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 establishing, as accurately as possible, reasonable charges incurred per enrollee in a recent year (the 12-month period ending June 30, 1979, 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 small amounts for other services) are paid through organizations acting for the Health Care Financing Administration, referred to as carriers.

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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; it also makes possible a comparison of program experience with non-program data sources.

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 supplementary medical insurance program are paid by the same fiscal intermediaries that pay for hospital insurance services. The principal institutional services covered under the supplementary medical insurance program are outpatient hospital care and

home health agency services. However, due to program changes mandated by P.L. 96-499, most future payments for home health agency services will be made from the hospital insurance trust fund.

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). 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 prepayment plans are reimbursed directly by the Health Care Financing Administration on a reasonable cost basis. Comprehensive data are available for these payments only on a cash basis, and 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 1979. 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.

(Place Tables A1 and A2 here)

c. Per Enrollee Increases:

(1) Physician Services:

Per enrollee charges for physician services are affected by a variety of factors. Some of these can be identified explicitly. Others can be recognized only by the fact that the explicitly quantifiable factors do 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 consumer price index provides an estimate of the historical increases in average charge per service. Increases in this index are shown in the first column of table A3.

Bills submitted to the carriers during a 12-month period beginning July 1 are subject, by statute, to certain limitations on the level of fees to be recognized by the program for reimbursement purposes. 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 preceding calendar year. This median charge is called the "customary" charge. Fees are

subject to further reduction if they exceed the "prevailing" charge 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 an "economic index." The customary and prevailing charge limits maintained by the carriers are called "fee screens." Reasonable charges are charges on which reimbursement is based, after they have been reduced by the fee screens.

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 calendar year in which the fee screens are established and the July to June 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 the reduction of charges due to the impact of the fee screen operation to date. The year-to-year changes in this impact are shown in the third column.

Per enrollee charges also have increased each year as a result of more physician visits per enrollee, increasing use of specialists and more expensive techniques, and other factors. The fifth column of table A3 shows the increase 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 proportion of charges that has been denied as non-covered care has increased in most years. To the extent that this increase in denials reflects the effect of administrative actions defining covered services, it will cause a non-recurring distorting effect on the increase due to net residual factors. The gross residual factor is adjusted for the impact of changes in denials as shown in the sixth column of table A3. This column is used in the projection to indicate the amount of cost increases to be expected in the future from residual causes. The seventh column shows the net increase due to residual factors.

The last column of table A3 shows the total increase 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. Column 1 of table A4 shows the projected average increase in customary charges in each of the 12 month periods ending June 30, 1980 through 1984. As described above, each of these increases depends on the increases in fees actually submitted during the preceding calendar year. Thus, this column represents actual and projected average increases in physicians' fees for calendar years 1978 through 1982, respectively. In principle, further adjustments should be made for the year-to-year variations created by the process of selecting the 75th percentile of customary charges for each service in each locality to establish prevailing charges and for the fact that, of necessity, some fees are not screened in exactly the manner described (e.g., when new categories of services arise for which there is no historical data base).

The impact on year-to-year increases in reasonable charges of these two factors is treated as negligible (although, of course, they may have some effect on the absolute level of fees). The effects of the economic index on the average charge increase is shown in column 2. The projected net increase in reasonable charges is shown in column 3; this compares with the corresponding historical data shown in column 4 of table A3.

The projection of residual factors assumes no further changes in the proportion of claims denied consistent with the very small changes observed in the last few years (see table A3).

(Place tables A3 and A4 here)

(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. At best, these series provide only a rough indication of future trends in costs.

(Place table A5 here)

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.

(Place tables A6 and A7 here)

2. ESTIMATES FOR PERSONS SUFFERING FROM END STAGE RENAL DISEASE

Certain persons suffering from end stage renal disease (ESRD) have been eligible to enroll for Part B coverage since July 1973 (under Section 299I of P.L. 92-603). For analytical purposes those enrollees suffering from ESRD 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 charges for Part B ESRD services under Medicare will increase at an average of 8.0 percent per year under Alternative A and 8.6 percent per year under Alternative B over the projection period (July 1, 1979 through June 30, 1984). The estimates also assume a continued rapid increase in enrollment. The historical and projected enrollment and costs are shown in table A8.

(Place table A8 here)

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.

(Place table A9 here)

4. ADMINISTRATIVE EXPENSE

The ratio of administrative expenses to benefit payments has been approximately 7 percent in recent years and is projected to decline slowly in future years. Projections of administrative costs are based on estimates of workloads and approved budgets for carriers, intermediaries and Federal administration agencies.

Table A1.--INCURRED REIMBURSEMENT AMOUNTS PER ENROLLEE: HISTORICAL

Year ending June 30,	Average enrollment (millions)	All services	Physician	Inpatient radiology and pathology*	Outpatient hospital	Home health agency	Group practice prepayment plan	Independent lab
Aged:								
1967	17.750	$62.39	$59.08		$1.41	$ .79	$ .88	$ .23
1968	18.038	80.01	72.53	$ 1.89	2.40	1.49	1.35	.35
1969	18.833	93.72	79.06	6.57	4.23	1.92	1.54	.40
1970	19.312	99.90	82.84	7.14	5.93	2.00	1.51	.48
1971	19.664	106.27	87.80	7.21	7.56	1.68	1.41	.61
1972	20.043	114.22	94.82	6.77	8.58	1.61	1.66	.78
1973	20.428	122.35	100.92	6.99	9.45	2.17	1.88	.94
1974	20.988	134.26	109.94	7.44	11.35	2.03	2.30	1.20
1975	21.504	159.61	126.94	8.70	15.48	3.84	3.02	1.63
1976	22.089	187.60	144.42	10.84	21.30	5.21	3.83	2.00
1977	22.605	220.00	165.76	12.17	28.72	6.54	4.37	2.44
1978	23.133	255.68	193.53	14.84	33.47	6.82	4.09	2.93
1979	23.693	291.68	219.63	16.47	40.69	6.68	4.90	3.31
Disabled (excluding ESRD):								
1974	1.636	117.59	90.23	7.54	13.93	3.46	1.88	.55
1975	1.813	150.09	117.39	8.40	17.37	3.59	2.29	1.05
1976	2.015	178.69	137.70	9.99	21.74	5.14	2.68	1.44
1977	2.229	219.50	160.44	12.92	36.56	4.80	2.83	1.95
1978	2.419	256.05	188.40	14.19	42.83	5.56	2.50	2.57
1979	2.560	298.40	222.43	17.19	47.53	5.15	2.90	3.20

*Includes services on payment records and those using combined billing; amounts shown are for April 1968 and later when combined billings are authorized and inpatient radiology and pathology charges are reimbursed at 100 percent.

Table A2.--INCURRED REASONABLE CHARGES OR COSTS PER ENROLLEE: HISTORICAL

Year ending June 30,	Average enrollment (millions)	All services	Physician	Inpatient radiology and pathology*	Outpatient hospital	Home health agency	Group practice prepayment plan	Independent lab
Aged:								
1967	17.750	$109.36	$103.55		$2.47	$1.38	$1.55	$.41
1968	18.038	128.14	117.21	$1.89	3.88	2.41	2.18	.57
1969	18.833	145.58	126.11	6.57	6.74	3.06	2.46	.64
1970	19.312	154.02	131.18	7.14	9.39	3.16	2.39	.76
1971	19.664	162.52	137.67	7.21	11.85	2.63	2.21	.95
1972	20.043	173.14	146.82	6.77	13.28	2.49	2.57	1.21
1973	20.428	186.52	157.39	6.99	14.73	3.01	2.93	1.47
1974	20.988	204.39	171.28	7.44	17.69	2.53	3.58	1.87
1975	21.504	235.91	192.09	8.70	23.43	4.65	4.57	2.47
1976	22.089	270.74	213.62	10.84	31.50	6.16	5.66	2.96
1977	22.605	311.56	240.30	12.17	41.63	7.58	6.34	3.54
1978	23.133	356.12	275.80	14.84	47.70	7.77	5.83	4.18
1979	23.693	401.70	308.93	16.47	57.23	7.52	6.89	4.66
Disabled (excluding ESRD):								
1974	1.636	179.23	141.65	7.54	21.87	4.35	2.95	.87
1975	1.813	220.30	176.45	8.40	26.11	4.32	3.44	1.58
1976	2.015	256.08	202.11	9.99	31.91	6.03	3.93	2.11
1977	2.229	307.53	229.88	12.92	52.38	5.50	4.06	2.79
1978	2.419	353.51	265.54	14.19	60.37	6.27	3.52	3.62
1979	2.560	406.85	309.35	17.19	66.10	5.73	4.03	

*Includes services on payment records and those using combined billing; amounts shown are for April 1968 and later when combined billings are authorized and inpatient radiology and pathology charges are reimbursed at 100 percent.

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 Due to Residual Factors			Total increase in recognized charges per enrollee
	Increase in physician fee component of CPI	Reduction due to fee screens: Cumulative Effect	Reduction due to fee screens: Yearly Changes	Net increase in reasonable charges	Gross residual factors	Effect of denials	Net Residual Factors	
Aged:								
1967	7.6	-2.6						
1968	5.9	-3.6	-0.7	5.2	9.4	-1.4	8.0	13.2
1969	6.2	-5.0	-1.4	4.8	3.2	-0.4	2.8	7.6
1970	6.7	-7.5	-2.8	3.9	3.2	-3.1	0.1	4.0
1971	7.5	-10.1	-3.0	4.5	3.7	-3.2	0.5	5.0
1972	5.2	-11.2	-1.1	4.1	2.2	0.4	2.6	6.7
1973	2.6	-11.7	-0.5	2.1	5.7	-0.6	5.1	7.2
1974	5.0	-13.2	-1.6	3.4	6.0	-0.6	5.4	8.8
1975	12.8	-16.2	-3.6	9.2	3.3	-0.3	3.0	12.2
1976	11.4	-18.6	-3.0	8.4	2.7	0.1	2.8	11.2
1977	10.2	-19.5	-0.9	9.3	3.1	0.1	3.2	12.5
1978	8.9	-19.4	0.6	9.5	5.2	0.1	5.3	14.8
1979	8.6	-20.0	-0.5	8.1	4.2	-0.3	3.9	12.0
Disabled (excluding ESRD):								
1974	5.0	-13.2						
1975	12.8	-16.2	-2.6	10.2	14.7	-0.3	14.4	24.6
1976	11.4	-18.6	-2.8	8.6	5.8	0.1	5.9	14.5
1977	10.2	-19.5	-0.9	9.3	4.3	0.1	4.4	13.7
1978	8.9	-19.4	0.7	9.6	5.8	0.1	5.9	15.5
1979	8.6	-20.0	-0.2	8.4	8.4	-0.3	8.1	16.5

Table A4.--COMPONENTS OF INCREASES IN TOTAL RECOGNIZED CHARGES PER ENROLLEE FOR PHYSICIAN SERVICES: PROJECTED
(In percent)

Year ending June 30,	Increase before effect of economic index	Reduction due to economic index	Net increase in reasonable charges	Gross residual factors	Effects of denials	Net residual factors	Total increase in recognized charges per enrollee
Alternative A:							
Aged:							
1980	8.4	0.2	8.6	6.0	0.0	6.0	14.6
1981	9.9	0.1	10.0	7.7	0.0	7.7	17.7
1982	11.7	-1.4	10.3	3.5	0.0	3.5	13.8
1983	12.0	-1.8	10.2	7.2	0.0	7.2	17.4
1984	10.2	-1.8	8.4	4.3	0.0	4.3	12.7
Disabled (excluding ESRD):							
1980	8.4	0.2	8.6	9.8	0.0	9.8	18.4
1981	9.9	0.1	10.0	11.0	0.0	11.0	21.0
1982	11.7	-1.4	10.3	6.7	0.0	6.7	17.0
1983	12.0	-1.8	10.2	10.6	0.0	10.6	20.8
1984	10.2	-1.8	8.4	7.6	0.0	7.6	16.0
Alternative B:							
Aged:							
1980	8.4	0.2	8.6	6.0	0.0	6.0	14.6
1981	9.9	0.1	10.0	7.7	0.0	7.7	17.7
1982	11.7	-1.4	10.3	3.5	0.0	3.5	13.8
1983	12.0	-1.7	10.3	7.2	0.0	7.2	17.5
1984	11.2	-1.9	9.3	4.4	0.0	4.4	13.7
Disabled (excluding ESRD):							
1980	8.4	0.2	8.6	9.8	0.0	9.8	18.4
1981	9.9	0.1	10.0	11.0	0.0	11.0	21.0
1982	11.7	-1.4	10.3	6.7	0.0	6.7	17.0
1983	12.0	-1.7	10.3	10.6	0.0	10.6	20.9
1984	11.2	-1.9	9.3	7.7	0.0	7.7	17.0

Table A5.--INCREASES IN RECOGNIZED CHARGES AND COSTS PER ENROLLEE FOR INSTITUTIONAL AND OTHER SERVICES
(In percent)

Year Ending June 30,	Inpatient radiology and pathology	Outpatient hospital	Home health agency	Group practice prepayment plan	Independent lab
Aged:					
Historical:					
1968		57.1	74.6	40.6	39.0
1969	-13.1 1/	73.7	27.0	12.8	12.3
1970	8.7	39.3	3.3	-2.8	18.7
1971	1.0	26.2	-16.8	-7.5	25.0
1972	-6.1	12.1	-5.3	16.3	27.4
1973	3.2	10.9	20.9	14.0	21.5
1974	6.4	20.1	-15.9	22.2	27.2
1975	16.9	32.4	83.8	27.7	32.1
1976	24.6	34.4	32.5	23.9	19.8
1977	12.3	32.2	23.1	12.0	19.6
1978	21.9	14.6	2.5	-8.0	18.1
1979	11.0	20.0	-3.2	18.2	11.5
Projected:					
1980	14.1	18.8	24.0	52.2	1.8
1981	15.0	25.0	17.2	20.0	15.0
1982	6.0	15.8	-98.0	15.0	13.3
1983	10.5	15.0	15.0	15.0	15.0
1984	15.1	15.0	10.0	10.0	15.0
Disabled (excluding ESRD):					
Historical:					
1975	11.4	19.4	-0.7	16.6	81.6
1976	18.9	22.2	39.6	14.2	33.5
1977	29.3	64.1	-8.8	3.3	32.2
1978	9.8	15.3	14.0	-13.3	29.7
1979	21.1	9.5	-8.6	14.5	22.9
Projected:					
1980	29.8	20.4	16.6	51.4	9.5
1981	20.0	25.0	9.0	20.0	15.0
1982	6.6	15.8	-100.0	15.0	13.3
1983	12.0	15.0	0.0	15.0	15.0
1984	14.0	15.0	0.0	10.0	15.0

1/ Percentage change over prior year annualized value.

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

Year ending June 30,	All services	Physician	Inpatient radiology and pathology	Outpatient hospital	Home health agency	Group practice prepayment plan	Independent lab
Alternative A:							
Aged:							
1980	$465.28	$353.95	$18.79	$67.99	$ 9.32	$10.49	$4.74
1981	552.16	416.60	21.61	84.99	10.92	12.59	5.45
1982	616.27	474.07	22.90	98.43	.22	14.48	6.17
1983	718.64	556.14	25.31	113.19	.25	16.65	7.10
1984	813.00	626.92	29.14	130.17	.28	18.32	8.17
Disabled (excluding ESRD):							
1980	485.73	366.19	22.31	79.58	6.68	6.10	4.87
1981	589.53	443.09	26.77	99.47	7.28	7.32	5.60
1982	676.97	518.47	28.54	115.20	.00	8.42	6.34
1983	807.34	625.92	31.97	132.48	.00	9.68	7.29
1984	933.71	725.88	36.45	152.35	.00	10.65	8.38
Alternative B:							
Aged:							
1980	465.28	353.95	18.79	67.99	9.32	10.49	4.74
1981	552.16	416.60	21.61	84.99	10.92	12.59	5.45
1982	616.27	474.07	22.90	98.43	.22	14.48	6.17
1983	719.15	556.65	25.31	113.19	.25	16.65	7.10
1984	818.78	632.70	29.14	130.17	.28	18.32	8.17
Disabled (excluding ESRD):							
1980	485.73	366.19	22.31	79.58	6.68	6.10	4.87
1981	589.53	443.09	26.77	99.47	7.28	7.32	5.60
1982	676.97	518.47	28.54	115.20	.00	8.42	6.34
1983	807.91	626.49	31.97	132.48	.00	9.68	7.29
1984	940.40	732.57	36.45	152.35	.00	10.65	8.38

Table A7.--INCURRED REIMBURSEMENT AMOUNTS: PROJECTED

Year ending June 30,	Average enrollment (millions)	Reimbursement amounts	
		Per enrollee	Aggregate (millions)
Alternative A:			
Aged:			
1980	24.287	$342.75	$ 8,324
1981	24.796	412.52	10,229
1982	25.293	461.56	11,674
1983	25.826	543.92	14,047
1984	26.432	619.38	16,371
Disabled (excluding ESRD):			
1980	2.637	362.12	955
1981	2.706	445.49	1,205
1982	2.799	513.92	1,438
1983	2.880	618.88	1,782
1984	2.950	720.03	2,124
Alternative B:			
Aged:			
1980	24.287	342.75	8,324
1981	24.796	412.52	10,229
1982	25.293	461.56	11,674
1983	25.826	544.34	14,058
1984	26.432	624.00	16,494
Disabled (excluding ESRD):			
1980	2.637	362.12	955
1981	2.706	445.49	1,205
1982	2.799	513.92	1,438
1983	2.880	619.33	1,784
1984	2.950	725.60	2,141

Table A8.--INCURRED REIMBURSEMENT AMOUNTS FOR END STAGE RENAL DISEASE

Year ending June 30,	Disabled ESRD and ESRD only			ESRD only
	Average enrollment (thousands)	Reimbursement amounts		Reimbursement amounts
		Per enrollee	Aggregate (millions)	Aggregate (millions)
Alternative A:				
1974	14	$10,071	$141	$ 98
1975	21	10,857	228	155
1976	27	11,852	320	209
1977	31	13,516	419	267
1978	36	14,611	526	330
1979	41	15,756	646	399
1980	48	16,229	779	474
1981	53	17,377	921	554
1982	57	18,614	1,061	631
1983	61	19,607	1,196	705
1984	63	21,016	1,324	773
Alternative B:				
1974	14	10,071	141	98
1975	21	10,857	228	155
1976	27	11,852	320	209
1977	31	13,516	419	267
1978	36	14,611	526	330
1979	41	15,756	646	399
1980	48	16,229	779	474
1981	53	17,377	921	554
1982	57	18,667	1,064	633
1983	61	19,885	1,213	715
1984	63	21,651	1,364	796

Table A9.--AGGREGATE REIMBURSEMENT AMOUNTS ON A CASH BASIS
(In millions)

Fiscal year	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	2,652	$132	$90	2,874
1975	3,341	257	167	3,765
1976	4,074	339	259	4,672
Interim*	1,083	106	80	1,269
1977	4,992	494	381	5,867
1978	5,776	606	470	6,852
1979	6,903	762	594	8,259
1980	8,441	970	733	10,144
Projected:				
Alternative A:				
1981	10,219	1,213	868	12,300
1982	11,902	1,465	1,005	14,372
1983	14,076	1,788	1,140	17,004
Alternative B:				
1981	10,219	1,213	868	12,300
1982	11,904	1,466	1,008	14,378
1983	14,106	1,793	1,156	17,055

*Interim Period is the period from July 1, 1976 to September 30, 1976 and is the transitional period between fiscal years beginning July 1 and fiscal years beginning October 1.

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 July 1981*

1. ACTUARIAL STATUS OF THE SUPPLEMENTARY MEDICAL INSURANCE TRUST FUND

The law requires that the SMI program be financed on an incurred basis. That is, program income during the 12-month period for which the actuarial rates are effective must be sufficient to pay for services furnished during that period (including associated administrative costs) 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 benefits not paid until after the close of the 12-month period is added to the trust fund until needed. Thus, the assets in the trust fund at any time should be no less than benefit and administrative costs incurred but not yet paid.

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 June 30 for each of the years 1979-81.

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*This statement appeared in the Federal Register of December 24, 1980. Projections shown in the statement differ significantly from the projection shown in the rest of the report because of minor changes in assumptions and because of modification of the SMI program as authorized by P.L. 96-499 since the rates were promulgated.

Table 1.--ACTUARIAL STATUS OF THE SMI TRUST FUND
YEARS ENDING JUNE 30 OF 1979-81
(In Millions)

Year ending June 30,	Assets	Liabilities	Assets less liabilities
1979	$4,883	$2,810	$2,073
1980	4,657	3,385	1,272
1981	3,909	3,927	-18

2. MONTHLY ACTUARIAL RATE FOR ENROLLEES AGE 65 AND OLDER

The monthly actuarial rate is one-half 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.

The monthly actuarial rate for enrollees age 65 and older for the year ending June 30, 1982, was determined by projecting per-enrollee cost for the 12-month period ending June 30, 1979, by type of service. The projected costs for the years ending June 30 of 1979-1982 are shown in Table 2. The values for the 12-month period ending June 30, 1979, were established from program data. Subsequent years were projected using a combination of program data and data from external sources. The projection factors used are shown in Table 3.

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 the 12-month period ending June 30, 1982, is $21.27. The monthly actuarial rate of $22.60 provides an adjustment for interest earnings and $1.66 for a contingency margin. This margin partially amortizes a moderately large unfunded liability for the aged.

TABLE 2.--DERIVATION OF PROMULGATED MONTHLY RATE FOR ENROLLEES AGE 65 AND OVER YEARS ENDING JUNE 30 OF 1979-82

	1979	1980	1981	1982
Covered services (at level recognized):				
Physicians' reasonable charges	$12.87	$14.75	$17.36	$20.35
Radiology and pathology	.69	.78	.90	1.04
Outpatient hospital and other institutions	2.38	2.83	3.54	4.07
Home health agencies	.31	.39	.47	.54
Group practice prepayment plans	.29	.44	.52	.60
Independent lab	.19	.20	.23	.26
Total services	16.73	19.39	23.02	26.86
Cost sharing:				
Deductible	-1.79	-1.82	-1.85	-1.88
Coinsurance	-2.80	-3.29	-3.97	-4.69
Total benefits	12.14	14.28	17.20	20.29
Administrative expenses	.87	.87	.91	.98
Incurred expenditures	13.01	15.15	18.11	21.27
Value of interest on fund	-.33	-.36	-.26	-.33
Contingency margin for projection error and to amortize unfunded liabilities	.72	-1.39	-1.55	1.66
Promulgated monthly rate	13.40	13.40	16.30	22.60

Table 3. Projection Factors1/
Years Ending June 30 of 1980-1982
(In percent)

Year ending June 30,	Physicians' services fees2/	Physicians' services utilization3/	Radiology and Pathology	Outpatient hospital services	Home health agency services	Group practice prepayment plans	Independent lab services
Aged:							
1980	8.6	5.5	14.1	18.8	24.0	52.2	1.8
1981	10.0	7.0	15.0	25.0	20.0	20.0	15.0
1982	10.6	6.0	15.0	15.0	15.0	15.0	15.0
Disabled:							
1980	8.6	9.0	29.8	20.4	16.6	51.4	9.5
1981	10.0	10.0	20.0	25.0	15.0	20.0	15.0
1982	10.6	9.0	15.0	15.0	15.0	15.0	15.0

1/ All values are per enrollee. Also, the values for 1980 and/or 1981 differ significantly from those contained in last year's promulgation notice due to an additional year's data which support the current values.

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.

3. MONTHLY ACTUARIAL RATE FOR DISABLED ENROLLEES

Disabled enrollees are those persons enrolled in SMI because of entitlement to disability benefits for not less 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 projections for the aged, using appropriate actuarial assumptions (see Table 3). Costs for the end-stage renal disease program are projected using a computer model because of the complex demographic problems involved. The combined results for all disabled enrollees are shown in Table 4.

The projected monthly rate required to pay for one-half of the total of benefits and administrative costs for disabled enrollees for the year ending June 30, 1982 is $39.14. The monthly rate of $36.60 provides an adjustment for interest earnings and $.10 for a contingency margin. This margin is small since there is already a more than moderate excess of assets over liabilities for the disabled.

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 promulgated here using alternative assumptions. The most unpredictable factors that contribute significantly to future costs are outpatient hospital costs, physician utilization (measured indirectly and reflecting the use of more visits per enrollee, the use of more expensive services, and other factors not explained by simple price per service increases), 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. All assumptions not shown in Table 5 are the same as in Table 3.

TABLE 4.--DERIVATION OF PROMULGATED MONTHLY RATE FOR DISABLED ENROLLEES YEARS ENDING JUNE 30 OF 1979-82

	1979	1980	1981	1982
Covered services (at level recognized):				
Physicians' reasonable charges	$15.41	$18.17	$21.76	$25.86
Radiology and pathology	.72	.93	1.12	1.28
Outpatient hospital and other institutions	12.86	15.11	17.67	19.76
Home health agencies	.24	.28	.32	.37
Group practice prepayment plans	.17	.25	.31	.35
Independent lab	.27	.31	.35	.40
Total services	29.67	35.05	41.53	48.02
Cost sharing:				
Deductible	-1.66	-1.69	-1.72	-1.75
Coinsurance	-5.42	-6.43	-7.68	-8.93
Total benefits	22.59	26.93	32.13	37.34
Administrative expenses	1.63	1.63	1.69	1.80
Incurred expenditures	24.22	28.56	33.82	39.14
Value of interest on fund	-2.79	-3.12	-2.70	-2.64
Contingency margin for projection error and to amortize unfunded liabilities	3.57	-.44	-5.62	.10
Promulgated monthly rate	25.00	25.00	25.50	36.60

TABLE 5.--PROJECTION FACTORS AND THE ACTUARIAL STATUS OF THE SMI TRUST FUND UNDER ALTERNATIVE SETS OF ASSUMPTIONS
YEARS ENDING JUNE 30 OF 1981-82

	This Projection		Low Assumption		High Assumption	
	1981	1982	1981	1982	1981	1982
Projection factors (in percent): 1/						
Physician's fees 2/						
Aged	10.0	10.6	9.5	9.6	10.5	11.6
Disabled	10.0	10.6	9.5	9.6	10.5	11.6
Utilization of physicians' services 3/						
Aged	7.0	6.0	5.0	4.0	9.0	8.0
Disabled	10.0	9.0	8.0	7.0	12.0	11.0
Outpatient hospital services per enrollee						
Aged	25.0	15.0	15.0	5.0	35.0	25.0
Disabled	25.0	15.0	15.0	5.0	35.0	25.0
Home Health Agency services per enrollee						
Aged	20.0	15.0	10.0	5.0	30.0	25.0
Disabled	15.0	15.0	5.0	5.0	25.0	25.0
Actuarial status (in millions):						
Assets	$3,909	$5,607	$4,222	$6,809	$3,599	$4,359
Liabilities	3,927	4,585	3,834	4,345	4,024	4,843
Assets less liabilities	-18	1,022	388	2,464	-425	-484
Ratio of assets less liabilities to expenditures (in percent) 4/	-.1	5.5	2.6	14.5	-2.6	-2.3

1/ The values for 1981 differ significantly from those contained in last year's promulgation notice due to an additional year's data which support the current values.

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/ Ratio of assets less liabilities at the end of the year to total incurred expenditures during the following year, expressed as a percent.

Table 5 indicates that, under the assumptions used in preparing this report, the promulgated monthly rates will result in an excess of assets over liabilities of $1,022 million by the end of June 1982. This amounts to 5.5 percent of the estimated total incurred expenditures for the following year. Assumptions which are somewhat more pessimistic, and therefore which indicate the degree that assets can accommodate projection errors, produce a deficit of $484 million by the end of June 1982, which amounts to a deficit of 2.3 percent of the estimated total incurred expenditures for the following year. Under fairly optimistic assumptions, the promulgated monthly rates will result in an excess of $2,464 million, which amounts to 14.5 percent of the estimated total incurred expenditures for the following year.

5. STANDARD PREMIUM RATE

The law provides that the standard monthly premium rate, promulgated to apply for both aged and disabled enrollees, shall be the lesser of:

1. The actuarial rate for enrollees age 65 and older; or
2. The current standard monthly premium, increased by the same percentage that the level of old-age, survivors, and disability insurance (OASDI) benefits has been increased since the May preceding the promulgation (and rounded to the nearer multiple of ten cents).

The standard monthly premium rate for the 12-month period ending with June 30, 1981 is $9.60. The OASDI benefit table increased 14.3 percent in June 1980. The $9.60 rate, increased by 14.3 percent and rounded to the nearer ten cent multiple, is $11.00. Since this is less than the aged acturial rate, the standard premium rate is $11.00 for the 12 months ending with June 1982.

APPENDIX C

STATEMENT OF ACTUARIAL OPINION

It is my opinion that (1) the methodology used herein in evaluating the actuarial status of the Federal Supplementary Medical Insurance Trust Fund is generally accepted within the actuarial profession, and (2) the assumptions used and the resulting cost estimates are in the aggregate reasonable for the purpose for which they were intended, taking into account the experience and expectations of the program.

Roland E. King
Acting Director, Office of
Financial and Actuarial Analysis
Health Care Financing Administration

SUMMARY OF THE 1981 ANNUAL REPORTS OF THE SOCIAL SECURITY BOARDS OF TRUSTEES

July 6, 1981

Prepared by
Social Security Administration
and
Health Care Financing Administration

Contents

Highlights

During calendar year 1980, 115 million workers paid Social Security payroll taxes. Monthly Social Security benefits were being paid to 35 million beneficiaries at year-end. About 95 percent of all persons aged 65 or over were protected by Medicare.

The funds held for retirement, survivors, and disability benefits declined by $3.8 billion during 1980, to about $26 billion at year-end, while the fund for Medicare Hospital Insurance increased by $0.5 billion, to about $14 billion.

The short-range financing of the retirement and survivors benefit program must be strengthened very soon, so that benefits can be paid throughout 1982 and beyond.

Hospital Insurance taxes are set at about the levels needed for that program during the early 1980's, but later on these taxes will be too low if the assumptions underlying the estimates are realized.

In approximately 30 years, the aged population will have grown significantly, both in total number and relative to the number of covered workers. While these numbers cannot be forecast precisely, reasonable estimates can be made based on the population already born. To finance the benefits scheduled over the long range, much more income to these programs will be needed from taxes unless benefit outlays are substantially reduced.

Action to remedy the short-range financial crisis by lowering the benefit outgo could well carry over to the long range and solve its problems as well.

SUMMARY OF THE 1981 ANNUAL REPORTS OF THE SOCIAL SECURITY BOARDS OF TRUSTEES

Introduction

Four Social Security programs provide basic financial security to American workers and their families:

(1) Old-Age and Survivors Insurance (OASI) pays monthly cash benefits after a worker retires or dies.

(2) Disability Insurance (DI) pays monthly cash benefits after a worker becomes disabled. (OASI and DI together are referred to as OASDI.)

(3) Hospital Insurance (HI, or Medicare Part A) pays for hospital care of those aged 65 and over and of the long-term disabled.

(4) Supplementary Medical Insurance (SMI, or Medicare Part B) pays for doctor bills and other medical expenses of those aged 65 and over and of the long-term disabled.

These programs are financed essentially on a pay-as-you-go basis. Taxes paid by current workers are used to pay benefits to current beneficiaries. However, Social Security does maintain trust funds that provide small reserves against fluctuations. These trust funds hold all of the income not needed currently to pay benefits and expenses. Social Security funds may not be used for any other purpose.

The Secretaries of Treasury, Labor, and Health and Human Services serve as trustees of the Social Security trust funds. They report annually to the Congress on the condition of each fund and on projected future results.

The 1981 annual reports for the four trust funds are summarized here. Copies of the complete Trustees Report for OASDI can be obtained without charge from the Social Security Administration, Office of Public Inquiries, 4100 Annex, Baltimore, Maryland 21235. The HI and SMI Trustees Reports are available from the Health Care Financing Administration, Office of Public Affairs, Room 313H, Humphrey Building, 200 Independence Avenue, S.W., Washington, D.C. 20201.

Payroll taxes from employees, their employers, and the self-employed go into the trust funds to pay for OASI, DI, and HI. These trust funds pay benefits to current beneficiaries. SMI is financed differently and is discussed separately in Appendix A, so that this summary can focus on the three payroll-tax supported programs.

Table 1 shows the payroll tax rates for employers and employees, as established by law. Taxes at these rates are paid on each worker's earnings up to $29,700 in 1981. In future years, the Social Security earnings base will rise as average wages increase.

Table 1--Payroll Tax Schedule

Calendar Year	Contribution Rates (Percent of Taxable Earnings) Payable by Employers and Employees, Each			
	OASI	DI	HI	Total
1981	4.70%	0.65%	1.30%	6.65%
1982-84	4.575	0.825	1.30	6.70
1985	4.75	0.95	1.35	7.05
1986-89	4.75	0.95	1.45	7.15
1990 & later	5.10	1.10	1.45	7.65

For the self-employed, the OASDI tax rates are about 1½ times the rates for employees, and the HI tax rates are the same as for employees.

It is intended that the income for each program will closely match outgo in most years. When income exceeds outgo, the excess serves to increase the trust funds. When outgo exceeds income, the trust funds are drawn down. Thus, the trust funds serve as a contingency reserve to absorb temporary fluctuations in income and outgo. The trust funds are invested in U.S. government bonds, notes, and other securities, bearing rates of interest similar to those for long-term securities issued to the general public.

Results for 1980

During 1980, 115 million workers contributed to the OASDI and HI programs through payroll taxes. At the end of 1980, 35 million OASDI beneficiaries were receiving monthly benefit payments, and 95 percent of the population over age 65 was covered under HI.

Table 2 presents the cash income, outgo, and changes in assets during 1980 for the three programs, with 1979 data for comparative purposes.

Table 2--Results of Financial Operations
(Billions)

	OASI	DI	HI	Total
Trust Fund Assets on January 1, 1980.....	$24.7	$5.6	$13.2	$ 43.5
Income in 1980:				
Payroll Taxes.....	103.5	13.3	23.8	140.6
Premiums From Participants.....	--	--	*	*
General Fund of Treasury.....	0.5	0.1	0.9	1.5
Interest.....	1.8	0.5	1.1	3.4
Transfer from Railroad Retirement Account.....	--	--	0.2	0.2
Total Income.....	105.8	13.9	26.1	145.8
Outgo in 1980:				
Benefit Payments.....	105.1	15.4	25.1	145.6
Administration, Including Rehabilitation.....	1.2	0.4	0.5	2.1
Transfer to Railroad Retirement Account.	1.4	*	--	1.4
Total Outgo.....	107.7	15.9	25.6	149.1
Net Change in Trust Fund in 1980.....	-1.8	-2.0	0.5	-3.3
Trust Fund Assets on December 31, 1980.....	22.8	3.6	13.7	40.2
Comparative Results for 1979				
Income in 1979.....	90.3	15.6	22.8	128.7
Outgo in 1979.....	93.1	14.2	21.1	128.4
Net Change in Trust Fund in 1979.....	-2.9	1.4	1.8	0.3

* Less than $50 million

Note: Components may not add to totals due to rounding.

In 1980, income to the three trust funds was $145.8 billion, while outgo was $149.1 billion. As a result, the three trust funds together decreased by $3.3 billion. The OASI and DI Trust Funds dropped by $3.8 billion, while the HI Trust Fund rose by $0.5 billion.

Administrative expenses represented about 1.3 percent of benefit payments for OASDI and 2.0 percent for HI--1.5 percent for the three programs combined. This combined expense rate was 1.6 percent in 1979.

Actuarial Cost Projections

As required by law, the annual Trustees Reports contain projections on each fund's estimated financial operations and status. The estimates given here are on a calendar-year basis (and are for the programs as they are now structured). They extend over the next 75 years for OASDI and 25 years for HI. The estimated costs after the first few years are presented as percentages of taxable payroll, so that expenditures can be compared directly with the payroll tax rates. A precise prediction of the future is not possible, even in the short range. Both short- and long-range estimates are made using reasonable assumptions to indicate the trend and general range of future costs.

Assumptions Used

Future OASDI income and outgo will depend on mortality, fertility, unemployment, inflation, and other economic and demographic factors. Medicare costs will also depend on how often health care services are used and how much these services cost.

The OASDI and HI cost projections are prepared using five alternative sets of assumptions regarding these economic and demographic factors, referred to as "optimistic", "intermediate-A", "intermediate-B", "pesssimistic", and "worst-case" assumptions. Because recent economic performance has been erratic, the economic assumptions now allow for more possible variation than before, including both an A and B set of intermediate economic assumptions, and also a "worst-case" set of short-range economic assumptions.

Intermediate A assumes future economic performance resembling the experience in recent periods of more robust economic growth, such as would

Compared to the prior year's figures, income to the three funds in 1980 rose by 13 percent, but outgo was up by 16 percent. During 1980, as in 1979, there were unanticipated negative developments in the economy, including high unemployment and inflation, with prices rising more rapidly than wages. Thus, Social Security cash benefits (which are adjusted for changes in the Consumer Price Index) went up faster than Social Security revenues (which are based on covered payrolls). Medicare Hospital Insurance expenditures also rose faster than revenues because of rapidly increasing health care costs.

result from policies aimed at stimulating growth and lowering inflation; this presentation shows the favorable effect on the trust funds of an improved economy. Intermediate B assumes the adoption of policies that would yield less economic growth. The set of assumptions characterized as "worst-case" covers 1981-86 and is more pessimistic than the other four sets (although even more unfavorable assumptions could be designed). The "worst-case" assumptions were also used to test the adequacy of the short-range financing under the Administration's recent Social Security proposals.

Appendix B shows selected values of several of the assumptions used in the five basic projections.

Measures of Actuarial Status

In analyzing the financial status of the program, several measures of actuarial status are commonly used.

Fund ratio is the amount in the trust fund at the beginning of a year expressed as a percentage of that year's expenditures. For example, a fund ratio of 25 percent means that the amount in the fund is one-fourth of annual outgo (or enough to pay benefits for about three months in the absence of any income). At the beginning of 1981, the fund ratios for OASI, DI, and HI were 18, 20, and 46 percent, respectively.

Several factors should be considered in determining appropriate fund ratios, as follows:

(1) The OASI and DI benefit payments go out early each month, but the income from payroll taxes is spread over the entire month. If the OASI or DI Trust Funds drop to a point where the balance on hand

at the beginning of a month is too low to pay the benefits, the benefit checks could not be sent out in a timely manner. In practice, a fund ratio of about 12 to 14 percent would usually mean that this point is near, and that action must be taken very soon to strengthen the financing.

(2) HI benefit payments do not have this cash-flow pattern, but they do fluctuate noticeably from month to month.

(3) Payroll-tax receipts to the trust funds also fluctuate during the year (as do other items of income and outgo).

(4) Unforeseen changes in the economy may cause the trust funds to decrease unexpectedly. Each trust fund should have sufficient assets to avoid the need for hasty action to assure the payment of benefits.

Year-by-year expenditures as a percentage of taxable payroll is another useful measure. These percentages can be used to establish tax rate schedules that approximately support pay-as-you-go financing.

Actuarial balance is the average difference between the scheduled tax rate and the projected annual outgo over a given period. The actuarial balance is the usual measure of financial status over periods of 25 years or more. The OASDI system is said to be in close actuarial balance over the long-range period if the average scheduled tax rates are between 95 and 105 percent of the average estimated expenditures as a percentage of taxable payroll.

Short-Range Financing (1981-85)

The Trustees emphasize that there is an urgent need to strengthen the financing of the Social Security system in the short range. Without any

changes in current law, the OASI Trust Fund will become unable to pay benefits by late 1982. Even if the three payroll-tax financed trust funds were allowed to borrow from one another, their combined assets would decline significantly during the next 5 years. In fact, their combined assets would barely suffice under the two more-optimistic sets of assumptions. Under the three less-favorable projections, combined assets of these trust funds would become depleted within a few years.

* * *

Projections over the next 5 years allow Congress and the Administration to monitor and adjust income to the programs. In this short-range picture, the numbers of persons receiving OASDI benefits can be forecast closely. However, changes in the national economy can have major effects on outgo and income, and are difficult to predict. Past economic downturns that were more severe than anticipated have led to the current financial crisis.

Table 3 indicates year-by-year projections of OASDI fund ratios through 1985, under all four sets of long-range assumptions and under the so-called "worst-case" economic assumptions, which prudently served as the basis for the Administration's recommendations to solve the short-range and long-range financing crisis of the OASDI program.

The OASI Trust Fund would become unable to pay timely benefits by late 1982 under any of the projections. Combining the DI Trust Fund with the OASI Trust Fund would not postpone the latter's exhaustion by more than a few months. Even combining all three trust funds would provide a slim margin at best. Under the three less-favorable projections, the three combined trust funds would become exhausted before the end of 1985.

Table 3--Fund Ratios Projected to 1985

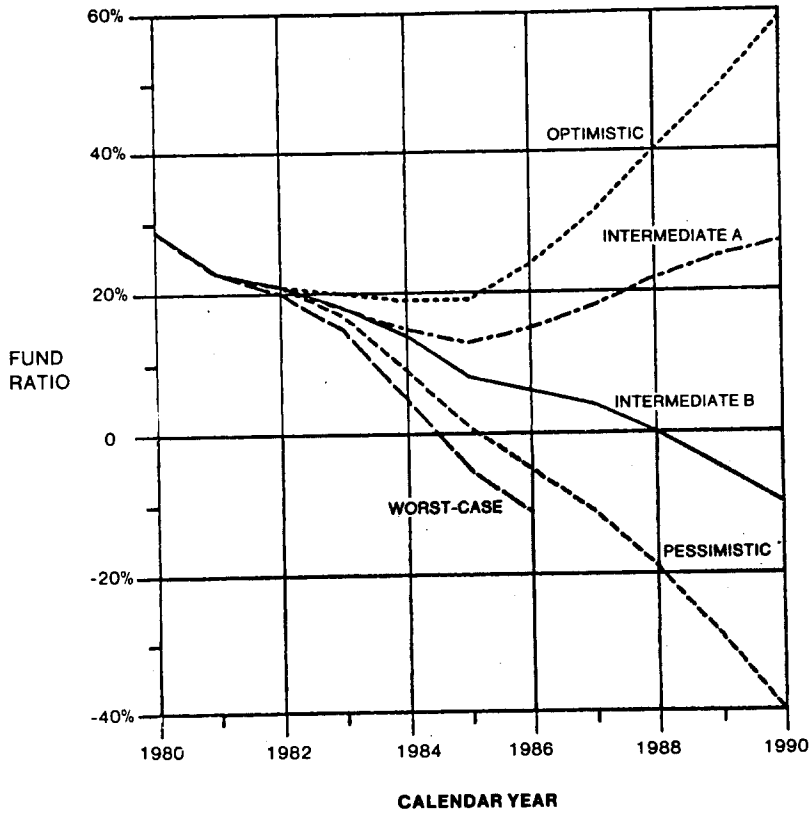
	Fund at January 1 as a Percent of Outgo During Year					
	1980	1981	1982	1983	1984	1985
OASI:						
Optimistic Assumptions.....	23%	18%	14%*	6%*	-1%*	-8%*
Intermediate A Assumptions.....	23	18	13*	5*	-4*	-13*
Intermediate B Assumptions.....	23	18	13*	4*	-5*	-16*
Pessimistic Assumptions.....	23	18	13*	4*	-9*	-22*
"Worst-Case" Assumptions.....	23	18	13*	2*	-13*	-29*
OASI and DI Combined:						
Optimistic Assumptions.....	25	18	14	9*	6*	4*
Intermediate A Assumptions.....	25	18	13	8*	3*	-1*
Intermediate B Assumptions.....	25	18	13*	7*	2*	-5*
Pessimistic Assumptions.....	25	18	13*	7*	-2*	-12*
"Worst-Case" Assumptions.....	25	18	13*	5*	-7*	-18*
OASI, DI, and HI Combined:						
Optimistic Assumptions.....	29	23	21	20	19	19
Intermediate A Assumptions.....	29	23	21	18	15	13
Intermediate B Assumptions.....	29	23	21	18	14	8*
Pessimistic Assumptions.....	29	23	21	17	9*	1*
"Worst-Case" Assumptions.....	29	23	20	15	5*	-5*

* Under present law, the program would be unable to pay timely benefits during this year because financing is projected to be inadequate.

Chart A shows the projected fund ratios through 1990 for these three funds combined. Even on this basis, which assumes interfund borrowing (which would require legislation), there is a need to strengthen the short-range financing. The combined funds would barely get through the early 1980's under the two more-favorable sets of assumptions. Under the other three less-favorable projections, the combined funds would be used up within a few years. Thus, any reallocation of the tax rates or borrowing among the trust funds would not result in adequate short-range financing under adverse conditions.

Chart A

ESTIMATED FUND RATIOS UNDER COMBINED OASI, DI, AND HI PROGRAMS



Long-Range Financing (1981-2055)

Over the next 75 years, the projections indicate a need for substantial changes in the long-range financing of OASDI. Action is urgently needed to solve the financing problems during the 1980's (as discussed earlier). Later on, the outlook for the OASDI Trust Funds improves substantially, after the tax increases that would take effect during 1985-90, and remains favorable during the first 25-year period. During the following 25 years, however, OASDI tax rates are projected to become inadequate, as expenditures rise (due to a larger beneficiary population), while tax rates remain level under current law. During the final 25 years of the 75-year projection period, there is a substantial deficit projected under all but the most optimistic assumptions. Thus, the long-range financing of OASDI needs to be strengthened.

HI income is projected to cover expenditures during the early 1980's. But later in the 25-year period, HI financing is estimated to deteriorate. Although the HI Trust Fund is not in imminent danger, the Board of Trustees recommends that Congress should investigate ways of strengthening its financing.

* * *

Long-range cost estimates for OASDI over the next 75 years, although sensitive to variations in the assumptions, give the best indication of the trend and general range of the program's cost. HI projections customarily do not go beyond 25 years, because of the high degree of uncertainty about the trend of future hospital costs relative to the rest of the economy.

Several important demographic trends are anticipated in the next 75 years which would sharply raise the proportion of the aged in the population.

(1) After the turn of the century, rapid growth is expected in the aged population because of the large number of persons born shortly after World War II.

(2) Projected improvements in mortality also would increase the numbers of aged persons.

(3) At the same time, low birth rates would hold down the number of young people.

Chart B shows the long-range trend in the number of OASDI beneficiaries per 100 covered workers, based on the three sets of demographic assumptions. (It is important to note that "beneficiaries" includes not only retired workers, but also disabled workers, spouses, children, and survivor beneficiaries.) This ratio has gone up from zero in 1940 to 31 currently. It is estimated to rise to a range of 40 to 70 by the middle of the next century. Because most of the beneficiaries during the next 75 years have already been born, their numbers are projected mainly from the present population. The numbers of workers involved in these projections, however, depend on future birth rates, which are subject to more variability.

Chart C shows the trend in the estimated annual OASDI outgo as a percentage of taxable payroll under each of the four sets of long-range assumptions during the next 75 years. Also shown for comparative purposes are the scheduled OASDI tax rates. Under each set of assumptions, the estimated outgo as a percentage of taxable payroll increases rapidly after the turn of the century. Under the intermediate and optimistic sets of

NUMBER OF OASDI BENEFICIARIES PER 100 WORKERS

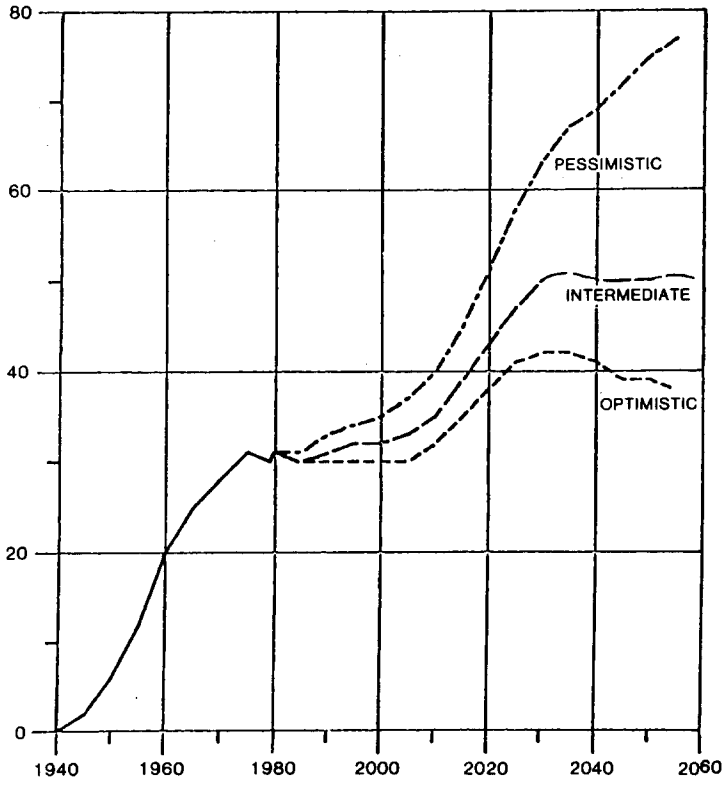
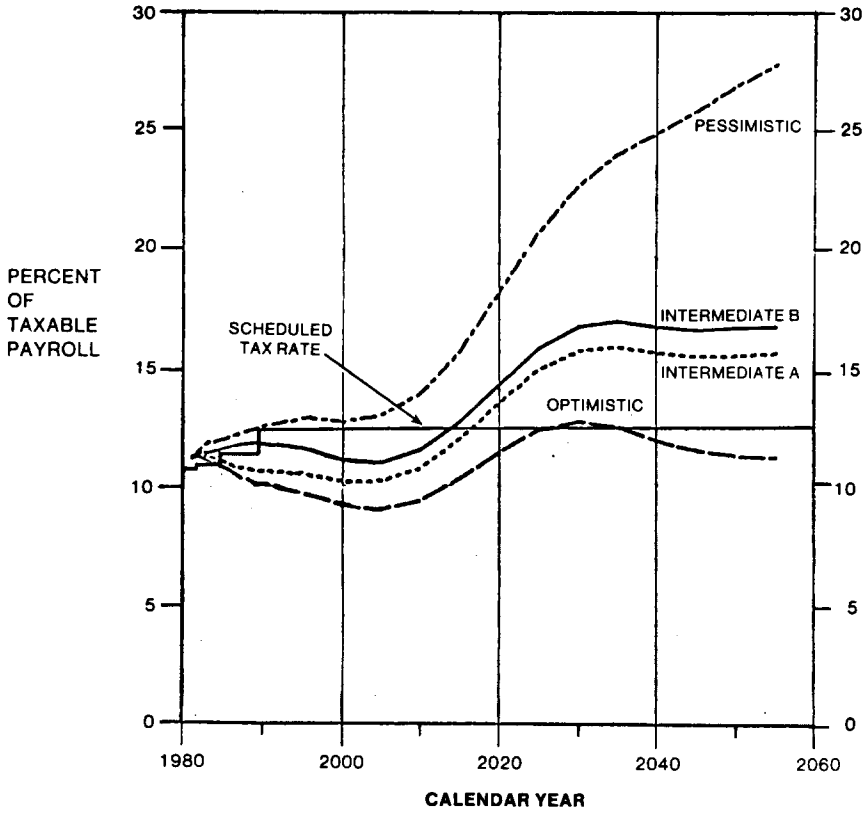


Chart C

ESTIMATED OASDI OUTGO AND TAX RATES, 1981 - 2055



assumptions, the outgo in relation to taxable payroll peaks around 2030, while under the pessimistic assumptions, the outgo is still increasing at the end of the valuation period. These projections indicate the need for action to restore the OASDI system to financial health over the long range.

Table 4 compares the estimated average OASDI expenditures in relation to taxable payroll and the tax rates over the next 75 years under the four alternative sets of long-range assumptions. The estimated average annual tax income for the entire 75-year projection period falls below the estimated average annual outgo for the period by 0.93 percent of taxable payroll under Intermediate A and 1.82 percent under Intermediate B.

Table 4--Estimated Average OASDI Tax Rates, Expenditures, and Actuarial Balance (Percent of Taxable Payroll)

	25-Year Averages			75-Year Average
	1981-2005	2006-2030	2031-2055	1981-2055
Average Scheduled Tax Rate (Combined Employer-Employee Rate)	11.94%	12.40%	12.40%	12.25%
Estimated Average Expenditures:				
Optimistic Assumptions.....	9.99	11.07	11.93	10.99
Intermediate-A Assumptions.....	10.67	13.07	15.79	13.17
Intermediate-B Assumptions.....	11.51	13.87	16.81	14.07
Pessimistic Assumptions.....	12.55	17.50	25.43	18.50
Difference (Actuarial Balance):				
Optimistic Assumptions.....	1.95	1.33	0.48	1.25
Intermediate-A Assumptions.....	1.27	-0.67	-3.39	-0.93
Intermediate-B Assumptions.....	0.43	-1.47	-4.41	-1.82
Pessimistic Assumptions.....	-0.61	-5.10	-13.03	-6.25

Chart D summarizes the projections of HI expenditures as percentages of taxable payroll as compared with the tax rates through the year 2005, based on the four sets of long-range assumptions. HI income scheduled for the early 1980's is sufficient to cover HI expenditures. But the chart shows that this favorable short-range financing picture is projected to begin deteriorating shortly after 1985. The expected net outflows from HI beginning in the late 1980's add to the problems already discussed for OASDI, and underscore the need to do more than rely on interfund borrowing to restore the strength of the combined system.

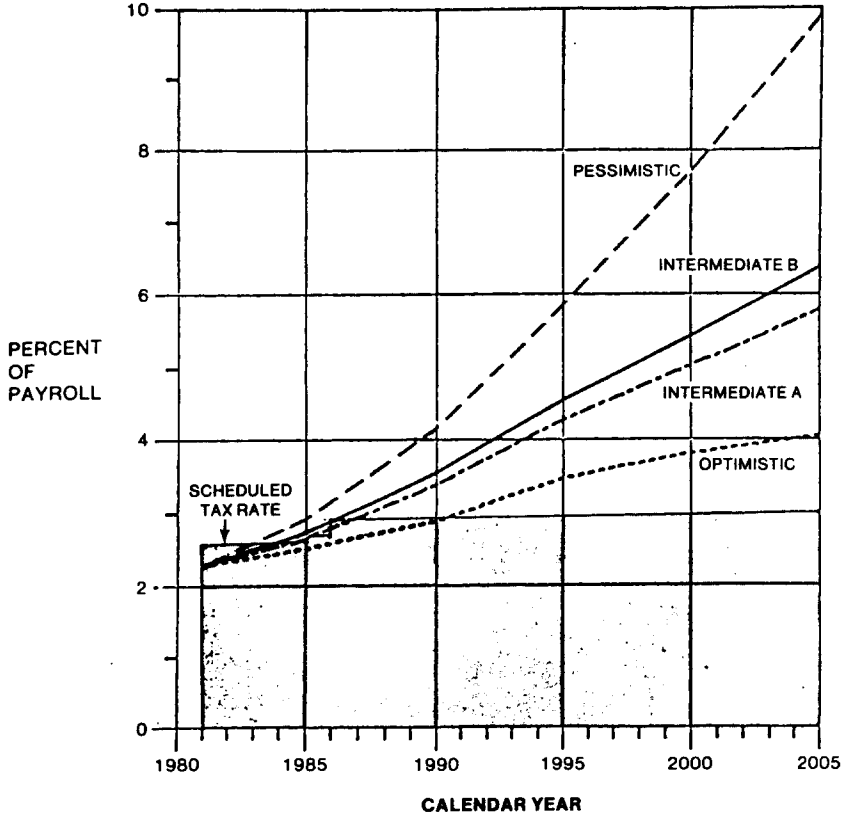
Table 5 shows the actuarial balance for HI over the next 25 years, based on the two sets of intermediate assumptions. This actuarial balance compares the average scheduled HI tax rate and the estimated average cost, both for meeting the HI expenditures and for bringing the HI fund ratio up to a more adequate level over the long run. For illustrative purposes, a fund ratio of 50 percent has been used here as providing such a level.

Table 5--HI Actuarial Balance 1981-2005
(Percent of Taxable Payroll)

	Optimistic Assumptions	Intermediate-A Assumptions	Intermediate-B Assumptions	Pessimistic Assumptions
Average Scheduled Payroll Tax Rate (Combined Employer-Employee Rate)	2.84%	2.84%	2.84%	2.84%
Expenditures	3.21	3.94	4.19	5.46
Trust Fund Buildup and Maintenance	0.05	0.08	0.09	0.18
Total Cost of the Program	3.26	4.02	4.28	5.64
Difference (Actuarial Balance)	-0.42	-1.18	-1.44	-2.80

Chart D

ESTIMATED HI OUTGO AND TAX RATES 1981-2005



APPENDIX A

Financing of Supplementary Medical Insurance (SMI) (Medicare Part B)

SMI income of $10.9 billion during 1980 included $7.5 billion from the general fund of the Treasury and $3.0 billion in monthly premiums from participants. Expenditures of $11.2 billion included $10.6 billion for benefit payments. During 1980, the SMI Trust Fund decreased from $4.9 billion to $4.5 billion.

In July 1980, the SMI standard monthly premium rate increased from $8.70 to $9.60; in July 1981, the rate increased to $11.00. The promulgated premiums paid by SMI participants have been increasing each year by the same percentage by which OASDI benefit payments went up the year before. The payments to the SMI Trust Fund from the general fund of the Treasury cover the portion of program costs not paid by participants.

There is only one principal set of cost estimates for SMI, extending three years into the future, although alternative high-cost and low-cost projections are also made. These projections show that the financing is adequate through June 1982.

The amount of the SMI Trust Fund may be compared to its liability for claims incurred, but not yet paid. In recent years, the SMI Trust Fund has exceeded this liability, so that, by any standard, the program can be said to be actuarially sound.

APPENDIX B

Economic and Demographic Assumptions

The table below shows selected values of several of the assumptions used in the projections for OASDI and HI in the 1981 Trustees Reports.

Calendar Year	Percent Increase over Previous Year in Average Annual-- Real GNP 1/	Wages in Covered Employment	Consumer Price Index	Inpatient Hospital Costs 2/	Annual Unemployment Rate	Total Fertility Rate 3/
			Optimistic Assumptions			
1981	1.7%	10.6%	10.7%	15.6%	7.7%	1.9
1985	4.4	6.8	4.1	11.4	5.7	2.0
1995	3.2	4.5	2.0	6.8	4.5	2.1
2005 & later	3.5	4.5	2.0	6.3	4.0	2.4
			Intermediate-A Assumptions			
1981	1.1	10.2	11.1	15.6	7.8	1.9
1985	4.2	7.1	4.7	12.9	5.9	1.9
1995	2.8	5.0	3.0	9.1	5.0	2.0
2005 & later	3.1	5.0	3.0	8.4	5.0	2.1
			Intermediate-B Assumptions			
1981	1.1	10.2	11.1	15.6	7.8	1.9
1985	2.9	8.1	7.4	14.4	6.8	1.9
1995	2.4	5.5	4.0	10.0	5.4	2.0
2005 & later	2.7	5.5	4.0	9.3	5.0	2.1
			Pessimistic Assumptions			
1981	0.7	11.5	12.6	15.6	7.9	1.8
1985	3.0	10.1	9.7	18.8	7.4	1.8
1995	2.3	6.4	5.4	12.9	6.0	1.8
2005 & later	2.2	6.0	5.0	11.9	6.0	1.7
			"Worst-Case" Assumptions (1981-86 Only)			
1981	-0.1	10.6	12.8	15.6	8.3	1.8
1985	4.4	10.4	9.7	15.6	8.0	1.8

1/ Gross National Product (the total output of goods and services) expressed in constant dollars. The percentage increase in real GNP is assumed to change after the year 2005. The values for the year 2055 are 3.4, 2.5, 2.1, and 0.9 percent for the optimistic, intermediate A, intermediate B, and pessimistic assumptions, respectively.

2/ Includes hospital costs for all patients, not just those covered under HI. Figures shown for "2005 & later" are for 2005.

3/ The number of children who would be born to a woman in her lifetime if she were to experience the age-specific birth rates assumed and were to survive the entire child-bearing period.

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