

III. APPENDICES

A. ACTUARIAL ESTIMATES FOR THE OASDI AND HI PROGRAMS, COMBINED

In this appendix, long-range actuarial estimates for the OASDI and Hospital Insurance (HI) programs are combined to facilitate analysis of the adequacy of the combined income and assets of the trust funds relative to their combined expenditures. Combining cost and income rates as percentages of taxable payroll requires a note of caution. The taxable payrolls for the HI program are larger than those estimated for the OASDI program because of a larger contribution and benefit base beginning in 1991 and more extensive coverage of government and railroad employment. Therefore a cost rate of a given size represents more cost in dollars under the HI program than under the OASDI program. Even with this difference, combined OASDI and HI rates shown in this appendix are computed by adding the separately derived rates for the programs. The resulting combined rates may be interpreted as those applicable to the taxable payroll in the amount of the OASDI payroll, with the separate HI rates being additionally applicable to the excess of the HI payroll over the OASDI payroll.

Long-range estimates are subject to much uncertainty and should not be considered precise forecasts. Instead they should be considered as indicative of the general trend and range of costs that could reasonably be expected to occur. The emphasis in this appendix on combined operations, while significant, should not obscure the analysis of the financial status of the individual trust funds, which are legally separate and cannot be comingled. In addition, the factors which determine the costs of the OASI, DI, and HI programs differ substantially.

As with the OASI and DI Trust Funds, income to the HI Trust Fund comes primarily from contributions paid by employees, employers, and self-employed persons. The combined OASDI and HI contribution rate for employees and their employers is often referred to as the FICA tax, because it is authorized by the Federal Insurance Contributions Act. Contribution rates for the OASDI and HI programs are shown in table III.A.1.

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TABLE III.A.1.—CONTRIBUTION RATES FOR THE OASDI AND HI PROGRAMS

[In percent]

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

¹See section entitled "Description of the Trust Funds" for description of tax credits allowed against the combined OASDI and HI taxes on net earnings from self-employment in 1984-89.

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

Under all three sets of assumptions, combined OASDI and HI cost rates are projected to rise above current levels, with the sharpest increase occurring during the period 2010-2030. Under the more pessimistic set of assumptions, alternative III, annual deficits are projected to occur within the next 3 years, and to continue for the remainder of the 75-year projection period. Cost rates are projected to rise to about three and one-half times their current level by the end of the projection period. Under the intermediate alternative II assumptions, annual deficits begin by the year 1998, with cost rates doubling by the end of the projection period. Under the more optimistic assumptions, alternative I, cost rates are projected to increase by about 30 percent, with annual deficits beginning before the year 2020.

TABLE III.A.2.—COMPARISON OF ESTIMATED INCOME RATES AND COST RATES¹ FOR OASDI AND HI BY ALTERNATIVE, CALENDAR YEARS 1993-2070

[As a percentage of taxable payroll¹]

Calendar year	OASDI			HI			Combined		
	Income rate	Cost rate	Balance	Income rate	Cost rate	Balance	Income rate	Cost rate	Balance
Alternative I:									
1993....	12.63	11.48	1.15	2.90	3.17	-0.27	15.53	14.66	0.87
1994....	12.63	11.26	1.37	2.90	3.32	-.42	15.53	14.58	.95
1995....	12.58	11.05	1.54	2.90	3.44	-.54	15.48	14.49	.99
1996....	12.62	10.87	1.74	2.90	3.55	-.65	15.52	14.43	1.09
1997....	12.61	10.72	1.89	2.90	3.62	-.72	15.51	14.34	1.17
1998....	12.61	10.58	2.03	2.90	3.68	-.78	15.51	14.26	1.24
1999....	12.60	10.47	2.13	2.90	3.75	-.85	15.50	14.22	1.28
2000....	12.60	10.37	2.23	2.90	3.81	-.91	15.50	14.18	1.32
2001....	12.60	10.26	2.33	2.90	3.87	-.97	15.50	14.14	1.36
2002....	12.60	10.17	2.43	2.90	3.93	-1.03	15.50	14.09	1.40
2005....	12.67	10.02	2.65	2.90	4.07	-1.17	15.57	14.09	1.48
2010....	12.80	10.13	2.67	2.90	4.21	-1.31	15.70	14.34	1.36
2015....	12.89	10.84	2.05	2.90	4.51	-1.61	15.79	15.34	.45
2020....	12.94	11.87	1.07	2.90	4.69	-1.79	15.84	16.56	-.72
2025....	12.99	12.77	.22	2.90	4.92	-2.02	15.89	17.69	-1.80
2030....	13.01	13.21	-.20	2.90	5.20	-2.30	15.91	18.41	-2.50
2035....	13.01	13.17	-.16	2.90	5.42	-2.52	15.91	18.59	-2.68
2040....	12.99	12.79	.21	2.90	5.61	-2.71	15.89	18.39	-2.50
2045....	12.98	12.48	.50	2.90	5.78	-2.88	15.88	18.25	-2.38
2050....	12.97	12.34	.63	2.90	5.90	-3.00	15.87	18.24	-2.37
2055....	12.97	12.37	.60	2.90	6.05	-3.15	15.87	18.42	-2.55
2060....	12.97	12.42	.55	2.90	6.24	-3.34	15.87	18.67	-2.79
2065....	12.97	12.41	.56	2.90	6.47	-3.57	15.87	18.88	-3.01
2070....	12.97	12.39	.58	2.90	6.71	-3.81	15.87	19.10	-3.23
Alternative II:									
1993....	12.63	11.63	1.00	2.90	3.21	-.31	15.53	14.84	.69
1994....	12.63	11.56	1.07	2.90	3.41	-.51	15.53	14.98	.56
1995....	12.61	11.53	1.08	2.90	3.60	-.70	15.51	15.14	.38
1996....	12.63	11.54	1.09	2.90	3.78	-.88	15.53	15.32	.21
1997....	12.63	11.55	1.08	2.90	3.91	-1.01	15.53	15.46	.06
1998....	12.62	11.57	1.05	2.90	4.05	-1.15	15.52	15.62	-.10
1999....	12.62	11.59	1.03	2.90	4.19	-1.29	15.52	15.78	-.25
2000....	12.62	11.61	1.02	2.90	4.32	-1.42	15.52	15.93	-.41
2001....	12.62	11.62	1.00	2.90	4.46	-1.56	15.52	16.08	-.56
2002....	12.62	11.62	1.00	2.90	4.59	-1.69	15.52	16.21	-.69
2005....	12.71	11.58	1.13	2.90	4.99	-2.09	15.61	16.57	-.96
2010....	12.86	11.79	1.08	2.90	5.57	-2.67	15.76	17.36	-1.59
2015....	12.97	12.68	.29	2.90	6.44	-3.54	15.87	19.11	-3.25
2020....	13.04	14.04	-1.00	2.90	7.31	-4.41	15.94	21.35	-5.41
2025....	13.10	15.35	-2.25	2.90	8.30	-5.40	16.00	23.65	-7.65
2030....	13.15	16.25	-3.10	2.90	9.31	-6.41	16.05	25.56	-9.52
2035....	13.17	16.63	-3.46	2.90	10.10	-7.20	16.07	26.73	-10.67
2040....	13.17	16.60	-3.43	2.90	10.61	-7.71	16.07	27.21	-11.14
2045....	13.17	16.63	-3.47	2.90	10.93	-8.03	16.07	27.57	-11.50
2050....	13.17	16.84	-3.67	2.90	11.17	-8.27	16.07	28.02	-11.94
2055....	13.19	17.26	-4.07	2.90	11.45	-8.55	16.09	28.71	-12.62
2060....	13.22	17.67	-4.46	2.90	11.81	-8.91	16.12	29.48	-13.37
2065....	13.23	17.95	-4.72	2.90	12.24	-9.34	16.13	30.19	-14.06
2070....	13.24	18.18	-4.94	2.90	12.72	-9.82	16.14	30.90	-14.76

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TABLE III.A.2.—COMPARISON OF ESTIMATED INCOME RATES AND COST RATES¹ FOR OASDI AND HI BY ALTERNATIVE, CALENDAR YEARS 1993-2070 (Cont.)

[As a percentage of taxable payroll¹]

Calendar year	OASDI			HI			Combined		
	Income rate	Cost rate	Balance	Income rate	Cost rate	Balance	Income rate	Cost rate	Balance
Alternative III:									
1993 . . .	12.63	11.71	0.92	2.90	3.23	-0.33	15.53	14.94	0.60
1994 . . .	12.64	11.96	.68	2.90	3.50	-.60	15.54	15.46	.08
1995 . . .	12.66	12.11	.55	2.90	3.77	-.87	15.56	15.88	-.32
1996 . . .	12.64	12.20	.44	2.90	3.97	-1.07	15.54	16.17	-.63
1997 . . .	12.65	12.72	-.07	2.90	4.21	-1.31	15.55	16.92	-1.38
1998 . . .	12.65	13.02	-.37	2.90	4.44	-1.54	15.55	17.46	-1.91
1999 . . .	12.65	13.13	-.48	2.90	4.65	-1.75	15.55	17.78	-2.23
2000 . . .	12.65	13.18	-.53	2.90	4.87	-1.97	15.55	18.04	-2.49
2001 . . .	12.65	13.26	-.61	2.90	5.10	-2.20	15.55	18.36	-2.81
2002 . . .	12.65	13.36	-.71	2.90	5.33	-2.43	15.55	18.69	-3.14
2005 . . .	12.76	13.46	-.70	2.90	6.08	-3.18	15.66	19.54	-3.88
2010 . . .	12.94	13.75	-.81	2.90	7.36	-4.46	15.84	21.10	-5.27
2015 . . .	13.06	14.81	-1.76	2.90	9.25	-6.35	15.96	24.07	-8.11
2020 . . .	13.14	16.54	-3.39	2.90	11.51	-8.61	16.04	28.04	-12.00
2025 . . .	13.23	18.35	-5.12	2.90	14.15	-11.25	16.13	32.49	-16.37
2030 . . .	13.30	19.82	-6.52	2.90	16.84	-13.94	16.20	36.66	-20.46
2035 . . .	13.35	20.86	-7.50	2.90	18.96	-16.06	16.25	39.81	-23.56
2040 . . .	13.38	21.52	-8.13	2.90	20.26	-17.36	16.28	41.77	-25.49
2045 . . .	13.41	22.25	-8.84	2.90	20.92	-18.02	16.31	43.17	-26.85
2050 . . .	13.46	23.23	-9.77	2.90	21.38	-18.48	16.36	44.61	-28.25
2055 . . .	13.52	24.50	-10.98	2.90	21.90	-19.00	16.42	46.40	-29.98
2060 . . .	13.58	25.73	-12.14	2.90	22.61	-19.71	16.48	48.33	-31.85
2065 . . .	13.63	26.75	-13.12	2.90	23.43	-20.53	16.53	50.19	-33.65
2070 . . .	13.67	27.62	-13.95	2.90	24.28	-21.38	16.57	51.90	-35.33

¹The taxable payroll for HI is somewhat larger than the taxable payroll for OASDI because the HI taxable maximum amount is significantly higher than the taxable maximum for OASDI beginning 1991, and because HI covers all Federal civilian employees, including those hired before 1984, all State and local government employees hired after April 1, 1986, and railroad employees. Combined OASDI and HI rates as a percent of taxable payroll are computed as the sum of the rates for the separate programs.

Notes:

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

Table III.A.3 shows the estimates of summarized OASDI and HI income rates, cost rates and balances for various time periods, based on all three sets of assumptions. Values are summarized over the three 25-year subperiods (excluding the beginning fund balances and the cost of reaching and maintaining ending fund targets) as well as the 25-year, 50-year, and 75-year valuation periods (for which beginning fund balances are included in the summarized income rates, and the costs of reaching and maintaining an ending fund balance equal to 100 percent of annual expenditures by the end of the period are included in the summarized cost rates). Estimates shown for the combined trust funds are theoretical because no authority currently exists for transferring assets from one trust fund to another.

Under alternative III, the combined OASDI and HI system is projected to experience large deficits during the 25-year, 50-year, and 75-year valuation periods (including beginning trust fund balances and the cost of ending fund targets). Deficits are projected to occur during each 25-year subperiod of the 75-year projection period (excluding beginning trust fund balances and the cost of ending fund targets). Under intermediate alternative II assumptions, deficits of smaller magnitude than those for alternative III are projected to occur for each of the three 25-year subperiods and for each of the three valuation periods. Under alternative I, the combined OASDI and HI system is projected to show positive balances for the 25-year valuation period and for the first 25-year subperiod. Relatively small deficits are projected for the 50-year and the 75-year valuation periods and for the second and third 25-year subperiods.

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TABLE III.A.3.—COMPARISON OF SUMMARIZED INCOME RATES AND COST RATES¹ FOR OASDI AND HI BY ALTERNATIVE, CALENDAR YEARS 1993-2067

Calendar year period	[As a percentage of taxable payroll ¹]								
	OASDI			HI			Combined		
	Income rate	Cost rate	Balance	Income rate	Cost rate	Balance	Income rate	Cost rate	Balance
Alternative I:									
25-year subperiods: ²									
1993-2017	12.68	10.53	2.15	2.90	3.99	-1.09	15.58	14.51	1.07
2018-2042	12.97	12.76	.21	2.90	5.15	-2.25	15.87	17.91	-2.04
2043-2067	12.96	12.44	.52	2.90	6.08	-3.18	15.86	18.51	-2.66
Valuation periods: ³									
25-year:									
1993-2017 . .	13.24	10.96	2.28	3.09	4.16	-1.07	16.33	15.12	1.21
50-year:									
1993-2042 . .	13.12	11.75	1.36	3.00	4.61	-1.61	16.12	16.36	-.24
75-year:									
1993-2067 . .	13.07	11.91	1.16	2.98	5.01	-2.03	16.05	16.92	-.87
Alternative II:									
25-year subperiods: ²									
1993-2017	12.72	11.87	.86	2.90	4.92	-2.02	15.62	16.79	-1.17
2018-2042	13.10	15.73	-2.63	2.90	9.04	-6.14	16.00	24.77	-8.77
2043-2067	13.18	17.28	-4.10	2.90	11.48	-8.58	16.08	28.76	-12.68
Valuation periods: ³									
25-year:									
1993-2017 . .	13.31	12.37	.95	3.10	5.18	-2.08	16.41	17.55	-1.14
50-year:									
1993-2042 . .	13.22	13.84	-.62	3.01	6.92	-3.91	16.23	20.76	-4.53
75-year:									
1993-2067 . .	13.21	14.67	-1.46	2.98	8.06	-5.07	16.19	22.73	-6.53
Alternative III:									
25-year subperiods: ²									
1993-2017	12.77	13.46	-.69	2.90	6.13	-3.23	15.67	19.59	-3.92
2018-2042	13.26	19.32	-6.07	2.90	16.09	-13.19	16.16	35.42	-19.26
2043-2067	13.50	24.39	-10.89	2.90	21.96	-19.06	16.40	46.35	-29.95
Valuation periods: ³									
25-year:									
1993-2017 . .	13.39	14.04	-.66	3.11	6.53	-3.42	16.50	20.57	-4.07
50-year:									
1993-2042 . .	13.33	16.40	-3.07	3.02	10.89	-7.87	16.35	27.29	-10.94
75-year:									
1993-2067 . .	13.37	18.33	-4.96	2.99	13.57	-10.58	16.36	31.90	-15.54

¹The taxable payroll for HI is considerably larger than the taxable payroll for OASDI because the HI taxable maximum amount is significantly higher than the taxable maximum for OASDI beginning 1991, and because HI covers all Federal civilian employees, including those hired before 1984, all State and local government employees hired after April 1, 1986, and railroad employees. Combined OASDI and HI rates are computed as the sum of the separately derived rates for each program.

²Income rates do not include beginning trust fund balances and cost rates do not include the cost of reaching ending fund targets.

³Income rates include beginning trust fund balances and cost rates include an ending fund target equal to 100 percent of annual expenditures by the end of the period.

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

**B. LONG-RANGE ESTIMATES OF SOCIAL SECURITY
TRUST FUND OPERATIONS IN DOLLARS**

This appendix presents long-range projections in dollars of the operations of the combined OASI and DI Trust Funds and in some cases the HI Trust Fund. It provides the means to track the progress of the funds during the projection period. Meaningful comparison of current dollar values over long periods of time can be difficult because of the tendency toward inflation. Some means of removing inflation is thus generally desirable. Several economic series, or "indices," are provided to allow current dollars to be adjusted for changes in prices, wages, and certain other aspects of economic growth during the projection period.

The selection of a particular index for adjustment of current dollars depends upon the analyst's decision as to which index provides the most useful standard for adjusting dollar amounts, over time, to create values that are appropriately comparable. Table III.B.1 presents five such indices for adjustment.

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

Another type of standardization combines the effects of price inflation with real-wage growth. The wage index presented here is the "SSA average wage index," as defined in section 215(i)(1)(G) of the Social Security Act. This index is used to make annual adjustments to many earnings-related quantities embodied in the Social Security Act, such as the contribution and benefit base. The average annual wage is assumed to increase ultimately by 4.7, 5.1, and 5.6 percent under alternatives I, II, and III, respectively.

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

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

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

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

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

[GDP and taxable payroll in billions]

Calendar year	Adjusted CPI ¹	SSA average wage index ²	Taxable payroll ³	Gross domestic product	Compound interest-rate factor ⁴
Alternative I:					
1992	97.31	22,664.02	2,532	5,949	0.9328
1993	100.00	23,586.64	2,683	6,316	1.0000
1994	102.82	24,674.96	2,868	6,737	1.0635
1995	105.90	25,906.27	3,061	7,189	1.1264
1996	109.07	27,141.33	3,261	7,649	1.1936
1997	112.34	28,433.96	3,468	8,120	1.2657
1998	115.71	29,766.82	3,682	8,609	1.3428
1999	119.17	31,144.96	3,900	9,111	1.4246
2000	122.76	32,622.59	4,131	9,641	1.5114
2001	126.43	34,178.15	4,373	10,205	1.6041
2002	130.22	35,859.14	4,631	10,805	1.7038
2005	142.30	41,156.64	5,485	12,804	2.0369
2010	164.96	51,781.34	7,194	16,859	2.7374
2015	191.23	65,148.85	9,309	21,903	3.6789
2020	221.69	81,967.21	11,948	28,243	4.9441
2025	257.00	103,127.28	15,313	36,372	6.6445
2030	297.93	129,749.88	19,748	47,133	8.9296
2035	345.39	163,245.19	25,605	61,405	12.0006
2040	400.40	205,387.39	33,226	80,066	16.1278
2045	464.17	258,408.73	43,023	104,174	21.6745
2050	538.10	325,117.69	55,650	135,397	29.1287
2055	623.81	409,047.75	71,994	176,006	39.1465
2060	723.17	514,644.59	93,284	229,151	52.6096
2065	838.35	647,501.56	120,909	298,439	70.7029
2070	971.87	814,655.94	156,600	388,391	95.0188

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

[GDP and taxable payroll in billions]

Calendar year	Adjusted CPI ¹	SSA average wage index ²	Taxable payroll ³	Gross domestic product	Compound interest-rate factor ⁴
Alternative II:					
1992.....	97.08	22,630.79	2,527	5,946	0.9328
1993.....	100.00	23,431.82	2,658	6,276	1.0000
1994.....	103.10	24,443.84	2,817	6,655	1.0635
1995.....	106.42	25,526.64	2,975	7,042	1.1268
1996.....	109.97	26,599.36	3,137	7,435	1.1942
1997.....	113.79	27,763.31	3,309	7,845	1.2669
1998.....	117.96	29,017.51	3,488	8,281	1.3445
1999.....	122.56	30,413.96	3,683	8,766	1.4281
2000.....	127.46	31,921.18	3,897	9,294	1.5192
2001.....	132.56	33,531.26	4,127	9,867	1.6176
2002.....	137.86	35,274.95	4,375	10,481	1.7242
2005.....	155.07	40,951.95	5,211	12,548	2.0788
2010.....	188.67	52,515.58	6,914	16,796	2.8337
2015.....	229.55	67,344.44	9,053	22,186	3.8627
2020.....	279.28	86,360.53	11,720	28,990	5.2655
2025.....	339.79	110,746.21	15,111	37,740	7.1776
2030.....	413.40	142,017.69	19,535	49,258	9.7842
2035.....	502.97	182,119.33	25,340	64,511	13.3374
2040.....	611.94	233,544.48	32,842	84,419	18.1810
2045.....	744.52	299,490.59	42,354	109,916	24.7834
2050.....	905.82	384,057.97	54,505	142,812	33.7836
2055.....	1,102.07	492,504.66	70,039	185,281	46.0523
2060.....	1,340.83	631,573.56	90,074	240,575	62.7764
2065.....	1,631.33	809,911.44	115,964	312,704	85.5738
2070.....	1,984.76	1,038,606.63	149,157	406,083	116.6503
Alternative III:					
1992.....	96.42	22,549.63	2,521	5,942	.9328
1993.....	100.00	23,365.85	2,647	6,273	1.0000
1994.....	103.97	24,267.53	2,763	6,512	1.0654
1995.....	109.60	25,479.71	2,903	6,891	1.1330
1996.....	116.62	27,230.46	3,119	7,492	1.2134
1997.....	122.36	28,248.08	3,259	7,716	1.3091
1998.....	128.43	29,625.19	3,408	8,134	1.4151
1999.....	134.86	31,256.46	3,627	8,768	1.5255
2000.....	141.60	32,932.57	3,876	9,408	1.6348
2001.....	148.68	34,744.14	4,126	10,046	1.7497
2002.....	156.11	36,681.81	4,383	10,704	1.8705
2005.....	180.72	43,195.90	5,254	12,974	2.2683
2010.....	230.65	56,723.38	7,094	17,752	3.1188
2015.....	294.37	74,487.21	9,464	24,005	4.2881
2020.....	375.70	97,814.06	12,447	32,018	5.8957
2025.....	479.50	128,446.09	16,233	42,363	8.1061
2030.....	611.97	168,671.02	21,185	56,086	11.1453

Appendices

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

[GDP and taxable payroll in billions]

Calendar year	Adjusted CPI ¹	SSA average wage index ²	Taxable payroll ³	Gross domestic product	Compound interest-rate factor ⁴
Alternative III:(Cont.)					
2035.....	781.05	221,493.03	27,641	74,236	15.3238
2040.....	996.84	290,857.09	35,913	97,850	21.0690
2045.....	1,272.24	381,943.59	46,355	128,129	28.9681
2050.....	1,623.74	501,555.31	59,492	166,817	39.8288
2055.....	2,072.35	658,625.31	76,137	216,579	54.7613
2060.....	2,644.91	864,884.31	97,492	281,336	75.2923
2065.....	3,375.64	1,135,736.50	124,913	365,682	103.5207
2070.....	4,308.27	1,491,410.50	159,992	475,147	142.3324

¹The CPI used to adjust OASDI benefits is the Consumer Price Index for Urban Wage Earners and Clerical Workers (CPI), as defined by the Bureau of Labor Statistics, Department of Labor. The values shown are adjusted by dividing the calendar-year annual average CPI by the analogous value for 1993, and multiplying the result by 100, thereby initializing the CPI at 100 for 1993.

²The "SSA average wage index" is defined in section 215(j)(1)(G) of the Social Security Act; it is used in the calculations of initial benefits and the automatic adjustment of the contribution and benefit base and other wage-indexed program amounts.

³Taxable payroll consists of total earnings subject to OASDI contribution rates, adjusted to include deemed wages based on military service and to reflect the lower effective contribution rates (compared to the combined employee-employer rate) which apply to multiple-employer "excess wages."

⁴The compound interest-rate factor is based on the average of the assumed annual interest rates for special public-debt obligations issuable to the trust funds in the 12 months of the year, under each alternative.

Table III.B.2 shows estimated operations of the combined OASI and DI Trust Funds in constant 1993 dollars (i.e., adjusted by the CPI indexing series as discussed above). Items included in the table are: income excluding interest, interest income, total income, total outgo, and assets at the end of the year. Income excluding interest consists of payroll-tax contributions, income from taxation of benefits, and miscellaneous reimbursements from the general fund of the Treasury. Outgo consists of benefit payments, administrative expenses, net transfers from the OASI and DI Trust Funds to the Railroad Retirement program under the financial-interchange provisions, and payments for vocational rehabilitation services for disabled beneficiaries. These estimates are based on the three sets of assumptions I, II, and III described earlier in this report.

TABLE III.B.2.—ESTIMATED OPERATIONS OF THE COMBINED OASI AND DI TRUST FUNDS IN CONSTANT 1993 DOLLARS¹ BY ALTERNATIVE, CALENDAR YEARS 1993-2070

[In billions]

Calendar year	Income excluding interest	Interest income	Total income	Outgo	Assets at end of year
Alternative I:					
1993	\$330.9	\$28.1	\$359.0	\$308.1	\$382.3
1994	351.7	30.4	382.1	314.0	439.9
1995	362.3	33.2	395.4	319.3	503.2
1996	376.6	36.4	413.0	325.1	576.5
1997	387.4	40.3	427.7	330.9	656.5
1998	399.6	44.6	444.2	336.7	744.9
1999	411.1	49.4	460.6	342.7	841.1
2000	422.8	54.8	477.6	348.8	945.4
2001	434.8	61.0	495.8	355.0	1,058.6
2002	446.6	67.6	514.2	361.6	1,180.4
2005	486.9	90.0	576.9	386.4	1,597.9
2010	556.7	137.8	694.5	441.8	2,463.0
2015	625.7	194.4	820.1	527.4	3,442.6
2020	695.7	250.2	945.9	639.9	4,395.7
2025	771.8	300.3	1,072.1	760.9	5,249.7
2030	860.0	346.3	1,206.4	875.7	6,040.9
2035	961.9	395.7	1,357.5	976.0	6,903.1
2040	1,075.2	458.0	1,533.1	1,060.9	8,003.2
2045	1,199.5	539.9	1,739.4	1,156.4	9,445.7
2050	1,337.7	642.5	1,980.2	1,276.1	11,244.8
2055	1,492.9	764.9	2,257.8	1,427.7	13,381.1
2060	1,669.0	907.2	2,576.2	1,602.3	15,864.0
2065	1,866.0	1,073.7	2,939.7	1,790.2	18,772.3
2070	2,084.6	1,270.3	3,354.9	1,997.2	22,206.2
Alternative II:					
1993	327.9	28.0	355.8	309.1	378.3
1994	344.8	29.8	374.6	315.9	425.5
1995	351.3	31.7	383.0	322.5	472.8
1996	359.9	33.9	393.8	329.2	522.1
1997	365.4	36.1	401.5	335.9	570.2
1998	371.9	38.3	410.2	342.1	618.1
1999	378.2	40.7	418.9	348.3	665.5
2000	384.8	43.2	428.0	354.9	713.1
2001	392.1	46.0	438.1	361.8	762.0
2002	399.3	48.9	448.1	368.7	812.2
2005	425.6	58.1	483.7	389.2	979.7
2010	470.0	77.1	547.1	431.9	1,308.8
2015	510.0	95.0	605.1	500.0	1,595.6
2020	545.6	101.2	646.8	589.2	1,673.9
2025	581.1	89.2	670.3	682.8	1,448.8
2030	619.5	58.1	677.6	767.9	908.4
2035 ²	661.5	11.0	672.5	837.7	114.0
Alternative III:					
1993	326.6	28.0	354.5	310.0	376.1
1994	336.1	29.4	365.5	317.8	409.4
1995	334.0	30.4	364.4	320.8	432.0
1996	337.5	31.6	369.1	326.4	448.7
1997	335.8	32.9	368.7	338.7	457.7
1998	334.1	33.2	367.4	345.6	457.8
1999	338.9	32.8	371.7	353.2	454.6
2000	345.2	32.1	377.3	360.7	449.5
2001	350.2	31.3	381.5	368.0	441.6
2002	354.0	30.3	384.3	375.2	429.7
2005	369.6	25.4	395.0	391.3	385.7
2010	396.6	18.3	414.8	422.8	290.8
2015 ²	418.5	6.6	425.1	476.3	87.9

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

²Estimates for later years are not shown because the combined OASI and DI Trust Funds are estimated to become exhausted in 2036 under alternative II and in 2017 under alternative III.

Appendices

Figure III.B.1 provides a comparison of outgo with total annual income (including interest) and annual income excluding interest, for the OASDI program under alternative II assumptions. All values are expressed in constant dollars, as shown in table III.B.2. The difference between the income values for each year is equal to the trust fund interest earnings. Thus the figure illustrates the fact that, under intermediate assumptions, combined OASDI expenditures will be payable from (1) current tax income alone through 2016, (2) current tax income plus a portion of annual interest income for years 2017 through 2024, and (3) current tax income, annual interest income, plus a portion of the principal balance in the trust funds for years 2025 through 2036, i.e., through the year of exhaustion.

**FIGURE III.B.1.--ESTIMATED OASDI INCOME AND OUTGO
IN CONSTANT DOLLARS, BASED ON ALTERNATIVE II,
CALENDAR YEARS 1993-2036**

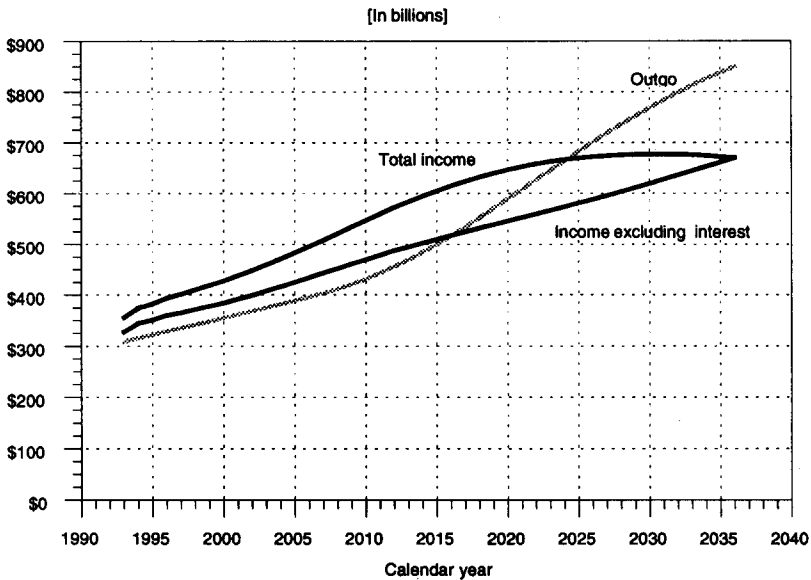


Table III.B.3 shows estimated operations of the combined OASI and DI Trust Funds in current dollars—that is in dollars unadjusted for inflation. Items included in the table are: income excluding interest, interest income, total income, total outgo, and assets at the end of the year. These estimates,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

TABLE III.B.3.—ESTIMATED OPERATIONS OF THE COMBINED OASI AND DI TRUST FUNDS IN CURRENT DOLLARS BY ALTERNATIVE, CALENDAR YEARS 1993-2070

[In billions]

Calendar year	Income excluding interest	Interest income	Total income	Outgo	Assets at end of year
Alternative I:					
1993	\$330.9	\$28.1	\$359.0	\$308.1	\$382.3
1994	361.6	31.2	392.9	322.9	452.3
1995	383.6	35.1	418.7	338.2	532.9
1996	410.8	39.7	450.5	354.6	628.9
1997	435.2	45.3	480.4	371.8	737.5
1998	462.4	51.6	514.0	389.6	861.9
1999	490.0	58.9	548.9	408.4	1,002.4
2000	519.0	67.3	586.3	428.2	1,160.5
2001	549.8	77.1	626.9	448.9	1,338.5
2002	581.5	88.1	669.6	470.9	1,537.2
2005	692.8	128.0	820.8	549.8	2,273.8
2010	918.3	227.3	1,145.6	728.7	4,062.9
2015	1,196.6	371.8	1,568.3	1,008.6	6,583.5
2020	1,542.3	554.6	2,096.9	1,418.7	9,744.8
2025	1,983.6	771.7	2,755.3	1,955.6	13,491.9
2030	2,562.4	1,031.8	3,594.2	2,609.0	17,998.0
2035	3,322.1	1,368.6	4,688.7	3,371.1	23,842.3
2040	4,304.9	1,833.6	6,138.6	4,248.0	32,044.6
2045	5,567.7	2,506.0	8,073.6	5,367.7	43,844.4
2050	7,198.0	3,457.4	10,655.5	6,866.9	60,508.5
2055	9,312.9	4,771.5	14,084.4	8,906.2	83,472.7
2060	12,069.6	6,560.7	18,630.3	11,587.5	114,723.1
2065	15,643.5	9,001.5	24,645.0	15,008.3	157,376.8
2070	20,260.0	12,345.8	32,605.8	19,410.2	215,815.9
Alternative II:					
1993	327.9	28.0	355.8	309.1	378.3
1994	355.5	30.7	386.2	325.7	438.7
1995	373.9	33.8	407.6	343.2	503.2
1996	395.8	37.2	433.0	362.0	574.2
1997	415.8	41.0	456.9	382.2	648.8
1998	438.7	45.2	483.9	403.6	729.1
1999	463.5	49.9	513.4	426.8	815.7
2000	490.5	55.1	545.6	452.3	908.9
2001	519.8	61.0	580.8	479.6	1,010.2
2002	550.4	67.4	617.8	508.3	1,119.6
2005	660.1	90.1	750.1	603.5	1,519.3
2010	886.7	145.4	1,032.2	814.9	2,469.3
2015	1,170.7	218.2	1,388.9	1,147.8	3,662.7
2020	1,523.8	282.6	1,806.4	1,645.6	4,674.9
2025	1,974.4	303.2	2,277.6	2,320.1	4,922.9
2030	2,561.0	240.0	2,801.1	3,174.3	3,759.6
2035 ¹	3,327.2	55.3	3,382.5	4,213.6	573.4
Alternative III:					
1993	326.6	28.0	354.5	310.0	376.1
1994	349.5	30.5	380.0	330.4	425.7
1995	366.0	33.3	399.4	351.6	473.5
1996	393.5	36.9	430.4	380.6	523.3
1997	410.9	40.3	451.2	414.4	560.0
1998	429.1	42.7	471.8	443.8	588.0
1999	457.1	44.2	501.3	476.3	613.1
2000	488.8	45.5	534.3	510.8	636.5
2001	520.7	46.6	567.3	547.2	656.6
2002	552.6	47.2	599.9	585.7	670.7
2005	667.9	45.9	713.8	707.2	697.0
2010	914.7	42.1	956.8	975.2	670.7
2015 ¹	1,231.9	19.4	1,251.4	1,402.0	258.8

¹Estimates for later years are not shown because the combined OASI and DI Trust Funds are estimated to become exhausted in 2036 under alternative II and in 2017 under alternative III.

Appendices

Table III.B.4 shows estimated income excluding interest and estimated total outgo of the combined OASI and DI Trust Funds, of the HI Trust Fund, and of the combined OASI, DI, and HI Trust Funds, based on the three sets of assumptions I, II, and III described earlier in this report. For OASDI, income excluding interest consists of payroll-tax contributions, proceeds from taxation of benefits, and miscellaneous transfers from the general fund of the Treasury. Outgo consists of benefit payments, administrative expenses, net transfers from the trust funds to the Railroad Retirement program, and payments for vocational rehabilitation services for disabled beneficiaries. For HI, income excluding interest consists of contributions (including contributions from railroad employment) and payments from the general fund of the Treasury for contributions on deemed wage credits for military service. Total outgo consists of outlays (benefits and administrative expenses) for insured beneficiaries. Income and outgo estimates are shown on a cash basis for the OASDI program and on an incurred basis for the HI program.

Table III.B.4 also shows the difference between income excluding interest and outgo, which is called the balance. The balance indicates the size of the net cash flow from tax income and expenditures to the funds.

TABLE III.B.4.—ESTIMATED OASDI AND HI INCOME EXCLUDING INTEREST, OUTGO, AND BALANCE IN CURRENT DOLLARS BY ALTERNATIVE, CALENDAR YEARS 1993-2070

Calendar year	[In billions]								
	OASDI			HI			Combined		
	Income excluding interest	Outgo	Balance	Income excluding interest	Outgo	Balance	Income excluding interest	Outgo	Balance
Alternative I:									
1993	\$331	\$308	\$23	\$87	\$95	-\$8	\$418	\$404	\$15
1994	362	323	39	93	107	-13	455	429	25
1995	384	338	45	99	118	-19	483	456	27
1996	411	355	56	106	130	-24	517	484	32
1997	435	372	63	112	140	-28	548	512	36
1998	462	390	73	119	151	-32	582	541	41
1999	490	408	82	126	163	-37	616	572	45
2000	519	428	91	133	175	-42	652	604	49
2001	550	449	101	141	189	-47	691	638	53
2002	582	471	111	150	202	-53	731	673	58
2005	693	550	143	177	249	-71	870	798	72
2010	918	729	190	233	338	-105	1,151	1,066	84
2015	1,197	1,009	188	301	468	-167	1,498	1,477	21
2020	1,542	1,419	124	387	626	-239	1,929	2,045	-115
2025	1,984	1,956	28	497	842	-345	2,480	2,797	-317
2030	2,562	2,609	-47	640	1,148	-507	3,203	3,757	-554
2035	3,322	3,371	-49	830	1,553	-723	4,152	4,924	-772
2040	4,305	4,248	57	1,078	2,083	-1,006	5,383	6,331	-949
2045	5,568	5,368	200	1,396	2,780	-1,384	6,963	8,147	-1,184
2050	7,198	6,867	331	1,805	3,676	-1,870	9,003	10,542	-1,539
2055	9,313	8,906	407	2,336	4,871	-2,535	11,649	13,777	-2,128
2060	12,070	11,588	482	3,027	6,517	-3,490	15,096	18,104	-3,008
2065	15,644	15,008	635	3,924	8,756	-4,832	19,567	23,764	-4,197
2070	20,260	19,410	850	5,083	11,753	-6,670	25,343	31,163	-5,820
Alternative II:									
1993	328	309	19	86	96	-9	414	405	10
1994	355	326	30	92	108	-16	447	433	14
1995	374	343	31	97	120	-23	471	463	7
1996	396	362	34	102	133	-31	498	495	3
1997	416	382	34	107	145	-37	523	527	-4
1998	439	404	35	113	158	-45	552	562	-10
1999	464	427	37	119	172	-53	583	599	-16
2000	491	452	38	126	188	-62	617	641	-24
2001	520	480	40	134	206	-72	654	685	-32
2002	550	508	42	142	224	-83	692	733	-41
2005	660	604	57	169	290	-121	829	894	-65
2010	887	815	72	224	431	-206	1,111	1,246	-135
2015	1,171	1,148	23	294	652	-358	1,465	1,800	-336
2020	1,524	1,646	-122	381	960	-579	1,905	2,606	-701
2025	1,974	2,320	-346	492	1,408	-916	2,466	3,728	-1,262
2030	2,561	3,174	-613	636	2,042	-1,406	3,197	5,216	-2,019
2035	3,327	4,214	-886	825	2,875	-2,050	4,152	7,088	-2,936
2040	4,312	5,452	-1,140	1,070	3,913	-2,843	5,382	9,364	-3,983
2045	5,561	7,045	-1,484	1,380	5,202	-3,822	6,941	12,246	-5,305
2050	7,162	9,179	-2,018	1,776	6,843	-5,067	8,938	16,023	-7,085
2055	9,217	12,090	-2,873	2,283	9,012	-6,729	11,499	21,102	-9,602
2060	11,872	15,918	-4,046	2,937	11,958	-9,022	14,809	27,876	-13,067
2065	15,300	20,818	-5,517	3,782	15,957	-12,176	19,082	36,775	-17,693
2070	19,697	27,116	-7,420	4,866	21,338	-16,472	24,562	48,454	-23,892

Appendices

TABLE III.B.4.—ESTIMATED OASDI AND HI INCOME EXCLUDING INTEREST, OUTGO, AND BALANCE IN CURRENT DOLLARS BY ALTERNATIVE, CALENDAR YEARS 1993-2070 (Cont.)

[In billions]

Calendar year	OASDI			HI			Combined		
	Income excluding interest	Outgo	Balance	Income excluding interest	Outgo	Balance	Income excluding interest	Outgo	Balance
Alternative III:									
1993	\$327	\$310	\$17	\$86	\$96	-\$10	\$413	\$406	\$7
1994	349	330	19	90	109	-19	439	439	(1)
1995	366	352	14	95	123	-28	461	474	-14
1996	394	381	13	102	139	-38	495	520	-25
1997	411	414	-4	106	154	-48	517	568	-51
1998	429	444	-15	111	170	-59	540	613	-74
1999	457	476	-19	118	189	-71	575	666	-91
2000	489	511	-22	126	211	-85	615	722	-107
2001	521	547	-26	134	236	-101	655	783	-128
2002	553	586	-33	142	262	-119	695	847	-152
2005	668	707	-39	171	358	-187	839	1,065	-226
2010	915	975	-61	231	585	-355	1,145	1,560	-415
2015	1,232	1,402	-170	308	983	-675	1,540	2,385	-845
2020	1,631	2,058	-427	406	1,610	-1,204	2,037	3,668	-1,631
2025	2,141	2,978	-837	530	2,585	-2,055	2,671	5,563	-2,892
2030	2,810	4,199	-1,390	692	4,015	-3,324	3,501	8,215	-4,713
2035	3,680	5,765	-2,084	903	5,900	-4,997	4,583	11,665	-7,082
2040	4,793	7,727	-2,934	1,173	8,196	-7,023	5,966	15,923	-9,957
2045	6,202	10,314	-4,113	1,515	10,927	-9,412	7,716	21,241	-13,524
2050	7,986	13,822	-5,836	1,945	14,340	-12,395	9,932	28,163	-18,231
2055	10,267	18,652	-8,386	2,490	18,806	-16,316	12,757	37,459	-24,701
2060	13,206	25,080	-11,874	3,191	24,873	-21,682	16,396	49,953	-33,557
2065	16,984	33,418	-16,434	4,090	33,049	-28,959	21,074	66,467	-45,393
2070	21,821	44,189	-22,368	5,241	43,885	-38,644	27,062	88,074	-61,012

¹Negligible, i.e., between -0.005 and 0.005 percent of taxable payroll.

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

Table III.B.5 shows estimated future benefit amounts payable to persons attaining age 65 in various years based on retirement at the normal retirement age and at age 65, for various steady levels of pre-retirement earnings, based on alternative II assumptions. The benefit amount is shown in current dollars, constant dollars (adjusted by the CPI indexing series shown in table III.B.1), and as a percentage of earnings in the 12-month period preceding retirement. The normal retirement age is currently 65, and is scheduled to increase to age 66 during the period 2000-2005 (at a rate of 2 months per year as workers attain age 62), and to age 67 during the period 2017-2022 (also by 2 months per year as workers attain age 62). The pre-retirement earnings levels shown are: low (earnings at 45 percent of the projected SSA average wage index), average (earnings at the amount of the projected SSA average wage index), and maximum (earnings at the amount of the projected SSA contribution and benefit base).

TABLE III.B.5.—ESTIMATED AVERAGE BENEFIT AMOUNT PAYABLE¹ TO RETIRED WORKERS WITH VARIOUS STEADY PRE-RETIREMENT EARNINGS LEVELS BASED ON ALTERNATIVE II ASSUMPTIONS, CALENDAR YEARS 1992-2070

Year attain age 65 ³	Age at retirement	Current dollars			Constant 1992 dollars ²			Percent of earnings		
		Low ⁴	Average	Maximum ⁵	Low ⁴	Average	Maximum ⁵	Low ⁴	Average	Maximum ⁵
Retirement at normal retirement age:										
1993	65:0	\$5,967	\$9,853	\$13,570	\$5,967	\$9,853	\$13,570	58.6	43.5	24.5
1995	65:0	6,305	10,408	14,523	5,924	9,780	13,647	57.3	42.6	24.3
2000	65:0	7,814	12,907	18,746	6,130	10,126	14,707	57.1	42.4	25.6
2005	65:6	10,071	16,638	25,056	6,368	10,521	15,844	56.0	41.6	26.3
2010	66:0	13,232	21,889	34,025	6,743	11,155	17,340	56.0	41.7	27.3
2015	66:0	16,976	28,077	44,379	7,111	11,761	18,590	56.0	41.7	27.8
2020	66:2	21,912	36,249	57,450	7,495	12,399	19,651	55.9	41.6	27.8
2025	67:0	29,185	48,353	76,514	7,941	13,157	20,819	55.7	41.5	27.6
2030	67:0	37,420	62,006	98,113	8,369	13,867	21,942	55.7	41.5	27.6
2035	67:0	47,992	79,524	125,734	8,822	14,618	23,112	55.7	41.5	27.6
2040	67:0	61,548	101,979	160,987	9,299	15,408	24,323	55.7	41.5	27.5
2045	67:0	78,934	130,779	206,318	9,802	16,240	25,621	55.7	41.5	27.5
2050	67:0	101,220	167,705	264,627	10,331	17,117	27,010	55.7	41.5	27.5
2055	67:0	129,804	215,071	339,455	10,890	18,043	28,478	55.7	41.5	27.5
2060	67:0	166,465	275,801	435,403	11,478	19,018	30,023	55.7	41.5	27.5
2065	67:0	213,481	353,687	558,439	12,099	20,045	31,650	55.7	41.6	27.5
2070	67:0	273,754	453,559	716,188	12,752	21,128	33,362	55.7	41.6	27.5
Retirement at age 65:										
1993	65:0	\$5,967	\$9,853	\$13,570	\$5,967	\$9,853	\$13,570	58.6	43.5	24.5
1995	65:0	6,305	10,408	14,523	5,924	9,780	13,647	57.3	42.6	24.3
2000	65:0	7,814	12,907	18,746	6,130	10,126	14,707	57.1	42.4	25.6
2005	65:0	9,548	15,772	23,731	6,157	10,171	15,303	54.5	40.5	25.6
2010	65:0	11,824	19,529	30,280	6,267	10,351	16,049	52.6	39.1	25.5
2015	65:0	15,170	25,055	39,588	6,609	10,915	17,246	52.6	39.1	26.0
2020	65:0	19,227	31,749	50,399	6,884	11,368	18,046	52.0	38.6	25.8
2025	65:0	23,165	38,263	60,765	6,817	11,261	17,883	48.9	36.3	24.2
2030	65:0	29,702	49,063	77,911	7,185	11,868	18,846	48.8	36.3	24.2
2035	65:0	38,095	62,921	99,847	7,574	12,510	19,852	48.9	36.3	24.2
2040	65:0	48,858	80,692	127,840	7,984	13,186	20,891	48.9	36.3	24.1
2045	65:0	62,656	103,472	163,828	8,416	13,898	22,005	48.9	36.3	24.1
2050	65:0	80,343	132,693	210,134	8,870	14,649	23,198	48.9	36.3	24.1
2055	65:0	103,039	170,173	269,540	9,350	15,441	24,458	48.9	36.3	24.1
2060	65:0	132,139	218,225	345,753	9,855	16,275	25,786	48.9	36.3	24.1
2065	65:0	169,451	279,846	443,457	10,387	17,154	27,184	48.9	36.3	24.1
2070	65:0	217,298	358,864	568,745	10,948	18,081	28,656	48.9	36.3	24.1

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

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

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

⁴Earnings equal to 45 percent of average.

⁵Earnings equal to the contribution and benefit base.

**C. LONG-RANGE ESTIMATES OF SOCIAL SECURITY
TRUST FUND OPERATIONS AS A PERCENTAGE
OF THE GROSS DOMESTIC PRODUCT**

This appendix presents long-range projections of the operations of the combined Old-Age and Survivors Insurance and Disability Insurance (OASI and DI) Trust Funds and of the Hospital Insurance (HI) Trust Fund expressed as a percentage of the gross domestic product (GDP). While expressing these fund operations as a percentage of taxable payroll is the most useful approach for assessing the financial status of the programs, (see table II.F.12 and section III.A), analyzing them as a percentage of GDP provides an additional perspective on these fund operations in relation to the total value of goods and services produced in the United States.

Table III.C.1 shows estimated income excluding interest, total outgo, and the resulting balance of the combined OASI and DI Trust Funds, of the HI Trust Fund, and of the combined OASI, DI, and HI Trust Funds, expressed as percentages of GDP on the basis of each of the three alternative sets of assumptions. The estimated GDP on which these percentages are based is also shown in table III.C.1. For OASDI, income excluding interest consists of payroll-tax contributions, proceeds from taxation of benefits, and various reimbursements from the general fund of the Treasury. Total outgo consists of benefit payments, administrative expenses, net transfers from the trust funds to the Railroad Retirement program, and payments for vocational rehabilitation services for disabled beneficiaries. For HI, income excluding interest consists of contributions (including contributions from railroad employment) and payments from the general fund of the Treasury for contributions on deemed wage credits for military service. Total outgo consists of outlays (benefits and administrative expenses) for insured beneficiaries. Both the HI income and outgo are on an incurred basis.

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

2030, under all three alternatives, both the OASDI and HI balances as percentages of GDP are projected to decline substantially because the "baby-boom" generation reaches retirement age during these years. By 2020, balances are projected to become permanently negative in each case except for the OASDI program under alternative I. After 2020, both the HI and OASDI deficits (negative balances) as percentages of GDP are projected to continue to increase in size, except for OASDI under alternative I, for which the balance as a percentage of GDP is projected to be negative for a brief period and a small positive thereafter.

By the year 2070, the combined OASDI and HI balances as percentages of GDP, based on the three alternatives, are projected to differ by a relatively large amount: from a deficit of 1.50 percent for alternative I to a deficit of 12.84 percent for alternative III. Projected balances differ by a much smaller amount by the year 2005: from a positive balance of 0.56 percent for alternative I to a deficit of 1.74 percent for alternative III. In addition, the summarized long-range (75-year) balance as a percentage of GDP varies by a relatively large amount (from a deficit of 0.46 percent, based on alternative I, to a deficit of 6.45 percent, based on alternative III), while the 25-year summarized balance varies by a smaller amount (from a positive of 0.46 percent to a deficit of 1.83 percent). Summarized rates are calculated on the present-value basis including the trust fund balances on January 1, 1993 and the cost of reaching and maintaining a target trust fund level equal to 100 percent of annual expenditures by the end of the period. (See section II.F for further explanation.)

Appendices

TABLE III.C.1.—ESTIMATED OASDI AND HI INCOME EXCLUDING INTEREST, OUTGO, AND BALANCE AS A PERCENTAGE OF GDP BY ALTERNATIVE, CALENDAR YEARS 1993-2070

Calendar year	Percentage of GDP									GDP in dollars (billions)
	OASDI			HI			Combined			
	In-come ¹	Out-go	Bal-ance	In-come ¹	Out-go	Bal-ance	In-come ¹	Out-go	Bal-ance	
Alternative I:										
1993	5.24	4.88	0.36	1.38	1.51	-0.13	6.62	6.39	0.23	6,316
1994	5.37	4.79	.58	1.38	1.58	-0.20	6.75	6.37	.38	6,737
1995	5.34	4.70	.63	1.38	1.64	-.26	6.72	6.35	.37	7,189
1996	5.37	4.64	.73	1.38	1.69	-.31	6.75	6.33	.42	7,649
1997	5.36	4.58	.78	1.38	1.73	-.34	6.74	6.30	.44	8,120
1998	5.37	4.53	.84	1.38	1.76	-.37	6.75	6.28	.47	8,609
1999	5.38	4.48	.90	1.38	1.79	-.41	6.76	6.27	.49	9,111
2000	5.38	4.44	.94	1.38	1.82	-.44	6.77	6.26	.51	9,641
2001	5.39	4.40	.99	1.38	1.85	-.47	6.77	6.25	.52	10,205
2002	5.38	4.36	1.02	1.38	1.87	-.49	6.77	6.23	.53	10,805
2005	5.41	4.29	1.12	1.38	1.94	-.56	6.79	6.23	.56	12,804
2010	5.45	4.32	1.12	1.38	2.00	-.62	6.83	6.33	.50	16,859
2015	5.46	4.60	.86	1.38	2.14	-.76	6.84	6.74	.10	21,903
2020	5.46	5.02	.44	1.37	2.22	-.85	6.83	7.24	-.41	28,243
2025	5.45	5.38	.08	1.37	2.31	-.95	6.82	7.69	-.87	36,372
2030	5.44	5.54	-.10	1.36	2.43	-1.08	6.80	7.97	-1.18	47,133
2035	5.41	5.49	-.08	1.35	2.53	-1.18	6.76	8.02	-1.26	61,405
2040	5.38	5.31	.07	1.35	2.60	-1.26	6.72	7.91	-1.18	80,066
2045	5.34	5.15	.19	1.34	2.67	-1.33	6.68	7.82	-1.14	104,174
2050	5.32	5.07	.24	1.33	2.71	-1.38	6.65	7.79	-1.14	135,397
2055	5.29	5.06	.23	1.33	2.77	-1.44	6.62	7.83	-1.21	176,006
2060	5.27	5.06	.21	1.32	2.84	-1.52	6.59	7.90	-1.31	229,151
2065	5.24	5.03	.21	1.31	2.93	-1.62	6.56	7.96	-1.41	298,439
2070	5.22	5.00	.22	1.31	3.03	-1.72	6.53	8.02	-1.50	388,391
Summarized rates:²										
25-year:										
1993-2017	5.65	4.68	.97	1.47	1.98	-.51	7.13	6.66	.46	---
50-year:										
1993-2042	5.56	4.98	.58	1.42	2.18	-.76	6.98	7.16	-.18	---
75-year:										
1993-2067	5.48	5.00	.49	1.39	2.35	-.95	6.88	7.34	-.46	---
Alternative II:										
1993	5.22	4.92	.30	1.38	1.52	-.15	6.60	6.45	.15	6,276
1994	5.34	4.89	.45	1.38	1.62	-.24	6.72	6.51	.21	6,655
1995	5.31	4.87	.44	1.37	1.71	-.33	6.68	6.58	.10	7,042
1996	5.32	4.87	.45	1.37	1.79	-.41	6.69	6.65	.04	7,435
1997	5.30	4.87	.43	1.37	1.85	-.48	6.67	6.72	-.05	7,845
1998	5.30	4.87	.42	1.37	1.91	-.54	6.66	6.78	-.12	8,281
1999	5.29	4.87	.42	1.36	1.97	-.60	6.65	6.84	-.19	8,766
2000	5.28	4.87	.41	1.36	2.03	-.67	6.64	6.89	-.26	9,294
2001	5.27	4.86	.41	1.36	2.08	-.73	6.62	6.95	-.32	9,867
2002	5.25	4.85	.40	1.35	2.14	-.79	6.60	6.99	-.39	10,481
2005	5.26	4.81	.45	1.35	2.31	-.97	6.61	7.12	-.52	12,548
2010	5.28	4.85	.43	1.34	2.56	-1.23	6.62	7.42	-.80	16,796
2015	5.28	5.17	.10	1.33	2.94	-1.62	6.60	8.11	-1.51	22,186
2020	5.26	5.68	-.42	1.31	3.31	-2.00	6.57	8.99	-2.42	28,990
2025	5.23	6.15	-.92	1.30	3.73	-2.43	6.53	9.88	-3.34	37,740
2030	5.20	6.44	-1.25	1.29	4.15	-2.85	6.49	10.59	-4.10	49,258
2035	5.16	6.53	-1.37	1.28	4.46	-3.18	6.44	10.99	-4.55	64,511
2040	5.11	6.46	-1.35	1.27	4.63	-3.37	6.38	11.09	-4.72	84,419
2045	5.06	6.41	-1.35	1.26	4.73	-3.48	6.31	11.14	-4.83	109,916
2050	5.01	6.43	-1.41	1.24	4.79	-3.55	6.26	11.22	-4.96	142,812
2055	4.97	6.53	-1.55	1.23	4.86	-3.63	6.21	11.39	-5.18	185,281
2060	4.93	6.62	-1.68	1.22	4.97	-3.75	6.16	11.59	-5.43	240,575
2065	4.89	6.66	-1.76	1.21	5.10	-3.89	6.10	11.76	-5.66	312,704
2070	4.85	6.68	-1.83	1.20	5.25	-4.06	6.05	11.93	-5.88	406,083

TABLE III.C.1.—ESTIMATED OASDI AND HI INCOME EXCLUDING INTEREST, OUTGO, AND BALANCE AS A PERCENTAGE OF GDP BY ALTERNATIVE, CALENDAR YEARS 1993-2070 (Cont.)

Calendar year	Percentage of GDP									GDP in dollars (billions)
	OASDI			HI			Combined			
	In-come ¹	Out-go	Balance	In-come ¹	Out-go	Balance	In-come ¹	Out-go	Balance	
Alternative II: (Cont.)										
Summarized rates: ²										
25-year:										
1993-2017	5.54	5.14	0.39	1.44	2.41	-0.97	6.98	7.55	-0.57	---
50-year:										
1993-2042	5.38	5.64	-0.25	1.37	3.16	-1.78	6.76	8.79	-2.04	---
75-year:										
1993-2067	5.28	5.86	-0.58	1.34	3.61	-2.27	6.62	9.47	-2.86	---
Alternative III:										
1993	5.21	4.94	.26	1.37	1.53	-.16	6.58	6.47	.11	6,273
1994	5.37	5.07	.29	1.38	1.67	-.29	6.75	6.74	.01	6,512
1995	5.31	5.10	.21	1.37	1.78	-.41	6.68	6.89	-.20	6,891
1996	5.25	5.08	.17	1.36	1.86	-.50	6.61	6.94	-.33	7,492
1997	5.32	5.37	-.05	1.38	1.99	-.62	6.70	7.37	-.67	7,716
1998	5.28	5.46	-.18	1.36	2.08	-.72	6.64	7.54	-.90	8,134
1999	5.21	5.43	-.22	1.35	2.16	-.81	6.56	7.59	-1.03	8,768
2000	5.20	5.43	-.23	1.34	2.25	-.91	6.53	7.68	-1.14	9,408
2001	5.18	5.45	-.26	1.33	2.34	-1.01	6.52	7.79	-1.27	10,046
2002	5.16	5.47	-.31	1.33	2.44	-1.11	6.49	7.92	-1.42	10,704
2005	5.15	5.45	-.30	1.32	2.76	-1.44	6.46	8.21	-1.74	12,974
2010	5.15	5.49	-.34	1.30	3.30	-2.00	6.45	8.79	-2.34	17,752
2015	5.13	5.84	-.71	1.28	4.10	-2.81	6.42	9.94	-3.52	24,005
2020	5.09	6.43	-1.33	1.27	5.03	-3.76	6.36	11.46	-5.10	32,018
2025	5.05	7.03	-1.98	1.25	6.10	-4.85	6.30	13.13	-6.83	42,363
2030	5.01	7.49	-2.48	1.23	7.16	-5.93	6.24	14.65	-8.40	56,086
2035	4.96	7.77	-2.81	1.22	7.95	-6.73	6.17	15.71	-9.54	74,236
2040	4.90	7.90	-3.00	1.20	8.38	-7.18	6.10	16.27	-10.18	97,850
2045	4.84	8.05	-3.21	1.18	8.53	-7.35	6.02	16.58	-10.56	128,129
2050	4.79	8.29	-3.50	1.17	8.60	-7.43	5.95	16.88	-10.93	166,817
2055	4.74	8.61	-3.87	1.15	8.68	-7.53	5.89	17.30	-11.41	216,579
2060	4.69	8.91	-4.22	1.13	8.84	-7.71	5.83	17.76	-11.93	281,336
2065	4.64	9.14	-4.49	1.12	9.04	-7.92	5.76	18.18	-12.41	365,682
2070	4.59	9.30	-4.71	1.10	9.24	-8.13	5.70	18.54	-12.84	475,147
Summarized rates: ²										
25-year:										
1993-2017	5.45	5.72	-.27	1.42	2.98	-1.56	6.87	8.70	-1.83	---
50-year:										
1993-2042	5.25	6.46	-1.21	1.33	4.82	-3.48	6.59	11.28	-4.69	---
75-year:										
1993-2067	5.12	7.02	-1.90	1.29	5.84	-4.55	6.41	12.86	-6.45	---

¹Income excludes interest on the trust funds.

²Summarized rates are calculated on the present-value basis including the value of the trust funds on January 1, 1993 and the cost of reaching and maintaining a target trust fund level equal to 100 percent of annual expenditures by the end of the period.

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

Projections of GDP for the first several years were based on assumed

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quarterly changes in real GDP and the GDP price deflator. Thereafter, projections of GDP were based on the projected increases in U.S. employment, labor productivity, and the GDP price deflator. Productivity projections are consistent with assumed changes in the level of average earnings, the ratio of earnings to worker compensation, the ratio of worker compensation to GDP, and average hours worked per year (see section II.H).

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

TABLE III.C.2.—RATIO OF TAXABLE PAYROLL TO GDP BY ALTERNATIVE, CALENDAR YEARS 1993-2070

Calendar year	I	II	III
1993	0.425	0.423	0.422
1994	.426	.423	.424
1995	.426	.422	.421
1996	.426	.422	.416
1997	.427	.422	.422
1998	.428	.421	.419
1999	.428	.420	.414
2000	.428	.419	.412
2001	.429	.418	.411
2002	.429	.417	.409
2005	.428	.415	.405
2010	.427	.412	.400
2015	.425	.408	.394
2020	.423	.404	.389
2025	.421	.400	.383
2030	.419	.397	.378
2035	.417	.393	.372
2040	.415	.389	.367
2045	.413	.385	.362
2050	.411	.382	.357
2055	.409	.378	.352
2060	.407	.374	.347
2065	.405	.371	.342
2070	.403	.367	.337

The long-range trend in the ratio of taxable payroll to GDP reflects the assumed trend in the ratio of wages to total employee compensation—i.e., wages plus fringe benefits. The ratio of wages to total employee compensation declined at average annual rates of 0.34 percent for the 30 years 1962-91 and 0.36, 0.59, and 0.07 percent for the 10-year periods 1962-71, 1972-81, and 1982-91, respectively. Ultimate future annual rates of decline in the ratio of wages to employee compensation are assumed to be 0.1, 0.2, and 0.3 percent for

alternatives I, II, and III, respectively. An additional factor that has made the overall ratio of taxable payroll to GDP decline in recent years is the decline in the ratio of taxable earnings to covered earnings, as a result the relatively greater increases in earnings for persons with earnings above the benefit and contribution base. This decline in the taxable ratio is assumed to continue at a slower pace through the end of this century.

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

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