NOTE: This is a reconstructed document created from a scanned copy of the report using optical character recognition (OCR). Although many OCR conversion errors have been corrected, many OCR conversion errors remain in this document. Since later issues of the report are used as a template, artifacts from later reports may be present in this document. The content is presented in essentially the same order as the original document, but the formatting, page layout, pagination are different.

1988 ANNUAL REPORT OF THE BOARD OF TRUSTEES OF THE FEDERAL SUPPLEMENTARY MEDICAL INSURANCE TRUST FUND

COMMUNICATION

From

THE BOARD OF TRUSTEES, FEDERAL SUPPLEMENTARY MEDICAL INSURANCE TRUST FUND

Transmitting

THE 1988 ANNUAL REPORT OF THE BOARD, PURSUANT TO SECTION 1841(b) OF THE SOCIAL SECURITY ACT, AS AMENDED

LETTER OF TRANSMITTAL

BOARD OF TRUSTEES OF THE
FEDERAL HOSPITAL INSURANCE TRUST FUND
Washington, D.C, May 5, 1988

HONORABLE JAMES C. WRIGHT, JR.
Speaker of the House of Representatives
Washington, D.C.

HONORABLE GEORGE BUSH
President of the Senate
Washington, D.C.

GENTLEMEN:

We have the honor of transmitting to you the 1988 Annual Report of the Board of Trustees of the Federal Supplementary Medical Insurance Trust Fund (the 23rd such report), in compliance with the provisions of section 184l(b) of the Social Security Act.

Respectfully,

JAMES A. BAKER, III,
Secretary of the Treasure, and
Managing Trustee of the Trust Fund

ANN McLAUGHLIN,
Secretary of Labor,
and Trustee

OTIS R. BOWEN, M.D.,
Secretary of Health and
Human Services and Trustee

MARY FALVEY FULLER,
Trustee

SUZANNE DENBO JAFFE,
Trustee

WILLIAM L. ROPER, M.D..,
Administrator of the Health Care Financing
Administration, and Secretary,
Board of Trustees

CONTENTS

TABLES

FIGURES

1988 ANNUAL REPORT OF THE BOARD OF TRUSTEES OF THE FEDERAL SUPPLEMENTARY MEDICAL INSURANCE TRUST FUND

THE BOARD OF TRUSTEES

The Federal Supplementary Medical Insurance Trust Fund, established on July 30, 1965, is held by the Board of Trustees under the authority of section 1841(b) of the Social Security Act, as amended. The Board has five members. Three serve in an ex officio capacity. These members are the Secretary of the Treasury, the Secretary of Labor, and the Secretary of Health and Human Services. Two public members, Mary Falvey Fuller and Suzanne Denbo Jaffe, are provided for by the Social Security Amendments of 1983 (Public Law 98-21, enacted into law on April 20, 1983). The two public members were nominated by the President for a term of four years and were confirmed by the Senate.

By law, the Secretary of the Treasury is designated as the Managing Trustee, and the Administrator of the Health Care Financing Administration is designated as Secretary of the Board. The Board of Trustees reports to the Congress each year on the operation and status of the trust fund, in compliance with section 1841(b)(2) of the Social Security Act. This is the 1988 annual report, the twenty-third such report.

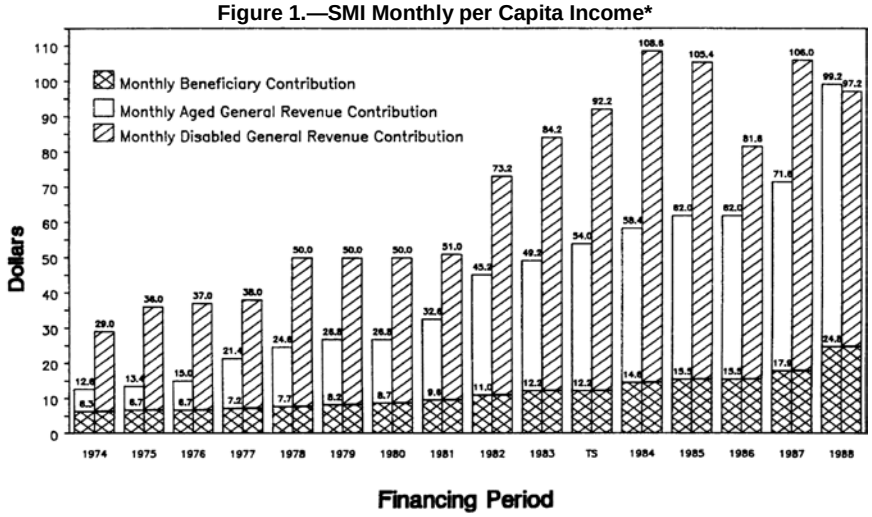
EXECUTIVE SUMMARY

The supplementary medical insurance (SMI) program pays for physician services, outpatient hospital services, and other medical expenses of both aged 65 and over and of those long term disabled. In Calendar Year (CY) 1987, 31.1 million people were covered under SMI. General revenue contributions during 1987 amounted to $23.6 billion, accounting for 7 4.0 percent of all S MI income. About 23.3 percent of all income resulted from the premiums paid by the enrollees, with interest payments to the S MI fund accounting for the remaining 2.7 percent. Of the $31.7 billion in SMI disbursements, $30.8 billion was for benefit payments while the remaining $0.9 billion was spent for administrative expenses. SMI administrative expenses were 2.9 percent of total disbursements.

The SMI program is financed on an accrual basis with a contingency margin. This means that the SMI trust fund should always be somewhat greater than the claims that have been incurred by enrollees but not yet paid by the program. The trust fund holds all of the income not currently needed to pay benefits and related expenses. The assets of the fund may not be used for any other purpose; however, they may be invested in certain interest bearing obligations of the U.S. Government.

Financing for the SMI program is established annually on the basis of standard monthly premium rates (paid by or on behalf of all participants) and monthly actuarial rates determined separately for aged and disabled beneficiaries (on which general revenue contributions are based). Prior to the 6-month transition period (July 1, 1983 through December 31, 1983), these rates were applicable in the 12-month periods ending June 30. Beginning January 1, 1984, the annual basis was changed to calendar years. Monthly actuarial rates are equal to one-half the monthly amounts necessary to finance the SMI program. These rates determine the amount to be contributed from general revenues on behalf of each enrollee. Based on the formula in the law, the Government contribution effectively makes up the difference between twice the monthly actuarial rates and the standard monthly premium rate. Figure 1 presents these values for financing periods since 1974. This figure clearly indicates the extent to which general revenue financing is the major source of income for the program.

Figure 1.—SMI Monthly per Capita Income*



Financing Period:
For periods 1983 and earlier, the financing period is July 1 through June 30.
Transitional semester (TS), the financing period is July 1, 1983 through December 31, 1983.

Operations of the SMI Program

Historical and projected operations of the fund through 1990 are shown in Tables 5 and 6 in this report. As can be seen, income has exceeded disbursements for most of the historical years. At the time that financing was being-established for CY 1988, assets appeared not to be sufficient to cover outstanding liabilities and an appropriate contingency for these liabilities. Therefore, the financing was established to amortize this unfunded liability and begin to build the assets to a level necessary to maintain the actuarial soundness of the program. On an accrual basis, income is projected to exceed disbursements in CY 1988. However, the trust fund balance is projected to decrease through CY 1988. This

apparent inconsistency arises from a provision in the law whereby the Social Security benefit checks, normally delivered on January 3, 1988, were delivered on December 31, 1987. Consequently, the premiums withheld from the checks and the general revenue contribution were added to the SMI trust fund in CY 1987 and not in CY 1988. If the trust fund balance were adjusted to credit these transactions in CY 1988, the trust fund balance would be projected to increase through CY 1988 and would increase in future years.

The financial status of the program depends on both the total net assets and liabilities. It is, therefore, necessary to examine the incurred experience of the program, since it is this experience which is used to determine the actuarial rates discussed above and which forms the basis of the concept of actuarial soundness as it relates to the SMI program.

Actuarial Soundness of the SMI Program

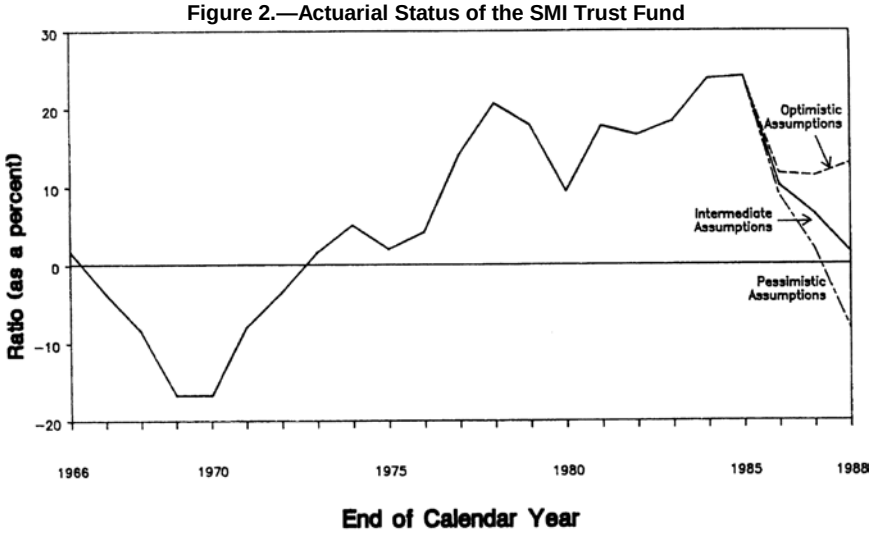
The concept of actuarial soundness, as it applies to the SMI program, is closely related to the concept as it applies to private group insurance. The SMI program is essentially yearly renewable term insurance financed from premium income paid by the enrollees, from income contributed from general revenue in proportion to premium payments, and from interest payments on the trust fund assets.

In testing the actuarial soundness of the SMI program, it is not appropriate to look beyond the period for which the enrollee premium rate and level of general revenue financing have been established. The primary tests of actuarial soundness, then, are that: (1) assets and income for years for which financing has been established be sufficient to meet the projected benefits and associated administrative expenses incurred for that period and (2) assets be sufficient to cover projected liabilities that will have been incurred by the end of that time but will not have been paid yet. Even if these tests of actuarial soundness are not met, the program can continue to operate if the trust fund remains at a level adequate to permit the payment of claims as presented. However, to protect against the possibility that cost increases under the program will be higher than assumed, assets should be sufficient to cover the impact of a moderate degree of variation between actual and projected costs.

The primary tests for actuarial soundness and trust fund adequacy can be viewed by direct examination of absolute dollar levels. In providing an appropriate contingency or margin for variation, however, there must also be some relative measure. The relative measure or ratio used for this purpose is the ratio of the assets less liabilities to the following year's incurred expenditures. Figure 2 shows this ratio for historical years and for projected years under the intermediate assumptions (Alternative 11-B), as well as high (pessimistic) and low (optimistic) cost sensitivity scenarios.

Financing for CY 1988 was established to amortize the unfunded liability and to begin to build the excess of assets over liabilities to a more appropriate level to maintain the actuarial soundness of the trust fund.

Figure 2.—Actuarial Status of the SMI Trust Fund



Note: The actuarial status of the SMI trust fund is measured by the ratio of the end of year assets less liabilities to the following year incurred expenditures.

Conclusion of the Board of Trustees

The financing established through December 1988 is sufficient to cover projected benefits and administrative costs incurred through that time period, and to maintain a level of trust fund assets which is adequate to cover the impact of a small degree of variation between actual costs and projected costs. The SMI program can thus be said to be actuarially sound.

Although the SMI program is financially sound, the Board notes with concern the rapid growth in the cost of the program. Growth rates have been so rapid that outlays of the program have doubled in the last five years. For the same time period, the program grew 40 percent faster than the economy as a whole. This growth rate shows no sign of abating despite recent efforts to control the cost of the program. The Board recommends that Congress continue to work to curtail the rapid growth in the SMI program.

SOCIAL SECURITY AMENDMENTS SINCE THE 1987 REPORT

Since the 1987 Annual Report was transmitted to Congress, the Omnibus Budget Reconciliation Act of 1987 (Public Law 100-203) was enacted on December 22, 1987 and contained the following changes:

(1) Payment reductions of 2.324 percent required by the November 20, 1987 sequester order continued until March 31, 1988. Both the 1987 prevailing charges, customary charges for physician services, and the 1987 maximum allowable actual charges (MAAC) for nonparticipating physicians were extended through March 31, 1988.

(2) For the April 1, 1988 delayed update of the prevailing charges for physician services, the update will be separated into two categories, primary care services and other. Primary care services are defined as physician services which constitute office medical services, emergency department services, home medical services, skilled nursing, intermediate care and long term care medical services, or nursing home, boarding home, domiciliary, or custodial care medical services. On April 1, 1988, the prevailing charges for primary care services for participating physicians will increase 3.6 percent; in CY 1989, the increase will be 3.0 percent. On April 1, 1988, the prevailing charges for other services for participating physicians will increase 1.0 percent; in CY 1989, the increase will also be 1.0 percent.

Nonparticipating physicians receive 95.5 percent of the participating physician prevailing charges for the period April 1, 1988 to December 31, 1988 and 95 percent beginning January 1, 1989.

(3) For the nine month period beginning April 1, 1988, the prevailing charges for certain overpriced procedures such as cataract, coronary artery bypass, pacemaker implantation, and total hip replacement surgeries will be reduced 2 percent from the 1987 prevailing charge levels. In addition, there is a linear sliding scale reduction from 0 to 15 percent of three thirteenths of a percentage point for each percent by which the prevailing charge exceeds 85 percent, but is no more than 150 percent of the weighted national average. Therefore, no procedure will be reduced lower than 85 percent of the weighted 1987 national average for that procedure. In addition, the reduced payment amounts will be the basis for application of the Medicare Economic Index (MEI) in the future.

Beginning January 1, 1988, for nonparticipating physicians, there is a limit on the actual charges for these procedures which is 125 percent of the reduced prevailing charges, plus one half of the amount that the physician's MAAC from the previous 12 months exceeds this level. This is effective until one year after the Secretary reports to the Congress on the relative value scale or December 31, 1990, whichever is earlier.

(4) After April 1, 1988, the customary charges for nonprimary care services of most new physicians will be set at 80 percent of the

prevailing charge level, adjusted by the MEI for participating and nonparticipating physicians. New physicians who practice in rural manpower shortage areas and the primary care services of new physicians in any area will be calculated using the 50th percentile of the weighted customary charges in the locality.

(5) Physician services furnished in an ambulatory surgical center or a hospital outpatient department on an assignment basis are subject to the $75 SMI deductible and a 20 percent coinsurance.

(6) For clinical diagnostic laboratory tests, there was a payment freeze for the first three months of CY 1988. After that time, the fee schedule amounts paid for automated tests and tests subject to the lowest charge levels prior to the implementation of the fee schedule are reduced by 8.3 percent. In addition, the Consumer Price Index (CPI) update will not be applied to the fee schedule for the remainder of CY 1988. Furthermore, until a national fee schedule is established, the payment ceiling for a given test is equal to 100 percent of the median of all fee schedule amounts for that test in that setting.

(7) The aggregate payment for capital and noncapital costs for hospital outpatient radiology and diagnostic services is limited to the lesser of (a) the reasonable costs or customary charges, or (b) a blended payment amount derived from a formula which sums proportions of reasonable costs or customary charges with prevailing charges. The limits for radiology will be effective on October 1, 1989.

(8) The maximum payment per enrollee for mental health services is increased to $450 for CY 1988 and to $1,100 for calendar year 1989 and later.

(9) No Medicare payment may be issued, mailed, or transmitted before a certain number of days have elapsed since receipt. This time period is 10 days, effective July 1, 1988, and 14 days for Fiscal Year 1989.

(10) Individuals who re-establish entitlement to disability benefits, irrespective of the time off the rolls, may be covered by Medicare without a waiting period if their current impairment is the same as, or directly related to, that in their previous period of disability.

(11) The SMI premium rate must equal 25 percent of the annual projected program costs per aged beneficiary through CY 1989.

Detailed information regarding these changes can be found in documents prepared by and for the Congress.

NATURE OF THE TRUST FUND

The Federal Supplementary Medical Insurance Trust Fund was established on July 30, 1965, as a separate account in the United States Treasury. All the financial operations of the SMI program are handled through this fund.

The major sources of receipts of the trust fund are: (1) contributions of the Federal Government that are authorized to be appropriated and transferred from the general fund of the Treasury and (2) premiums paid by eligible persons who are voluntarily enrolled in the program. Eligible persons aged 65 and over have been able to enroll in the program since its inception in July 1966. Since July 1973, disabled persons under age 65, who have met certain eligibility requirements, have also been able to enroll in the program.

The premiums paid by enrollees are based on the standard monthly premium rate, which is the same for enrollees aged 65 and over and for disabled enrollees under age 65. Premiums paid for Fiscal Years (FY) 1967 through 1973 were matched by an equal amount of Government contributions. Beginning July 1973, the amount of Government contributions corresponding to premiums paid by each of the two groups of enrollees is determined by applying a ratio (known as the matching rate), prescribed in the law for each group, to the amount of premiums received from that group of enrollees. The ratio is equal to: (1) twice the amount of the monthly actuarial rate applicable to the particular group of enrollees, minus the amount of the standard monthly premium rate, divided by (2) the amount of the standard monthly premium rate.

Standard monthly premium rates and actuarial rates are promulgated each year by the Secretary of Health and Human Services. The standard monthly premium rates in effect from July 1966 through June 1983, the rate for July 1983 through December 1983, and the rates for CY 1984 through 1988 are shown in Table 1. Actuarial rates and the corresponding matching rates in effect from July 1973 through June 1983, the rates applicable for July 1983 through December 1983, and the rates for CY 1984 through 1988 are also shown. For a detailed discussion of the determination of the actuarial and premium rates, see Appendix B.

TABLE 1.—STANDARD MONTHLY PREMIUM RATES, ACTUARIAL RATES, AND MATCHING RATIOS

		Monthly actuarial rate		Matching ratio	
	Standard monthly premium rate	Enrollees aged 65 and over	Disabled enrollees under age 65	Enrollees aged 65 and over	Disabled enrollees under age 65
July 1966 - March 1968	$3.00	—	—	—	—
April 1968 - June 1970	4.00	—	—	—	—
12-month period ending June 30 of -					
1971	5.30	—	—	—	—
1972	5.60	—	—	—	—
1973	5.80	—	—	—	—
1974[1]	6.30	$6.30	$14.50	1.0000	3.6032
1975	6.70	6.70	18.00	1.0000	4.3731
1976	6.70	7.50	18.50	1.2388	4.5224
1977	7.20	10.70	19.00	1.9722	4.2778
1978	7.70	12.30	25.00	2.1948	5.4935
1979	8.20	13.40	25.00	2.2683	5.0976
1980	8.70	13.40	25.00	2.0805	4.7471
1981	9.60	16.30	25.50	2.3958	4.3125
1982	11.00	22.60	36.60	3.1091	5.6545
1983	12.20	24.60	42.10	3.0328	5.9016
July 1983 - December 1983	12.20	27.00	46.10	3.4262	6.5574
Calendar year					
1984	14.60	29.20	54.30	3.0000	6.4384
1985	15.50	31.00	52.70	3.0000	5.8000
1986	15.50	31.00	40.80	3.0000	4.2645
1987	17.90	35.80	53.00	3.0000	4.9218
1988	24.80	49.60	48.60	3.0000	2.9194

[1]In accordance with limitations on the costs of health care imposed under phase III of the Economic Stabilization program, the standard premium rate tor July and August 1973 was set at $5.80 and $6.10, respectively. Effective September 1973, the rate increased to $6.30.

Another source from which receipts of the trust fund are derived is interest received on investments held by the fund. The investment procedures of the fund are described later in this section.

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 for any activity financed through the fund.

Expenditures for benefit payments and administrative expenses under the program are paid out of the trust fund. All expenses incurred by the Department of Health and Human Services and by the Department of the Treasury in carrying out the SMI provisions of Title XVIII of the Social Security Act are charged to the trust fund. The Secretary of Health and Human Services certifies benefit payments to the Managing Trustee, who makes the payments from the trust fund in accordance therewith.

The Social Security Amendments of 1967 and 1972 authorize the Secretary of Health and Human Services 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 hospital insurance (HI) and SMI programs. A sizeable portion of such costs of such experiments and demonstration projects are paid out of the HI and SMI trust funds, with the remainder funded through general revenues.

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 SMI 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. In 1972-75, construction of several large facilities was authorized under purchase contract authority, wherein initial capital costs were borne by the private sector. Under this method of facilities acquisition, trust fund expenditures for use and ultimate Government ownership of a facility are made over periods of from 10 to 30 years. Whatever the manner of acquisition, the net worth of facilities and other fixed capital assets is not carried in the statement of the assets of the trust fund presented in this report. This is because the value of fixed capital assets does not represent funds available for benefit or administrative expenditures and, therefore, is not viewed as being a consideration in assessing the actuarial status of the funds.

That portion of the trust fund which, in the judgment of the Managing Trustee, is not required to meet current expenditures for benefits and administration is invested in interest-bearing obligations of the U.S. Government (including special public-debt obligations described below), in obligations guaranteed as to both principal and interest by the United States, or in certain federally sponsored agency obligations that are designated in the laws authorizing their issuance as lawful investments for fiduciary and trust funds under the control and authority of the United States or any officer of the United States. Obligations of these types 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 such special public-debt obligations shall 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 next preceding the date of such issue) on all marketable interest- bearing obligations of the United States forming a part of the public debt which are not due or callable until after the expiration of 4 years from the end of such calendar month.

SUMMARY OF THE OPERATIONS OF THE TRUST FUND, FISCAL YEAR 1987

A statement of the income and disbursements of the Federal Supplementary Medical Insurance Trust Fund in FY 1987 and of the

assets of the fund at the beginning and end of the fiscal year is presented in Table 2.

TABLE 2.—STATEMENT OF OPERATIONS OF THE SUPPLEMENTARY MEDICAL INSURANCE TRUST FUND DURING FISCAL YEAR 1987

(In thousands)

Total assets of the trust fund, beginning of period		$9,431,764
Receipts:		
Premiums from enrollees:		
Enrollees aged 65 and over	$5,897,171	
Disabled enrollees under age 65	582,340	
Total premiums		6,479,511
Transfers from general fund of the Treasury:		
Government contributions:		
Supplementary premiums of enrollees aged 65 and over	17,578,859	
Supplementary premiums of disabled enrollees under age 65	2,720,429	
Total Government contributions		20,299,288
Other		12
Interest		
Interest on Investments		1,017,628
Interest on amounts of interfund transfers[1]		1,000
Total receipts		27,797,439
Disbursements:		
Benefit payments		29,937,137
Administrative expenses:		
Treasury administrative expenses	-1,416	
Salaries and expenses – SSA	158,978	
Salaries and expenses – HCFA	714,568	
Salaries and expenses Office of Secretary	16,427	
Construction	9,559	
Professional Standard review Organization	0	
Public Health Service	0	
Reimbursement of SSA expenses	0	
Reimbursement of HCFA expenses	0	
Pay Assessment Commission	513	
Office of Personnel Management expenses	42	
Physicians Payment Review	1,000	
Total administrative expenses		899,672
Total disbursements		30,836,809
Net addition to the trust fund		-3,039,370
Total assets of the trust fund, end of period		6,392,394

[1]A positive figure represents a transfer of interest to the SMI trust fund from the other trust funds. A negative figure represents a transfer of interest from the SMI trust fund to the other trust funds.

NOTE: Totals do not necessarily equal the sum of rounded components.

The total assets of the trust fund amounted to $9,432 million on September 30, 1986. During FY 1987, total receipts amounted to $27,797 million, and total disbursements were $30,837 million. Total assets thus decreased $3,039 million during the year to a total of $6,392 million on September 30, 1987.

Of the total receipts, $5,897 million represented premium payments by (or on behalf of) enrollees aged 65 and over, and $582 million represented premium payments by (or on behalf of) disabled enrollees under age 65. Total premium payments amounted to $6,480 million, an increase of 13.7 percent over the amount of $5,699 million for the preceding year. This increase in premiums from enrollees resulted

primarily from: (1) the growth of the number of persons enrolled in the SMI program and (2) the increase from $15.50 to $17.90 per month in the standard premium rate that became effective on January 1, 1987.

Contributions received from the general fund of the treasury amounted to $20,299 million, which accounted for 73 percent of total receipts. This amount consisted of $17,579 million representing contributions relating to premiums paid by enrollees aged 65 and over, and $2,720 million representing contributions relating to the premiums paid by disabled enrollees under age 65. The remaining $1,019 million of receipts consisted almost entirely of interest on the investments of the trust fund.

Of the $30,837 million in total disbursements, $29,937 million represented: (1) benefits paid directly from the trust fund for health services covered under Title XVIII of the Social Security Act and (2) costs of experiments and demonstration projects in providing health care services.

The remaining $900 million of disbursements was for administrative expenses. Administrative expenses are allocated and charged directly to each of the four trust funds—old age and survivors insurance, disability insurance, HI, and SMI—on the basis of provisional estimates. Similarly, the expenses of administering other programs of the Health Care Financing Administration are also allocated and charged directly to the general fund of the Treasury on a provisional basis. Periodically, as actual experience develops and is analyzed, the allocations of administrative expenses and costs of construction for prior periods are adjusted by interfund transfers. This adjustment includes transfers between the HI and SMI trust funds and the program management general fund account, with appropriate interest allowances.

In Table 3, the experience with respect to actual amounts of enrollee premiums, Government contributions, and benefit payments in FY 1987 is compared with the estimates for FY 1987 which appeared in the 1986 and 1987 annual reports.

TABLE 3.—COMPARISON OF ACTUAL AND ESTIMATED OPERATIONS OF THE SUPPLEMENTARY MEDICAL INSURANCE TRUST FUND, FISCAL YEAR 1987

(Dollar amounts in millions)

Item	Actual amount	Comparison of actual experience with estimates for FY 1990 published in -			
		1987 report		1986 report	
		Estimated amount	Actual as percentage of estimate	Estimated amount	Actual as percentage of estimate
Premiums from enrollees	$6,480	$6,418	101	$7,065	92
Government Contributions	20,299	20,251	100	19,816	102
Benefit Payments	29,937	29,488	102	29,208	102

Table 4 shows a comparison of the total assets of the fund and their distribution at the end of FY 1986 and at the end of FY 1987. The assets of the trust fund at the end of FY 1986 totaled $9,432 million, consisting of $9,424 million in the form of obligations of the U.S. Government, and an undisbursed balance of $7 million. The assets of the trust fund at the end of FY 1987 totaled $6,392 million, consisting of $6,166 million in the form of obligations of the U.S. Government and an undisbursed balance of $226 million. A comparison of assets of the trust fund with liabilities for incurred but unpaid benefits (and related administrative expenses) is shown in a later section.

TABLE 4.—ASSETS OF THE SUPPLEMENTARY MEDICAL INSURANCE TRUST FUND AT THE END OF FISCAL YEARS 1986 AND 1987[1]

	September 30, 1986	September 30. 1987
Investments in public-debt obligations sold only to this fund (special Issues):		
Certificates of Indebtedness:	—	—
Bonds:		
7 1/8-percenl, 1989-92	$306,553,000.00	—
7 3/8-percenl, 1989-90	85,057,000.00	—
7 1/2-percenl, 1989-91	97,691,000.00	—
7 5/8-percenl, 1989	61,963,000.00	—
8 1/4-percenl, 1989-93	717,706,000.00	$110,095,000.00
8 3/8-percenl, 2001	444,270,000.00	444,270,000.00
8 3/4-percenl, 1989-94	691,398,000.00	399,662,000.00
9 3/4-percenl, 1995	115,003,000.00	115,003,000.00
10 3/8-percent, 1989-2000	2,560,107,000.00	1,895,771,000.00
10 3/4-percent, 1988-98	1,279,093,000.00	897,291,000.00
13 1/4-percent, 1988-97	1,287,189,000.00	1,076,184,000.00
13 3/4-percent. 1988-99	1,778,366,000.00	1,227,792,000.00
Total investments in public-debt obligations	9,424,396,000.00	6,166,068,000.00
Undisbursed balance	7,368,140.25	226,325,935.86
Total assets	9,431,764,140.25	6,392,393,935.86

[1]The assets are carried at par value, which is the same as book value.

The net decrease in the par value of the investments held by the fund during FY 1987 amounted to $3,258 million. New securities at a total par value of $26,692 million were acquired during the fiscal year through the investment of receipts and reinvestment of funds made available from the redemption of securities. The par value of securities redeemed

during the year was $29,950 million. Included in these amounts is $26,390 million in certificates of indebtedness that were acquired, and $26,390 million in certificates of indebtedness that were redeemed, within the fiscal year.

The effective annual rate of interest earned by the assets of the SMI trust fund for the 12 months ending on June 30, 1987 was 10.5 percent. This period is used because interest on special issues is paid semiannually on June 30 and December 31. The interest rate on special issues purchased by the trust fund in June 1987 was 8 5/8 percent, payable semiannually.

EXPECTED OPERATIONS AND STATUS OF THE TRUST FUND DURING THE PERIOD OCTOBER 1, 1987 TO DECEMBER 31, 1990

Financing for the SMI program is established annually on the basis of standard monthly premium rates (paid by or on behalf of the enrollees) and actuarial rates (on which general revenue contributions are based). Beginning January 1, 1984, the annual basis has been the calendar year. The allowable fee limits for physician services has also been established to apply to calendar years, beginning January 1, 1987.

Although standard premium rates and actuarial rates have been set only for periods through December 31, 1988, projections are presented through December 31, 1990 to conform with the requirements of Section 1841(b) of the Social Security Act. It has been assumed in this report that financing after that time will be established to cover the incurred expenses of the program as provided by the provisions described in the "Nature of the Trust Fund" section.

The projections shown in the following tables are based on two sets of economic assumptions labeled Alternative A and Alternative B. These alternatives reflect two different levels of expectation of future performance of the economy. Appendix A presents an explanation of the effects of Alternative A and Alternative B on the projections in this report. For the projection period shown in this report, the variation in economic performance between Alternative A and Alternative B does not significantly affect the operations of the SMI program.

The January 1, 1988 update of the allowable fee limits for physician services was delayed until April 1, 1988 by Public Law 100-203. Under both sets of projections, it is assumed that the April 1, 1988 increase will be 1.7 percent, and the January 1, 1989 increase will be 2.0 percent.

The costs per enrollee for institutional and other services under the SMI program are projected to increase an average of 16.2 percent for CY 1988 and 15.7 percent for CY 1989. These increases represent price increases and increases due to other factors.

Table 5 shows the projected operations of the trust fund on a fiscal year basis through FY 1990. The level of the trust fund decreased in FY 1987 for two reasons. First, the actuarial rates for this period were set to reduce the assets to a more appropriate level. Second, actual expenditures exceeded the estimate made at the time of promulgation.

TABLE 5.—ESTIMATED PROGRESS OF THE SUPPLEMENTARY MEDICAL INSURANCE TRUST FUND (CASH BASIS) DURING FISCAL YEARS 1988-1990 AND ACTUAL DATA FOR 1967-1987

(In millions)

	Income				Disbursements			
Fiscal Year[1]	Premium from enrollees	Government contribu-tlons[2]	Interest and Other Income[3]	Total Income	Benefit payments	Adminis-trative expenses	Total disburse-ments	Balance at end of year[4]
Historical Data:								
1967	$647	$623	$15	$1,285	$664	$135[5]	$799	$486
1968	698	634	21	1,353	1,390	142	1,532	307
1969	903	984	24	1,911	1,645	195	1,840	378
1970	936	928	12	1,876	1,979	217	2,196	57
1971	1,253	1,245	18	2,516	2,035	248	2,283	290
1972	1,340	1,365	29	2,734	2,255	289	2,544	481
1973	1,427	1,430	45	2,902	2,391	246	2,637	746
1974	1,704	2,029	76	3,809	2,874	409	3,283	1,272
1975	1,887	2,330	105	4,322	3,765	405	4,170	1,424
1976	1,951	2,939	104	4,994	4,672	528	5,200	1,219
T.Q.	539	878	4	1,421	1,269	132	1,401	1,239
1977	2,193	5,053	137	7,383	5,867	475	6,342	2,279
1978	2,431	6,386	228	9,045	6,852	504	7,356	3,968
1979	2,635	6,841	363	9,839	8,259	555	8,814	4,994
1980	2,928	6,932	415	10,275	10,144	593	10,737	4,532
1981	3,320	8,747	372	12,439	12,345	883	13,228	3,743
1982	3,831	13,323	473	17,627	14,806	754	15,560	5,810
1983	4,227	14,238	682	19,147	17,487	824	18,311	6,646
1984	4,907	16,811	807	22,525	19,473	899	20,372	8,799
1985	5,524	17,898	1,155	24,577	21,808	922	22,730	10,646
1986	5,699	18,076	1,228	25,003	25,169	1,049	26,218	9,432
1987	6,480	20,299	1,018	27,797	29,937	900	30,837	6,392
Projected:								
Alternative A:								
1988	8,719	25,418	703	34,840	33,992	1,067	35,059	6,173
1989	10,341	31,137	733	42,211	38,347	1,123	39,470	8,914
1990	11,065	34,212	900	46,177	43,568	1,185	44,753	10,338
Alternative B:								
1988	8,719	25,418	703	34,840	33,992	1,065	35,057	6,175
1989	10,341	31,137	735	42,213	38,356	1,119	39,475	8,913
1990	11,095	34,242	908	46,245	43,611	1,179	44,790	10,368

[1]For 1967 through 1976, fiscal years cover the Interval from July 1 through June 30; the three-month Interval from July 1, 1976, through September 30, 1976, is labeled "T.Q.", the transition quarter; FY 1977-90 cover the interval from October 1 through September 30.
[2]The payments shown as being from the general fund of the Treasury Include certain interest-adjustment Items.
[3]Other Income Includes recoveries of amounts reimbursed from the trust fund which are not obligations of the trust fund and other miscellaneous income.
[4]The financial status of the program depends on both the total net assets and the liabilities of the program (See Table 9).
[5]Admlnlstrative expenses shown Include those paid In FY 1966 and 1967.

Table 6 shows the corresponding development on a calendar year basis. The trust fund balance at the end of CY 1987 is higher than it ordinarily would be. Section 708 of Title VII of the Social Security Act modifies the delivery day of Social Security benefit checks when the

regularly designated delivery day falls on a Saturday, Sunday or legal public holiday. As a result, the benefit checks were delivered on December 31, 1987 instead of January 3, 1988, a Sunday. Consequently, the SMI premiums withheld from the checks ($692 million) and the general revenue contributions ($2,178 million) were added to the SMI trust fund on December 31, 1987 instead of January 3, 1988. If the benefit checks had been delivered in January 1988, the trust fund balance at the end of CY 1987 would have been $5,524 million instead of $8,394 million.

TABLE 6.— ESTIMATED PROGRESS OF THE SUPPLEMENTARY MEDICAL INSURANCE TRUST FUND (CASH BASIS) DURING CALENDAR YEARS 1988-1990 AND ACTUAL DATA FOR 1967-1987

(In millions)

Calendar Year	Income				Disbursements			Balance at end of year[3]
	Premium from enrollees	Government contribu-tions[1]	Interest and Other Income[2]	Total Income	Benefit payments	Adminis-trative expenses	Total disburse-ments	
Historical Data:								
1966	$322	$0	$2	$324	$128	$75	$203	$122
1967	640	933	24	1,597	1,197	110	1,307	412
1968	832	858	21	1,711	1,518	184	1,702	421
1969	914	907	18	1,839	1,865	196	2,061	199
1970	1,096	1,093	12	2,201	1,975	237	2,212	188
1971	1,302	1,313	24	2,639	2,117	260	2,377	450
1972	1,382	1,389	37	2,808	2,325	289	2,614	643
1973	1,550	1,705	57	3,312	2,526	318	2,844	1,111
1974	1,804	2,225	95	4,124	3,318	410	3,728	1,506
1975	1,918	2,648	107	4,673	4,273	462	4,735	1,444
1976	2,060	3,810	107	5,977	5,080	542	5,622	1,799
1977	2,247	5,386	172	7,805	6,038	467	6,505	3,099
1978	2,470	6,287	299	9,056	7,252	503	7,755	4,400
1979	2,719	6,645	404	9,768	8,708	557	9,265	4,902
1980	3,011	7,455	408	10,874	10,635	610	11,245	4,530
1981	3,722[4]	11,291[4]	361	15,374	13,113	915	14,028	5,877
1982	3,697[4]	12,284[4]	599	16,580	15,455	772	16,227	6,230
1963	4,236	14,861	727	19,824	18,106	878	18,984	7,070
1984	5,167	17,054	959	23,180	19,661	891	20,552	9,698
1985	5,613	18,250	1,243	25,106	22,947	933	23,880	10,924
1986	5,722	17,802	1,141	24,665	26,239	1,060	27,299	8,291
1987	7,409[5]	23,560[5]	875	31,844	30,820	920	31,740	8,394
Projected:								
Alternative A:								
1988	8,711[5]	25,991[5]	632	35,334	35,024	1,079	36,103	7,625
1989	10,653	30,527	838	42,018	39,595	1,138	40,733	8,910
1990	11,201	35,441	954	47,596	45,039	1,201	46,240	10,266
Alternative B:								
1991	8,711[5]	25,991[5]	633	35,335	35,025	1,076	36,101	7,628
1992	10,653	30,527	843	42,023	39,612	1,134	40,746	8,905
1993	11,241	35,481	967	47,689	45,096	1,194	46,290	10,304

[1]The payments shown as being from the general fund of the Treasury include certain Interest-adjustment Items.

[2]Other income includes recoveries of amounts reimbursed from the trust fund which are not obligations of the trust fund and other miscellaneous Income.

[3]The financial status of the program depends on both the total net assets and the liabilities of the program (See Table 9).

[4]Sectlon 708 of Title VII of the Social Security Act modified the provisions for the delivery of Social Security benefit checks When the regularly designated delivery day falls on a Saturday, Sunday, or legal public holiday. Delivery of benefit checks normally due January, 1982 occurred on December 31, 1981. Consequently the SMI premiums withheld from the checks ($264 million) and the general revenue contributions ($883 million) were added to the SMI trust fund on December 31, 1981. These amounts are excluded from the premium Income and general revenue Income for CY 1982.

[5]Delivery of benefit checks normally due January, 1988 occurred on December 31. 1987. Consequently, the SMI premiums withheld from the checks ($692 million) and the general revenue contributions ($2,178 million) were added to the SMI trust fund on December 31, 1987. These amounts are excluded from the premium Income and general revenue income for CY 1988 (Refer to footnote 4).

The actuarial rates for CY 1988 were promulgated with specific margins to begin to amortize the unfunded liability and to build assets to more desirable levels. Based on these actuarial rates and the above economic assumptions, the fund is projected to reach a level of $7.6 billion under both alternatives by the end of CY 1988 and then increase to $8.9 billion by the end of CY 1989.

Table 7 shows the calendar year average increases in aggregate and per capita benefit payments through CY 1990. As a measure of program growth relative to the economy as a whole, Table 7 shows SMI benefit expenditures as a percent of the gross national product (GNP). In CY 1987, the program grew on a per capita basis 15.1 percent and, on an aggregate basis, increased from 0.62 percent to 0.69 percent of GNP.

TABLE 7.—GROWTH IN TOTAL CASH BENEFITS UNDER THE SUPPLEMENTARY MEDICAL INSURANCE PROGRAM THROUGH DECEMBER 31, 1990

Calendar year	Aggregate benefits (millions)	Percent change	Per capita benefits	Percent change	SMI benefits as a percent of GDP
Historical Data:					
1967	$1,197	—	$66.97	—	0.15
1968	1,518	26.8	82.27	22.8	0.17
1969	1,865	22.9	97.86	19.0	0.19
1970	1,975	5.9	101.30	3.5	0.19
1971	2,117	7.2	106.68	5.3	0.19
1972	2,325	9.8	114.91	7.7	0.19
1973	2,526	8.6	122.02	6.2	0.19
1974	3,318	31.4	144.47	18.4	0.23
1975	4,273	28.8	179.96	24.6	0.27
1976	5,080	18.9	207.39	15.2	0.28
1977	6,038	18.9	239.27	15.4	0.30
1978	7,252	20.1	279.58	16.8	0.32
1979	8,708	20.1	326.86	16.9	0.35
1980	10,635	22.1	389.87	19.3	0.39
1981	13,113	23.3	471.15	20.8	0.43
1982	15,455	17.9	545.55	15.8	0.49
1983	18,106	17.2	627.79	15.1	0.53
1984	19,661	8.6	670.77	6.8	0.52
1985	22,947	16.7	768.25	14.5	0.57
1986	26,239	14.3	861.37	12.1	0.62
1987	30,820	17.5	991.73	15.1	0.69
Projected:					
Alternative A:					
1988	35,024	13.6	1,105.42	11.5	0.74
1989	39,595	13.1	1,226.46	10.9	0.78
1990	45,039	13.7	1,370.38	11.7	0.83
Alternative B:					
1988	35,025	13.6	1,105.45	11.5	0.74
1989	39,612	13.1	1,226.99	10.0	0.78
1990	45,096	13.8	1,372.12	11.8	0.84

ACTUARIAL STATUS OF THE TRUST FUND

1. Actuarial Soundness of the Supplementary Medical Insurance Program

The concept of actuarial soundness, as it applies to the SMI program, is closely related to the concept as it applies to private group insurance. The SMI program essentially is yearly renewable term insurance financed from premium income paid by the enrollees and from income contributed from general revenue in proportion to premium payments. The law requires the Secretary of Health and Human Services to establish income on the basis of incurred costs; that is, the income to the program during a 12-month period for which financing is being established must be sufficient to maintain assets at a level to pay for

services (including associated administrative costs) expected to be rendered during that period, even though payment for some of these services will not be made until after the close of the period. The portion of income required to cover those benefits not paid until after the close of the year is added to the trust fund until needed. Thus, the assets in the trust fund at any time should be no less than the costs of the benefits and administration incurred but not yet paid. Since the income per enrollee (premium plus Government contribution rate) is established prospectively, it is subject to projection error. Additionally, legislation enacted after the financing has been established but effective for the period for which the financing has been set, may affect program costs. As a result, the income to the program may not be equal to incurred costs; therefore, trust fund assets should be maintained at a level which is adequate to cover the impact of a moderate degree of variation between actual and projected costs, as well as the value of incurred but unpaid expenses.

In testing the actuarial soundness of the SMI program, it is not appropriate to look beyond the period for which the enrollee premium rate and level of general revenue financing have been established. The primary tests of actuarial soundness, then, are that: (1) assets and income for years for which financing has been established be sufficient to meet the projected benefits and associated administrative expenses incurred for that period and (2) assets be sufficient to cover projected liabilities that will have been incurred by the end of that time but will not have been paid yet. Even if these tests of actuarial soundness are not met, the program can continue to operate if the trust fund remains at a level adequate to permit the payment of claims as presented. However, to protect against the possibility that cost increases under the program will be higher than assumed, assets should be sufficient to include contingency levels to cover the impact of a moderate degree of variation between actual and projected costs.

Contingency levels to accommodate cost increases that may be higher than expected are measured by the excess of assets over liabilities. An appropriate target level for this excess depends on numerous factors. The most important of these factors are: (1) the difference from prior years in the actual performance of the program and the estimates made at the time financing was established and (2) the expected relationship between incurred and cash expenditures. Ongoing analysis is made of the former as the trends in the differences vary over time.

2. INCURRED EXPERIENCE OF THE SUPPLEMENTARY MEDICAL INSURANCE PROGRAM

The tests of actuarial soundness of the SMI program noted above rely on the incurred experience of the program. Cash disbursements for benefits and administrative expenses by themselves are misleading, due

to the relatively large liabilities outstanding at any time for benefits and processing costs. Outstanding liabilities result from the lag between the time that services are performed and the time that payments for them are made.

The experience of the program is substantially more difficult to determine on an incurred basis than on a cash basis. Payment for some services is reported only on a cash basis, and the incurred experience must be inferred from the cash payment information. For recent time periods, the tabulations of bills are incomplete due to normal processing delays. Finally, since bills are tabulated only for a sample of beneficiaries, the data is subject to bias and random fluctuation inherent in the sampling process.

Table 8 shows the estimated transactions of the trust fund on an incurred basis. For the reasons stated above, the incurred experience must be viewed as an estimate even for historical years. Various checks, such as cash outlay data, assure that the estimates are reasonably close, however.

TABLE 8.—ESTIMATED INCOME AND DISBURSEMENTS INCURRED UNDER SUPPLEMENTARY MEDICAL INSURANCE PROGRAM FOR FINANCING PERIODS THROUGH DECEMBER 31, 1988

(In millions)

Financing period	Premiums from enrollees	Government Contri-butions	Interest and other Income	Benefit payments	Adminis-trative expenses	Net operations in year
Historical Data:						
12-Month period ending June 30,						
1967	$647	$647	$15	$1,109	$123[1]	$77
1968	698	698	21	1,443	155	-181
1969	903	903	24	1,766	198	-134
1970	936	936	12	1,929	213	-258
1971	1,253	1,253	18	2,090	259	175
1972	1,340	1,340	29	2,289	259	161
1973	1,427	1,426	45	2,500	302	96
1974	1,704	2,031	76	3,149	353	309
1975	1,887	2,396	105	3,928	438	22
1976	1,951	2,972	109	4,818	485	-271
1977	2,156	4,697	157	5,861	515	634
1978	2,358	5,991	254	6,948	511	1,144
1979	2,601	6,570	365	8,171	649	716
1980	2,823	6,627	421	9,937	645	-711
1981	3,178	8,219	371	12,044	692	-968
1982	3,737	12,488	495	14,062	728	1,930
1983	4,202	13,951	686	17,049	708	1,082
Transition Semester[2]	2,120	7,836	374	9,750	483	97
Calendar year						
1984	5,167	17,052	962	20,515	869	1,797
1985	5,613	18,243	1,248	23,047	992	1,065
1986	5,722	17,802	1,141	27,123	1,001	-3,459
1987	6,717	21,377	880	31,788	1,032	-3,846
Projected:						
Calendar year						
Alternative A:						
1988	9,403	28,144	657	35,976	1,079	1,149
Alternative B::						
1988	9,403	28,144	658	35,978	1,076	1,151

[1]Includes administrative expenses Incurred prior to the beginning of the program.
[2]The transition semester is the 6-month period July 1, 1983 to December 31, 1983.

3. ACCUMULATED EXCESS OF ASSETS OVER LIABILITIES

The liability outstanding at any time for the cost of services performed for which no payment has been made is referred to as "benefits incurred but unpaid." Estimates of the amount of benefits incurred but unpaid as of the end of each financing period, and of the administrative expenses related to processing these benefits, appear in Table 9. For some years of the program, assets have not been as large as outstanding liabilities. Nonetheless, the fund has remained positive, allowing claims to be paid.

The excess of assets over liabilities of $2,354 million as of December 31, 1987 that appears in Table 9 is higher than it ordinarily would be. As noted earlier, the Social Security benefit checks normally delivered in January 1988 were delivered on December 31, 1987. Consequently, the $692 million in SMI premiums withheld from the

checks and $2,178 million in general revenue contributions were included in the assets as of December 31, 1987. If the benefit checks had been delivered in January 1988, the excess of assets over liabilities would have been -$516 million as of December 31, 1987.

TABLE 9.—SUMMARY OF ESTIMATED ASSETS AND LIABILITIES OF THE SUPPLEMENTARY MEDICAL INSURANCE PROGRAM AS OF THE END OF THE FINANCING PERIOD, FOR PERIODS THROUGH DECEMBER 31, 1988

(Dollar amounts in millions)

	Balance in trust fund	Government contributions due but unpaid	Total assets	Benefits incurred but unpaid	Administrative cost incurred but unpaid	Total liab-ilities	Excess of assets over liabilities	Ratio[1]
Historical Data								
As of June 30,								
1967	$486	$24	$510	$445	-$12	433	$77	0.05
1968	307	88	395	498	1	499	-104	-0.05
1969	378	7	385	619	4	623	-238	-0.11
1970	57	15	72	569	0	569	-497	-0.21
1971	290	22	312	624	11	635	-323	-0.13
1972	481	-3	478	658	-19	639	-161	-0.06
1973	746	-7	739	767	37	804	-65	-0.02
1974	1,272	-5	1,267	1,042	-19	1,023	244	0.06
1975	1,424	67	1,491	1,205	14	1,219	272	0.05
1976	1,219	106	1,325	1,351	-29	1,322	3	0.00
1977	2,170	91	2,261	1,623	3	1,626	635	0.09
1978	3,786	48	3,834	2,014	40	2,054	1,780	0.20
1979	4,880	2	4,882	2,265	123	2,388	2,494	0.24
1980	4,657	0	4,657	2,686	188	2,874	1,783	0.14
1981	3,801	0	3,801	2,972	13	2,985	816	0.06
1982	5,534	1	5,535	2,798	-9	2,789	2,746	0.16
1983	6,780	2	6,782	3,002	-48	2,954	3,828	0.19
As of December 31,								
1983	7,070	1	7,071	3,214	-69	3,145	3,926	0.18
1984	9,698	2	9,700	4,068	-91	3,977	5,723	0.24
1985	10,924	0	10,924	4,168	-32	4,136	6,788	0.24
1966	8,291	0	8,291	5,052	-91	4,961	3,330	0.10
1987	8,394[2]	0	8,394[2]	6,020	20	6,040	2,354[2]	0.06
Projected:								
Alternative A:								
1988	7,625	0	7,625	6,972	20	6,992	633	0.02
Alternative B:								
1988	7,628	0	7,628	6,973	20	6,993	635	0.02

[1]Ratio of the excess assets over liabilities to the following year's total incurred expenditures.
[2]Sectlon 708 of Title VII of the Social security .Act modified the provisions for the delivery of Social Security benefit checks when the regularly designated day falls on a Saturday, Sunday, or legal public holiday. Delivery of benefit checks normally due January, 1988 occurred on December 31, 1987. Consequently, the SMI premiums withheld from the checks ($692 million) and the general revenue matching contributions ($2,178 million) were added to the SMI trust fund on December 31. 1987.

Program financing has been established through December 31, 1988. The financing established for CY 1988 was designed to begin to build the assets to more appropriate levels to maintain the actuarial soundness of the trust fund. Furthermore, Public Law 100-203 was enacted on December 22, 1987 after the financing had been established for CY 1988. As a result of both of these measures and if the benefit checks delivered on December 31, 1987 were deemed to have been delivered in January 1988, the assets would increase so that assets would exceed liabilities at the end of December 1988 by $633 million under Alternative

A and by $635 million under Alternative B. This excess as a percent of incurred expenditures for the following year is expected to increase from -1.4 percent as of December 31, 1987 to 1.5 percent as of December 31, 1988.

4. SENSITIVITY TESTING

Some of the assumptions underlying the projections presented in this report are highly uncertain, and variations in these assumptions would have a substantial impact on expenditures. In order to test the future status of the program under varying assumptions, a low cost projection and a high cost projection were prepared by varying these key assumptions. The low and high cost alternative sets of assumptions are intended to reflect growth rates for the various components of program costs which are more favorable and adverse, respectively, than those of the intermediate projections (Alternatives A and B) and which are not unreasonable themselves in light of the nature and historical experience of the program. As such, they provide a range of financial outcomes within which the actual experience of the program might reasonably be expected to fall. The values for the alternative assumptions were determined from a study on the average historical variation in the respective increase factors.

Table 10 indicates that, under the low cost assumptions, trust fund assets would exceed liabilities by the end of December 1988 (the period through which financing has been established), reaching a level of 13.0 percent of the following year's incurred expenditures. If these low growth rates were actually to materialize, then subsequent financing rates would be adjusted downward in order to lower the excess of assets over liabilities to an appropriate level to maintain the actuarial soundness of the trust fund. Under the high cost assumptions, trust fund liabilities would exceed assets by the end of December 1988, reaching a level of -8.3 percent of the following year's incurred expenditures. If these high growth rates were to occur, the subsequent financing rates would have to be adjusted upward in order to generate more appropriate levels for the excess of assets over liabilities.

Table 10.—ACTUARIAL STATUS OF THE SMI TRUST FUND UNDER THREE SETS OF ASSUMPTIONS FOR FINANCING PERIODS THROUGH DECEMBER 31, 1988

	This projection			Low cost projection			High cost projection		
	12-Month period ending June 30,			12-Month period ending June 30,			12-Month period ending June 30,		
	1987	1988	1989	1987	1988	1989	1987	1988	1989
Projection factors (in percent):[1]									
Physician fees[2]									
Aged	4.8	3.5	2.3	4.5	2.6	1.2	5.1	4.3	3.4
Disabled	4.8	3.5	2.3	4.5	2.6	1.2	5.1	4.3	3.4
Utilization of physician services[3]									
Aged	9.5	6.0	5.6	7.7	4.3	3.3	11.4	7.6	8.0
Disabled	9.6	2.9	5.4	6.7	-0.4	1.1	12.5	6.2	9.7
Outpatient hospital services per enrollee									
Aged	22.5	18.2	14.6	17.8	11.5	7.0	27.2	25.0	22.2
Disabled	14.2	6.8	4.8	9.8	-4.0	-9.0	18.7	17.7	18.6
	As of December 31,			As of December 31,			As of December 31,		
	1986	1987	1988	1986	1987	1988	1986	1987	1988
Actuarial status (in millions):									
Assets	$8,291	$8,394[4]	$7,628	$8,291	$8,394[4]	$10,017	$8,291	$8,394[4]	$5,029
Liabilities	4,961	6,040	6,993	4,622	4,482	5,161	5,301	7,632	8,889
Assets less liabilities	$3,330	$2,354[4]	$635	$3,669	$3,912[4]	$4,856	$2,990	$762[4]	-$3,860
Ratio of assets less liabilities to expenditures (In percent)[5]	10.1	6.4[4]	1.5	11.6	11.3[4]	13.0	8.8	1.9[4]	-8.3

[1]Because of the manner in which alternative economic assumptions affect the projected operations of the SMI program, there is not a substantial difference in the projections based upon the three sets of assumptions. Therefore only one projection, alternative II, is presented here. Appendix A presents an explanation or the effects or alternative I and alternative III on the projections in the report.

[2]As recognized for payment under the program.

[3]Increase in the number of services received per enrollee and greater relative use of more expensive services.

[4]Sectlon 708 of Title VII of the Social security .Act modified the provisions for the delivery of Social Security benefit checks when the regularly designated day falls on a Saturday, Sunday, or legal public holiday. Delivery of benefit checks normally due January, 1988 occurred on December 31, 1987. Consequently, the SMI premiums withheld from the checks ($692 million) and the general revenue matching contributions ($2,178 million) were added to the SMI trust fund on December 31. 1987.

[5]Ratio of assets less liabilities at the end of the year to the total Incurred expenditures during the following year, expressed as a percent.

CONCLUSION

The financing of the SMI program has been established through December 1988 by the setting of the standard monthly premium rate (paid by or on behalf of each enrollee) of $24.80 for CY 1988 and of actuarial rates that determine the amount to be contributed from general revenue on behalf of each enrollee. General revenue contributions are expected to account for 73.7 percent of all SMI income during CY 1988.

Under both sets of intermediate assumptions used in this report, disbursements are projected to exceed income during CY 1988. Income is composed of premiums paid by the enrollees, general revenue contributions, and interest earned by the trust fund. As a result, the assets in the trust fund on a cash basis are projected to decrease from $8.4 billion at the end of CY 1987 to an estimated $7.6 billion at the end of CY 1988. However, after adjusting for the January 1988 income received in December 1987, income is projected to exceed disbursements for CY 1988, and the assets in the trust fund are projected to increase from $5.5 billion at the end of CY 1987 to $7.6 billion at the end of CY 1988. In CY 1989, income is expected to exceed disbursements, and the assets in the trust fund are projected to increase to $8.9 billion by the end of the year.

The financing for CY 1988 was established to begin to build assets to more appropriate levels to maintain the actuarial soundness of the trust fund. In addition, Public Law 100-203 was enacted on December 22, 1987 after the financing had been established for CY 1988. As a result of both of these measures, assets are projected to exceed liabilities at the end of December 1988 by $633 million under Alternative A, and by $635 million under Alternative B, representing

1.5 percent of the projected incurred expenditures. Under more pessimistic assumptions as to cost increases, assets based on financing already established will be insufficient to cover outstanding liabilities. However, the trust fund should remain positive allowing claims to be paid. Hence, the financing established through December 1988 is sufficient to cover projected benefit and administrative costs incurred through that time period, and to maintain a level of trust fund assets adequate to cover the impact of a small degree of variation between actual and projected costs.

Although the SMI program is financially sound, the Board notes with concern the rapid growth in the cost of the program. Growth rates have been so rapid that outlays of the program have doubled in the past five years. For the same time period, the program grew 40 percent faster than the economy as a whole. This growth rate shows no sign of abating despite recent efforts to control the cost of the program. The Board recommends that Congress continue to work to curtail the rapid growth in the SMI program.

APPENDIX A

ACTUARIAL METHODOLOGY AND PRINCIPAL ASSUMPTIONS FOR COST ESTIMATES FOR THE SUPPLEMENTARY MEDICAL INSURANCE PROGRAM

1. Estimates for Aged and Disabled (Excluding ESRD) Enrollees

a. Introduction

Estimates for aged and disabled enrollees--excluding disabled persons with end stage renal disease (ESRD)--are prepared by calculating reasonable charges incurred per enrollee in a recent year (the 12-month period ending June 30, 1986, for this report) and projecting these charges through the estimating period. The per enrollee charges are then converted to reimbursement amounts by subtracting the per enrollee values of the deductible and coinsurance. Aggregate reimbursement amounts are calculated by multiplying the per enrollee reimbursement amounts by the projected enrollment. In order to estimate cash disbursements, an allowance is made for the delay between receipt of service and payment therefor.

Disabled persons with ESRD have per enrollee costs which are higher and quite different in nature from those of most other disabled persons. Hence, program costs for them have been excluded from the analysis in this section and are included in a later section.

b. Establishing a Projection Base

(1) Physician Services

Reimbursement amounts for physician services (and smaller amounts for other services such as laboratory tests, durable medical equipment and supplies) are paid through organizations acting for the Health Care Financing Administration, referred to as "carriers." The carriers determine whether billed services are covered under the program and determine the reasonable charges for the services. A record of the amount reimbursed after reduction for coinsurance and the deductible is transmitted to the central office in the form of a "payment record."

Payment records for 0.1 percent of aged beneficiaries and 1.0 percent of disabled beneficiaries are tabulated by date of service, thus providing a data base which is constructed on an incurred basis. Certain minor adjustments are made to the tabulated sample data to correct for biases and random fluctuation inherent in the sampling process. Having the data on an incurred basis is necessary to meet the statutory requirement that the program be financed on this basis.

As a check on the validity of the projection base, incurred reimbursement amounts are compared with cash expenditures reported by the carriers through an independent reporting system. In a program with continuously increasing incurred reimbursement amounts, cash payments are expected to be slightly lower than incurred expenses (except in the first year of coverage of a service or group of beneficiaries, when the difference should be substantial). These differences between cash and incurred reimbursement amounts occur because of the lag between receipt of services and payment therefor.

(2) Institutional and Other Services

Reimbursement amounts for institutional services under the SMI program are paid by the same fiscal intermediaries that pay for HI services. The principal institutional services covered under the SMI program are outpatient hospital care services.

Reimbursements for institutional services occur in two stages. Provider bills are submitted to the intermediaries, and interim payments are made on the basis of these bills. The bills are then submitted to the central office, and tabulations for a sample of beneficiaries are prepared in a manner parallel to that for payment records.

At the close of a provider's accounting period, a cost report is submitted, and lump-sum payments or recoveries are made to correct for the difference between interim payments made to the provider and the retroactively determined reasonable cost for providing covered services (net of coinsurance and deductible amounts). However, the cost of laboratory tests in outpatient departments of hospitals is no longer determined on a reasonable-cost basis but on a fee-schedule basis. The amounts of these retroactive settlements are reported on a cash basis, and approximations are necessary to allocate these payments to the time of service.

Group practice plans, which are not reimbursed through carriers, are reimbursed directly by the Health Care Financing Administration on a reasonable cost or on a capitation basis. Comprehensive data on such direct reimbursements are available on a cash basis. Certain approximations must be made to allocate expenses to the period when services were rendered.

(3) Summary of Historical Data

Table A1 summarizes the incurred reimbursement amounts per enrollee for the various services for each of the 12-month periods ending June 30, through 1986. Also shown are average enrollment figures for these years. In order to analyze the historical trends in prices and use of services, these reimbursement amounts are converted to the reasonable charges or reasonable costs on which reimbursement was based. This

process is necessary largely because the fixed deductible becomes a smaller percentage of charges each year and thus causes reimbursement to rise faster than charges or costs. Table A2 shows the reasonable charges or costs per enrollee corresponding to the reimbursement values shown in Table A1.

TABLE A1.—INCURRED REIMBURSEMENT AMOUNTS PER ENROLLEE: HISTORICAL

Year ending June 30,	Average enrollment (millions)	All services	Physician	Outpatient hospital	Home health Agency	Group practice prepayment plan	Independent lab
Aged:							
1967	17.750	$62.51	$59.12	$1.41	$0.79	$0.89	$0.30
1968	18.038	80.06	74.47	2.40	1.49	1.35	0.35
1969	18.833	93.71	85.47	4.31	1.96	1.57	0.40
1970	19.312	99.91	90.03	5.91	1.99	1.50	0.48
1971	19.664	106.25	95.05	7.53	1.67	1.40	0.60
1972	20.043	114.22	101.63	8.55	1.60	1.66	0.78
1973	20.428	122.39	107.98	9.43	2.17	1.87	0.94
1974	20.988	134.38	117.48	11.32	2.03	2.35	1.20
1975	21.504	160.26	136.28	15.45	3.83	3.06	1.64
1976	22.089	188.60	156.27	21.26	5.19	3.86	2.02
1977	22.604	221.38	179.30	28.68	6.52	4.41	2.47
1978	23.133	254.20	207.05	33.38	6.82	4.03	2.92
1979	23.693	289.55	233.99	40.51	6.86	4.87	3.32
1980	24.287	343.00	277.24	47.08	7.58	7.04	4.06
1981	24.827	407.42	328.14	56.72	8.04	9.13	5.39
1982	25.363	465.40	381.02	66.41	0.52	10.98	6.47
1983	25.873	558.26	454.90	81.70	0.77	13.55	7.34
1984	26.433	638.57	511.35	100.31	0.99	16.78	9.14
1985	26.914	701.18	537.99	128.07	1.05	19.11	14.96
1986	27.453	790.24	603.21	133.88	1.17	30.56	21.42
Disabled (excluding ESRD):							
1974	1.638	116.65	97.59	13.88	3.45	1.08	0.65
1975	1.816	149.48	125.69	17.32	3.57	1.84	1.06
1976	2.018	178.83	148.38	21.70	5.12	2.17	1.46
1977	2.231	220.43	174.81	36.44	4.79	2.39	2.00
1978	2.423	256.25	202.91	42.76	5.53	2.45	2.60
1979	2.563	301.57	240.74	50.49	5.13	2.04	3.17
1980	2.641	363.44	288.53	60.72	6.09	4.27	3.83
1981	2.687	430.92	340.65	73.21	7.22	5.14	4.70
1982	2.685	517.42	395.48	109.82	0.00	6.26	5.86
1983	2.628	632.79	485.68	132.26	0.00	7.56	7.29
1984	2.593	675.38	528.24	129.98	0.00	8.25	8.91
1985	2.593	712.80	550.16	140.29	0.00	8.76	13.59
1986	2.629	766.09	585.04	150.33	0.00	11.76	18.96

TABLE A2.—INCURRED REASONABLE CHARGES OR COSTS PER ENROLLEE: HISTORICAL

Year ending June 30,	Average enrollment (millions)	All services	Physician	Outpatient hospital	Home health Agency	Group practice prepayment plan	Independent lab
Aged:							
1967	17.750	$108.58	$102.70	$2.45	$1.37	$1.54	$0.52
1966	18.038	128.08	119.02	3.89	2.42	2.18	0.57
1969	18.833	145.17	131.91	6.93	3.15	2.53	0.65
1970	19.312	153.63	137.86	9.43	3.17	2.40	0.77
1971	19.664	162.10	144.41	11.89	2.64	2.21	0.95
1972	20.043	172.75	153.15	13.32	2.49	2.58	1.21
1973	20.428	186.21	163.99	14.79	3.02	2.94	1.47
1974	20.988	204.19	178.33	17.75	2.54	3.69	1.88
1975	21.504	236.59	201.27	23.51	4.66	4.66	2.49
1976	22.089	272.01	225.46	31.62	6.18	5.74	3.01
1977	22.604	313.23	253.83	41.77	7.60	6.43	3.60
1978	23.133	354.22	288.60	47.85	7.82	5.77	4.18
1979	23.693	398.81	322.19	57.28	7.76	6.89	4.69
1980	24.287	465.78	376.39	65.50	8.44	9.80	5.65
1981	24.827	545.28	438.85	77.72	8.81	12.51	7.39
1982	25.363	629.09	513.50	91.12	0.52	15.07	8.88
1983	25.873	753.23	613.18	110.92	0.77	18.40	9.96
1984	26.433	855.86	685.14	134.88	0.99	22.56	12.29
1985	26.914	922.21	707.94	172.52	1.05	25.74	14.96
1986	27.453	1,028.12	785.09	179.47	1.17	40.97	21.42
Disabled (excluding ESRD):							
1974	1.638	171.05	143.27	20.99	4.17	1.63	0.99
1975	1.816	212.15	178.49	25.26	4.17	2.69	1.54
1976	2.018	250.25	207.86	31.25	5.90	3.13	2.11
1977	2.231	303.47	240.43	51.44	5.41	3.37	2.82
1978	2.423	349.56	276.50	59.80	6.19	3.43	3.64
1979	2.563	406.69	324.16	69.68	5.66	2.81	4.38
1980	2.641	484.35	383.99	82.69	6.63	5.82	5.22
1981	2.687	568.19	448.53	98.63	7.78	6.92	6.33
1982	2.685	687.51	523.38	147.81	0.00	8.43	7.89
1983	2.628	839.84	643.57	176.45	0.00	10.09	9.73
1984	2.593	895.85	700.15	172.88	0.00	10.97	11.85
1985	2.593	931.11	718.41	187.41	0.00	11.70	13.59
1986	2.629	993.28	758.09	200.54	0.00	15.69	18.96

c. Per Enrollee Increases

(1) Physician Services

Per enrollee charges for physician services are affected by a variety of factors. One factor, increase in average charge per service, can be identified explicitly. Others can be recognized only by the fact that the increase in the average charge per service does not explain all of the increase in per enrollee charges year-to-year.

Increases in average charge per service are one of the most important elements creating increasing charges per enrollee. The physician fee component of the CPI provides an estimate of the historical increases in submitted charge per service. Increases in this index are shown in the first column of Table A3.

TABLE A3.—COMPONENTS OF INCREASES IN TOTAL RECOGNIZED CHARGES PER ENROLLEE FOR PHYSICIAN SERVICES: HISTORICAL

(in percent)

Year ending June 30,	Increase due to price changes: Increase in physician fee component of CPI	Increase due to price changes: Net increase in allowed fees	Residual factors	Total increase in allowed charges per enrollee
Aged:				
1967	7.6	—	—	—
1968	5.9	4.8	10.6	15.9
1969	6.2	4.7	5.9	10.8
1970	6.7	3.9	0.6	4.5
1971	7.5	4.5	0.3	4.8
1972	5.2	3.9	2.0	6.0
1973	2.6	2.0	5.0	7.1
1974	5.0	3.2	5.4	8.8
1975	12.8	8.9	3.6	12.8
1976	11.4	8.2	3.5	12.0
1977	10.2	9.0	3.3	12.6
1978	8.9	9.0	4.3	13.7
1979	8.6	7.8	3.6	11.7
1980	11.5	8.6	7.6	16.8
1981	11.1	7.7	8.3	16.6
1982	9.9	10.8	5.6	17.0
1983	8.2	8.9	9.6	19.4
1984	7.5	7.2	4.2	11.7
1985	6.0	0.8	2.5	3.3
1986	6.7	0.0	10.9	10.9
Disabled (excluding ESRD):				
1974	5.0	—	—	—
1975	12.8	8.9	14.4	24.6
1976	11.4	8.2	7.6	16.4
1977	10.2	9.0	6.1	15.6
1978	8.9	9.0	5.5	15.0
1979	8.6	7.8	8.8	17.3
1980	11.5	8.6	9.1	18.5
1981	11.1	7.7	8.4	16.7
1982	9.9	10.7	5.4	16.7
1983	8.2	8.9	12.9	23.0
1984	7.5	7.2	1.5	8.8
1965	6.0	0.8	1.8	2.6
1986	6.7	0.0	5.6	5.6

Bills submitted to the carriers during a specified period, the fee-screen year, are subject by statute to certain limitations on the level of fees to be recognized by the program for reimbursement purposes. Prior to the passage of Public Law 98-369, the fee-screen year was the 12-month period ending July 30. Public Law 98-369 changed the fee-screen year to the 12-month period ending September 30, effective on October 1, 1985, and Public Law 99-272 changed the fee-screen year to a calendar-year basis effective January 1, 1987. The fee level recognized for a particular service by a physician is subject to reduction if it exceeds the median charge that the physician assessed for the same service in the base period. Public Law 98-369 changed the base period from the preceding calendar year to the preceding 12-month period ending March 31, and Public Law 99-272 changed the base period to the preceding 12-month period ending June 30. This median charge is called the "customary charge." Fees are subject to further reduction if they exceed the prevailing charges for the locality. The prevailing charge is defined as

the 75th percentile of customary charges for a particular service in a particular locality. Since July 1, 1975, the rate of increase in prevailing charges has been limited further by the application of the MEI. The customary and prevailing charge limits maintained by the carriers are called "fee screens." Reasonable charges, after they have been reduced by the fee screens, are charges on which reimbursement is based.

Certain services included with the physician services are not subject to the same fee-screen reduction process as described above. Effective October 1, 1985, there is an additional screen considered for nonphysician services, supplies, and equipment. After applying the customary and prevailing charge screens, fees are further reduced if they exceed the inflation-indexed charge (IIC). The IIC represents the lowest of the reasonable charge screens from the preceding fee- screen year as adjusted by an inflation factor. Effective July 1, 1984 charges for laboratory tests performed in physician offices and independent laboratories are determined by fee schedules. These fee schedules are updated at the beginning of the fee-screen year by an inflation adjustment factor.

Since legislation has twice changed the time span of the fee-screen year, and since the two transitional fee-screen years (1985 and 1986) cover 15-month periods, data presented in Tables A1 through A8 will be displayed for the same 12-month basis for all years. This basis will be the 12-month periods ending June 30.

The average reduction in submitted fees has increased almost every year due both to administrative actions and to differentials in the rate of increase in fees between the period in which the fee screens are established and the period in which the screens are applied. The result is that the net increase in per enrollee charges due to price changes (i.e., the increase in fee levels recognized for reimbursement purposes) has been less than the increase in submitted fees. The second column of Table A3 shows this increase in per enrollee charges due to price changes.

Per capita charges also have increased each year as a result of a number of possible factors including more physician visits per enrollee, the aging of the Medicare enrollment, greater use of specialists and more expensive techniques, and certain administrative actions. The third column of Table A3 shows the increases in charges per enrollee resulting from these residual causes. Because the measurement of increased recognized charges per service is subject to error, this error is included implicitly under residual causes.

The last column of Table A3 shows the total increases in charges per enrollee for physician services. It includes the effects of all the items discussed above.

Projected increases in total recognized charges per enrollee are shown in Table A4. It compares with the corresponding historical data shown in Table A3. Column 1 of Table A4 shows the projected increases in the physician fee component of the CPI in each of the years ending June 30, 1987 through June 30, 1991. It represents an estimate of projected increases in the submitted fees disregarding the impact of the MAAC. Column 2 shows the projected net increases in reasonable charges, and column 3 shows the increases due to residual causes.

TABLE A4.—COMPONENTS OF INCREASES IN TOTAL RECONGNIZED CHARGES PER ENROLLEE FOR PHYSICIAN SERVICES: PROJECTED

(in percent)

Year ending June 30,	Increase due to price changes: Increase in physician fee component of CPI	Increase due to price changes: Net increase in reasonable fees	Residual factors	Total increase in allowed charges per enrollee
Alternative A:				
Aged:				
1987	7.5	4.8	9.5	14.8
1988	6.7	3.5	6.0	9.7
1989	6.8	2.3	5.6	8.0
1990	6.5	3.5	4.7	8.4
1991	6.3	4.8	4.7	9.7
Disabled (excluding ESRD):				
1987	7.5	4.8	9.6	14.9
1988	6.7	3.5	2.9	6.5
1989	6.8	2.3	5.4	7.8
1990	6.5	3.5	5.0	8.7
1991	6.3	4.8	5.4	10.5
Alternative B:				
Aged:				
1987	7.5	4.8	9.5	14.8
1988	6.8	3.5	6.0	9.7
1989	7.3	2.3	5.6	8.0
1990	7.2	3.6	4.7	8.5
1991	7.2	4.9	4.7	9.8
Disabled (excluding ESRD):				
1987	7.5	4.8	9.6	14.9
1988	6.8	3.5	2.9	6.5
1989	7.3	2.3	5.4	7.8
1990	7.2	3.6	5.0	8.8
1991	7.2	4.9	5.4	10.6

(2) Institutional and Other Services

The historical and projected increases in charges or costs per enrollee for institutional and other services are shown in Table A5. The year-to-year changes in some services have been quite erratic. Because these series provide only a rough indication of future trends in costs, identical series of increase factors are used for Alternative A and Alternative B.

TABLE A5.—INCREASES IN RECOGNIZED CHARGES AND COSTS PER ENROLLEE FOR INSTITUTIONAL AND OTHER SERVICES: HISTORICAL

(In percent)

Year ending June 30,	Outpatient hospital	Home health agency	Group practice Prepayment plan	Independent lab
Aged:				
1968	58.8	76.2	41.6	9.6
1969	78.1	30.2	16.1	14.0
1970	36.1	0.6	-5.1	18.5
1971	26.1	-16.7	-7.9	23.4
1972	12.0	-5.7	16.7	27.4
1973	11.0	21.3	14.0	21.5
1974	20.0	-15.9	25.5	27.9
1975	32.5	83.5	26.3	32.4
1976	34.5	32.6	23.2	20.9
1977	32.1	23.0	12.0	19.6
1978	14.6	2.9	-10.3	16.1
1979	19.7	-0.8	19.4	12.2
1980	14.4	8.8	42.2	20.5
1981	18.7	4.4	27.7	30.8
1982	17.2	-94.1	20.5	20.2
1983	21.7	48.1	22.1	12.2
1984	21.6	28.6	22.6	23.4
1985	27.9	6.1	14.1	21.7
1986	4.0	11.4	59.2	43.2
Projected:				
1987	22.5	6.7	37.9	27.7
1988	18.2	11.8	22.6	14.4
1989	14.6	10.4	19.0	13.9
1990	17.2	9.0	14.7	21.0
1991	18.0	10.1	15.0	20.7
Disabled (excluding ESRD):				
1975	20.3	0.0	65.0	55.6
1976	23.7	41.5	16.4	37.0
1977	64.6	-8.3	7.7	33.6
1978	16.3	14.4	1.8	29.1
1979	16.5	-8.6	-18.1	20.3
1980	18.7	17.1	107.1	19.2
1981	19.3	17.3	18.9	21.3
1982	49.9	-100.0	21.8	24.6
1983	19.4	0.0	19.7	23.3
1984	-2.0	0.0	8.7	21.8
1985	8.4	0.0	6.7	14.7
1986	7.0	0.0	34.1	39.5
Projected:				
1987	14.2	0.0	38.8	28.1
1988	6.8	0.0	21.4	8.2
1989	4.8	0.0	19.7	11.0
1990	8.8	0.0	14.5	21.6
1991	10.3	0.0	14.5	21.7

d. Projected Charges and Costs

Table A6 shows projections of per enrollee incurred charges and costs based on the assumptions in Tables A4 and A5. Table A7 shows the total reimbursement amounts per enrollee that result from subtracting the average amounts of copayment per enrollee from the total covered charges in Table A6. The aggregate reimbursement amounts shown are derived by multiplying average enrollment by average reimbursement per enrollee.

TABLE A6.—INCURRED REASONABLE CHARGES OR COSTS PER ENROLLEE: PROJECTED

(In percent)

Year ending June 30,	All Services	Physician	Outpatient hospital	Home health agency	Group practice Prepayment plan	Independent lab
Alternative A:						
Aged:						
1987	$1,206.02	$901.00	$219.90	$1.25	$56.52	$27.35
1988	1,349.84	987.89	259.98	1.40	69.29	31.28
1989	1,484.76	1,067.25	297.92	1.55	82.44	35.60
1990	1,644.58	1,156.35	349.07	1.69	94.53	42.94
1991	1,842.80	1,268.82	411.90	1.86	108.68	51.54
Disabled (excluding ESRD):						
1987	1,145.82	870.68	229.09	0.00	21.77	24.28
1988	1,224.12	926.65	244.77	0.00	26.44	26.26
1989	1,316.21	998.89	256.55	0.00	31.65	29.12
1990	1,436.07	1,085.38	279.14	0.00	36.25	35.30
1991	1,591.25	1,198.97	308.03	0.00	41.51	42.74
Alternative B:						
Aged:						
1987	1,206.02	901.00	219.90	1.25	56.52	27.35
1988	1,349.84	987.89	259.98	1.40	69.29	31.28
1989	1,484.88	1,067.35	297.92	1.55	82.44	35.62
1990	1,645.85	1,157.47	349.07	1.69	94.53	43.09
1991	1,846.31	1,271.87	411.90	1.86	108.68	52.00
Disabled (excluding ESRD):						
1987	1,145.82	870.68	229.09	0.00	21.77	24.28
1988	1,224.12	926.65	244.77	0.00	26.44	26.26
1989	1,316.33	998.99	256.55	0.00	31.65	29.14
1990	1,437.25	1,086.43	279.14	0.00	36.25	35.43
1991	1,594.52	1,201.85	308.03	0.00	41.51	43.13

TABLE A7.—INCURRED REIMBURSEMENT AMOUNTS: PROJECTED

Year ending June 30,	Average enrollment (millions)	Reimbursement amounts	
		Per enrollee	Aggregate (millions)
Alternative A:			
Aged:			
1987	28.013	$939.78	$26,326
1988	28.575	1,057.64	30,222
1989	29.132	1,168.61	34,044
1990	29.688	1,300.32	38,604
1991	30.209	1,463.54	44,212
Disabled (excluding ESRD):			
1987	2.676	895.74	2,397
1988	2.722	960.32	2,614
1989	2.762	1,036.21	2,862
1990	2.801	1,136.02	3,182
1991	2.841	1,264.34	3,592
Alternative B:			
Aged:			
1987	28.013	939.78	26,326
1988	28.575	1,057.64	30,222
1989	29.132	1,168.71	34,047
1990	29.688	1,301.37	38,635
1991	30.209	1,466.52	44,302
Disabled (excluding ESRD):			
1987	2.676	895.74	2,397
1988	2.722	960.32	2,614
1989	2.762	1,036.21	2,862
1990	2.801	1,137.09	3,185
1991	2.841	1,267.16	3,600

2. Estimates for Persons Suffering from ESRD

Certain persons suffering from ESRD have been eligible to enroll for SMI coverage since July 1973 (under Section 2991 of Public Law 92-603). For analytical purposes, those enrollees suffering from ESR D who are also eligible as disability insurance beneficiaries are included in this section because their per enrollee costs are both higher and different in nature from those of most other disabled persons.

The estimates assume that per capita charges for SMI ESRD services under Medicare will increase at an average of 2.6 percent per year during the projected period (July 1, 1986 through June 30, 1991). The estimates also assume a continued increase in enrollment. The historical and projected enrollment and costs are shown in Table A8.

TABLE A8.—INCURRED REIMBURSEMENT FOR END-STAGE RENAL DISEASE

	Disabled ESRD and ESRD only			ESRD only
		Reimbursement amounts		Reimbursement amounts
Year ending June 30,	Average enrollment (thousands)	Per enrollee	Aggregate (millions)	Aggregate (millions)
1974	12	$11,333	$136	$96
1975	18	11,778	212	144
1976	24	12,125	291	190
1977	29	12,621	366	229
1978	32	13,938	446	273
1979	38	14,158	538	322
1980	44	14,727	648	408
1981	49	15,714	770	470
1982	54	16,093	869	475
1983	59	15,949	941	491
1984	65	13,154	855	399
1985	69	11,928	823	377
1986	75	11,227	842	398
1987	82	11,854	972	497
1988	86	12,151	1,045	550
1989	90	12,233	1,101	595
1990	94	12,479	1,173	636
1991	97	12,876	1,249	687

3. Summary of Aggregate Reimbursement Amounts on a Cash Basis

Table A9 shows aggregate historical and projected reimbursement amounts on a cash basis, by type of beneficiary. The difference between reimbursement amounts on a cash basis and incurred reimbursement amounts results from the lag between the time of service and the time of payment.

TABLE A9.—AGGREGATE REIMBURSEMENT AMOUNTS ON A CASH BASIS

(In millions)

Fiscal Year[1]	Aged	Disabled (excluding ESRD)	Disabled ESRD and ESRD only	Total
Historical:				
1967	$664	—	—	$664
1968	1,390	—	—	1,390
1969	1,645	—	—	1,645
1970	1,979	—	—	1,979
1971	2,035	—	—	2,035
1972	2,255	—	—	2,255
1973	2,391	—	—	2,391
1974	2,537	$198	$139	2,874
1975	3,289	265	211	3,765
1976	4,037	347	288	4,672
T.Q.	1,078	111	80	1,269
1977	5,005	502	360	5,867
1978	5,785	625	442	6,852
1979	6,929	792	538	8,259
1980	8,485	993	666	10,144
1981	10,362	1,190	793	12,345
1982	12,404	1,468	934	14,806
1983	14,783	1,730	974	17,487
1984	16,803	1,806	864	19,473
1985	19,080	1,911	817	21,808
1986	22,070	2,174	925	25,169
1987	26,350	2,560	1,027	29,937
Projected:				
Alternative A:				
1988	30,321	2,620	1,051	33,992
1989	34,351	2,884	1,112	38,347
1990	39,163	3,224	1,181	43,568
1991	44,825	3,645	1,260	49,730
Alternative B:				
1988	30,321	2,620	1,051	33,992
1989	34,360	2,884	1,112	38,356
1990	39,202	3,228	1,181	43,611
1991	44,936	3,653	1,260	49,849

[1]For 1967 through 1976, fiscal years cover the Interval from July 1 through June 30; the 3-month Interval from July 1. 1976, through September 30.1976, is labeled "T.Q." the transition quarter; fiscal years 1977·1991 cover the interval from October 1 through September 30.

4. Administrative Expenses

The ratio of administrative expenses to benefit payments has been under 5 percent in recent years and is projected to decline in future years. Projections of administrative costs are based on estimates of changes in average annual wages.

APPENDIX B.

STATEMENT OF ACTUARIAL ASSUMPTIONS AND BASES EMPLOYED IN DETERMINING THE MONTHLY ACTUARIAL RATES AND THE STANDARD MONTHLY PREMIUM RATE FOR THE SUPPLEMENTARY MEDICAL INSURANCE PROGRAM BEGINNING JANUARY 1988 [1]

1. Actuarial Status of the Supplementary Medical Insurance Trust Fund

Under the law, the starting point for determining the monthly premium is the amount that would be necessary to finance the SMI program on an incurred basis, i.e., the amount of income that would be sufficient to pay for services furnished during that year (including associated administrative costs) even though payment for some of these services will not be made until after the close of the year. The portion of income required to cover benefits not paid until after the close of the calendar year is added to the trust fund and used when needed.

Because the rates are established prospectively, they are subject to projection error. As a result, the income to the program may not equal incurred costs. Therefore, trust fund assets should be maintained at a level that is adequate to cover a moderate degree of projection error in addition to the amount of incurred but unpaid expenses. Table 1 summarizes the estimated actuarial status of the trust fund as of the end of the financing period for 1986 through 1987.

TABLE 1.—ESTIMATED ACTUARIAL STATUS OF THE SMI TRUST FUND AS OF THE END OF THE FINANCING PERIODS, JAN. 1, 1986 -·DEC. 31, 1987

(In millions of dollars)

Financing Period Ending	Assets	Liabilities	Assets less liabilities
Dec. 31, 1986	$8,291	$5,106	$3,185
Dec. 31, 1987	4,793	6,287	-1,494

2. MONTHLY ACTUARIAL RATE FOR ENROLLEES AGE 65 AND OLDER

The monthly actuarial rate is one-half of the monthly projected cost of benefits and administrative expenses for each enrollee age 65 and older, adjusted to allow for interest earnings on assets in the trust fund and a contingency margin. The contingency margin is an amount appropriate to provide for a moderate degree of projection error and to amortize unfunded liabilities.

[1] This statement appeared in the Federal Register of September 30, 1987. Projections shown in this statement differ from the projections shown in the rest of the report because of changes in assumptions since the rates were announced.

The monthly actuarial rate for enrollees age 65 and older for calendar year 1988 was determined by projecting per--enrollee cost for the 12-month periods ending June 30, 1988, and June 30, 1989, by type of service. Although the actuarial rates are now applicable for calendar years, projections of per-enrollee costs were determined on a July to June period, consistent with the July 1 annual fee screen update used for benefits prior to the passage of section 2306(b) of Pub. L. 98-369. The values for the 12-month period ending June 30, 1985, were established from program data. Subsequent periods were projected using a combination of program data and data from external sources. The projection factors used are shown in Table 2. Those per-enrollee values are then adjusted to apply to a calendar year period. The projected values for financing periods from January 1, 1985, through December 31, 1988, are shown in Table 3.

TABLE 2.—PROJECTION FACTORS[1]
12-MONTH PERIODS ENDING JUNE 30 OF 1985-1989

(In percent)

	Physicians' services					
12-month period ending June 30,	Fees[2]	Residual[3]	Outpatient hospital services	Home health agency services[4]	Group practice prepayment plans	Independent lab services
Aged:						
1985	0.8	4.6	27.8	6.1	12.9	23.3
1986	0.4	8.9	4.2	5.4	57.7	42.5
1987	6.8	9.5	21.7	10.8	38.0	13.1
1988	4.6	7.6	18.1	12.4	22.3	18.0
1989	3.4	5.8	18.3	10.7	19.0	17.6
Disabled:						
1985	0.8	1.7	8.3	0.0	26.4	14.8
1986	0.4	3.2	7.1	0.0	60.1	49.5
1987	6.8	9.l	13.4	0.0	18.7	9.0
1988	4.6	6.5	7.5	0.0	-1.1	-3.9
1989	3.4	6.0	10.1	0.0	30.9	14.2

[1]All values are per enrollee.
[2]As recognized for payment under the program.
[3]Increase in the number of services received per enrollee and greater relative use of more expensive services.

TABLE 3.—DERIVATION OF MONTHLY ACTUARIAL RATE FOR ENROLLEES AGE 65 AND OVER FINANCING PERIODS ENDING DECEMBER 31, 1985 THROUGH DECEMBER 31, 1988

	Financing Periods			
	CY 1985	CY 1986	CY 1987	CY 1988
Covered services (at level recognized):				
Physicians' reasonable charges	$31.28	$35.45	$40.63	$45.06
Outpatient hospital and other institutions	7.34	8.30	9.94	11.75
Home health agencies	0.05	0.05	0.05	0.06
Group practice prepayment plans	1.43	2.08	2.67	3.22
Independent lab	0.77	0.96	1.11	1.31
Total services	$40.87	$46.84	$54.40	$61.40
Cost-sharing:				
Deductible	-2.63	-2.69	-2.69	-2.68
Coinsurance	-6.98	-7.98	-9.34	-10.61
Total benefits	$31.26	$36.17	$42.37	$48.11
Administrative expenses	1.34	1.37	1.39	1.42
Incurred expenditures	$32.60	$37.54	$43.76	$49.53
Value of Interest	-1.17	-0.92	-0.34	-0.06
Contingency margin for projection error and to amortize the surplus or deficit	-0.43	-5.62	-7.62	0.13
Monthly actuarial rate	$31.00	$31.00	$35.80	$49.60

The projected monthly rate required to pay for one-half of the total of benefits and administrative costs for enrollees age 65 and over for calendar year 1988 is $49.53. The monthly actuarial rate of $49.60 provides an adjustment of -$0.06 for interest earnings and $0.13 for a contingency margin. Based on current estimates, it appears that the assets are not sufficient to cover the amount of incurred but unpaid expenses and to provide for a moderate degree of projection error. Thus, a positive contingency margin is needed to build assets toward an appropriate level.

3. MONTHLY ACTUARIAL RATE FOR DISABLED ENROLLEES

Disabled enrollees are those persons enrolled in SMI because of entitlement (before age 65) to disability benefits for more than 24 months or because of entitlement to Medicare under the end-stage renal disease program. Projected monthly costs for disabled enrollees (other than those suffering from end-stage renal disease) are prepared in a fashion exactly parallel to projection for the aged, using appropriate actuarial assumptions (see Table 2). Costs for the end- stage renal disease program are projected differently because of the complex demographic problems involved. The combined results for all disabled enrollees are shown in Table 4.

TABLE 4.—DERIVATION OF MONTHLY ACTUARIAL RATE FOR DISABLED ENROLLEES FINANCING PERIODS ENDING DECEMBER 31, 1985 THROUGH DECEMBER 31, 1988

	Financing Periods			
	CY 1985	CY 1986	CY 1987	CY 1988
Covered services (at level recognized):				
Physicians' reasonable charges	$33.74	$37.45	$42.78	$47.23
Outpatient hospital and other institutions	19.97	20.93	22.21	23.46
Home health agencies	0.00	0.00	0.00	0.00
Group practice prepayment plans	0.08	0.11	0.12	0.13
Independent lab	0.91	1.11	1.17	1.25
Total services	$54.70	$59.60	$66.28	$72.07
Cost-sharing:				
Deductible	-2.35	-2.40	-2.39	-2.38
Coinsurance	-9.85	-10.66	-11.90	-12.97
Total benefits	$42.50	$46.54	$51.99	$56.72
Administrative expenses	1.82	1.76	1.70	1.67
Incurred expenditures	$44.32	$48.30	$53.69	$58.39
Value of Interest	-7.45	-8.13	-9.36	-9.79
Contingency margin for projection error and to amortize the surplus or deficit	15.83	0.63	8.67	-0.00
Monthly actuarial rate	$52.70	$40.80	$53.00	$48.60

The projected monthly rate required to pay for one-half of the total of benefits and administrative costs for disabled enrollees for calendar year 1988 is $58.39. The monthly actuarial rate of $48.60 provides an adjustment of -$9.79 for interest earnings and a $0.00 for a contingency margin.

4. SENSITIVITY TESTING

Several factors contribute to uncertainty about future trends in medical care costs. In view of this, it seems appropriate to test the adequacy of the rates announced here using alternative assumptions. The most unpredictable factors that contribute significantly to future costs are outpatient hospital costs, physician residual (as defined in Table 2), and increases in physician fees as constrained by the program's reasonable charge screens and economic index. Two alternative sets of assumptions and the results of those assumptions are shown in Table 5. One set represents increases that are lower and is, therefore, more optimistic than the current estimate. The other set represents increases that are higher and is, therefore, more pessimistic than the current version. The values for the alternative assumptions were determined from a study on the average historical error in the respective increase factors. All assumptions not shown in Table 5 are the same as in Table 2.

Table 5.—PROJECTION FACTORS AND THE ACTUARIAL STATUS OF THE SMI TRUST FUND UNDER ALTERNATIVE SETS OF ASSUMPTIONS FOR FINANCING PERIODS THROUGH DECEMBER 31, 1988

	This projection			Low cost projection			High cost projection		
	12-Month period ending June 30,			12-Month period ending June 30,			12-Month period ending June 30,		
	1987	1988	1989	1987	1988	1989	1987	1988	1989
Projection factors (in percent):[1]									
Physician fees[2]									
Aged	6.8	4.6	3.4	6.0	3.5	1.3	7.6	5.7	5.5
Disabled	6.8	4.6	3.4	6.0	3.5	1.3	7.6	5.7	5.5
Utilization of physician services[3]									
Aged	9.5	7.6	5.8	7.9	5.2	3.4	11.1	10.0	8.3
Disabled	9.1	6.5	6.0	5.8	2.2	2.0	12.4	10.9	9.9
Outpatient hospital services per enrollee									
Aged	21.7	18.1	18.3	15.0	10.5	12.7	28.4	25.7	23.8
Disabled	13.4	7.5	10.2	2.5	-6.4	-1.6	24.3	21.3	21.9
	As of December 31,			As of December 31,			As of December 31,		
	1986	1987	1988	1986	1987	1988	1986	1987	1988
Actuarial status (in millions):									
Assets	$8,291	$4,793	$6,184	$8,291	$6,878	$12,190	$8,291	$2,573	([4])
Liabilities	5,106	6,287	7,601	3,726	4,654	5,605	6,519	7,981	9,721
Assets less liabilities	$3,185	-$1,494	-$1,417	$4,565	$2,224	$6,585	$1,772	-$5,408	([4])
Ratio of assets less liabilities to expenditures (In percent)[5]	9.6	-3.9	-3.3	14.7	6.5	17.2	5.0	-12.6	([4])

[1]All values are per enrollee.
[2]As recognized for payment under the program.
[3]Increase in the number of services received per enrollee and greater relative use of more expensive services.
[4]The trust fund will be depleted by December 31, 1988 under this set of assumptions.
[5]Ratio of assets less liabilities at the end of the year to the total Incurred expenditures during the following year, expressed as a percent.

Table 5 indicates that, under the assumptions used in preparing this report, the monthly actuarial rates will result in an excess of assets over liabilities of -$1,417 million by the end of December 1988. This amounts to -3.3 percent of the estimated total incurred expenditures for the following year. Assumptions which are somewhat more pessimistic (and, therefore, test the adequacy of the assets to accommodate projection errors) deplete the trust fund by the end of December 1988. Under fairly optimistic assumptions, the monthly actuarial rates will result in a surplus of $6,585 million by the end of December 1988, which amounts to 17.2 percent of the estimated total incurred expenditures for the following year.

5. PREMIUM RATE

For calendar years 1984 through 1988, the law provides that the standard monthly premium rate for both aged and disabled enrollees shall be 50 percent of the monthly actuarial rate for enrollees age 65 and older. Therefore, the standard monthly premium rate for both aged and disabled enrollees for calendar year 1988 is $24.80, which is 50 percent of the monthly actuarial rate for this period ($49.60).

APPENDIX C.

STATEMENT OF ACTUARIAL OPINION

It is my opinion that (1) the methodology used herein is based upon sound principles of actuarial practice and (2) all the assumptions used and the resulting cost estimates are in the aggregate reasonable for the purpose of evaluating the actuarial and financial status of the Federal Supplementary Medical Insurance Trust Fund, taking into account the experience and expectations of the program.

Roland E. King
Fellow of the Society of Actuaries
Member of the American Academy of Actuaries
Chief Actuary,
Health Care Financing Administration