expenditures for such services. Finally, payments to hospitals for inpatient admissions were dampened by a further reduction (of roughly 0.5 percent) in the average reported complexity of admissions following the Department of Justice investigations of claim coding practices. Net benefit payments were $127,934 million,

which consisted of gross benefit payments less recoveries from fraud and abuse control activities.

The remaining $2,350 million of disbursements was for administrative expenses. This amount includes $1,089 million for the health care fraud and abuse control program, which was discussed in section II.B.

3. Actual experience versus prior estimates

Table II.C2 compares the actual experience in fiscal year 2000 with the estimates presented in the 1999 and 2000 annual reports. A number of factors can contribute to differences between estimates and subsequent actual experience. In particular, actual values for key economic and other variables can differ from assumed levels, and legislative and regulatory changes may be adopted after a report's preparation. The comparison in table II.C2 indicates that actual HI tax income was higher than estimated in both the 1999 and 2000 reports, primarily as a result of economic growth in 1999-2000 that was more favorable than anticipated. Actual HI benefit payments in fiscal year 2000 were lower than the amounts projected in both the 1999 and 2000 reports, mainly due to the continuing low increases in health care costs generally, additional efforts to combat fraud and abuse in the Medicare program, and reductions in the utilization of skilled nursing facility services and (relative to 1999 expectations) home health care services.

Table II.C2.—Comparison of Actual and Estimated Operations of the HI Trust Fund, Fiscal Year 2000

[Dollar amounts in millions]

		Comparison of actual experience with estimates for fiscal year 2000 published in-			
		2000 report		1999 report	
Item	Actual amount	Estimated amount[1]	Actual as percentage of estimate	Estimated amount[1]	Actual as percentage of estimate
Payroll taxes	$137,738	$136,327	101	$132,606	104
Benefit payments	127,934	131,541	97	140,275	91

[1]Under the intermediate assumptions.

4. Assets

Table II.C3 shows the total assets of the fund and their distribution at the end of fiscal years 1999 and 2000. The assets of the HI trust fund at the end of fiscal year 1999 totaled $138,687 million: $153,767 million in the form of obligations of the U.S. Government and an undisbursed balance of −$15,080 million. The assets of the HI

trust fund at the end of fiscal year 2000 totaled $168,084 million: $168,859 million in the form of U.S. Government obligations and an undisbursed balance of −$775 million.

Table II.C3.—Assets of the HI Trust Fund, by Type, at the End of Fiscal Years 1999 and 2000[1]

	September 30, 1999	September 30, 2000
Investments in public-debt obligations sold only to the trust funds (special issues):		
Certificates of indebtedness:		
6.000-percent, 2001	——	$7,044,143,000.00
6.250-percent, 2000	$15,366,238,000.00	——
6.250-percent, 2001	——	746,955,000.00
Bonds:		
5.875-percent, 2011-2012	8,754,457,000.00	8,754,457,000.00
6.000-percent, 2001-2011	2,957,300,000.00	——
6.000-percent, 2012-2014	22,666,427,000.00	20,598,023,000.00
6.250-percent, 2001	363,198,000.00	——
6.250-percent, 2002-2008	10,727,313,000.00	10,727,313,000.00
6.500-percent, 2001-2010	11,413,156,000.00	28,559,482,000.00
6.500-percent, 2011-2015	——	19,024,892,000.00
6.875-percent, 2011	2,166,172,000.00	2,166,172,000.00
7.000-percent, 2011	3,368,466,000.00	3,368,466,000.00
7.250-percent, 2001-2009	10,574,290,000.00	10,574,290,000.00
7.375-percent, 2000	798,589,000.00	——
7.375-percent, 2001-2007	13,392,693,000.00	13,392,693,000.00
8.125-percent, 2000	901,274,000.00	——
8.125-percent, 2001-2006	11,823,335,000.00	11,823,335,000.00
8.375-percent, 2000	1,231,586,000.00	——
8.375-percent, 2001	2,509,152,000.00	2,509,152,000.00
8.625-percent, 2000	686,250,000.00	——
8.625-percent, 2001-2002	3,881,652,000.00	3,881,652,000.00
8.750-percent, 2000	2,185,751,000.00	——
8.750-percent, 2001-2005	19,388,643,000.00	19,388,643,000.00
9.250-percent, 2000	1,034,542,000.00	——
9.250-percent, 2001-2003	6,299,028,000.00	6,299,028,000.00
10.375-percent, 2000	1,277,566,000.00	——
Total investments	$153,767,078,000.00	$168,858,696,000.00
Undisbursed balance[2]	-15,079,816,783.46	-774,664,347.12
Total assets	$138,687,261,216.54	$168,084,031,652.88

[1]Certificates of indebtedness and bonds are carried at par value, which is the same as book value.
[2]Negative figures represent an extension of credit against securities to be redeemed within the following few days. See text for explanation of the unusually large September 30, 1999 extension of credit.

An undisbursed balance normally represents cash receipts that have not yet been invested and/or trust fund securities that have been redeemed to obtain the cash necessary to meet expenditures anticipated in the immediate future. Thus, such amounts are assets of the trust fund that are not currently invested in interest-bearing Treasury securities. Conversely, if redeemed assets temporarily fall short of immediate expenditures, the undisbursed balance can be negative, representing an extension of credit against securities to be redeemed within the following few days.

The sizable negative undisbursed balance at the end of fiscal year 1999 substantially exceeded normal levels. This abnormality was a

result of accounting errors involving the crediting and debiting of amounts to the HI trust fund during the fiscal year. These errors led to an excessive level of invested assets and a corresponding excess of interest earnings than would otherwise have been credited to the trust fund. The principal component of the error was largely corrected in early October 1999, when the excess invested assets were disinvested to satisfy the large extension of credit. Disposition of the undue HI interest earnings was completed on August 1, 2000, as authorized by Public Law 106-246, and the asset structure of the HI trust fund was simultaneously restored to the portfolio that would have been in effect in the absence of the accounting errors.

New securities at a total par value of $180,350 million were acquired during the fiscal year through the investment of revenue and the reinvestment of funds made available from the redemption of securities. The par value of securities redeemed during the fiscal year was $165,258 million. Thus, the net increase in the par value of the investments held by the fund during fiscal year 2000 amounted to $15,092 million.

The effective annual rate of interest earned by the assets of the HI trust fund during the 12 months ending on December 31, 2000 was 7.3 percent. Interest on special issues is paid semiannually on June 30 and December 31. The interest rate on public-debt obligations issued for purchase by the trust fund in June 2000 was 6.5 percent, payable semiannually.

D. EXPECTED SHORT-RANGE OPERATIONS AND STATUS OF THE TRUST FUND

While the previous section addressed the operations and status of the HI trust fund during the preceding fiscal year, this section presents estimates of the trust fund's operations and financial status for the next 10 years. The actuarial status of the trust fund is discussed in the next section. In both this and the following section, no changes are assumed to occur in the present statutory provisions and regulations under which the HI program operates.

The estimates shown in this section provide detailed information concerning the short-range financial status of the trust fund. The estimated levels of future income and outgo, annual differences between income and outgo, and annual trust fund balances are

explained and examined. Two particularly important short-range solvency measures for the HI trust fund—the estimated year of exhaustion and the test of short-range financial adequacy—are also discussed.

To illustrate the sensitivity of future program costs to different economic and demographic trends, estimates are shown under three alternative sets of assumptions, which are intended to portray a reasonable range of possible future trends. Due to the uncertainty inherent in such projections, however, the actual operations of the HI trust fund in the future could differ significantly from these estimates.

The expected operations of the HI trust fund during fiscal years 2001 to 2010, together with the past experience of the program, are shown in table II.D1. The estimates shown in this table are based on the intermediate set of assumptions. The assumptions underlying the intermediate projections are presented in section II.F of this report.

The increases in estimated income shown in table II.D1 primarily reflect increases in payroll tax income to the trust fund. As noted previously, the main source of financing for the HI program is the payroll tax on covered earnings paid by employees, employers, and self-employed workers. While the payroll tax rate is scheduled to remain constant, covered earnings are assumed to increase in every year through the year 2010 under the intermediate assumptions. These increases in taxable earnings are due primarily to projected increases both in the number of workers covered by the program and in the average earnings of these workers.

Over the next 10 years, most of the smaller sources of financing for the HI trust fund are projected to increase as well. These income sources include income from the taxation of OASDI benefits (which decreases in 2001 from the adjusted amount in 2000), transfers from the Railroad Retirement program, and premium income for other noninsured persons who voluntarily enroll in the program. Transfers from general revenue to reimburse the program for the cost of providing HI benefits to certain noninsured persons are decreasing. Transfers made from general revenue to reimburse the HI trust fund for the costs associated with certain military wage credits are projected to remain constant over the short-range period after rebounding from the very low amount in 2000. More detailed descriptions of these sources of income can be found in section II.B.

Interest earnings have been a significant source of income to the trust fund for many years, having ranked second only to payroll taxes. As the trust fund grows in the future, with income in excess of disbursements, interest earnings would grow more rapidly than the other components of HI income.

Disbursements for benefits are projected to increase in fiscal years 2001 to 2010. For the first half of this period, benefits would increase at a slower rate than income to the program due to the savings provisions of the Balanced Budget Act of 1997 (as subsequently modified in 1999 and 2000). After this time, benefits are expected to increase at a faster rate than income for the remainder of the short-range period. The expenditures for benefit payments shown in table II.D1 differ somewhat from those shown in the President's Fiscal Year 2002 Budget. The estimates presented in this report are based on different demographic and economic projections, and they do not reflect the implementation of proposed changes in laws and regulations that were included in the budget. The expenditures for benefit payments presented in this section are based on the assumption that for fiscal years 2002 and later, the prospective payment rates will be increased in accordance with Public Law 105-33 (the Balanced Budget Act of 1997), as modified by Public Law 106-113 (the Medicare, Medicaid, and SCHIP Balanced Budget Refinement Act of 1999) and by Public Law 106-554 (the Medicare, Medicaid, and SCHIP Benefits Improvement and Protection Act of 2000). For fiscal year 2001, the prospective payment rates have already been determined in accordance with these statutes.

The estimated disbursements of the HI trust fund reflect the transfer of certain home health services from the HI program to the SMI program, as specified by the Balanced Budget Act of 1997. Beginning January 1998, for individuals enrolled in both HI and SMI, the HI program covers the first 100 home health visits following a hospital or skilled nursing facility stay of at least 3 days, and coverage of all other home health services for these individuals is transferred from the HI program to the SMI program. Therefore, all benefit payments for those transferred services are to be paid out of the SMI trust fund beginning January 1998. However, for the 6-year period 1998 through 2003, sums of money are to be transferred from the HI trust fund to the SMI trust fund to phase in the financial impact of the transfer of these services. The sums of money to be transferred are determined so that the net additional expenditures of the SMI trust fund will be one-sixth of the cost of the services transferred in 1998, incremented

by an additional one-sixth of the cost each year thereafter. The benefit payments for 1998 through 2003 shown throughout this report represent the sum of the aggregate HI benefit payments and the funds transferred to the SMI trust fund.

The actual operations of the HI program are organized, in general, on a calendar-year basis. Earnings subject to taxation and the applicable tax rates are established by calendar year, as are the inpatient hospital deductible and other cost-sharing amounts. The projected operations of the trust fund on a calendar-year basis are shown in table II.D2, according to the same assumptions as those used in table II.D1.

Table II.D1.—Operations of the HI Trust Fund during Fiscal Years 1970-2010

[In millions]

	Income								Disbursements			Trust fund	
Fiscal year[1]	Payroll taxes	Income from taxation of benefits	Railroad Retirement account transfers	Reimburse-ment for uninsured persons	Premiums from voluntary enrollees	Payments for military wage credits	Interest and other income[2]	Total income	Benefit payments[3]	Adminis-trative expenses[4]	Total disburse-ments	Net increase in fund	Fund at end of year
Historical Data:													
1970	$4,785	—	$64	$617	—	$11	$137	$5,614	$4,804	$149	$4,953	$661	$2,677
1975	11,291	—	132	481	$6	48	609	12,568	10,353	259	10,612	1,956	9,870
1980	23,244	—	244	697	17	141	1,072	25,415	23,790	497	24,288	1,127	14,490
1985	46,490	—	371	766	38	86	3,182	50,933	47,841	813	48,654	4,103[5]	21,277
1990	70,655	—	367	413	113	107	7,908	79,563	65,912	774	66,687	12,876	95,631
1991	74,655	—	352	605	367	-1,011[6]	8,969	83,938	68,705	934	69,638	14,299	109,930
1992	80,978	—	374	621	484	86	10,133	92,677	80,784	1,191	81,974	10,703	120,633
1993	83,147	—	400	367	622	81	12,484[7]	97,101	90,738	866	91,604	5,497	126,131
1994	92,028	$1,639	413	506	852	80	10,676	106,195	101,535	1,235	102,770	3,425	129,555
1995	98,053	3,913	396	462	998	61	10,963	114,847	113,583	1,300	114,883	-36	129,520
1996	106,934	4,069	401	419	1,107	-2,293[8]	10,496	121,135	124,088	1,229	125,317	-4,182	125,338
1997	112,725	3,558	419	481	1,279	70	10,017	128,548	136,175	1,661	137,836	-9,287	116,050
1998	121,913	5,067	419	34	1,320	67	9,382	138,203	135,487[9]	1,653	137,140	1,063	117,113
1999	134,385	6,552	430	652	1,401	71	9,523	153,015	129,463[9]	1,978	131,441	21,574	138,687
2000	137,738	8,787	465	470	1,392	2	10,827	159,681	127,934[9]	2,350	130,284	29,397	168,084
Intermediate Estimates:													
2001	149,755	7,952	444	453	1,397	-1,265[10]	12,584	171,320	139,118[9]	2,434	141,552	29,768	197,852
2002	156,448	8,427	455	442	1,473	67	14,151	181,463	144,083[9]	2,577	146,660	34,803	232,655
2003	164,305	9,201	465	220	1,531	68	15,955	191,745	149,504[9]	2,724	152,228	39,517	272,172
2004	172,005	10,027	471	193	1,627	68	18,082	202,473	156,631	2,808	159,439	43,034	315,206
2005	182,646	10,838	478	187	1,729	69	20,391	216,337	168,023	2,891	170,914	45,423	360,629
2006	191,109	11,739	495	195	1,840	70	22,868	228,316	173,786	2,977	176,763	51,553	412,182
2007	200,994	12,698	513	204	1,958	70	25,539	241,977	186,476	3,069	189,545	52,432	464,614
2008	210,651	13,799	533	214	2,079	71	28,417	255,764	198,435	3,167	201,602	54,162	518,776
2009	220,824	15,084	554	222	2,207	72	31,488	270,452	211,501	3,269	214,770	55,682	574,457
2010	232,931	16,542	577	228	2,353	73	34,581	287,285	225,402	3,372	228,774	58,511	632,968

[1]Fiscal years 1970 and 1975 consist of the 12 months ending on June 30 of each year; fiscal years 1980 and later consist of the 12 months ending on September 30 of each year.
[2]Other income includes recoveries of amounts reimbursed from the trust fund that are not obligations of the trust fund, receipts from the fraud and abuse control program, and a small amount of miscellaneous income.
[3]Includes costs of Peer Review Organizations (beginning with the implementation of the prospective payment system on October 1, 1983).
[4]Includes costs of experiments and demonstration projects. Beginning in 1997, includes fraud and abuse control expenses, as provided for by Public Law 104-191.
[5]Includes repayment of loan principal, from the OASI trust fund, of $1,824 million.
[6]Includes the lump-sum general revenue adjustment of -$1,100 million, as provided for by section 151 of Public Law 98-21.
[7]Includes $1,805 million transfer from the SMI catastrophic coverage reserve fund, as provided for by Public Law 102-394.
[8]Includes the lump-sum general revenue adjustment of -$2,366 million, as provided for by section 151 of Public Law 98-21.
[9]For 1998 to 2003, includes monies transferred to the SMI trust fund for home health agency costs, as provided for by Public Law 105-33.
[10]Includes a preliminary estimate of -$1,332 million for the lump-sum general revenue adjustment provided for by section 151 of Public Law 98-21.

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

Table II.D2.—Operations of the HI Trust Fund during Calendar Years 1970-2010

[In millions]

	Income								Disbursements			Trust fund	
Calendar year	Payroll taxes	Income from taxation of benefits	Railroad Retirement account transfers	Reimburse-ment for uninsured persons	Premiums from voluntary enrollees	Payments for military wage credits	Interest and other income[1]	Total income	Benefit payments[2]	Adminis-trative expenses[3]	Total disburse-ments	Net increase in fund	Fund at end of year
Historical Data:													
1970	$4,881	—	$66	$863	—	$11	$158	$5,979	$5,124	$157	$5,281	$698	$3,202
1975	11,502	—	138	621	$7	48	664	12,980	11,315	266	11,581	1,399	10,517
1980	23,848	—	244	697	18	141	1,149	26,097	25,064	512	25,577	521	13,749
1985	47,576	—	371	766	41	-719[4]	3,362	51,397	47,580	834	48,414	4,808[5]	20,499
1990	72,013	—	367	413	122	-993[6]	8,451	80,372	66,239	758	66,997	13,375	98,933
1991	77,851	—	352	605	432	89	9,510	88,839	71,549	1,021	72,570	16,269	115,202
1992	81,745	—	374	621	522	86	10,487	93,836	83,895	1,121	85,015	8,821	124,022
1993	84,133	—	400	367	675	81	12,531[7]	98,187	93,487	904	94,391	3,796	127,818
1994	95,280	$1,639	413	506	907	80	10,745	109,570	103,282	1,263	104,545	5,025	132,844
1995	98,241	3,913	396	462	954	61	10,820	115,027	116,368	1,236	117,604	-2,577	130,267
1996	110,585	4,069	401	419	1,199	-2,293[8]	10,222	124,603	128,632	1,297	129,929	-5,325	124,942
1997	114,670	3,558	419	481	1,319	70	9,637	130,154	137,762	1,690	139,452	-9,298	115,643
1998	124,317	5,067	419	34	1,316	67	9,327	140,547	133,990[9]	1,782	135,771	4,776	120,419
1999	132,306	6,552	430	652	1,447	71	10,139	151,597	128,766[9]	1,866	130,632	20,965	141,385
2000	144,351	8,787	465	470	1,382	2	11,729	167,185	128,458[9]	2,636	131,095	36,090	177,475
Intermediate Estimates:													
2001	150,377	7,952	444	453	1,402	-1,265[10]	13,475	172,839	139,992[9]	2,465	142,457	30,382	207,857
2002	158,546	8,427	455	442	1,497	67	14,979	184,413	147,460[9]	2,615	150,075	34,338	242,195
2003	166,461	9,201	465	220	1,542	68	16,993	194,950	150,849[9]	2,744	153,593	41,358	283,552
2004	174,771	10,027	471	193	1,655	68	19,215	206,400	159,045	2,829	161,874	44,526	328,078
2005	184,059	10,838	478	187	1,754	69	21,611	218,996	168,451	2,912	171,363	47,633	375,711
2006	193,411	11,739	495	195	1,869	70	24,183	231,961	178,674	2,998	181,672	50,289	426,001
2007	203,445	12,698	513	204	1,987	70	26,965	245,883	189,458	3,092	192,550	53,333	479,334
2008	213,497	13,799	533	214	2,109	71	29,939	260,162	201,848	3,192	205,040	55,122	534,456
2009	224,259	15,084	554	222	2,240	72	33,022	275,454	215,139	3,294	218,433	57,021	591,477
2010	235,462	16,542	577	228	2,391	73	36,195	291,469	229,337	3,398	232,735	58,734	650,211

[1]Other income includes recoveries of amounts reimbursed from the trust fund that are not obligations of the trust fund, receipts from the fraud and abuse control program, and a small amount of miscellaneous income.
[2]Includes costs of Peer Review Organizations (beginning with the implementation of the prospective payment system on October 1, 1983).
[3]Includes costs of experiments and demonstration projects. Beginning in 1997, includes fraud and abuse control expenses, as provided for by Public Law 104-191.
[4]Includes the lump-sum general revenue adjustment of -$805 million, as provided for by section 151 of Public Law 98-21.
[5]Includes repayment of loan principal, from the OASI trust fund, of $1,824 million.
[6]Includes the lump-sum general revenue adjustment of -$1,100 million, as provided for by section 151 of Public Law 98-21.
[7]Includes $1,805 million transfer from the SMI catastrophic coverage reserve fund, as provided for by Public Law 102-394.
[8]Includes the lump-sum general revenue adjustment of -$2,366 million, as provided for by section 151 of Public Law 98-21.
[9]For 1998 to 2003, includes monies transferred to the SMI trust fund for home health agency costs, as provided for by Public Law 105-33.
[10]Includes a preliminary estimate of -$1,332 million for the lump-sum general revenue adjustment provided for by section 151 of Public Law 98-21.

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

Since future economic, demographic, and health care usage and cost experience may differ considerably from the intermediate assumptions on which the cost estimates shown in tables II.D1 and II.D2 were based, projections have also been prepared on the basis of two different sets of assumptions, labeled "low cost" and "high cost." The three sets of assumptions were selected to illustrate the sensitivity of program costs to different economic and demographic trends, and to provide an indication of the uncertainty associated with financial projections for the HI program. The low cost and high cost alternatives provide for a fairly wide range of possible experience. While actual experience may be expected to fall within the range, no assurance can be made that this will be the case, particularly in light of the wide variations in experience that have occurred since the beginning of the program. The assumptions used in preparing projections under the low cost and high cost alternatives, as well as under the intermediate assumptions, are discussed more fully in section II.F of this report.

The estimated operations of the HI trust fund during calendar years 2000 to 2010, for total program income and disbursements under all three alternatives, are summarized in table II.D3.[1] The trust fund ratio, defined as the ratio of assets at the beginning of the year to disbursements during the year, was 108 percent for 2000. Under the intermediate assumptions, the trust fund ratio is projected to increase until 2014. Thereafter, the ratio would decline beyond the 10-year short-term projection period, with the fund becoming exhausted in 2029 under the intermediate assumptions. Under the low cost alternative, trust fund assets would increase steadily throughout the 75-year projection period, while under the high cost alternative, exhaustion would occur in 2016, somewhat after the 10-year period. Without corrective legislation, therefore, the assets of the HI trust fund would be exhausted within the next 15 to 28 years under the high cost and intermediate assumptions. The fact that exhaustion would occur under a fairly broad range of future economic conditions, and is expected to occur in the not-distant future, indicates the importance of addressing the HI trust fund's financial imbalance.

[1]These projections do not reflect any reduction in disbursements due to proposed changes in legislation or regulation that were included in the President's Fiscal Year 2002 Budget but that have not been enacted or implemented.

Table II.D3.—Estimated Operations of the HI Trust Fund during Calendar Years 2000-2010, under Alternative Sets of Assumptions

[Dollar amounts in billions]

Calendar year	Total income	Total disbursements	Net increase in fund	Fund at end of year	Ratio of assets to disbursements[1] (percent)
Intermediate:					
2000[2]	$167.2	$131.1	$36.1	$177.5	108
2001	172.8	142.5	30.4	207.9	125
2002	184.4	150.1	34.3	242.2	139
2003	195.0	153.6	41.4	283.6	158
2004	206.4	161.9	44.5	328.1	175
2005	219.0	171.4	47.6	375.7	191
2006	232.0	181.7	50.3	426.0	207
2007	245.9	192.6	53.3	479.3	221
2008	260.2	205.0	55.1	534.5	234
2009	275.5	218.4	57.0	591.5	245
2010	291.5	232.7	58.7	650.2	254
Low Cost:					
2000[2]	$167.2	$131.1	$36.1	$177.5	108
2001	173.6	139.4	34.2	211.7	127
2002	185.9	144.4	41.6	253.3	147
2003	196.9	144.9	52.0	305.3	175
2004	208.9	149.6	59.2	364.6	204
2005	222.0	155.1	66.9	431.5	235
2006	235.7	161.0	74.7	506.2	268
2007	250.5	167.0	83.5	589.7	303
2008	265.9	174.1	91.8	681.4	339
2009	282.4	181.5	100.9	782.3	375
2010	300.0	189.3	110.7	893.0	413
High Cost:					
2000[2]	$167.2	$131.1	$36.1	$177.5	108
2001	169.3	145.3	24.1	201.5	122
2002	177.2	154.0	23.2	224.8	131
2003	190.5	162.4	28.1	252.9	138
2004	200.4	174.6	25.8	278.7	145
2005	211.1	188.2	22.9	301.6	148
2006	226.3	206.0	20.3	321.9	146
2007	240.6	225.0	15.6	337.5	143
2008	253.9	245.7	8.2	345.7	137
2009	267.6	267.9	-0.4	345.4	129
2010	281.8	292.4	-10.6	334.8	118

[1]Ratio of assets in the fund at the beginning of the year to disbursements during the year.
[2]Figures for 2000 represent actual experience.

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

The Board of Trustees has established an explicit test of short-range financial adequacy. The requirements of this test are as follows: (1) If the HI 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; (2) 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 the trust fund not be depleted at any time during this period), and then remain at or above 100 percent throughout the rest of the 10-year period. This test is applied to trust fund projections made under the intermediate assumptions.

Failure of the trust fund to meet this test is an indication that the solvency of the program over the next 10 years is in question and that action is needed to improve the short-range financial adequacy of the program. As can be seen from table II.D3, the HI trust fund meets this short-range test. The trust fund ratio, which was above the 100-percent level at the beginning of 2001, is projected to increase through 2010. Accordingly, the financing for the HI program is considered adequate in the short-range projection period (2001-2010).

The ratios of assets in the HI trust fund at the beginning of each calendar year to total disbursements during that year are shown in table II.D4 for all past years since the beginning of the program. Figure II.D1 shows these historical trust fund ratios and the projected ratios under the three sets of assumptions. Figure II.D2 shows end-of-year trust fund balances for historical years and for projected years under the three sets of assumptions. On both figures, the labels "I," "II," and "III" indicate projections under the low cost, intermediate, and high cost alternatives, respectively. Both figures illustrate the HI trust fund's expected growth over the next few years, even under adverse conditions such as those assumed in the high cost alternative. Figure II.D1 also indicates, however, the slowing of the growth of assets (as a percentage of expenditures) in the relatively near future, except under conditions of exceptionally robust economic growth and modest health care cost increases, as assumed in the low cost alternative.

Table II.D4.—Ratio of Assets at the Beginning of the Year to Disbursements during the Year for the HI Trust Fund

Calendar year	Ratio
1967	28%
1968	25
1969	43
1970	47
1971	54
1972	47
1973	40
1974	69
1975	79
1976	77
1977	66
1978	57
1979	54
1980	52
1981	45
1982	52
1983	20
1984	29
1985	32
1986	41
1987	79
1988	101
1989	115
1990	128
1991	136
1992	136
1993	131
1994	122
1995	113
1996	100
1997	90
1998	85
1999	92
2000	108

Figure II.D1.—HI Trust Fund Balance at Beginning of Year as a Percentage of Annual Expenditures

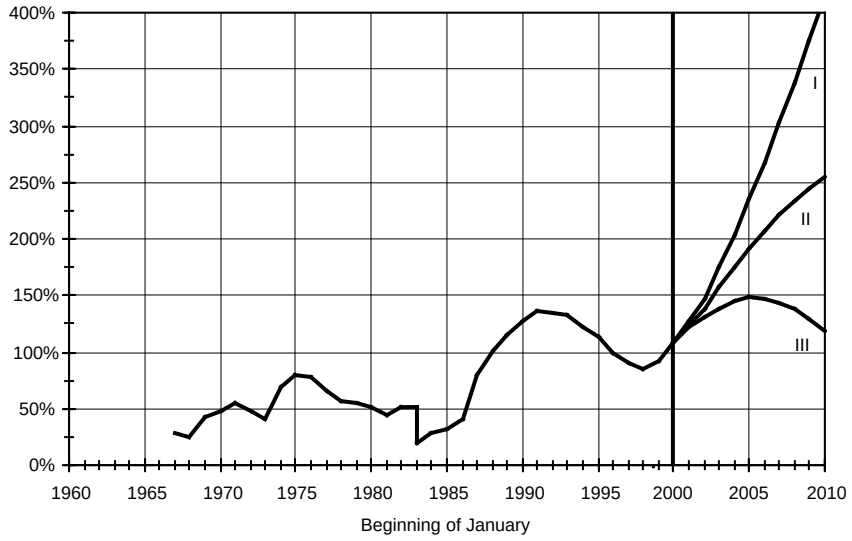
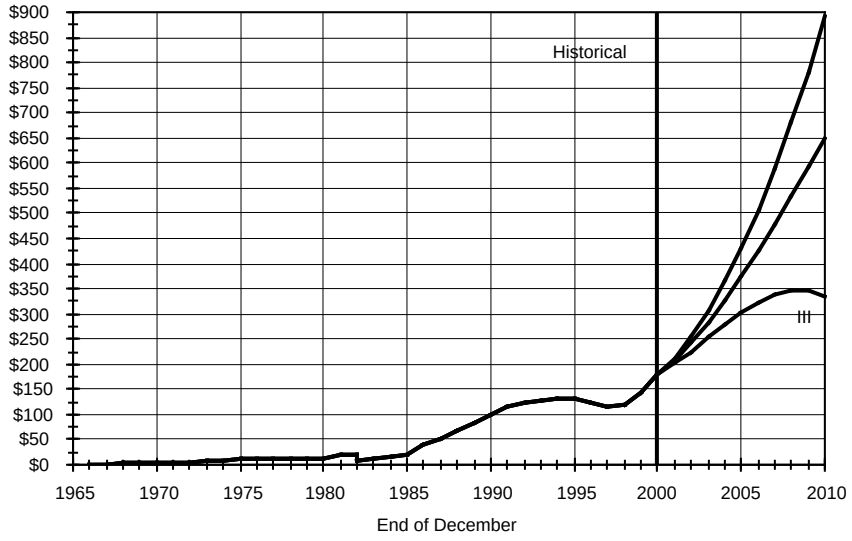


Figure II.D2.—HI Trust Fund Balance at End of Year
[In billions]



The Trustees' test of short-range financial adequacy is stringent. It is designed to provide an early warning that a trust fund may face financial difficulties in the coming years. As indicated by the

projections above, under the intermediate assumptions the HI trust fund would experience a substantial positive cash flow throughout the short-range period. Under less favorable conditions, however, the cash flow could turn negative much earlier and thereby accelerate asset exhaustion.

As suggested by the historical asset levels shown in table II.D4 and figures II.D1 and II.D2, the Trustees' short-range test for HI has seldom been met.[2] For many years, it has been projected that the HI trust fund would become depleted within the next decade or so, due to increases in health care costs and utilization that generally exceed increases in the HI payroll taxes supporting the program. Over the years, asset exhaustion has been postponed by enactment of legislation to increase trust fund revenue and/or reduce the rate of growth in program expenditures. As a result of this periodic corrective legislation, the program has operated satisfactorily even though it has not met the Trustees' short-range test.

Nonetheless, the test represents a desirable goal for the financial status of social insurance programs. The Trustees have recommended that fund assets be maintained at a level of at least 100 percent of annual program expenditures. Such a level is estimated to provide a cushion of roughly 5 years or more in the event that program income falls short of expenditures, thereby allowing time for policy makers to devise and implement legislative corrections. Thus, while the short-range test is stringent, it is intended to ensure that health care benefits continue to be available without interruption to the millions of aged and disabled Americans who rely on such coverage.

E. ACTUARIAL STATUS OF THE TRUST FUND

In section II.D, the expected operations of the HI program over the next 10 years were presented. In this section, the actuarial status of the trust fund, or the adequacy of the scheduled financing to support program costs well into the future, is examined under the three alternative sets of assumptions. The assumptions used in preparing projections are summarized in section II.F of this report.

[2]The test was introduced by the Board of Trustees in 1991.

Actuarial Analysis

The long-range actuarial status of the HI program is measured by comparing, on a year-by-year basis, the program's income (from payroll taxes and from taxation of OASDI benefits) with the corresponding incurred costs of the program, expressed as percentages of taxable payroll.[3] These percentages are referred to as "income rates" and "cost rates," respectively. For this purpose, both income and costs are projected under present law. If it were the case that these two items were exactly equal in each year of the projection period and all projection assumptions were realized, then revenues would be sufficient to provide for program costs. In practice, however, tax rate schedules, which make up most of the income rate, generally are designed with any rate changes occurring only at intervals of several years, rather than with continual yearly increases to match exactly with projected cost increases. To the extent that small differences between the yearly costs of the program and the corresponding income rates occur for short periods of time and are offset by subsequent differences in the reverse direction, the financing objectives can be met by maintaining an appropriate contingency reserve. In projecting costs under the program, only incurred expenditures (benefits and administrative costs) attributable to insured beneficiaries are considered, since expenditures for noninsured persons are expected to be financed through general revenue transfers and premium payments rather than through payroll taxes.

The historical costs of the HI program, expressed as percentages of taxable payroll, are shown in table II.E1. The ratio of expenditures to taxable payroll has generally increased over time, rising from 0.94 percent in 1967 to 3.36 percent in 1996 and reflecting both the higher rate of increase in medical care costs than in average earnings subject to HI taxes, and the more rapid increase in the number of HI beneficiaries than in the number of covered workers. Cost rates have declined significantly in the last 4 years to 2.66 percent in 2000, due to favorable economic performance, the impact of the Balanced Budget Act of 1997, and efforts to curb fraud and abuse in the Medicare program.

The projected costs of the program under the intermediate assumptions, expressed as percentages of taxable payroll, and the income rates under current law for selected years over the 75-year

[3]Taxable payroll is the total amount of wages, salaries, tips, self-employment income, and other earnings subject to the HI payroll tax.

period 2001-2075, are shown in table II.E2. Further increases in the ratio of expenditures to taxable payroll under the intermediate assumptions result from the projection that the cost of the HI program will generally continue to increase at a higher rate than taxable earnings, as discussed later in this section. An important exception is expected during 2002 and 2003, when the Balanced Budget Act of 1997 and subsequent legislation will substantially reduce the rate of growth in HI expenditures. After 2015, as can be seen from the selected years shown in table II.E2, on a year-by-year basis the income rates under current law are projected to be insufficient, by a growing margin, to support the projected costs of the current program. By the end of the long-range projection period, tax income is estimated to cover less than one-third of the cost of the program. As a result, the program is seriously out of financial balance in the long range, and substantial measures will be required to increase revenues and/or reduce expenditures.

Table II.E1.—Historical Cost Rates of the HI Program

Calendar year	Cost rates[1]
1967	0.94%
1968	1.04
1969	1.12
1970	1.20
1971	1.32
1972	1.30
1973	1.33
1974	1.42
1975	1.69
1976	1.83
1977	1.95
1978	2.00
1979	1.99
1980	2.19
1981	2.39
1982	2.65
1983	2.67[2]
1984	2.63
1985	2.62
1986	2.54
1987	2.51
1988	2.40
1989	2.62
1990	2.70
1991	2.65
1992	2.92
1993	3.09
1994	3.15
1995	3.25
1996	3.36
1997	3.33
1998	2.99
1999	2.74
2000	2.66

[1]Estimated costs attributable to insured beneficiaries only, on an incurred basis. Benefits and administrative costs for noninsured persons are expected to be financed through general revenue transfers and premium payments, rather than through payroll taxes. Gratuitous credits for military service after 1956 are included in taxable payroll.
[2]Deemed credits for military service before 1984 were attributed to the year in which the service had occurred. If all such credits had been attributed in 1983, expenditures under the program in 1983 would have been lower by 0.18 percent of taxable payroll.

Table II.E2.—Projected Cost and Income Rates of the HI Program[1]

Calendar year	Cost rates[2]	Income rates	Difference[3]
2001	2.72%	3.06%	+0.34%
2002	2.69	3.07	+0.38
2003	2.63	3.08	+0.45
2004	2.65	3.08	+0.43
2005	2.66	3.08	+0.42
2006	2.68	3.09	+0.41
2007	2.71	3.09	+0.39
2008	2.74	3.10	+0.36
2009	2.78	3.11	+0.33
2010	2.82	3.12	+0.30
2015	3.13	3.13	0.00
2020	3.58	3.15	-0.43
2025	4.18	3.20	-0.98
2030	4.90	3.24	-1.65
2035	5.59	3.27	-2.32
2040	6.21	3.29	-2.92
2045	6.73	3.30	-3.44
2050	7.21	3.31	-3.90
2055	7.70	3.33	-4.38
2060	8.31	3.35	-4.97
2065	9.05	3.36	-5.69
2070	9.88	3.38	-6.50
2075	10.74	3.39	-7.35

[1]Under the intermediate assumptions.
[2]See footnote 1 of table II.E1.
[3]Difference between the income rates and cost rates. Negative values represent deficits.

While year-by-year comparisons are necessary to measure the adequacy of the financing of the HI program, the financial status of the program is often summarized, over a specific valuation period, by a single measure known as the actuarial balance. The actuarial balance of the HI program is defined as the difference between the summarized income rate for the valuation period and the summarized cost rate for the same period.

The summarized income rates, cost rates, and actuarial balance are based upon the present values of future income on an incurred basis, future insured costs on an incurred basis, and future taxable payroll. The present values are calculated, as of the beginning of the valuation period, by discounting the future annual amounts of income and outgo at the assumed rates of interest credited to the HI trust fund. The summarized income and cost rates over the projection period are then obtained by dividing the present value of income and cost, respectively, by the present value of taxable payroll. The difference between the summarized income rate and cost rate over

the long-range projection period, after an adjustment to take into account the fund balance at the valuation date and a target trust fund balance at the end of the valuation period, is the actuarial balance.

In keeping with a decision by the Board of Trustees that it is advisable to maintain a balance in the trust fund equal to a minimum of 1 year's expenditures, the target trust fund balance is equal to the following year's estimated costs at the end of the 75-year projection period. It should be noted that projecting an end-of-period target trust fund balance does not necessarily insure that the trust fund will maintain such a balance on a year-by-year basis.

The actuarial balance can be interpreted as the immediate, level, and permanent percentage that must be added to the current-law income rates and/or subtracted from the current-law cost rates throughout the entire valuation period in order for the financing to support program costs and provide for the targeted trust fund balance at the end of the projection period. The income rate increase according to this method is 1.97 percent of taxable payroll. However, if no changes were made until the year the trust fund would be exhausted, then the required increase would be 3.26 percent of taxable payroll under the intermediate assumptions. If changes were instead made year by year, as needed to balance each year's costs and tax revenues, then the changes would be minimal through about 2020, but would grow rapidly thereafter to more than 7 percent of taxable payroll by the end of the projection period.

The actuarial balances under all three alternative sets of assumptions, for the next 25, 50, and 75 years, as well as for each 25-year subperiod, are shown in table II.E3. The summarized income rate for the entire 75-year period under the intermediate assumptions is 3.29 percent of taxable payroll. The summarized cost of the program under the intermediate assumptions, for the entire 75-year period, is 5.26 percent. As a result, the HI program fails to meet the Trustees' long-range test of close actuarial balance by a wide margin. (Section III.F contains a summary of the requirements of this test.)[4]

[4]An alternative way of calculating actuarial status, known as the modified average-cost method, is presented in section III.A. The HI trust fund also fails the test of long-range close actuarial balance using this method.

Table II.E3.—Actuarial Balances of the HI Program, under Three Sets of Assumptions

	Intermediate assumptions	Alternative	
		Low Cost	High Cost
Valuation Periods:[1]			
25 years, 2001-2025:			
Summarized income rate	3.28%	3.26%	3.31%
Summarized cost rate	3.24	2.50	4.37
Actuarial balance	0.04	0.77	-1.07
50 years, 2001-2050:			
Summarized income rate	3.28	3.24	3.33
Summarized cost rate	4.30	2.70	7.33
Actuarial balance	-1.02	0.54	-4.01
75 years, 2001-2075:			
Summarized income rate	3.29	3.24	3.37
Summarized cost rate	5.26	3.03	9.68
Actuarial balance	-1.97	0.21	-6.31
25-year subperiods:[2]			
2001-2025:			
Summarized income rate	3.12	3.10	3.14
Summarized cost rate	3.10	2.41	4.13
Actuarial balance	0.02	0.69	-0.99
2026-2050:			
Summarized income rate	3.27	3.20	3.35
Summarized cost rate	5.79	3.01	11.35
Actuarial balance	-2.52	0.20	-8.00
2051-2075:			
Summarized income rate	3.35	3.24	3.52
Summarized cost rate	8.73	4.19	18.34
Actuarial balance	-5.38	-0.96	-14.82

[1]Income rates include beginning trust fund balances, and cost rates include the cost of attaining a trust fund balance at the end of the period equal to 100 percent of the following year's estimated expenditures.

[2]Income rates do not include beginning trust fund balances, and cost rates do not include the cost of attaining a non-zero trust fund balance at the end of the period.

Notes: 1. Cost rates are based on HI expenditures incurred for benefit payments and administrative costs for insured beneficiaries, computed on a present-value basis and expressed as a percentage of taxable payroll. The difference between the summarized income rate and the summarized cost rate is termed the actuarial balance.

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

The divergence in outcomes among the three alternatives is reflected both in the estimated operations of the trust fund on a cash basis (as discussed in section II.D) and in the 75-year summarized costs. The variations in the underlying assumptions, as shown in the next section, can be characterized as (1) moderate in terms of magnitude of the differences on a year-by-year basis, and (2) persistent over the duration of the projection period. Under the low cost alternative, the summarized program cost rate for the 75-year valuation period is 3.03 percent of taxable payroll, and the summarized income rate is 3.24 percent of taxable payroll; hence, HI income rates provided in current law would be adequate under the low cost alternative. Under the high cost alternative, the summarized program cost rate for the 75-year projection period is 9.68 percent of taxable payroll, almost three times the summarized income rate of 3.37 percent of taxable payroll.

Past experience has indicated that economic and demographic conditions that are as financially adverse as those assumed under the high cost alternative can, in fact, occur. None of the alternative projections should be viewed as unlikely or unrealistic. The wide range of results under the three alternatives is indicative of the uncertainty of the program's future cost and its sensitivity to future economic and demographic conditions. Accordingly, it is important that an adequate balance be maintained in the HI trust fund, as a reserve for contingencies, and that financial imbalances be addressed promptly through corrective legislation.

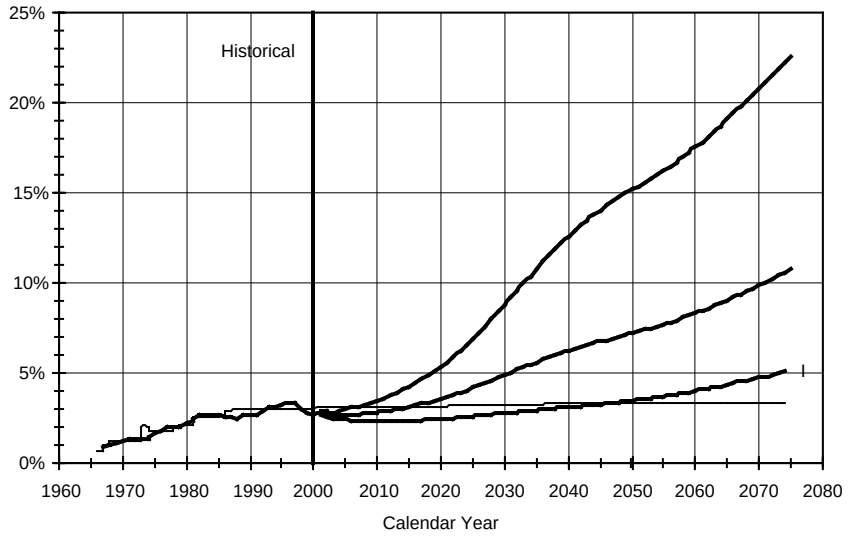
A valuation period of 75 years is needed to fully present the future contingencies that may reasonably be expected to occur, such as the impact of the large shift in the demographic composition of the population that will take place beginning in the next decade. As table II.E2 indicates, estimated expenditures under the program, expressed as percentages of taxable payroll, increase rapidly beginning around 2010. This rapid increase in costs occurs in part because the relatively large number of persons born during the period between the end of World War II and the mid-1960s (known as the baby boom) will reach retirement age and begin to receive benefits, while the relatively smaller number of persons born during later years will comprise the labor force. During the last 25 years of the projection period, the projected demographic impacts stabilize somewhat.[5]

Costs beyond the initial 25-year projection period for the intermediate estimate are based upon the assumption that average HI expenditures per beneficiary will increase at a rate of 1 percent greater than GDP per capita. Therefore, changes in the next 50 years of the projection period reflect both the impact of the changing demographic composition of the population and average benefits that increase more rapidly than average wages. Beyond the initial 25-year projection period, the low cost and high cost alternatives assume that program cost increases, relative to taxable payroll increases, are initially 2 percent less rapid and 2 percent more rapid, respectively, than the results under the intermediate assumptions. The initial 2-percent differentials are assumed to gradually decrease until the year 2050, when program cost increases (relative to taxable payroll) are assumed to be the same as under the intermediate assumptions.

[5]HI costs as a percentage of taxable payroll are projected to continue to increase due to demographic changes, reflecting assumed further improvements in life expectancy and assumed birth rates that are at roughly the same level as those experienced during the last 2 decades.

Figure II.E1 shows the year-by-year costs as a percent of taxable payroll for each of the three sets of assumptions, as well as the projected income rates. The income rates are shown only for the intermediate assumptions in order to simplify the graphical presentation—and because the variation in the income rates by alternative is very small (by 2075, the annual income rates under the low cost and high cost alternatives differ by only about 0.4 percent of taxable payroll). Figure II.E1 illustrates the magnitude of the projected financial imbalance in the HI program by displaying the divergence of the program costs and income rates under each set of assumptions. The labels "I," "II," and "III" indicate projections under the low cost, intermediate, and high cost alternatives, respectively.

Figure II.E1.—Estimated HI Cost and Income Rates as Percent of Taxable Payroll



The 75-year actuarial balance of the HI program, under the intermediate assumptions, is estimated to be −1.97 percent of taxable payroll, as shown in table II.E3. The actuarial balance under the intermediate assumptions as reported in the 2000 annual report was −1.21 percent. The major reasons for the change in the 75-year actuarial balance are summarized in table II.E4. In more detail, these changes consist of the following:

(1) Change in valuation period: Changing the valuation period from 2000-2074 to 2001-2075 adds a large deficit year to the calculation of the actuarial balance. The effect on the actuarial balance is −0.04 percent of taxable payroll.

(2) Updating the projection base: The cost as a percent of payroll for 2000 was less than estimated in last year's report. In the absence of other changes, starting the projection from the lower actual cost rate in 2000 results in a permanently lower level of projected costs and higher level of projected income, with an average improvement in the actuarial balance of +0.17 percent of taxable payroll.

(3) Managed care assumptions: Reductions in the projected levels of managed care enrollment result in a +0.30 percent change in the actuarial balance. Under the current reimbursement mechanism for Medicare+Choice plans, even with implementation of improved risk adjustment methods, reimbursement for managed care enrollees is estimated to somewhat exceed their average fee-for-service costs. This estimated loss to the HI trust fund is reduced because of the lower enrollment assumption. In addition, based on the recommendation of the 2000 Medicare Technical Review Panel, the average fee-for-service expenditures for beneficiaries in the 12 months prior to their enrollment in a Medicare+Choice plan are assumed to be closer to average expenditure levels than previously assumed. This assumption change affects the estimation of past fee-for-service expenditure growth trends, thereby resulting in a lower trend expenditure projection for beneficiaries remaining in fee-for-service. Medicare+Choice payment projections are also affected (indirectly) by the lower fee-for-service growth trend, which determines Medicare capitation payment updates.

(4) Hospital assumptions: Changes in the hospital assumptions described in the next section result in a −0.41 percent change in the actuarial balance. The primary assumptions contributing to this change are (1) a higher assumed trend in case-mix growth, as recommended by the 2000 Medicare Technical Review Panel, and (2) assumed growth in hospital wages equal to wage growth in the general economy for the next 3 years (which is somewhat higher than that assumed in last year's report).

(5) Other provider assumptions: Changes to the non-hospital provider utilization and price assumptions result in a +0.02 percent change in the actuarial balance. The primary factor is a lower assumed number of covered days

for skilled nursing facilities, due to data from the early years of the prospective payment system.

(6) Legislation: Changes as explained in section II.A of this report result in a −0.03 percent change in the actuarial balance.

(7) Economic and demographic assumptions: Changes in the economic and demographic assumptions described in the next section result in a +0.08 percent improvement in the actuarial balance. The economic assumption changes include an increase in the short-range wage growth rates, which increase the present value of taxable payroll.[6]

(8) Long-range assumptions: As noted elsewhere in this report, the 2000 Medicare Technical Review Panel recommended increasing the long-range Medicare growth rate assumptions. Previously, average HI expenditures per beneficiary (excluding demographic impacts) were assumed to increase in the last 50 years of the projection period at the same rate as average hourly earnings in the economy. Based on the recommendation of the expert panel, the Trustees have raised this growth assumption to the increase in per capita GDP plus 1 percentage point, which is approximately 1 percent faster than the prior assumption. This change results in substantially higher expenditure levels in the later years of the projection period. Also, estimated expenditure growth rates for years 11 to 25 were increased slightly to grade smoothly into the new long-range assumption.

Table II.E4.—Change in the 75-Year Actuarial Balance since the 2000 Report

1. Actuarial balance, intermediate assumptions, 2000 report	-1.21%
2. Changes:	
a. Valuation period	-0.04
b. Base estimate	+0.17
c. Managed care assumptions	+0.30
d. Hospital assumptions	-0.41
e. Other provider assumptions	+0.02
f. Legislation	-0.03
g. Economic and demographic assumptions	+0.08
h. Long-range assumptions	-0.85
Net effect, above changes	-0.76
3. Actuarial balance, intermediate assumptions, 2001 report	-1.97

[6]Increased wages also increase HI expenditures, but to a lesser extent than taxable payroll.

F. ACTUARIAL METHODOLOGY AND PRINCIPAL ASSUMPTIONS FOR THE HOSPITAL INSURANCE COST ESTIMATES

This section describes the basic methodology and assumptions used in the estimates for the HI program under the intermediate assumptions. In addition, projections of program costs under two alternative sets of assumptions are presented.

1. Assumptions

The economic and demographic assumptions underlying the projections shown in this report are consistent with those in the 2000 Annual Report of the Board of Trustees of the Federal Old-Age and Survivors Insurance and Disability Insurance Trust Funds. These assumptions are described in more detail in that report.

2. Program Cost Projection Methodology

The principal steps involved in projecting the future costs of the HI program are (1) establishing the present cost of services provided to beneficiaries, by type of service, to serve as a projection base; (2) projecting increases in payments for inpatient hospital services under the program; (3) projecting increases in payments for skilled nursing, home health, and hospice services covered under the program; (4) projecting increases in payments to managed care plans; and (5) projecting increases in administrative costs. The major emphasis is directed toward expenditures for fee-for-service inpatient hospital services, which account for approximately 68 percent of total benefits.

a. Projection Base

To establish a suitable base from which to project the future costs of the program, the incurred payments for services provided must be reconstructed for the most recent period for which a reliable determination can be made. Therefore, payments to providers must be attributed to dates of service, rather than to payment dates; in addition, the nonrecurring effects of any changes in regulations, legislation, or administration of the program, and of any items affecting only the timing and flow of payments to providers, must be eliminated. As a result, the rates of increase in the incurred cost of the program differ from the increases in cash disbursements shown in tables II.D1 and II.D2.

For those expenses still reimbursed on a reasonable-cost basis, the costs for covered services are determined on the basis of provider cost reports. Payments to a provider initially are made on an interim basis; to adjust interim payments to the level of retroactively determined costs, a series of payments or recoveries is effected through the course of cost settlement with the provider. The net amounts that have been paid to date to providers in the form of cost settlements are known; however, the incomplete data available do not permit a precise determination of the exact amounts incurred during a specific period of time. Due to the time required to obtain cost reports from providers, to verify these reports, and to perform audits (where appropriate), final settlements have lagged behind the original costs by as much as several years for some providers. Hence, the final cost of services reimbursed on a reasonable-cost basis has not been completely determined for the most recent years of the program, and some degree of uncertainty remains even for earlier years.

Additional problems are posed by changes in legislation or regulation, or in administrative or reimbursement policy, which can have a substantial effect on either the amount or incidence of payment. The extent and timing of the incorporation of such changes into interim payment rates and cost settlement amounts cannot be determined precisely.

The process of allocating the various types of payments made under the program to the proper incurred period—using incomplete data and estimates of the impact of administrative actions—presents difficult problems, the solutions to which can be only approximate. Under the circumstances, the best that can be expected is that the actual incurred cost of the program for a recent period can be estimated within a few percent. This process increases the projection error directly, by incorporating any error in estimating the base year into all future years.

b. Fee-for-Service Payments for Inpatient Hospital Costs

Beginning with hospital accounting years starting on or after October 1, 1983, the HI program began paying almost all participating hospitals a prospectively determined amount for providing covered services to beneficiaries. With the exception of certain expenses reimbursed on a reasonable-cost basis, as defined by law, the payment rate for each admission depends upon the DRG to which the admission belongs.

The law stipulates that the annual increase in the payment rate for each admission will be related to a hospital input price index (also known as the hospital market basket), which measures the increase in prices for goods and services purchased by hospitals for use in providing care to hospital inpatients. For fiscal year 2001, the prospective payment rates have already been determined. The projections contained in this report are based on the assumption that for fiscal years 2002-2003, the prospective payment rates will be increased by the increase in the hospital input price index, less the percentages specified by Public Law 106-554, the Benefits Improvement and Protection Act of 2000. For fiscal years 2004 and later, current statute mandates that the annual increase in the payment rate per admission equal the annual increase in the hospital input price index.

Increases in aggregate payments for inpatient hospital care covered under the HI program can be analyzed in five broad categories, all of which are presented in table II.F1:

(1) Labor factors—the increase in the hospital input price index that is attributable to increases in hospital workers' hourly earnings (including fringe benefits);

(2) Non-labor factors—the increase in the hospital input price index that is attributable to factors other than hospital workers' hourly earnings, such as the costs of energy, food, and supplies;

(3) Unit input intensity allowance—the amount added to or subtracted from the input price index (generally as a result of legislation) to yield the prospective payment update factor;

(4) Volume of services—the increase in total output of units of service (as measured by hospital admissions covered by the HI program); and

(5) Other sources—a residual category, reflecting all other factors affecting hospital cost increases (such as intensity increases).

Table II.F1 shows the estimated values of the principal components of the increases for historical periods for which data are available, as well as the projected trends used in the estimates. Unless otherwise indicated, the following discussions apply to projections under the intermediate assumptions.

Table II.F1.—Components of Historical and Projected Increases in HI Inpatient Hospital Payments[1]

	Labor			Non-labor					Units of service				
Calendar year	Average hourly earnings	Hospital hourly earnings differential	Hospital hourly earnings	CPI	Hospital price input intensity	Non-labor hospital prices	Input price index	Unit input intensity allowance[2]	HI enrollment	Managed care shift effect	Admission incidence	Other sources	HI inpatient hospital payments
Historical Data:													
1991	3.9%	0.8%	4.7%	4.1%	-1.2%	2.8%	4.0%	-0.6%	2.1%	-0.3%	1.1%	-0.2%	6.2%
1992	6.3	-2.3	3.9	2.9	-0.9	2.0	3.2	-0.3	2.1	-0.4	0.0	7.0	11.9
1993	1.4	2.1	3.5	2.8	-0.6	2.2	3.0	-0.3	2.1	-0.6	2.8	-1.3	5.8
1994	1.7	1.4	3.1	2.5	-0.6	1.9	2.7	-0.7	1.8	-1.0	2.4	1.7	7.1
1995	3.3	-0.7	2.6	2.9	1.1	4.0	3.1	-1.0	1.7	-2.0	2.4	0.4	4.7
1996	4.9	-2.0	2.8	2.9	-1.5	1.4	2.3	-0.7	1.4	-2.7	2.8	1.8	5.0
1997	4.2	-1.4	2.7	2.3	-1.2	1.1	2.1	-0.8	1.1	-3.2	3.5	-0.5	2.0
1998	5.2	-1.8	3.3	1.3	1.2	2.5	3.0	-2.6	1.0	-3.1	1.1	-0.7	-1.4
1999	4.9	-1.6	3.2	2.2	-0.9	1.3	2.5	-2.2	0.9	-1.8	0.2	0.9	0.5
2000	4.8	-0.7	4.1	3.5	-0.1	3.4	3.8	-2.2	1.0	0.3	0.3	0.3	3.6
Projection:[3]													
2001	3.8	0.1	3.9	3.0	-0.6	2.4	3.4	-0.2	1.1	2.0	-0.5	2.9	8.9
2002	4.0	0.0	4.0	2.9	-0.4	2.5	3.4	-0.7	1.0	-0.2	0.6	1.2	5.4
2003	3.9	0.0	3.9	3.0	-0.2	2.8	3.5	-0.4	1.2	-0.2	0.2	0.3	4.6
2004	4.1	0.0	4.1	3.1	0.0	3.1	3.7	0.0	1.3	-0.2	0.1	0.6	5.7
2005	4.2	0.0	4.2	3.2	0.0	3.2	3.8	0.0	1.4	0.1	0.0	0.6	5.9
2006	4.3	0.0	4.3	3.3	0.0	3.3	3.9	0.0	1.5	-0.2	0.0	0.6	6.0
2007	4.1	0.0	4.1	3.3	0.0	3.3	3.8	0.0	1.8	-0.2	-0.2	0.7	6.1
2008	4.3	0.0	4.3	3.3	0.0	3.3	3.9	0.0	2.1	-0.3	-0.3	0.6	6.2
2009	4.4	0.0	4.4	3.3	0.0	3.3	4.0	0.0	2.1	-0.3	-0.3	0.6	6.2
2010	4.3	0.0	4.3	3.3	0.0	3.3	4.0	0.0	2.0	-0.4	-0.1	0.7	6.2
2015	4.4	0.0	4.4	3.3	0.0	3.3	4.0	0.0	2.9	-0.2	-0.4	0.7	7.2
2020	4.4	0.0	4.4	3.3	0.0	3.3	4.0	0.0	2.9	-0.1	-0.2	0.8	7.6
2025	4.4	0.0	4.4	3.3	0.0	3.3	4.1	0.0	2.5	-0.1	0.2	0.8	7.6

[1]Percent increase in year indicated over previous year, on an incurred basis.
[2]Reflects the allowances provided for in the prospective payment update factors.
[3]Under the intermediate assumptions.

Note: Historical and projected data reflect the hospital input price index, which was recalibrated to a 1992 base year in 1997.

Increases in hospital workers' hourly earnings can be analyzed and projected in terms of (1) the assumed increases in hourly earnings in employment in the general economy, and (2) the difference between increases in hourly earnings in the general economy and the hospital hourly earnings used in the hospital input price index.[7] Since the beginning of the HI program, the differential between hospital workers' hourly earnings and hourly earnings in the general economy has fluctuated widely. This differential has averaged about −0.6 percent since 1991, and is assumed to gradually increase, leveling off to zero for most of the projection period.

Non-labor cost increases can similarly be analyzed in terms of a known, economy-wide price measure (the CPI) and a differential between the CPI and hospital-specific prices. This latter factor, the hospital price input intensity increase, reflects price increases for non-labor goods and services that are purchased by hospitals and that do not parallel increases in the CPI. Although the price input intensity level has fluctuated erratically in the past, it has averaged about −0.5 percent during 1991-2000. Over the short term, hospital price input intensity is also assumed to gradually increase, leveling off to zero for most of the projection period.

The final input price index is calculated as a weighted average of the labor and non-labor factors described above. The weights reflect the relative use of each factor by hospitals (currently about 60 percent labor and 40 percent non-labor).

For those years after the beginning of the prospective payment system (PPS), the unit input intensity allowance is the adjustment provided for by law in the prospective payment update factor; that is, the unit input intensity allowance is the amount added onto (or more commonly subtracted from) the input price index to yield the update factor. (It should be noted that the update factors are generally prescribed on a fiscal-year basis, while table II.F1 is on a calendar-year basis. Calculations have therefore been performed to estimate the unit input intensity allowance on a calendar-year basis.)

For fiscal years 1998-2003, the allowances are prescribed in the Balanced Budget Act of 1997 as revised by the Balanced Budget Refinement Act of 1999 and the Benefits Improvement and Protection Act of 2000. Beginning in fiscal year 2004, the law provides that

[7]In establishing the hospital input price index, a "proxy" measure of hospital hourly earnings is used to estimate actual earnings.

future increases in payments to participating hospitals for covered admissions will equal the increase in the hospital input price index. Thus, the unit input intensity allowance, as indicated in table II.F1, is assumed to equal zero for the rest of the years in the first 25-year projection period.

Increases in payments for inpatient hospital services also reflect increases in units (volume) of service as measured by increases in inpatient hospital admissions covered under the HI program. As shown in table II.F1, increases in admissions are attributable to increases in both fee-for-service enrollment under the HI program and admission incidence (admissions per beneficiary). The historical and projected increases in enrollment reflect an increase in the population aged 65 and over that is more rapid than in the total population of the United States, as well as the coverage of certain disabled beneficiaries and persons with end-stage renal disease. Increases in the enrollment are expected to continue, mirroring the ongoing demographic shift into categories of the population that are eligible for HI protection. The choice of more beneficiaries to enroll in managed care plans is, however, an offsetting effect, which is shown in the managed care shift effect column of table II.F1. In addition, increases in the average age of beneficiaries lead to higher levels of admission incidence.[8] These levels are also often affected by changes in the laws and regulations that define and guide the HI program's coverage of inpatient hospital care.

Since the beginning of the PPS, increases in inpatient hospital payments from other sources are primarily due to three factors: (1) the changes in DRG coding as hospitals continue to adjust to the PPS; (2) the trend toward treating less complicated (and thus, less expensive) cases in outpatient settings, resulting in an increase in the average prospective payment per admission; and (3) legislation affecting the payment rates. The impact of several budget reconciliation acts, sequesters as required by the Gramm-Rudman-Hollings Act, and additional legislative effects are reflected in other sources, as appropriate. Based on a recommendation by the 2000 Medicare Technical Review Panel, the average complexity of hospital admissions (case mix) is expected to remain level in fiscal year 2001 and then to increase for fiscal years 2002 through 2025 by 1.0 percent annually—as a result of an

[8]For 2010-2020, this factor is estimated to be negative, reflecting the influx of age-65 beneficiaries (and the resulting reduction in the average age of beneficiaries) due to the retirement of the baby boom. By 2025, the aging of the baby boom is expected to increase the incidence of admissions.

assumed continuation of the current trend toward treating less complicated cases in outpatient settings, ongoing changes in DRG coding, and the overall impact of new technology. Last year's report assumed that the case-mix factor would increase by 0.5 percent annually during this period. Additionally, part of the increase from other sources can be attributed to the increase in payments for certain costs, not included in the DRG payment, that are generally increasing at a rate slower than the input price index. Other possible sources of both relative increases and decreases in payments include (1) a shift to more or less expensive admissions (DRGs) due to changes in the demographic characteristics of the covered population; (2) changes in medical practice patterns; and (3) adjustments in the relative payment levels for various DRGs, or addition/deletion of DRGs, in response to changes in technology. As experience under the PPS continues to develop and is further analyzed, it may be possible to establish a more predictable trend for this component.

The increases in the input price index (less any intensity allowance specified in the law), units of service, and other sources are compounded to calculate the total increase in payments for inpatient hospital services. These overall increases are shown in the last column of table II.F1.

c. Fee-for-Service Payments for Skilled Nursing Facility (SNF), Home Health Agency (HHA), and Hospice Services

Historical experience with the number of days of care covered in SNFs under the HI program has been characterized by wide swings. The number of covered days dropped very sharply in 1970 and continued to decrease through 1972. This decline was the result of strict enforcement of regulations separating skilled nursing care from custodial care and reflected, rather than reduced usage of services, primarily the determination that Medicare was not liable for payment. The 1972 amendments extended benefits to persons who require skilled rehabilitative services regardless of their need for skilled nursing services (which was the former prerequisite for benefits). This and subsequent related changes in regulations have culminated in significant increases in the number of services covered by the program. Changes made in 1988 to coverage guidelines for SNF services—and expansions and changes due to the Medicare Catastrophic Coverage Act of 1988, effective January 1, 1989—resulted in large increases in utilization of SNF services. A reduction in utilization took place in 1990-1991, consistent with the provisions of the Medicare Catastrophic Coverage Repeal Act of 1989. Then from

1991 to 1998, large (but gradually decreasing) increases in SNF utilization occurred. At the start of the PPS in 1999 and 2000, there were large decreases in utilization. Projections reflect modest increases in covered days based on growth and aging of the population.

Increases in the average cost per day[9] in SNFs under the program are caused principally by increasing payroll costs for nurses and other required skilled labor. From 1991 through 1996, large rates of increase in cost per day occurred due to nursing home reform regulations. For 1997 and 1998, this increase was smaller than the previous 6 years, but still large by historical standards. Projected rates of increase in cost per day are assumed to decline to a level slightly higher than increases in general earnings throughout the projection period. For 1998 and later, adjustments are included to reflect the implementation of the new PPS for SNFs, as required by the Balanced Budget Act of 1997. Increases in reimbursement per day reflect the changes in beneficiary cost sharing amounts, including those changes that are attributable to the catastrophic coverage and catastrophic coverage repeal legislation and also special temporary provisions from the Balanced Budget Refinement Act of 1999 and the Benefits Improvement and Protection Act of 2000.

The resulting increases in fee-for-service expenditures for SNF services are shown in table II.F2.

[9]Cost is defined to be the total of program reimbursement and beneficiary cost sharing.

Table II.F2.—Relationship between Increases in HI Program Expenditures and Increases in Taxable Payroll[1]

Calendar year	Inpatient hospital[2,3]	Skilled nursing facility[3]	Home health agency[3]	Managed care	Weighted average[3,4]	HI administrative costs[3,5]	HI program expenditures[3,5]	HI taxable payroll	Ratio of expenditures to payroll[6]
Historical Data:									
1991	5.6%	16.9%	42.9%	12.5%	8.8%	32.0%	9.1%	11.0%	-1.7%
1992	11.9	45.8	39.5	20.9	15.9	5.7	15.7	5.0	10.2
1993	5.6	34.3	31.5	30.7	10.5	-17.0	10.1	4.1	5.7
1994	6.9	42.9	33.1	33.0	13.7	31.6	13.9	11.7	2.0
1995	4.6	19.5	18.1	39.1	9.6	-1.6	9.4	6.1	3.1
1996	5.1	19.5	8.3	45.3	9.6	3.0	9.5	5.7	3.6
1997	1.9	16.0	-1.5	39.9	6.3	26.3	6.5	7.6	-1.0
1998	-1.5	-0.6	-41.5	20.3	-3.7	6.4	-3.5	7.6	-10.3
1999	0.4	-18.9	-29.0	10.3	-1.9	3.0	-1.8	6.9	-8.2
2000	3.7	6.4	-7.2	2.3	3.2	38.0	3.7	6.9	-2.9
Projection:[7]									
2001	9.0	24.6	4.4	-2.7	8.0	1.4	7.9	5.5	2.3
2002	5.4	2.9	0.5	0.9	4.3	6.1	4.3	5.5	-1.2
2003	4.6	-5.3	-18.9	3.4	2.4	5.0	2.4	5.0	-2.5
2004	5.7	8.3	9.6	5.1	6.0	3.4	5.9	5.1	0.8
2005	5.9	8.4	6.8	4.4	5.9	3.2	5.9	5.2	0.6
2006	6.0	8.0	6.8	5.1	6.0	3.2	6.0	5.2	0.8
2007	6.1	7.1	6.7	5.1	6.0	3.3	6.0	5.0	0.9
2008	6.2	7.0	6.5	8.1	6.5	3.5	6.5	5.0	1.4
2009	6.2	7.0	5.7	8.3	6.6	3.5	6.5	5.1	1.4
2010	6.2	7.0	5.7	8.8	6.6	3.4	6.6	5.0	1.5
2015	7.2	7.0	6.2	8.1	7.2	4.4	7.2	4.8	2.3
2020	7.6	7.8	7.1	8.1	7.7	4.9	7.6	4.6	2.9
2025	7.6	8.5	7.7	8.4	7.8	5.1	7.8	4.6	3.1

[1]Percent increase in year indicated over previous year.
[2]This column may differ slightly from the last column of table II.F1, since table II.F1 includes all persons eligible for HI protection while this table excludes noninsured persons.
[3]Costs attributable to insured beneficiaries only, on an incurred basis. Benefits and administrative costs for noninsured persons are expected to be financed through general revenue transfers and premium payments, rather than through payroll taxes.
[4]Includes costs for hospice care.
[5]Includes costs of Peer Review Organizations.
[6]Percent increase in the ratio of program expenditures to taxable payroll. This is equivalent to the differential between the increase in program costs and the increase in taxable payroll.
[7]Under the intermediate assumptions.

Until recently, program experience with HHA payments had shown a generally upward trend. The number of visits had increased sharply from year to year, though some decreases, albeit small in magnitude relative to past increases, were experienced in the mid-1980s, then followed by modest increases. During 1989-1995, however, extremely large increases in the number of visits occurred. Growth slowed dramatically in 1996 and 1997, in part as a result of intensified efforts to identify fraudulent activities in this area. The growth in the benefit was dramatically affected by the enactment of the Balanced Budget Act of 1997, which introduced interim per beneficiary cost limits, at levels resulting in substantially lower aggregate payments. These cost limits were used until the PPS was implemented in October 2000. For 1998 and 1999, large decreases in utilization have been observed, with preliminary data showing a small further decline

in 2000. For 2001 and the projection period, modest increases are assumed, based on growth and aging of the population.

In addition, beginning in 1998, about two-thirds of the HHA services are transferred from the HI program to the SMI program, but with a portion of the cost of the transferred services met through the HI trust fund during a 6-year transitional period. The HHA estimates shown in this report represent the total cost to the HI program from (1) HI-covered HHA services, and (2) the transitional payments to the SMI trust fund for the applicable portion of SMI HHA costs, as specified by the Balanced Budget Act of 1997. Reimbursement per episode is assumed to increase at a slightly higher rate than increases in general earnings, but adjustments to reflect legislation limiting HHA reimbursement per episode are included where appropriate. In particular, present law specifies that payments will be equivalent to a 15-percent reduction in the interim cost limits, effective October 2002. The resulting increases in fee-for-service expenditures for HHA services are shown in table II.F2.

Coverage of certain hospice care for terminally ill beneficiaries resulted from the enactment of the Tax Equity and Fiscal Responsibility Act of 1982. These hospice payments are very small relative to total program benefit payments, but they have grown rapidly in most years. This growth rate slowed dramatically in recent years but rebounded sharply in 1999 and 2000. Although detailed hospice data are scant at this time, estimates for hospice benefit payment increases are based on mandated daily payment rates and annual payment caps, and they assume modest growth in the number of covered days. Increases in hospice payments are not shown separately in table II.F2 due to their extremely small contribution to the weighted average increase for all HI types of service; they are, however, included in the average.

d. Managed Care Costs

Program experience with managed care payments has shown an upward trend. Per capita amounts have increased following the same trend as fee-for-service per capita growth, based on the formula in the law to calculate managed care capitation amounts. The projection of future per capita amounts follows the requirements of the Balanced Budget Act of 1997, as modified by the Balanced Budget Refinement Act of 1999 and the Benefits Improvement and Protection Act of 2000, with capitation updates based on the per capita growth for all of Medicare, less specified adjustments in 1998 to 2002.

The major reason for the large growth in HI managed care expenditures has been the increase in managed care enrollment. This growth in enrollment was quite large in the early 1980s, slowed in the late 1980s, then increased very rapidly through the mid-1990s. Recently, the growth has slowed to a more moderate level. The projection reflects a significant decrease in 2001, based on preliminary plan enrollment data, followed by slow increases in the next few years as the provisions in the Balanced Budget Act of 1997 (as subsequently modified) continue to limit growth in capitation rates. Thereafter, Medicare+Choice enrollment is assumed to gradually reaccelerate somewhat.

e. Administrative Expenses

The cost of administering the HI program has remained relatively small, in comparison with benefit amounts, throughout the history of the program. The ratio of administrative expenses to benefit payments has generally fallen within the range of 1 to 3 percent. The short-range projection of administrative cost is based on estimates of workloads and approved budgets for intermediaries and HCFA. In the long range, administrative cost increases are based on assumed increases in workloads, primarily due to growth and aging of the population, and on assumed unit cost increases of slightly less than the increases in average hourly earnings that are shown in table II.F1.

3. Financing Analysis Methodology

To analyze costs and evaluate the financing of a program supported by payroll taxes, program costs must be compared on a year-by-year basis with the taxable payroll, which provides most of the source of income for these costs. Since the vast majority of total program costs are related to insured beneficiaries, and since general revenue appropriations and premium payments are expected to support the uninsured segments, the remainder of this report will focus on the financing for insured beneficiaries only.

a. Taxable Payroll

Taxable payroll increases occur as a result of increases in both average covered earnings and the number of covered workers. The taxable payroll projection used in this report is based on economic assumptions that are consistent with those used in the OASDI report. The projected increases in taxable payroll for this report, under the intermediate assumptions, are shown in table II.F2.

b. Relationship between Program Costs and Taxable Payroll

The single most meaningful measure of program cost increases, with reference to the financing of the system, is the relationship between program cost increases and taxable payroll increases. If program costs increase more rapidly than taxable payroll, either income rates must be increased or program costs reduced (or some combination thereof) to finance the system in the future. Table II.F2 shows the projected increases in program costs relative to taxable payroll over the first 25-year projection period. These relative increases are negative for 2002 and 2003, due to the home health benefit being shifted out of the HI program and because of the other savings provisions in the recent legislation. Thereafter, the increases grow to the range of 0.8 to 1.5 percent per year until 2010, and then to a level of about 3.1 percent per year by 2025 for the intermediate assumption, as the post-World War II baby boom population becomes eligible for benefits.

The result of these relative growth rates is initially a reduction in the cost of the HI program as a percentage of taxable payroll, followed by a steady increase in the year-by-year ratios of program expenditures to taxable payroll, as shown in table II.F3. Under the low cost alternative, increases in program expenditures follow a similar pattern relative to increases in taxable payroll, but at a somewhat lower rate; the rate becomes slightly lower than the rate for taxable payroll by 2010 but then increases, reaching about 1.1 percent more per year than taxable payroll by 2025. The high cost alternative follows a comparable pattern but at a somewhat higher rate than under the intermediate assumptions, gradually becoming about 3.3 percent more than taxable payroll by 2010 and then increasing to about 5.1 percent more than taxable payroll by 2025.

Table II.F3.—Summary of Alternative Projections for the HI Program

Calendar year	Increases in aggregate HI inpatient hospital payments[1]: Average hourly earnings	CPI	Other factors[2]	Total[3]	Changes in the relationship between expenditures and payroll[1]: Program expenditures[3,4,5]	Taxable payroll	Ratio of expenditures to payroll	Expenditures as a percent of taxable payroll[3,4,5]
Intermediate:								
2001	3.8%	3.0%	5.3%	8.9%	7.9%	5.5%	2.3%	2.72%
2002	4.0	2.9	1.7	5.4	4.3	5.5	-1.2	2.69
2003	3.9	3.0	1.0	4.6	2.4	5.0	-2.5	2.63
2004	4.1	3.1	1.9	5.7	5.9	5.1	0.8	2.65
2005	4.2	3.2	2.0	5.9	5.9	5.2	0.6	2.66
2006	4.3	3.3	1.9	6.0	6.0	5.2	0.8	2.68
2007	4.1	3.3	2.2	6.1	6.0	5.0	0.9	2.71
2008	4.3	3.3	2.2	6.2	6.5	5.0	1.4	2.74
2009	4.4	3.3	2.1	6.2	6.5	5.1	1.4	2.78
2010	4.3	3.3	2.2	6.2	6.6	5.0	1.5	2.82
2015	4.4	3.3	3.0	7.2	7.2	4.8	2.3	3.13
2020	4.4	3.3	3.4	7.6	7.6	4.6	2.9	3.58
2025	4.4	3.3	3.4	7.6	7.8	4.6	3.1	4.18
Low Cost:								
2001	4.0	3.0	2.1	5.8	5.4	5.9	-0.5	2.65
2002	4.0	2.6	0.0	3.5	2.5	5.8	-3.1	2.57
2003	3.6	2.4	-0.7	2.4	0.5	5.0	-4.3	2.46
2004	3.6	2.3	0.3	3.4	3.8	5.0	-1.1	2.43
2005	3.7	2.3	0.4	3.6	3.7	5.0	-1.2	2.40
2006	3.7	2.3	0.4	3.7	3.8	5.0	-1.2	2.37
2007	3.6	2.3	0.6	3.7	3.7	4.8	-1.0	2.35
2008	3.7	2.3	0.6	3.8	4.2	4.7	-0.5	2.34
2009	3.8	2.3	0.6	3.9	4.2	4.7	-0.4	2.33
2010	3.7	2.3	0.6	3.8	4.3	4.6	-0.3	2.32
2015	3.8	2.3	1.4	4.7	4.8	4.4	0.4	2.34
2020	3.8	2.3	1.7	5.1	5.2	4.2	0.9	2.43
2025	3.8	2.3	1.8	5.2	5.4	4.2	1.1	2.58
High Cost:								
2001	1.9	3.1	9.0	11.6	10.0	3.1	6.7	2.84
2002	2.8	3.4	3.3	6.4	5.3	3.6	1.6	2.89
2003	7.1	5.0	1.4	7.8	5.4	7.7	-2.1	2.83
2004	4.0	6.1	2.9	7.8	7.9	4.4	3.4	2.93
2005	4.7	4.4	3.4	8.1	8.1	5.0	2.9	3.01
2006	6.7	3.8	3.6	9.5	9.4	7.2	2.0	3.07
2007	5.6	4.1	4.0	9.3	9.1	6.1	2.9	3.16
2008	5.1	4.3	3.9	9.0	9.2	5.6	3.4	3.27
2009	5.1	4.3	3.8	8.9	9.1	5.5	3.3	3.37
2010	5.1	4.3	3.8	8.8	9.1	5.6	3.3	3.49
2015	5.1	4.3	4.6	9.6	9.6	5.2	4.2	4.24
2020	5.1	4.3	5.0	10.1	10.1	5.0	4.8	5.33
2025	5.1	4.3	5.0	10.1	10.3	5.0	5.1	6.84

[1]Percent increase for the year indicated over the previous year.
[2]Other factors include hospital hourly earnings, hospital price input intensity, unit input intensity allowance, units of service as measured by admissions, and additional sources.
[3]On an incurred basis.
[4]Includes expenditures attributable to insured beneficiaries only.
[5]Includes hospital, SNF, HHA, managed care, and hospice expenditures; administrative costs; and costs of Peer Review Organizations.

4. Projections under Alternative Assumptions

In almost every year since the beginning of the program, average HI expenditures per beneficiary have increased substantially faster than increases in average earnings and prices in the general economy. Table II.F2 shows the estimated past experience of the HI program from 1991 to 2000. As mentioned earlier, the HI program now makes most payments to hospitals on a prospective basis. Payments to skilled nursing facilities have been made prospectively since mid-1998, and home health reimbursement became prospective in October 2000. The prospective payment systems have made (and are expected to continue to make) the outlays of the HI program potentially less vulnerable to excessive rates of growth in the health care industry. However, there is still considerable uncertainty in projecting HI expenditures—for inpatient hospital services as well as other types of covered services—due to the uncertainty of the underlying economic assumptions and utilization increases. Uncertainty in projecting HI expenditures also exists because of the possibility that future legislation will affect unit payment levels, particularly for inpatient hospital services. Although current law is assumed throughout the estimates shown in this report, legislation has been enacted affecting the payment levels to hospitals for the past 15 years and the next 2 years, and future legislation is probable.

In view of the uncertainty of future cost trends, projected costs for the HI program have been prepared under three alternative sets of assumptions. A summary of the assumptions and results is shown in table II.F3. The set of assumptions labeled "Intermediate" forms the basis for the detailed discussion of hospital cost trends and resulting program costs presented throughout this report. It represents intermediate cost increase assumptions, compared with the lower cost and higher cost alternatives. Increases in the economic factors (average hourly earnings and CPI) for the three alternatives are consistent with those underlying the OASDI report.

As noted earlier, the single most meaningful measure of HI program cost increases, with reference to the financing of the system, is the relationship between program cost increases and taxable payroll increases. The extent to which program cost increases exceed increases in taxable payroll will determine how steeply income rates must be increased, or program costs curtailed, to finance the system over time.

By the end of the first 25-year projection period, program costs are projected to increase about 3.1 percent faster per year than increases in taxable payroll under the intermediate assumptions, as discussed in section II.F3. Program costs beyond the first 25-year projection period are based on the assumption that average per beneficiary expenditures (excluding demographic impacts) will increase at a rate of 1 percent faster than GDP per capita. Program expenditures, which were about 2.7 percent of taxable payroll in 2000, increase to about 4.2 percent by the year 2025 and to about 10.7 percent by the year 2075 under the intermediate assumptions. Hence, if all of the projection assumptions are realized over time, the HI income rates provided in current law (3.29 percent of taxable payroll) will be grossly inadequate to support the cost of the program.

During the first 25-year projection period, the low cost and high cost alternatives contain assumptions that result in program costs increasing, relative to taxable payroll increases, approximately 2 percentage points less rapidly and 2 percentage points more rapidly, respectively, than the results under the intermediate assumptions. Costs beyond the first 25-year projection period assume that the 2-percentage-point differential gradually decreases until the year 2050, when program cost increases relative to taxable payroll are approximately the same as under the intermediate assumptions. Under the low cost alternative, program expenditures would be about 2.6 percent of taxable payroll in the year 2025, increasing to about 5.2 percent of taxable payroll by 2075. Under the high cost alternative, program expenditures in the year 2025 would increase to about 6.8 percent of taxable payroll, and to about 22.6 percent of taxable payroll in 2075.

G. LONG-RANGE SENSITIVITY ANALYSIS

This section presents estimates that illustrate the sensitivity of the long-range cost rate and actuarial balance of the HI program to changes in selected individual assumptions. The estimates based on the three alternative sets of assumptions (that is, intermediate, low cost, and high cost) demonstrate 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 projected financial status of the HI program. In the sensitivity analysis presented in this section, the intermediate set of assumptions is used as the reference point, and one assumption at a time is varied within that alternative. Similar variations in the selected assumptions

within the other alternatives would result in similar variations in the long-range estimates.

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

1. Real-Wage Differential

Table II.G1 shows the estimated HI income rates, cost rates, and actuarial balances on the basis of the intermediate assumptions, with various assumptions about the real-wage differential. These assumptions are that the ultimate real-wage differential will be 0.5 percentage point (as assumed for the high cost alternative), 1.0 percentage point (as assumed for the intermediate assumptions), and 1.5 percentage points (as assumed for the low cost alternative). In each case, the ultimate annual increase in the CPI is assumed to be 3.3 percent (as assumed for the intermediate assumptions), yielding ultimate percentage increases in average annual wages in covered employment of 3.8, 4.3, and 4.8 percent under the three illustrations, respectively.

Past increases in real earnings have exhibited substantial variation. During 1951-1970, real earnings grew by an average of 2.2 percent per year. During 1972-1996, however, the average annual increase in real earnings amounted to only 0.53 percent.[10] The possibility of continuing poor performance in real-wage growth is a matter of some concern to analysts and policy makers; thus, the sensitivity of HI costs to future real-wage growth is important. As shown in table II.G1, projected HI costs are, in fact, fairly sensitive to the assumed growth rates in real wages. For the 75-year period 2001-2075, the summarized cost rate decreases from 5.54 percent (for

[10]This period was chosen because it begins and ends with years in which the economy reached full employment. The period thus allows measurement of trend growth over complete economic cycles.

a real-wage differential of 0.5 percentage point) to 5.08 percent (for a differential of 1.5 percentage points). The HI actuarial balance over this period shows a corresponding improvement for faster rates of growth in real wages.

Table II.G1.—Estimated HI Income Rates, Cost Rates, and Actuarial Balances, Based on Intermediate Estimates with Various Real-Wage Assumptions

[As a percentage of taxable payroll]

	Ultimate percentage increase in wages-CPI[1]		
Valuation period	3.8-3.3	4.3-3.3	4.8-3.3
Summarized income rate:			
25-year: 2001-2025	3.31	3.28	3.26
50-year: 2001-2050	3.31	3.28	3.25
75-year: 2001-2075	3.33	3.29	3.27
Summarized cost rate:			
25-year: 2001-2025	3.38	3.24	3.18
50-year: 2001-2050	4.52	4.30	4.18
75-year: 2001-2075	5.54	5.26	5.08
Actuarial balance:			
25-year: 2001-2025	-0.07	0.04	0.08
50-year: 2001-2050	-1.21	-1.02	-0.92
75-year: 2001-2075	-2.21	-1.97	-1.81

[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 CPI. The difference between the two values is the real-wage differential.

The HI cost rate decreases with increasing real-wage differentials, because the higher real-wage levels increase the taxable payroll to a greater extent than they increase HI program benefits. In particular, each 0.5-percentage-point increase in the assumed real-wage differential increases the long-range HI actuarial balance, on average, by about 0.20 percent of taxable payroll.

2. Consumer Price Index

Table II.G2 shows the estimated HI income rates, cost rates, and actuarial balances on the basis of the intermediate alternative, with various assumptions about the rate of increase for the CPI. These assumptions are that the ultimate annual increase in the CPI will be 2.3 percent (as assumed for the low cost alternative), 3.3 percent (as assumed for the intermediate assumptions), and 4.3 percent (as assumed for the high cost alternative). In each case, the ultimate real-wage differential is assumed to be 1.0 percent (as assumed for the intermediate assumptions), yielding ultimate percentage increases in average annual wages in covered employment of 3.3, 4.3, and 5.3 percent under the three illustrations.

Table II.G2.—Estimated HI Income Rates, Cost Rates, and Actuarial Balances, Based on Intermediate Estimates with Various CPI-Increase Assumptions

[As a percentage of taxable payroll]

	Ultimate percentage increase in wages-CPI[1]		
Valuation period	3.3-2.3	4.3-3.3	5.3-4.3
Summarized income rate:			
25-year: 2001-2025	3.29	3.28	3.27
50-year: 2001-2050	3.28	3.28	3.26
75-year: 2001-2075	3.30	3.29	3.28
Summarized cost rate:			
25-year: 2001-2025	3.25	3.24	3.24
50-year: 2001-2050	4.32	4.30	4.28
75-year: 2001-2075	5.29	5.26	5.23
Actuarial balance:			
25-year: 2001-2025	0.04	0.04	0.03
50-year: 2001-2050	-1.04	-1.02	-1.02
75-year: 2001-2075	-1.99	-1.97	-1.95

[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 CPI.

For all three periods, the cost rate decreases slightly with greater assumed rates of increase in the CPI. Over the 75-year projection period, for example, the cost rate decreases from 5.29 percent (for CPI increases of 2.3 percent) to 5.23 percent (for CPI increases of 4.3 percent). The relative insensitivity of projected HI cost rates to different levels of general inflation occurs because inflation is assumed to affect both the taxable payroll of workers and medical care costs about equally.[11] In practice, differing rates of inflation could occur between the economy in general and the medical-care sector. The effect of such a difference can be judged from the sensitivity analysis shown in the subsequent section on miscellaneous health care cost factors. 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 0.02 percent of taxable payroll, on average.

3. Real-Interest Rate

Table II.G3 shows the estimated HI income rates, cost rates, and actuarial balances under the intermediate alternative, with various assumptions about the annual real-interest rate for special public-debt obligations issuable to the trust fund. These assumptions are that the ultimate annual real-interest rate will be 2.2 percent (as assumed for the high cost alternative), 3.0 percent (as assumed for the intermediate assumptions), and 3.7 percent (as assumed for the

[11]The slight sensitivity shown in the table results primarily from the fact that the fiscal year 2000 payment rates for hospitals have already been set. If the 2000 payments were allowed to be affected by CPI changes, there would be no projected effect due to these changes.

low cost alternative). In each case, the ultimate annual increase in the CPI is assumed to be 3.3 percent (as assumed for the intermediate assumptions), resulting in ultimate annual yields of 5.5, 6.3, and 7.0 percent under the three illustrations.

Table II.G3.—Estimated HI Income Rates, Cost Rates, and Actuarial Balances, Based on Intermediate Estimates with Various Real-Interest Assumptions

[As a percentage of taxable payroll]

	Ultimate annual real-interest rate		
Valuation period	2.2 percent	3.0 percent	3.7 percent
Summarized income rate:			
25-year: 2001-2025	3.27	3.28	3.29
50-year: 2001-2050	3.27	3.28	3.28
75-year: 2001-2075	3.29	3.29	3.29
Summarized cost rate:			
25-year: 2001-2025	3.28	3.24	3.21
50-year: 2001-2050	4.48	4.30	4.15
75-year: 2001-2075	5.66	5.26	4.94
Actuarial balance:			
25-year: 2001-2025	-0.01	0.04	0.08
50-year: 2001-2050	-1.21	-1.02	-0.87
75-year: 2001-2075	-2.37	-1.97	-1.64

For all periods, the cost rate decreases with increasing real-interest rates. Over 2001-2075, for example, the summarized HI cost rate would decline from 5.66 percent (for an ultimate real-interest rate of 2.2 percent) to 4.94 percent (for an ultimate real-interest rate of 3.7 percent). Thus, each 1.0-percentage-point increase in the assumed real-interest rate increases the long-range actuarial balance, on average, by about 0.49 percent of taxable payroll. The fact that the actuarial balance of the HI program is sensitive to the interest assumption is not an indication of the actual role that interest plays in the financing of the HI program. In reality, interest finances very little of the cost of the HI program. The sensitivity of the actuarial balance to the interest assumption is implicit in the present-value method used to calculate the actuarial balance (as described in more detail in section III.A).

4. Health Care Cost Factors

Table II.G4 shows the estimated HI income rates, cost rates, and actuarial balances on the basis of the intermediate set of assumptions, with two variations on the relative annual growth rate in the aggregate cost of providing covered health care services to HI beneficiaries. These assumptions are that the ultimate annual growth rate in such costs, relative to the growth in taxable payroll, will be 1 percent slower than the intermediate assumption, the same as the intermediate assumption, and 1 percent faster than the intermediate

assumption. In each case, the taxable payroll will be the same as assumed for the intermediate assumptions.

As noted previously, factors such as wage and price increases may simultaneously affect both HI tax income and the costs incurred by hospitals and other providers of medical care to HI beneficiaries. (The sensitivity of the program's financial status to these factors is evaluated in sections II.G1 and II.G2.) Other factors, such as the utilization of services by beneficiaries or the relative complexity of the services provided, can affect provider costs without affecting HI tax income. The sensitivity analysis shown in table II.G4 illustrates the financial effect of any combination of these factors that results in aggregate provider costs increasing by 1 percentage point faster or slower than the intermediate assumptions, relative to growth in taxable payroll under the intermediate assumptions.

Table II.G4.—Estimated HI Income Rates, Cost Rates, and Actuarial Balances, Based on Intermediate Estimates with Various Health Care Cost Growth Rate Assumptions

[As a percentage of taxable payroll]

	Annual cost/payroll relative growth rate		
Valuation period	-1 percentage point	0 percentage point	+1 percentage point
Summarized income rate:			
25-year: 2001-2025	3.28	3.28	3.28
50-year: 2001-2050	3.28	3.28	3.28
75-year: 2001-2075	3.29	3.29	3.29
Summarized cost rate:			
25-year: 2001-2025	2.83	3.24	3.73
50-year: 2001-2050	3.30	4.30	5.71
75-year: 2001-2075	3.59	5.26	8.01
Actuarial balance:			
25-year: 2001-2025	0.45	0.04	-0.45
50-year: 2001-2050	-0.02	-1.02	-2.43
75-year: 2001-2075	-0.30	-1.97	-4.72

As illustrated in table II.G4, the financial status of the HI program is extremely sensitive to the relative growth rates for health care service costs versus taxable payroll. For the 75-year period, the cost rate increases from 3.59 percent (for an annual cost/payroll growth rate of 1 percentage point less than the intermediate assumptions) to 8.01 percent (for an annual cost/payroll growth rate of 1 percentage point more than the intermediate assumptions). Each 1.0-percentage-point increase in the assumed cost/payroll relative growth rate decreases the long-range actuarial balance, on average, by about 2.21 percent of taxable payroll.

III. APPENDICES

A. ACTUARIAL BALANCE UNDER THE MODIFIED AVERAGE-COST METHOD

In section II.E, the summarized income rates, cost rates, and actuarial balances are presented based on the actuarial present values of future income, costs, and taxable payrolls. Such methods are widely used in actuarial, economic, and financial analyses. In effect, the present value calculation applies successively less weight to the projected values as the projection interval lengthens. This technique reflects the fact that the value of the dollar changes over time—in particular, a dollar available today can earn interest over time and is therefore more valuable than the same dollar available in some future year.

The actuarial balance computed under the present-value method can be interpreted as the immediate, level, and permanent percentage that, if added to the current law income rates and/or subtracted from the current law cost rates throughout the valuation period, would provide sufficient financing to support program costs throughout the period and would leave the targeted trust fund balance at the end of the projection period. If such a policy were followed, a large fund would accumulate and would earn substantial interest credits, significantly exceeding those that would be earned under current law financing.

The measurement of the actuarial balance by the present-value method is significantly affected by the level of assumed future interest rates (as illustrated in section II.G). The higher the assumed rate of interest, the lower the weight that is applied to the more distant, high cost years of the projection (and, equivalently, the greater the amount of interest that would be earned if a large fund were accumulated). In practice, however, unless a large fund is accumulated, interest earnings will play a relatively small role in the financing of the HI program. The sensitivity of the actuarial balance to assumed interest rates is not readily apparent from a casual inspection of the actuarial deficit as measured by the present-value method.

An alternative to the present-value method, called the modified average-cost method, was used prior to 1988 to evaluate the actuarial status of the program. Under this method, the actuarial balance is defined as the difference between the arithmetic means of the annual cost rates (as defined in section II.E) and the annual income rates. Thus, under this method, the cost rates and income rates for each year are given equal weights when summarized into a single measure. The annual cost rates include an amount to maintain the trust fund at a desired target level, should the fund otherwise drop below that level at any point within the projection period. In addition, the actuarial balances calculated under the modified average-cost method reflect the starting trust fund balance and the interest earned on the trust fund before it is exhausted.

The actuarial balance using the modified average-cost method can be characterized as the average of the annual income rate increases needed to maintain the trust fund at the target level over each year of the projection period, taking into account the beginning trust fund balance and the interest earnings of the trust fund. The implied funding pattern under the modified average-cost method is that the current law trust fund ratios would be maintained until the trust fund ratio falls below the target amount (100 percent of the following year's estimated expenditures). After that, the income rate would be increased each year to cover the cost of the program and to maintain the trust fund at the target level. This measure of the actuarial balance is relatively insensitive to the assumed future interest rates, in keeping with the minor role that interest plays in the financing of a program on a current-cost, or pay-as-you-go, basis.

The 75-year actuarial balance using the modified average-cost method, under the Trustees' intermediate assumptions, is −2.71 percent of taxable payroll, as compared to −1.97 percent based on the present-value method. Based on either measure, the actuarial deficit represents between 35 and 45 percent of the summarized cost rate. Thus, the HI trust fund fails the Trustees' test of long-range close actuarial balance by a wide margin using either measure. Table III.A1 compares the summarized HI projections based on the modified average-cost method to those based on the present-value method, as used elsewhere in this report.

Table III.A1.—Actuarial Balances of the HI Program, under Three Sets of Assumptions: Modified Average-Cost Method versus Present-Value Method

	Intermediate assumptions	Alternative	
		Low Cost	High Cost
Valuation Periods:	Modified Average-Cost Method		
25 years, 2001-2025:			
Summarized income rate	3.13%	3.11%	3.15%
Summarized cost rate[1]	3.12	2.90	4.32
Actuarial balance[2]	0.01	0.21	-1.17
50 years, 2001-2050:			
Summarized income rate	3.20	3.16	3.25
Summarized cost rate[1]	4.51	2.90	8.04
Actuarial balance[2]	-1.31	0.26	-4.79
75 years, 2001-2075:			
Summarized income rate	3.25	3.18	3.34
Summarized cost rate[1]	5.96	2.98	11.55
Actuarial balance[2]	-2.71	0.21	-8.20
Valuation Periods:	Present-Value Method		
25 years, 2001-2025:			
Summarized income rate[3]	3.28	3.26	3.31
Summarized cost rate[4]	3.24	2.50	4.37
Actuarial balance[2]	0.04	0.77	-1.07
50 years, 2001-2050:			
Summarized income rate[3]	3.28	3.24	3.33
Summarized cost rate[4]	4.30	2.70	7.33
Actuarial balance[2]	-1.02	0.54	-4.01
75 years, 2001-2075:			
Summarized income rate[3]	3.29	3.24	3.37
Summarized cost rate[4]	5.26	3.03	9.68
Actuarial balance[2]	-1.97	0.21	-6.31

[1]Expenditures for benefit payments and administrative costs for insured beneficiaries, on an incurred basis, expressed as a percentage of taxable payroll and computed on the modified average-cost basis, including the cost of maintaining the trust fund at a level of 100 percent of the following year's estimated expenditures, and including an offset to cost due to the beginning trust fund balance.
[2]Difference between the summarized income rate and the summarized cost rate.
[3]Income rates include beginning trust fund balances.
[4]Expenditures for benefit payments and administrative costs for insured beneficiaries, on an incurred basis, expressed as a percentage of taxable payroll and computed on the present-value basis, including the cost of attaining a trust fund balance at the end of the period equal to 100 percent of the following year's estimated expenditures.

B. LONG-RANGE ESTIMATES OF MEDICARE INCURRED DISBURSEMENTS AS A PERCENTAGE OF GROSS DOMESTIC PRODUCT

Expressing Medicare incurred disbursements as a percentage of the gross domestic product (GDP) gives a relative measure of the size of the Medicare program compared to the general economy. The projection of this measure affords the public an idea of the relative financial resources that will be necessary to pay for Medicare services.

Table III.B1 shows estimated incurred disbursements for the HI and SMI programs under the intermediate assumptions expressed as a percentage of GDP, for selected years over the period 2000-2075. These incurred disbursements assume no change in current law. The 75-year projection period fully allows for the presentation of future contingencies that may reasonably be expected to occur, such as the impact of a large increase in enrollees that will take place after the next 10 years. This increase in the number of beneficiaries will occur because the relatively large number of persons born during the period between the end of World War II and the mid-1960s (known as the baby boom) will reach retirement age and begin to receive benefits.

Table III.B1.—HI and SMI Incurred Disbursements as a Percent of Gross Domestic Product[1]

	Disbursements as a percent of GDP		
Calendar year	HI	SMI	Total
2000	1.32	0.92	2.24
2001	1.35	1.00	2.34
2002	1.33	1.03	2.36
2003	1.30	1.05	2.35
2004	1.31	1.07	2.38
2005	1.32	1.09	2.41
2006	1.32	1.11	2.43
2007	1.33	1.12	2.45
2008	1.35	1.14	2.49
2009	1.37	1.16	2.53
2010	1.39	1.19	2.57
2015	1.53	1.36	2.89
2020	1.73	1.61	3.34
2025	2.00	1.90	3.90
2030	2.32	2.18	4.51
2035	2.63	2.39	5.03
2040	2.89	2.52	5.41
2045	3.11	2.61	5.72
2050	3.30	2.71	6.01
2055	3.49	2.87	6.36
2060	3.73	3.10	6.83
2065	4.03	3.35	7.38
2070	4.35	3.59	7.94
2075	4.69	3.80	8.49

[1]Disbursements are the sum of benefit payments and administrative expenses.

For both HI and SMI, program costs beyond the first 25-year projection period are based on the assumption that per beneficiary expenditures will increase at the same rate as per capita GDP plus 1 percentage point. The associated aggregate disbursements are then represented as a percentage of GDP. Based on these assumptions, incurred Medicare disbursements as a percent of GDP are projected to increase rapidly, from 2.24 percent in 2000 to 5.03 percent in 2035 and then to 8.49 percent in 2075. After 2035, both HI and SMI disbursements as a percent of GDP are expected to increase steadily, with HI outpacing SMI slightly as the population ages, since HI benefits are more age-sensitive than are those for SMI.

The projected expenditures of the HI and SMI programs that are shown in this report as a percentage of GDP are substantially higher after 2030 than are the corresponding projections from the 2000 annual report. The difference is primarily attributable to a change in the long-term projection assumptions. While the 2000 annual report assumed that demographically adjusted per beneficiary SMI expenditures grew at the same rate as per capita GDP and that the demographically adjusted per beneficiary long-term expenditure increases for HI were the same as the per capita wage increases, the long-term projected expenditures in this report assume growth of 1 percent above per capita GDP growth for both HI and SMI. This change in long-range growth rates was adopted based on the recommendation of the 2000 Medicare Technical Review Panel, an independent, expert panel of actuaries and economists convened by the Board of Trustees to review the assumptions and methods underlying the Medicare financial projections.

The past and projected amounts of Medicare revenues as a percent of GDP are shown in table III.B2. This information is displayed for selected future years based on the intermediate assumptions. Interest income is excluded since, under present law, it would not be a significant part of program financing in the long range. Over the next 15 years, such Medicare revenues are estimated to slightly exceed program expenditures, reflecting the automatic financing of SMI plus the expected excess of HI tax income over expenditures. Thereafter, however, overall expenditures are projected to exceed aggregate revenues. Again, the growing difference arises from the projected imbalance between HI tax income and expenditures. Throughout this period, SMI revenues would continue to approximately match SMI expenditures, due to the annual adjustment of program financing.

Table III.B2.—Medicare Sources of Income and Expenditures as a Percent of Gross Domestic Product

Calendar year	Payroll taxes	Tax on benefits	Premiums[1]	General revenue	Total income[2]	Total expenditures
Historical Data:						
1970	0.5	—	0.1	0.2	0.8	0.7
1980	0.9	—	0.1	0.3	1.3	1.3
1990	1.2	—	0.2	0.6	2.0	1.9
2000	1.5	0.1	0.2	0.7	2.4	2.2
Intermediate Estimates:						
2010	1.4	0.1	0.3	0.9	2.7	2.6
2020	1.4	0.1	0.4	1.2	3.1	3.3
2030	1.4	0.2	0.6	1.6	3.7	4.5
2040	1.3	0.2	0.6	1.9	4.0	5.4
2050	1.3	0.2	0.7	2.0	4.2	6.0
2060	1.3	0.2	0.8	2.3	4.6	6.8
2070	1.3	0.2	0.9	2.7	5.1	7.9

[1]Includes both HI and SMI premium revenues.
[2]Excludes interest earnings on invested HI and SMI trust fund assets.

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

As shown in table III.B2, payroll tax revenues increased rapidly as a percentage of GDP in the past, as a result of increases in the tax rate and maximum taxable earnings base (eliminated in 1994). In the future, however, payroll taxes are not projected to grow faster than GDP primarily because no further increases in the tax rate are scheduled in present law. Since wages, salaries, and self-employment income are expected to decline gradually as a share of total compensation, with faster growth in fringe benefits making up the difference, payroll taxes as a percent of GDP are expected to decrease slightly over time, from 1.5 percent in 2000 to 1.3 percent in 2070. HI revenue from income taxes on Social Security benefits would increase as a share of GDP, from 0.1 percent in 2000 to 0.2 percent in 2070, as additional beneficiaries become subject to such taxes.

By comparison, growth in SMI premiums and general fund transfers is expected to continue to outpace GDP growth and HI payroll tax growth in the future. This occurs primarily because, under present law, SMI revenue increases at the same rate as expenditures whereas HI revenue does not. Based on these assumptions, premiums as a percent of GDP are expected to grow from 0.3 percent in 2000 to 0.9 percent in 2070. Likewise, the projected general revenues as a percent of GDP grow from 0.7 percent in 2000 to 2.7 percent in 2070. Thus, as the HI sources of revenue become increasingly inadequate to cover HI costs, SMI revenues would represent an increasing share of total Medicare revenues.

C. AVERAGE MEDICARE EXPENDITURES PER BENEFICIARY

Table III.C1 shows historical average per beneficiary expenditures for the HI and SMI programs, as well as projected costs for calendar years 2001 through 2010 under the intermediate assumptions.

For both HI and SMI, costs increased very rapidly in the early years when Medicare was still a new program and as a result of the rapid inflation of the 1970s and early 1980s. In addition, the cost-based reimbursement mechanisms in place provided relatively little incentive for efficiency in the provision of health care. Growth in average HI expenditures moderated dramatically following the introduction of the inpatient hospital prospective payment system in fiscal year 1984 but accelerated again in the late 1980s and early 1990s due to rapid growth in skilled nursing and home health expenditures. During this same period, SMI average costs generally continued to increase at relatively fast rates but slowed somewhat in the early 1990s with the implementation of physician fee reform legislation.

Expenditure growth moderated again during the late 1990s due to the effects of further legislation, including the Balanced Budget Act of 1997 (BBA), and efforts to control fraud and abuse. In addition, historically low levels of general and medical inflation helped reduce Medicare payment updates. HI per beneficiary costs actually decreased in 1998, 1999, and 2000, in part because of such BBA mandates as a reduction in payment updates to providers and a shift in home health benefits from HI to SMI, and because of a decline in utilization of services.

Table III.C1.—HI and SMI Average Per Beneficiary Costs

	Average per beneficiary costs			Annual percent change[1]		
Calendar year	HI	SMI	Total	HI	SMI	Total
Historical Data:						
1970	$254.87	$101.30	$356.18	13.4%	14.8%	13.8%
1975	462.20	179.96	642.16	12.6	12.2	12.5
1980	894.61	389.87	1,284.49	14.1	16.7	14.9
1985	1,549.39	768.25	2,317.65	11.6	14.5	12.5
1990	1,957.21	1,303.98	3,261.19	4.8	11.2	7.1
1991	2,069.38	1,426.15	3,495.53	5.7	9.4	7.2
1992	2,379.21	1,454.85	3,834.05	15.0	2.0	9.7
1993	2,597.59	1,562.77	4,160.37	9.2	7.4	8.5
1994	2,819.83	1,669.87	4,489.70	8.6	6.9	7.9
1995	3,035.96	1,822.98	4,858.94	7.7	9.2	8.2
1996	3,407.25	1,900.01	5,307.26	12.2	4.2	9.2
1997	3,611.49	1,996.37	5,607.86	6.0	5.1	5.7
1998	3,483.39	2,071.09	5,554.48	-3.5	3.7	-1.0
1999	3,317.41	2,180.41	5,497.83	-4.8	5.3	-1.0
2000	3,271.96	2,383.71	5,655.67	-1.4	9.3	2.9
Intermediate Estimates:						
2001	3,521.69	2,706.49	6,228.18	7.6	13.5	10.1
2002	3,672.03	2,945.09	6,617.13	4.3	8.8	6.2
2003	3,712.47	3,120.31	6,832.78	1.1	5.9	3.3
2004	3,863.79	3,304.73	7,168.52	4.1	5.9	4.9
2005	4,036.95	3,506.76	7,543.71	4.5	6.1	5.2
2006	4,218.13	3,701.66	7,919.79	4.5	5.6	5.0
2007	4,392.74	3,883.45	8,276.19	4.1	4.9	4.5
2008	4,582.73	4,086.15	8,668.89	4.3	5.2	4.7
2009	4,783.15	4,300.69	9,083.84	4.4	5.3	4.8
2010	5,001.45	4,532.94	9,534.39	4.6	5.4	5.0

[1]Percent changes for 1970 represent the average annual increases from 1967 (the first full year of trust fund operations) through 1970. Similarly, percent changes shown for 1975, 1980, 1985, and 1990 represent the average annual increase over the 5-year period ending in the indicated year.

On average, annual increases in per beneficiary costs have been greater for SMI than for HI during the previous 3 decades—by approximately 1.1 percent, 4.7 percent, and 1.0 percent per year in the 1970s, 1980s, and 1990s, respectively. This trend is expected to continue through 2010, with the 10-year average annual increase projected to be 2.3 percent greater for SMI than for HI. It is anticipated that SMI per beneficiary costs will increase significantly in 2001 as a result of the Medicare, Medicaid, and SCHIP Benefits Improvement and Protection Act of 2000. In subsequent years, however, the large growth in the 1970s and 1980s is not expected to recur for either HI or SMI, due to more moderate inflation rates and the conversion of Medicare's remaining cost-based reimbursement mechanisms to prospective payment systems as part of the BBA.

D. MEDICARE COST SHARING AND PREMIUM AMOUNTS

HI beneficiaries who use covered services may be subject to deductible and coinsurance requirements. A beneficiary is responsible for an inpatient hospital deductible amount, which is deducted from the amount payable by the HI program to the hospital, for inpatient hospital services furnished in a spell of illness. When a beneficiary receives such services for more than 60 days during a spell of illness, he or she is responsible for a coinsurance amount equal to one-fourth of the inpatient hospital deductible for each of days 61-90 in the hospital. After 90 days in a spell of illness, each individual has 60 lifetime reserve days of coverage, the coinsurance amount for which is equal to one-half of the inpatient hospital deductible. A beneficiary is responsible for a coinsurance amount equal to one-eighth of the inpatient hospital deductible for each of days 21-100 of skilled nursing facility services furnished during a spell of illness.

Most persons aged 65 and older and many disabled individuals under age 65 are insured for HI benefits without payment of any premium. The Social Security Act provides that certain aged and disabled persons who are not insured may voluntarily enroll, subject to the payment of a monthly premium. In addition, since 1994, voluntary enrollees may qualify for a reduced premium if they have at least 30 quarters of covered employment.

Under SMI, all enrollees must pay a monthly premium. Most SMI services are subject to an annual deductible and coinsurance. The annual deductible and the coinsurance percentage (percent of costs that the enrollee must pay) are set by statute. The coinsurance percentage has remained at 20 percent since the inception of the program.

Table III.D1 shows the historical levels of HI and SMI deductibles, HI coinsurance, and HI and SMI premiums, as well as projected values for future years based on the intermediate set of assumptions used in estimating the operations of the trust funds. Certain anomalies in these values resulted from specific program features in particular years (for example, the effect of the Medicare Catastrophic Coverage Act of 1988 on 1989 values). The amounts of the HI and SMI premiums and the HI deductibles and coinsurance are required to be announced in the Federal Register in September of each year for the upcoming year. The values listed in the table for future years are estimates, and actual amounts are likely to be somewhat different as experience emerges.

Table III.D1.—Medicare Cost Sharing and Premium Amounts

	HI						SMI	
		Inpatient coinsurance[1]						
Year	Inpatient hospital deductible[1]	Days 61-90	Lifetime reserve days	SNF coinsurance days[1]	Monthly premium Standard[2]	Monthly premium Reduced[1]	Monthly premium[2]	Annual deductible[1]
Historical Data:								
1967	$40	$10	—	$5.00	—	—	$3.00	$50
1968	40	10	$20	5.00	—	—	4.00	50
1969	44	11	22	5.50	—	—	4.00	50
1970	52	13	26	6.50	—	—	4.00	50
1971	60	15	30	7.50	—	—	5.30	50
1972	68	17	34	8.50	—	—	5.60	50
1973	72	18	36	9.00	$33	—	5.80	60
1974	84	21	42	10.50	36	—	6.30	60
1975	92	23	46	11.50	40	—	6.70	60
1976	104	26	52	13.00	45	—	6.70	60
1977	124	31	62	15.50	54	—	7.20	60
1978	144	36	72	18.00	63	—	7.70	60
1979	160	40	80	20.00	69	—	8.20	60
1980	180	45	90	22.50	78	—	8.70	60
1981	204	51	102	25.50	89	—	9.60	60
1982	260	65	130	32.50	113	—	11.00	75
1983	304	76	152	38.00	113	—	12.20	75
1984	356	89	178	44.50	155	—	14.60	75
1985	400	100	200	50.00	174	—	15.50	75
1986	492	123	246	61.50	214	—	15.50	75
1987	520	130	260	65.00	226	—	17.90	75
1988	540	135	270	67.50	234	—	24.80	75
1989[3]	560	—	—	25.50	156	—	31.90	75
1990	592	148	296	74.00	175	—	28.60	75
1991	628	157	314	78.50	177	—	29.90	100
1992	652	163	326	81.50	192	—	31.80	100
1993	676	169	338	84.50	221	—	36.60	100
1994	696	174	348	87.00	245	$184	41.10	100
1995	716	179	358	89.50	261	183	46.10	100
1996	736	184	368	92.00	289	188	42.50	100
1997	760	190	380	95.00	311	187	43.80	100
1998	764	191	382	95.50	309	170	43.80	100
1999	768	192	384	96.00	309	170	45.50	100
2000	776	194	388	97.00	301	166	45.50	100
2001	792	198	396	99.00	300	165	50.00	100
Intermediate Estimates:								
2002	812	203	406	101.50	314	173	58.50	100
2003	844	211	422	105.50	318	175	63.30	100
2004	884	221	442	110.50	333	183	68.00	100
2005	928	232	464	116.00	348	191	72.30	100
2006	976	244	488	122.00	363	200	76.30	100
2007	1,024	256	512	128.00	378	208	79.90	100
2008	1,076	269	538	134.50	394	217	84.80	100
2009	1,132	283	566	141.50	411	226	89.50	100
2010	1,188	297	594	148.50	430	237	94.40	100

[1]Amounts shown are effective for calendar years.
[2]Amounts shown for 1967-1982 are for the 12-month periods ending June 30; amounts shown for 1983 are for the period July 1, 1982 through December 31, 1983; amounts shown for 1984 and later are for calendar years.
[3]Anomalies in the 1989 values are due to the Medicare Catastrophic Coverage Act of 1988. Most of the provisions of the Act were repealed the following year.

The Federal Register notice announcing the HI deductible and coinsurance amounts for 2001 included an estimate of the aggregate cost to HI beneficiaries for the changes in the deductible and coinsurance amounts from 2000 to 2001. At that time, it was estimated that in 2001 there will be about 8.6 million inpatient deductibles paid at $792 each, about 2.1 million inpatient days subject to coinsurance at $198 per day (for hospital days 61 through 90), about 1.0 million lifetime reserve days subject to coinsurance at $396 per day, and about 30.1 million extended care days subject to coinsurance at $99 per day. Similarly, it was estimated that in 2000 there were about 8.4 million deductibles paid at $776 each, about 2.1 million days subject to coinsurance at $194 per day (for hospital days 61 through 90), about 1.0 million lifetime reserve days subject to coinsurance at $388 per day, and about 28.6 million extended care days subject to coinsurance at $97 per day. Therefore, the total increase in cost to beneficiaries was estimated to be about $480 million (rounded to the nearest $10 million), due to (1) the increase in the inpatient deductible and coinsurance amounts, and (2) the change in the number of deductibles and daily coinsurance amounts paid.

E. 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 Department of HHS and the Department of the Treasury in administering the HI program and the provisions of the Internal Revenue Code relating to the collection of contributions. Such administrative expenses, which are paid from the HI trust fund, include expenditures for intermediaries to determine costs of, and make payments to, providers, as well as salaries and expenses of HCFA.

Aged enrollee. An individual, aged 65 or over, who is enrolled in the HI program.

Assets. Treasury notes and bonds guaranteed by the federal government, and cash held by the trust funds for investment purposes.

Assumptions. Values relating to future trends in certain key factors that affect the balance in the trust funds. Demographic assumptions include fertility, mortality, net immigration, marriage, divorce, retirement patterns, disability incidence and termination rates, and changes in the labor force. Economic assumptions include unemployment, average earnings, inflation, interest rates, and productivity. Three sets of economic assumptions are presented in the Trustees Report:

(1) The low cost alternative, with relatively rapid economic growth, low inflation, and favorable (from the standpoint of program financing) demographic conditions;
(2) The intermediate assumptions, which represent the Trustees' best estimates of likely future economic and demographic conditions; and
(3) The high cost alternative, with slow economic growth, more rapid inflation, and financially disadvantageous demographic conditions.

See also "Hospital assumptions."

Average market yield. A computation that is made on all marketable interest-bearing obligations of the United States. It is computed on the basis of market quotations as of the end of the calendar month immediately preceding the date of such issue.

Baby boom. The period from the end of World War II through the mid-1960s marked by unusually high birth rates.

Base estimate. The updated estimate of the most recent historical year.

Beneficiary. A person enrolled in the HI program. See also "Aged enrollee" and "Disabled enrollee."

Benefit payments. The amounts disbursed for covered services after the deductible and coinsurance amounts have been deducted.

Benefit period. An alternate name for "spell of illness."

Board of Trustees. A Board established by the Social Security Act to oversee the financial operations of the Federal Hospital Insurance Trust Fund. The Board is composed of six members, four of whom serve automatically by virtue of their positions in the federal government: the Secretary of the Treasury, who is the Managing Trustee; the Secretary of Labor; the Secretary of Health and Human Services; and the Commissioner of Social Security. The other two members are appointed by the President and confirmed by the Senate to serve as public representatives. John L. Palmer and Thomas R. Saving began serving their 4-year terms on October 28, 2000. The Administrator of HCFA serves as Secretary of the Board of Trustees.

Bond. A certificate of ownership of a specified portion of a debt due by the federal government to holders, bearing a fixed rate of interest.

Callable. Subject to redemption upon notice, as is a bond.

Case mix index. The average DRG relative weight for all Medicare admissions.

Cash basis. The costs of the service when payment was made rather than when the service was performed.

Certificate of indebtedness. A short-term certificate of ownership (12 months or less) of a specified portion of a debt due by the federal government to individual holders, bearing a fixed rate of interest.

Coinsurance. See "Hospital coinsurance" and "SNF coinsurance."

Consumer Price Index (CPI). A measure of the average change in prices over time in a fixed group of goods and services. In this report,

all references to the CPI relate to the CPI for Urban Wage Earners and Clerical Workers (CPI-W).

Contribution base. See "Maximum tax base."

Contributions. See "Payroll taxes."

Cost rate. The ratio of the cost (or outgo, expenditures, or disbursements) of the program on an incurred basis during a given year to the taxable payroll for the year. In this context, the outgo is defined to exclude benefit payments and administrative costs for those uninsured persons for whom payments are reimbursed from the general fund of the Treasury, and for voluntary enrollees, who pay a premium to be enrolled.

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

Covered employment. All employment and self-employment creditable for Social Security purposes. Almost every kind of employment and self-employment is covered under the program. In a few employment situations—for example, religious orders under a vow of poverty, foreign affiliates of American employers, or State and local governments—coverage must be elected by the employer. However, effective July 1991, coverage is mandatory for State and local employees who are not participating in a public employee retirement system. All new State and local employees have been covered since April 1986. In a few situations—for instance, ministers or self-employed members of certain religious groups—workers can opt out of coverage. Covered employment for HI includes all federal employees (whereas covered employment for OASDI includes some, but not all, federal employees).

Covered services. Services for which HI pays, as defined and limited by statute. Covered services are provided by hospitals (inpatient care), skilled nursing facilities, home health agencies, and hospices.

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. The number of HI covered workers is slightly larger than the number of OASDI covered workers because of different coverage status for federal employment. See "Covered employment."

Deductible. See "Inpatient hospital deductible."

Deemed wage credit. See "Non-contributory or deemed wage credits."

Demographic assumptions. See "Assumptions."

Diagnosis-related groups (DRGs). A classification system that groups patients according to diagnosis, type of treatment, age, and other relevant criteria. Under the prospective payment system, hospitals are paid a set fee for treating patients in a single DRG category, regardless of the actual cost of care for the individual.

Disability. For Social Security purposes, the inability to engage in substantial gainful activity by reason of any medically determinable physical or mental impairment that can be expected to result in death or to last for a continuous period of not less than 12 months. Special rules apply for workers aged 55 or older whose disability is based on blindness. The law generally requires that a person be disabled continuously for 5 months before he or she can qualify for a disabled-worker cash benefit. An additional 24 months is necessary to qualify for benefits under Medicare.

Disability Insurance (DI). See "Old-Age, Survivors, and Disability Insurance (OASDI)."

Disabled enrollee. An individual under age 65 who has been entitled to disability benefits under Title II of the Social Security Act or the Railroad Retirement system for at least 2 years and who is enrolled in the HI program.

DRG Coding. The DRG categories used by hospitals on discharge billing. See also "Diagnosis-related groups (DRGs)."

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

Economic assumptions. See "Assumptions."

Extended care services. In the context of this report, an alternate name for "skilled nursing facility services."

Federal Insurance Contributions Act (FICA). Provision authorizing taxes on the wages of employed persons to provide for the

OASDI and HI programs. The tax is paid in equal amounts by covered 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 as if railroad employment had always been covered under Social Security.

Fiscal year. The accounting year of the U.S. Government. Since 1976, each fiscal year has begun October 1 of the prior calendar year and ended the following September 30. For example, fiscal year 2001 began October 1, 2000 and will end September 30, 2001.

Fixed capital assets. The net worth of facilities and other resources.

General fund of the Treasury. Funds held by the Treasury of the United States, other than revenue collected for a specific trust fund (such as HI) and maintained in a separate account for that purpose. The majority of this fund is derived from individual and business income taxes.

General revenue. Income to the HI trust fund from the general fund of the Treasury. Only a very small percentage of total HI trust fund income each year is attributable to general revenue.

Gramm-Rudman-Hollings Act. The Balanced Budget and Emergency Deficit Control Act of 1985.

Gross Domestic Product (GDP). The total dollar value of all goods and services produced in a year in the United States, regardless of who supplies the labor or property.

High cost alternative. See "Assumptions."

Home health agency (HHA). A public agency or private organization that is primarily engaged in providing the following services in the home: skilled nursing services, other therapeutic services (such as physical, occupational, or speech therapy), and home health aide services.

Hospice. A provider of care for the terminally ill; delivered services generally include home health care, nursing care, physician services, medical supplies, and short-term inpatient hospital care.

Hospital assumptions. These include differentials between hospital labor and non-labor indices compared with general economy labor and non-labor indices; rates of admission incidence; the trend toward treating less complicated cases in outpatient settings; and continued improvement in DRG coding.

Hospital coinsurance. For the 61st through 90th day of hospitalization in a benefit period, a daily amount for which the beneficiary is responsible, equal to one-fourth of the inpatient hospital deductible; for lifetime reserve days, a daily amount for which the beneficiary is responsible, equal to one-half of the inpatient hospital deductible (see "Lifetime reserve days").

Hospital input price index. An alternate name for "hospital market basket."

Hospital Insurance (HI). The Medicare program that covers specified inpatient hospital services, posthospital skilled nursing care, home health services, and hospice care for aged and disabled individuals who meet the eligibility requirements. Also known as Medicare Part A.

Hospital market basket. The cost of the mix of goods and services (including personnel costs but excluding nonoperating costs) comprising routine, ancillary, and special care unit inpatient hospital services.

Income rate. The ratio of income from tax revenues on an incurred basis (payroll tax contributions and income from the taxation of OASDI benefits) to the HI taxable payroll for the year.

Incurred basis. The costs based on when the service was performed rather than when the payment was made.

Inpatient hospital deductible. An amount of money that is deducted from the amount payable by Medicare Part A for inpatient hospital services furnished to a beneficiary during a spell of illness.

Inpatient hospital services. These services include bed and board, nursing services, diagnostic or therapeutic services, and medical or surgical services.

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

Interfund borrowing. The borrowing of assets by a trust fund (OASI, DI, HI, or SMI) from another of the trust funds when one of the funds is in danger of exhaustion. Interfund borrowing was authorized only during 1982-1987.

Intermediary. A private or public organization that is under contract to HCFA to determine costs of, and make payments to, providers for HI and certain SMI services.

Intermediate assumptions. See "Assumptions."

Lifetime reserve days. Under HI, each beneficiary has 60 lifetime reserve days that he or she may opt to use when regular inpatient hospital benefits are exhausted. The beneficiary pays one-half of the inpatient hospital deductible for each lifetime reserve day used.

Long range. The next 75 years.

Low cost alternative. See "Assumptions."

Managed care. Includes Health Maintenance Organizations (HMO), Competitive Medical Plans (CMP), and other plans that provide health services on a prepayment basis, which is based either on cost or risk, depending on the type of contract they have with Medicare. See also "Medicare+Choice."

Market basket. See "Hospital market basket."

Maximum tax base. Annual dollar amount above which earnings in employment covered under the HI program are not taxable. Beginning in 1994, the maximum tax base is eliminated under HI.

Maximum taxable amount of annual earnings. See "Maximum tax base."

Medicare. A nationwide, federally administered health insurance program authorized in 1965 to cover the cost of hospitalization, medical care, and some related services for most people over age 65. In 1972 coverage was extended to people receiving Social Security Disability Insurance payments for 2 years, and people with ESRD. Medicare consists of two separate but coordinated programs: Part A (Hospital Insurance, HI) and Part B (Supplementary Medical Insurance, SMI). Almost all persons who are aged 65 and over or disabled and who are entitled to HI are eligible to enroll in the SMI program on a voluntary basis by paying a monthly premium. Health

insurance protection is available to Medicare beneficiaries without regard to income.

Medicare Payment Advisory Commission (MedPAC). A commission established by Congress in the Balanced Budget Act of 1997 to replace the Prospective Payment Assessment Commission and the Physician Payment Review Commission. MedPAC is directed to provide the Congress with advice and recommendations on policies affecting the Medicare program.

Medicare+Choice. An expanded set of options, established by the Balanced Budget Act of 1997, for the delivery of health care under Medicare. Most Medicare beneficiaries can choose to receive benefits through the original fee-for-service program or through one of the following Medicare+Choice plans: (1) coordinated care plans (such as health maintenance organizations, provider sponsored organizations, and preferred provider organizations); (2) Medical Savings Account (MSA)/High Deductible plans (through a demonstration available to up to 390,000 beneficiaries); or (3) private fee-for-service plans.

Military service wage credits. Credits recognizing that military personnel receive other cash payments and wages in kind (such as food and shelter) in addition to their basic pay. Noncontributory wage credits of $160 are provided for each month of active military service from September 16, 1940 through December 31, 1956. For years after 1956, the basic pay of military personnel is covered under the Social Security program on a contributory basis. In addition to contributory credits for basic pay, noncontributory wage credits of $300 are granted for each calendar quarter in which a person receives pay for military service from January 1957 through December 1977. Deemed wage credits of $100 are granted for each $300 of military wages in years after 1977. (The maximum credits allowed in any calendar year are $1,200.) See also "Quinquennial military service determinations and adjustments."

Modified average-cost method. Under this system of calculating summary measures, the actuarial balance is defined as the difference between the arithmetic means of the annual cost rates and the annual income rates, with an adjustment included to account for the offsets to cost that are due to (1) the starting trust fund balance and (2) interest earned on the trust fund.

Noncontributory or deemed wage credits. Wages and wages in kind that were not subject to the HI tax but are deemed as having

been. Deemed wage credits exist for the purposes of (1) determining HI program eligibility for individuals who might not be eligible for HI coverage without payment of a premium were it not for the deemed wage credits; and (2) calculating reimbursement due the HI trust fund from the general fund of the Treasury. The first purpose applies in the case of providing coverage to persons during the transitional periods when the HI program began and when it was expanded to cover federal employees; both purposes apply in the cases of military service wage credits (see "Military service wage credits" and "Quinquennial military service determinations and adjustments") and deemed wage credits granted for the internment of persons of Japanese ancestry during World War II.

Old-Age, Survivors, and Disability Insurance (OASDI). The Social Security programs that pay for (1) monthly cash benefits to retired-worker (old-age) beneficiaries, their spouses and children, and survivors of deceased insured workers (OASI); and (2) monthly cash benefits to disabled-worker beneficiaries and their spouses and children, and for providing rehabilitation services to the disabled (DI).

Part A. The Medicare Hospital Insurance program.

Part A premium. A monthly premium paid by or on behalf of individuals who wish for and are entitled to voluntary enrollment in the Medicare HI program. These individuals are those who are aged 65 and older, are uninsured for social security or railroad retirement, and do not otherwise meet the requirements for entitlement to Part A. Disabled individuals who have exhausted other entitlement are also qualified. These individuals are those not now entitled but who have been entitled under section 226(b) of the Act, who continue to have the disabling impairment upon which their entitlement was based, and whose entitlement ended solely because the individuals had earnings that exceeded the substantial gainful activity amount (as defined in section 223(d)(4) of the Act).

Part B. The Medicare Supplementary Medical Insurance program.

Participating hospitals. Those hospitals that participate in the Medicare program.

Pay-as-you-go financing. A financing scheme in which 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 fluctuations.

Payroll taxes. Taxes levied on the gross wages of workers.

Peer Review Organization (PRO). A group of practicing physicians and other health care professionals paid by the federal government to review the care given to Medicare patients.

Present value. The present value of a future stream of payments is the lump-sum amount that, if invested today, together with interest earnings would be just enough to meet each of the payments as it fell due. At the time of the last payment, the invested fund would be exactly zero.

Projection error. Degree of variation between estimated and actual amounts.

Prospective payment system (PPS). A method of reimbursement in which Medicare payment is made based on a predetermined, fixed amount. The payment amount for a particular service is derived based on the classification system of that service (for example, DRGs for inpatient hospital services).

Provider. Any organization, institution, or individual who provides health care services to Medicare beneficiaries. Hospitals (inpatient services), skilled nursing facilities, home health agencies, and hospices are the providers of services covered under Medicare Part A.

Proxy. An index of known values that likely approximates an index for which values are unavailable. The proxy is used as a "stand-in" for the unavailable index.

Quinquennial military service determination and adjustments. Prior to the Social Security Amendments of 1983, quinquennial determinations (that is, estimates made once every 5 years) were made of the costs arising from the granting of deemed wage credits for military service prior to 1957; annual reimbursements were made from the general fund of the Treasury to the HI trust fund for these costs. The Social Security Amendments of 1983 provided for (1) a lump-sum transfer in 1983 for (a) the costs arising from the pre-1957 wage credits, and (b) amounts equivalent to the HI taxes that would have been paid on the deemed wage credits for military service for 1966 through 1983, inclusive, if such credits had been counted as covered earnings; (2) quinquennial adjustments to the pre-1957 portion of the 1983 lump-sum transfer; (3) general fund transfers equivalent to HI taxes on military deemed wage credits for 1984 and later, to be credited to the fund on July 1 of each

year; and (4) adjustments as deemed necessary to any previously transferred amounts representing HI taxes on military deemed wage credits.

Railroad Retirement. A federal insurance program 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.

Real-wage differential. The difference between the percentage increases, before rounding, in (1) the average annual wage in covered employment, and (2) the average annual CPI.

Reasonable-cost basis. The calculation to determine the reasonable cost incurred by individual providers when furnishing covered services to beneficiaries. The reasonable cost is based on the actual cost of providing such services, including direct and indirect costs of providers, and excluding any costs that are unnecessary in the efficient delivery of services covered by a health insurance program.

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 taxes on the net income of most self-employed persons to provide for the OASDI and HI programs.

Sequester. The reduction of funds to be used for benefits or administrative costs from a federal account, based on the requirements specified in the Gramm-Rudman-Hollings Act.

Short range. The next 10 years.

Skilled nursing facility (SNF). An institution that is primarily engaged in providing skilled nursing care and related services for residents who require medical or nursing care, or that is engaged in the rehabilitation of injured, disabled, or sick persons.

SNF coinsurance. For the 21st through 100th day of extended care services in a benefit period, a daily amount for which the beneficiary is responsible, equal to one-eighth of the inpatient hospital deductible.

Social Security Act. Public Law 74-271, enacted on August 14, 1935, with subsequent amendments. The Social Security Act consists of 20 titles, four of which have been repealed. The HI and SMI programs are authorized by Title XVIII of the Social Security Act.

Special public-debt obligation. Securities of the U.S. Government issued exclusively to the OASI, DI, HI, and SMI trust funds and other federal trust funds. Section 1817(c) of the Social Security Act provides that the public-debt obligations issued for purchase by the HI trust fund shall have maturities fixed with due regard for the needs of the funds. The usual practice in the past has been to spread the holdings of special issues, as of every June 30, so that the amounts maturing in each of the next 15 years are approximately equal. Special public-debt obligations are redeemable at par at any time.

Spell of illness. A period of consecutive days, beginning with the first day on which a beneficiary is furnished inpatient hospital or extended care services, and ending with the close of the first period of 60 consecutive days thereafter in which the beneficiary is in neither a hospital nor a skilled nursing facility.

Summarized cost rate. The ratio of the present value of expenditures to the present value of the taxable payroll for the years in a given period. In this context, the expenditures are on an incurred basis and exclude costs for those uninsured persons for whom payments are reimbursed from the general fund of the Treasury, and for voluntary enrollees, who pay a premium in order to be enrolled. The summarized cost rate includes the cost of reaching and maintaining a "target" trust fund level, known as a contingency fund ratio. Because a trust fund level of about 1 year's expenditures is considered to be an adequate reserve for unforeseen contingencies, the targeted contingency fund ratio used in determining summarized cost rates is 100 percent of annual expenditures. Accordingly, the summarized cost rate is equal to the ratio of (1) the sum of the present value of the outgo during the period, plus the present value of the targeted ending trust fund level, plus the beginning trust fund level, to (2) the present value of the taxable payroll during the period.

Summarized income rate. The ratio of (1) the present value of the tax revenues incurred during a given period (from both payroll taxes and taxation of OASDI benefits), to (2) the present value of the taxable payroll for the years in the period.

Supplementary Medical Insurance (SMI). The Medicare program that 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. Also known as Medicare Part B.

Tax rate. The percentage of taxable earnings, up to the maximum tax base, that is paid for the HI tax. Currently, the percentages are 1.45 for employees and employers, each. The self-employed pay 2.9 percent.

Taxable earnings. Taxable wages and/or self-employment income under the prevailing annual maximum taxable limit.

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

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

Taxable wages. Wages paid for services rendered in covered employment up to the annual maximum taxable amount.

Taxation of benefits. Beginning in 1994, up to 85 percent of an individual's or a couple's OASDI benefits is potentially subject to federal income taxation under certain circumstances. The revenue derived from taxation of benefits in excess of 50 percent, up to 85 percent, is allocated to the HI trust fund.

Taxes. See "Payroll taxes."

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 under the intermediate assumptions. 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 time periods, the actuarial balance is not less than zero or is negative by, at most, a specified percentage of the summarized cost rate for the same time period. The

percentage allowed for a negative actuarial balance is 5 percent for the full 75-year period and is reduced uniformly for shorter periods, approaching zero as the duration of the time periods approaches the first 10 years. 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. This test is applied to trust fund projections made under the intermediate assumptions.

Test of Short-Range Financial Adequacy. The conditions required to meet this test are as follows: (1) 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; (2) 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 rest of the 10-year period. This test is applied to trust fund projections made under the intermediate assumptions.

Trust fund. Separate accounts in the U. S. Treasury, mandated by Congress, whose assets may be used only for a specified purpose. For the HI trust fund, monies not withdrawn for current benefit payments and administrative expenses are invested in interest-bearing federal securities, as required by law; the interest earned is also deposited in the trust fund.

Trust fund ratio. A short-range measure of the adequacy of the trust fund level; defined as the assets at the beginning of the year expressed as a percentage of the outgo during the year.

Unit input intensity allowance. The amount added to, or subtracted from, the hospital input price index to yield the PPS update factor.

Valuation period. A period of years that is considered as a unit for purposes of calculating the status of a trust fund.

Voluntary enrollee. Certain individuals, aged 65 or older or disabled, who are not otherwise entitled to Medicare and who opt to obtain coverage under Part A by paying a monthly premium.

Year of exhaustion. The first year in which a trust fund is unable to pay benefits when due because the assets of the fund are exhausted.

F. STATEMENT OF ACTUARIAL OPINION

It is my opinion that (1) the techniques and methodology used herein to evaluate the financial status of the Federal Hospital Insurance Trust Fund are based upon sound principles of actuarial practice and are generally accepted within the actuarial profession; and (2) the principal assumptions used and the resulting actuarial estimates are, individually and in the aggregate, reasonable for the purpose of evaluating the financial status of the trust fund, taking into consideration the past experience and future expectations for the population, the economy, and the program.

Although the assumptions used are reasonable, certain evidence suggests that they may not be optimal. Ideally, there should be a fifty-fifty chance that actual trust fund operations will turn out to be better or worse than the intermediate projection. In my estimation, however, the likelihood of a more adverse result (than the intermediate projection) exceeds the likelihood of a more favorable result. Similarly, an outcome more adverse than the high cost projection appears more probable than one that is better than the low cost projection.

The future cost of the Hospital Insurance program is very uncertain, and reasonable people can disagree concerning the most probable economic and demographic trends. For these reasons, projections are shown in this report under three different sets of assumptions intended to illustrate a broad range of possible outcomes. Readers are cautioned not to focus solely on just one set of assumptions but rather to recognize that any result within the range shown can reasonably be expected to occur.

As noted in this report, income to the Hospital Insurance trust fund is projected to fall short of expenditures in the long term under a broad range of assumptions. Thus, regardless of the specific assumptions used, the need for attention to the fund's long-range financial imbalance is apparent.

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