

**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.B1 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 the low cost, intermediate, and high cost sets of assumptions (alternatives I, II, and III, respectively). Constant-dollar values (those adjusted by the CPI) are provided in table III.B2.

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 4.5, 5.0, and 5.5 percent under the low cost, intermediate, and high cost 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 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 the low cost, intermediate, and high cost alternatives (I, II, and III), respectively.

## Appendices

**TABLE III.B1.—SELECTED ECONOMIC VARIABLES BY ALTERNATIVE,  
CALENDAR YEARS 1993-2070**

[GDP and taxable payroll in billions]

Calendar year	Adjusted CPI <sup>1</sup>	SSA average wage index <sup>2</sup>	Taxable payroll <sup>3</sup>	Gross domestic product	Compound interest-rate <sup>4</sup> factor
<b>Intermediate:</b>					
1993	97.39	\$23,475.93	\$2,653	\$6,374	0.9420
1994	100.00	24,089.81	2,790	6,726	1.0000
1995	103.17	25,195.59	2,934	7,107	1.0608
1996	106.55	26,245.92	3,082	7,499	1.1254
1997	110.13	27,351.73	3,249	7,902	1.1947
1998	113.97	28,516.08	3,418	8,322	1.2689
1999	118.15	29,794.22	3,603	8,784	1.3491
2000	122.75	31,185.37	3,805	9,289	1.4347
2001	127.67	32,655.64	4,018	9,832	1.5267
2002	132.77	34,248.36	4,247	10,408	1.6256
2003	138.09	35,962.83	4,492	11,025	1.7309
2004	143.61	37,760.97	4,756	11,692	1.8428
2005	149.36	39,649.02	5,039	12,396	1.9606
2010	181.71	50,603.31	6,667	16,499	2.6726
2015	221.08	64,584.08	8,689	21,665	3.6432
2020	268.98	82,427.47	11,188	28,156	4.9662
2025	327.26	105,200.65	14,340	36,437	6.7697
2030	398.16	134,265.66	18,446	47,321	9.2281
2035	484.42	171,360.78	23,816	61,687	12.5793
2040	589.37	218,704.59	30,719	80,332	17.1475
2045	717.06	279,128.66	39,460	104,183	23.3747
2050	872.41	356,246.75	50,506	134,630	31.8633
2055	1,061.42	454,671.16	64,582	173,805	43.4346
2060	1,291.38	580,288.44	82,654	224,580	59.2081
2065	1,571.16	740,611.44	105,849	290,371	80.7097
2070	1,911.56	945,228.69	135,519	375,336	110.0198
<b>Low Cost:</b>					
1993	97.62	23,560.37	2,655	6,379	.9420
1994	100.00	24,231.28	2,816	6,787	1.0000
1995	102.81	25,430.46	2,992	7,224	1.0605
1996	105.89	26,625.74	3,176	7,686	1.1238
1997	109.07	27,859.32	3,379	8,159	1.1915
1998	112.34	29,140.24	3,588	8,647	1.2655
1999	115.71	30,470.77	3,804	9,152	1.3442
2000	119.18	31,847.46	4,026	9,671	1.4278
2001	122.76	33,265.95	4,256	10,207	1.5166
2002	126.43	34,777.40	4,494	10,764	1.6102
2003	130.23	36,379.76	4,747	11,351	1.7083
2004	134.14	38,016.85	5,006	11,972	1.8123
2005	138.16	39,727.61	5,288	12,646	1.9227
2010	160.17	49,507.83	6,890	16,497	2.5839
2015	185.68	61,695.76	8,827	21,196	3.4726
2020	215.25	76,884.14	11,201	27,015	4.6669
2025	249.53	95,811.63	14,207	34,431	6.2719
2030	289.28	119,398.72	18,127	44,143	8.4289
2035	335.35	148,792.53	23,270	56,942	11.3278
2040	388.77	185,422.56	29,902	73,521	15.2236
2045	450.69	231,070.25	38,333	94,705	20.4592
2050	522.47	287,955.56	49,080	121,839	27.4955
2055	605.69	358,845.03	62,861	156,798	36.9516
2060	702.16	447,186.19	80,630	202,088	49.6599
2065	813.99	557,275.38	103,510	260,678	66.7388
2070	943.64	694,466.50	132,738	335,891	89.6913
<b>High Cost:</b>					
1993	96.74	23,445.71	2,651	6,367	.9420
1994	100.00	24,053.06	2,778	6,697	1.0000
1995	103.97	25,033.93	2,867	6,885	1.0624
1996	109.59	26,444.29	3,030	7,413	1.1308
1997	116.63	28,037.32	3,236	7,942	1.2121
1998	122.37	29,102.54	3,349	8,139	1.3100
1999	128.45	30,727.01	3,537	8,748	1.4179
2000	134.87	32,286.94	3,772	9,389	1.5298

**TABLE III.B1.—SELECTED ECONOMIC VARIABLES BY ALTERNATIVE, CALENDAR YEARS 1993-2070 (Cont.)**

[GDP and taxable payroll in billions]

Calendar year	Adjusted CPI <sup>1</sup>	SSA average wage index <sup>2</sup>	Taxable payroll <sup>3</sup>	Gross domestic product	Compound interest-rate factor <sup>4</sup>
2001	141.61	33,890.07	4,009	10,003	1.6402
2002	148.69	35,671.13	4,248	10,630	1.7560
2003	156.13	37,625.09	4,501	11,303	1.8769
2004	163.94	39,694.47	4,781	12,048	2.0023
2005	172.13	41,877.67	5,079	12,823	2.1339
2010	219.69	54,732.43	6,830	17,430	2.9339
2015	280.38	71,533.10	9,070	23,433	4.0339
2020	357.85	93,490.90	11,866	31,091	5.5463
2025	456.72	122,188.87	15,409	40,958	7.6257
2030	582.90	159,695.97	20,021	53,989	10.4848
2035	743.94	208,716.25	26,032	71,213	14.4157
2040	949.48	272,783.78	33,721	93,581	19.8204
2045	1,211.81	356,517.50	43,330	121,985	27.2514
2050	1,546.61	465,954.13	55,366	158,121	37.4685
2055	1,973.90	608,983.38	70,557	204,419	51.5161
2060	2,519.26	795,916.94	89,916	264,270	70.8304
2065	3,215.28	1,040,231.63	114,699	341,979	97.3859
2070	4,103.61	1,359,541.13	146,051	441,747	133.8976

<sup>1</sup>The 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 1994, and multiplying the result by 100, thereby initializing the CPI at 100 for 1994.

<sup>2</sup>The "SSA average wage index" is defined in section 215(i)(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.

<sup>3</sup>Taxable 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."

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

Table III.B2 shows estimated operations of the combined OASI and DI Trust Funds in constant 1994 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 low cost, intermediate, and high cost sets of assumptions (alternatives I, II, and III) described earlier in this report.

## Appendices

**TABLE III.B2.—ESTIMATED OPERATIONS OF THE COMBINED OASI AND DI TRUST FUNDS IN CONSTANT 1994 DOLLARS<sup>1</sup> BY ALTERNATIVE, CALENDAR YEARS 1994-2070**

[In billions]

Calendar year	Income excluding interest	Interest income	Total income	Outgo	Assets at end of year
<b>Intermediate:</b>					
1994	\$347.0	\$30.4	\$377.4	\$324.8	\$430.9
1995	357.5	32.2	389.7	332.0	475.4
1996	365.4	34.2	399.6	338.9	521.0
1997	372.1	36.3	408.4	345.6	566.8
1998	378.1	38.5	416.6	352.1	612.3
1999	384.4	40.7	425.1	358.5	657.1
2000	390.9	42.9	433.8	364.8	701.5
2001	397.3	45.2	442.5	371.5	745.5
2002	403.5	47.7	451.2	378.6	789.5
2003	410.4	50.1	460.6	385.9	833.8
2005	426.6	55.3	481.9	401.2	925.9
2010	467.0	68.7	535.7	450.2	1,159.8
2015	504.1	78.6	580.8	527.3	1,273.6
2020	537.8	68.2	606.1	622.3	1,106.4
2025 <sup>2</sup>	570.9	38.2	609.0	716.9	578.8
<b>Low Cost:</b>					
1994	350.0	30.5	380.5	323.7	435.1
1995	364.9	32.8	397.7	329.9	491.0
1996	378.4	35.5	413.9	335.4	555.2
1997	390.2	38.9	429.1	341.4	626.7
1998	402.0	42.9	444.9	347.4	706.0
1999	413.6	47.3	460.9	353.3	793.1
2000	425.3	52.2	477.5	359.3	888.2
2001	436.7	57.7	494.4	365.5	991.1
2002	447.5	63.5	511.0	372.1	1,101.1
2003	458.9	69.6	528.5	379.1	1,218.4
2005	482.7	83.6	566.2	393.7	1,476.6
2010	545.2	126.2	671.3	444.9	2,253.0
2015	606.3	174.8	781.1	531.6	3,089.8
2020	667.7	218.8	886.5	641.4	3,835.0
2025	734.5	254.3	988.7	754.7	4,432.9
2030	811.3	283.2	1,094.5	856.4	4,927.8
2035	899.8	313.5	1,213.3	941.5	5,457.5
2040	997.3	354.1	1,351.4	1,010.1	6,180.7
2045	1,102.7	410.8	1,513.5	1,088.1	7,182.1
2050	1,218.2	483.5	1,701.7	1,186.6	8,459.2
2055	1,346.9	571.2	1,918.1	1,310.3	9,991.3
2060	1,491.2	674.3	2,165.5	1,448.2	11,791.9
2065	1,651.8	797.0	2,448.8	1,594.5	13,939.3
2070	1,827.6	943.9	2,771.5	1,757.3	16,507.7
<b>High Cost:</b>					
1994	345.7	30.4	376.0	326.0	428.3
1995	348.4	31.7	380.1	334.5	457.6
1996	349.1	32.7	381.7	337.8	478.0
1997	350.4	33.8	384.2	343.5	489.9
1998	346.2	34.8	381.0	356.8	491.2
1999	347.4	34.7	382.1	364.1	486.0
2000	353.4	34.0	387.4	372.0	478.2
2001	358.0	33.1	391.1	379.9	466.6
2002	361.2	31.8	393.1	387.5	450.0
2003	364.6	30.2	394.8	395.0	428.4
2005	374.3	25.8	400.1	406.3	379.0
2010 <sup>2</sup>	397.6	13.9	411.5	440.0	212.8

<sup>1</sup>The adjustment from current to constant dollars is by the CPI indexing series shown in table III.B1.

<sup>2</sup>Estimates for later years are not shown because the combined OASI and DI Trust Funds are estimated to become exhausted in 2029 under alternative II and in 2014 under alternative III.

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

Figure III.B1 provides a comparison of outgo with total annual income (including interest) and annual income excluding interest, for the OASDI program under intermediate assumptions. All values are expressed in constant dollars, as shown in table III.B2. 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 2012, (2) current tax income plus a portion of annual interest income for years 2013 through 2018, and (3) current tax income, annual interest income, plus a portion of the principal balance in the trust funds for years 2019 through 2029, i.e., through the year of trust fund exhaustion.

FIGURE III.B1.--ESTIMATED OASDI INCOME AND OUTGO IN CONSTANT DOLLARS, BASED ON ALTERNATIVE II, CALENDAR YEARS 1994-2029

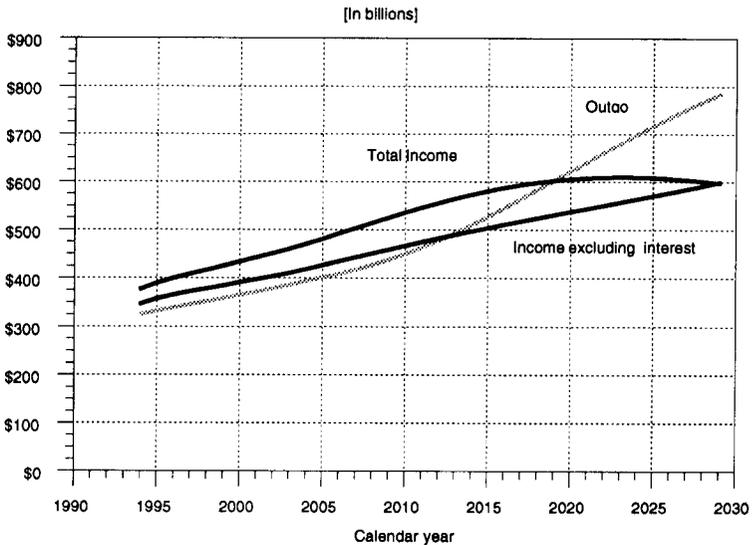


Table III.B3 shows estimated operations of the combined OASI and DI Trust Funds in current dollars—that is in dollars unadjusted for inflation. Items included in the table are: income excluding interest, interest income, total income, total outgo, and assets at the end of the year. These estimates, based on the low cost, intermediate, and high cost sets of economic and demographic assumptions (I, II, and III), are presented to facilitate independent analysis.

Appendices

**TABLE III.B3.—ESTIMATED OPERATIONS OF THE COMBINED OASI AND DI TRUST FUNDS IN CURRENT DOLLARS BY ALTERNATIVE, CALENDAR YEARS 1994-2070**

[In billions]

Calendar year	Income excluding interest	Interest income	Total income	Outgo	Assets at end of year
<b>Intermediate:</b>					
1994	\$347.0	\$30.4	\$377.4	\$324.8	\$430.9
1995	368.8	33.2	402.1	342.5	490.5
1996	389.3	36.4	425.7	361.1	555.1
1997	409.8	39.9	449.7	380.6	624.2
1998	430.9	43.9	474.8	401.2	697.8
1999	454.1	48.1	502.2	423.6	776.4
2000	479.8	52.6	532.5	447.8	861.1
2001	507.2	57.7	564.9	474.2	951.8
2002	535.8	63.3	599.1	502.6	1,048.2
2003	566.8	69.2	636.0	532.9	1,151.3
2005	637.1	82.5	719.7	599.1	1,382.9
2010	848.6	124.9	973.5	818.0	2,107.5
2015	1,114.6	169.4	1,284.0	1,165.7	2,815.8
2020	1,446.7	183.5	1,630.2	1,673.9	2,975.9
2025 <sup>1</sup>	1,868.2	125.0	1,993.1	2,346.1	1,894.2
<b>Low Cost:</b>					
1994	350.0	30.5	380.5	323.7	435.1
1995	375.2	33.7	408.9	339.2	504.8
1996	400.7	37.6	438.2	355.1	587.9
1997	425.6	42.5	468.0	372.4	683.6
1998	451.6	48.2	499.7	390.2	793.1
1999	478.6	54.7	533.3	408.8	917.6
2000	508.8	62.3	569.1	428.2	1,058.5
2001	536.0	70.8	606.9	448.7	1,216.6
2002	565.8	80.2	646.0	470.5	1,392.2
2003	597.6	90.7	688.2	493.7	1,586.7
2005	666.9	115.4	782.3	543.9	2,040.0
2010	873.2	202.1	1,075.3	712.5	3,608.6
2015	1,125.7	324.6	1,450.3	987.1	5,737.1
2020	1,437.2	470.9	1,908.1	1,380.5	8,254.9
2025	1,832.8	634.5	2,467.2	1,883.2	11,061.7
2030	2,346.8	819.4	3,166.2	2,477.5	14,255.0
2035	3,017.5	1,051.2	4,068.7	3,157.3	18,301.9
2040	3,877.1	1,376.7	5,253.8	3,926.7	24,028.6
2045	4,969.6	1,851.3	6,820.9	4,903.9	32,368.9
2050	6,364.8	2,526.2	8,891.0	6,199.6	44,196.5
2055	8,158.1	3,459.7	11,617.8	7,936.0	60,516.1
2060	10,470.7	4,734.3	15,205.0	10,168.5	82,797.4
2065	13,445.2	6,487.4	19,932.6	12,979.5	113,464.7
2070	17,245.7	8,907.0	26,152.6	16,582.6	155,772.8
<b>High Cost:</b>					
1994	345.7	30.4	376.0	326.0	428.3
1995	362.2	33.0	395.2	347.7	475.8
1996	382.6	35.8	418.4	370.2	523.9
1997	408.6	39.4	448.1	400.6	571.4
1998	423.7	42.6	466.3	436.6	601.1
1999	446.2	44.6	490.8	467.6	624.2
2000	476.6	45.9	522.5	501.8	644.9
2001	507.0	46.9	553.8	538.0	660.8
2002	537.1	47.3	584.4	576.2	669.1
2003	569.3	47.1	616.5	616.7	668.8
2005	644.3	44.3	688.7	699.4	652.4
2010 <sup>1</sup>	873.4	30.5	903.9	966.7	467.6

<sup>1</sup>Estimates for later years are not shown because the combined OASI and DI Trust Funds are estimated to become exhausted in 2029 under alternative II and in 2014 under alternative III.

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

Table III.B4 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 low cost, intermediate, and high cost sets of assumptions (alternatives I, II, and III) described earlier in this report. For OASDI, income excluding interest consists of payroll-tax contributions, proceeds from taxation of OASDI benefits, and miscellaneous transfers from the general fund of the Treasury. 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), proceeds from the taxation of OASDI benefits, 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.B4 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.

Appendices

TABLE III.B4.—ESTIMATED OASDI AND HI INCOME EXCLUDING INTEREST, OUTGO, AND BALANCE IN CURRENT DOLLARS BY ALTERNATIVE, CALENDAR YEARS 1994-2070

Calendar year	[in billions]								
	OASDI			HI			Combined		
	Income excluding interest	Outgo	Balance	Income excluding interest	Outgo	Balance	Income excluding interest	Outgo	Balance
Intermediate:									
1994	\$347	\$325	\$22	\$101	\$108	-\$7	\$448	\$433	\$15
1995	369	342	26	107	118	-11	476	460	16
1996	389	361	28	113	128	-15	502	489	13
1997	410	381	29	119	139	-20	529	520	9
1998	431	401	30	125	152	-26	556	553	3
1999	454	424	31	132	166	-33	587	589	-3
2000	480	448	32	140	181	-41	620	629	-9
2001	507	474	33	148	198	-50	655	672	-17
2002	536	503	33	157	216	-59	693	719	-26
2003	567	533	34	166	235	-69	733	768	-35
2005	637	599	38	187	278	-91	824	877	-53
2010	849	818	31	250	409	-158	1,099	1,227	-128
2015	1,115	1,166	-51	332	615	-283	1,446	1,780	-334
2020	1,447	1,674	-227	435	906	-471	1,882	2,580	-698
2025	1,868	2,346	-478	568	1,326	-758	2,436	3,672	-1,236
2030	2,417	3,177	-761	741	1,911	-1,171	3,157	5,088	-1,931
2035	3,131	4,172	-1,042	964	2,668	-1,704	4,095	6,840	-2,746
2040	4,044	5,352	-1,308	1,249	3,594	-2,345	5,293	8,946	-3,654
2045	5,201	6,875	-1,674	1,609	4,737	-3,128	6,810	11,612	-4,802
2050	6,669	8,910	-2,240	2,070	6,186	-4,116	8,739	15,096	-6,357
2055	8,550	11,672	-3,122	2,663	8,108	-5,445	11,213	19,780	-8,567
2060	10,969	15,273	-4,304	3,428	10,717	-7,290	14,397	25,991	-11,594
2065	14,073	19,868	-5,794	4,409	14,234	-9,825	18,482	34,102	-15,620
2070	18,043	25,754	-7,710	5,665	18,881	-13,216	23,708	44,634	-20,926
Low Cost:									
1994	350	324	26	102	107	-6	452	431	20
1995	375	339	36	109	116	-8	484	456	28
1996	401	355	46	116	126	-10	516	481	35
1997	426	372	53	123	135	-12	549	508	41
1998	452	390	61	131	146	-15	582	536	46
1999	479	409	70	138	157	-19	617	566	51
2000	507	428	79	146	170	-23	653	598	55
2001	536	449	87	155	182	-28	691	631	60
2002	566	470	95	163	195	-32	729	666	63
2003	598	494	104	173	209	-36	770	703	68
2005	667	544	123	193	238	-45	860	782	78
2010	873	713	161	253	318	-65	1,126	1,030	96
2015	1,126	987	139	328	433	-105	1,454	1,420	34
2020	1,437	1,381	57	423	575	-152	1,860	1,956	-96
2025	1,833	1,883	-50	544	765	-221	2,377	2,648	-271
2030	2,347	2,477	-131	700	1,026	-326	3,047	3,504	-456
2035	3,017	3,157	-140	903	1,364	-461	3,920	4,521	-601
2040	3,877	3,927	-50	1,161	1,792	-631	5,038	5,719	-681
2045	4,970	4,904	66	1,488	2,349	-860	6,458	7,253	-795
2050	6,365	6,200	165	1,908	3,068	-1,160	8,273	9,268	-995
2055	8,158	7,936	222	2,449	4,022	-1,573	10,607	11,958	-1,351
2060	10,471	10,168	302	3,147	5,332	-2,185	13,618	15,500	-1,882
2065	13,445	12,979	466	4,044	7,103	-3,059	17,489	20,082	-2,593
2070	17,246	16,583	663	5,190	9,432	-4,242	22,435	26,014	-3,579

**TABLE III.B4.—ESTIMATED OASDI AND HI INCOME EXCLUDING INTEREST, OUTGO, AND BALANCE IN CURRENT DOLLARS BY ALTERNATIVE, CALENDAR YEARS 1994-2070 (Cont.)**

Calendar year	[In billions]								
	OASDI			HI			Combined		
	Income excluding interest	Outgo	Balance	Income excluding interest	Outgo	Balance	Income excluding interest	Outgo	Balance
High Cost:									
1994	\$346	\$326	\$20	\$100	\$108	-\$7	\$446	\$434	\$12
1995	362	348	14	105	119	-14	467	467	1
1996	383	370	12	112	132	-21	494	502	-8
1997	409	401	8	120	147	-27	529	548	-19
1998	424	437	-13	124	162	-38	548	599	-50
1999	446	468	-21	132	180	-48	578	648	-70
2000	477	502	-25	141	202	-61	618	704	-86
2001	507	538	-31	150	225	-75	657	763	-106
2002	537	576	-39	160	250	-91	697	827	-130
2003	569	617	-47	170	278	-108	739	895	-156
2005	644	699	-55	193	342	-149	837	1,041	-204
2010	873	967	-93	262	556	-294	1,136	1,523	-387
2015	1,170	1,391	-221	355	930	-575	1,525	2,322	-796
2020	1,546	2,042	-496	475	1,531	-1,055	2,021	3,572	-1,551
2025	2,026	2,941	-915	631	2,467	-1,836	2,657	5,409	-2,751
2030	2,654	4,122	-1,468	835	3,827	-2,993	3,489	7,950	-4,461
2035	3,473	5,621	-2,148	1,101	5,605	-4,505	4,573	11,226	-6,653
2040	4,517	7,487	-2,970	1,439	7,749	-6,309	5,956	15,236	-9,280
2045	5,827	9,946	-4,119	1,867	10,244	-8,377	7,694	20,190	-12,496
2050	7,483	13,279	-5,796	2,411	13,361	-10,949	9,895	26,640	-16,745
2055	9,593	17,848	-8,255	3,113	17,432	-14,319	12,706	35,280	-22,574
2060	12,299	23,927	-11,628	4,020	22,971	-18,951	16,319	46,898	-30,579
2065	15,768	31,795	-16,026	5,185	30,421	-25,236	20,953	62,215	-41,262
2070	20,167	41,951	-21,784	6,666	40,130	-33,464	26,834	82,081	-55,247

Notes:

1. Annual figures are available from the Office of the Actuary, Social Security Administration.
2. Totals do not necessarily equal the sums of rounded components.

Table III.B5 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 intermediate assumptions. The benefit amount is shown in current dollars, constant dollars (adjusted by the CPI indexing series shown in table III.B1), 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 OASDI contribution and benefit base).

Appendices

**TABLE III.B5.—ESTIMATED AVERAGE BENEFIT AMOUNT PAYABLE<sup>1</sup> TO RETIRED WORKERS WITH VARIOUS STEADY PRE-RETIREMENT EARNINGS LEVELS BASED ON INTERMEDIATE ASSUMPTIONS, CALENDAR YEARS 1994-2070**

Year attain age 65 <sup>3</sup>	Age at retirement	Current dollars			Constant 1994 dollars <sup>2</sup>			Percent of earnings		
		Low <sup>4</sup>	Average	Maximum <sup>5</sup>	Low <sup>4</sup>	Average	Maximum <sup>5</sup>	Low <sup>4</sup>	Average	Maximum <sup>5</sup>
Retirement at normal retirement age:										
1994	65:0	\$6,074	\$9,972	\$13,797	\$6,074	\$9,972	\$13,797	57.5	42.5	24.0
1995	65:0	6,268	10,347	14,438	6,076	10,030	13,995	57.8	43.0	23.8
2000	65:0	7,669	12,665	18,396	6,248	10,318	14,987	57.2	42.5	25.4
2005	65:6	9,836	16,247	24,481	6,458	10,667	16,073	56.5	42.0	26.5
2010	66:0	12,810	21,179	32,990	6,778	11,207	17,457	56.3	41.9	27.3
2015	66:0	16,350	27,041	42,827	7,111	11,761	18,626	56.3	41.9	27.8
2020	66:2	21,006	34,746	55,206	7,460	12,340	19,606	56.2	41.8	27.9
2025	67:0	27,837	46,125	73,155	7,864	13,031	20,668	56.0	41.8	27.8
2030	67:0	35,530	58,875	93,346	8,250	13,671	21,676	56.0	41.8	27.8
2035	67:0	45,355	75,142	119,052	8,656	14,342	22,722	56.0	41.8	27.8
2040	67:0	57,888	95,910	151,632	9,081	15,046	23,787	56.0	41.8	27.7
2045	67:0	73,889	122,410	193,314	9,527	15,783	24,925	56.0	41.8	27.7
2050	67:0	94,309	156,231	246,652	9,995	16,557	26,139	56.0	41.8	27.7
2055	67:0	120,364	199,394	314,749	10,484	17,368	27,416	56.0	41.8	27.6
2060	67:0	153,619	254,490	401,703	10,998	18,220	28,760	56.0	41.8	27.6
2065	67:0	196,071	324,815	512,699	11,538	19,114	30,170	56.0	41.8	27.6
2070	67:0	250,240	414,549	654,350	12,103	20,050	31,649	56.0	41.8	27.6
Retirement at age 65:										
1994	65:0	6,074	9,972	13,797	6,074	9,972	13,797	57.5	42.5	24.0
1995	65:0	6,268	10,347	14,438	6,076	10,030	13,995	57.8	43.0	23.8
2000	65:0	7,669	12,665	18,396	6,248	10,318	14,987	57.2	42.5	25.4
2005	65:0	9,319	15,388	23,201	6,239	10,303	15,534	54.8	40.8	25.7
2010	65:0	11,450	18,903	29,354	6,301	10,403	16,154	52.8	39.2	25.5
2015	65:0	14,605	24,128	38,215	6,606	10,914	17,285	52.8	39.2	26.0
2020	65:0	18,433	30,437	48,425	6,853	11,316	18,003	52.2	38.8	25.9
2025	65:0	22,105	36,505	58,105	6,755	11,155	17,755	49.0	36.4	24.3
2030	65:0	28,210	46,595	74,154	7,085	11,703	18,624	49.0	36.4	24.3
2035	65:0	36,011	59,466	94,563	7,434	12,276	19,521	49.0	36.4	24.3
2040	65:0	45,957	75,900	120,448	7,798	12,878	20,437	49.0	36.4	24.3
2045	65:0	58,659	96,874	153,546	8,181	13,510	21,413	49.0	36.4	24.2
2050	65:0	74,877	123,651	195,915	8,583	14,173	22,457	49.0	36.4	24.2
2055	65:0	95,561	157,809	249,999	9,003	14,868	23,553	49.0	36.4	24.2
2060	65:0	121,965	201,417	319,072	9,445	15,597	24,708	49.0	36.4	24.2
2065	65:0	155,665	257,066	407,229	9,908	16,362	25,919	49.0	36.4	24.2
2070	65:0	198,672	328,090	519,754	10,393	17,163	27,190	49.0	36.4	24.2

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

<sup>2</sup>The adjustment from current to constant dollars is made using the CPI indexing series shown in table III.B1.

<sup>3</sup>Assumed to attain age 65 in January of the year.

<sup>4</sup>Earnings equal to 45 percent of average.

<sup>5</sup>Earnings equal to the OASDI 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.F12 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.C1 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.C1. 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.

The OASDI balance (income excluding interest, less outgo) as a percentage of GDP is projected to be positive on the basis of the low cost alternative I virtually throughout the long-range period. The OASDI balance is projected to be positive through 2010 on the basis of the intermediate alternative II and through 1997 on the basis of the high cost alternative III, before becoming permanently negative. The projected HI balance as a percentage of GDP, however, is negative throughout the long-range period under all three alternatives.

## *Appendices*

The combined OASDI and HI balance as a percentage of GDP is projected to be positive through 2015 under the low cost alternative I, through 1998 under the intermediate alternative II, and through only 1995 under the high cost alternative III. Between 2010 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. After balances cease to be positive under the intermediate and high cost alternatives, the size of annual deficits increases fairly steadily for the OASDI and HI programs, both separately and combined.

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 1.07 percent for the low cost alternative I to a deficit of 12.51 percent for the high cost alternative III. Projected balances differ by a much smaller amount by the year 2005: from a positive balance of 0.62 percent for the low cost alternative I to a deficit of 1.59 percent for the high cost alternative III.

The summarized long-range (75-year) balance as a percentage of GDP for the combined OASDI and HI programs varies by a relatively large amount (from a deficit of 0.27 percent, based on the low cost alternative I, to a deficit of 6.31 percent, based on the high cost alternative III). The 25-year summarized balance varies by a smaller amount (from a positive of 0.52 percent to a deficit of 1.82 percent). Summarized rates are calculated on the present-value basis including the trust fund balances on January 1, 1994 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.)

Percentage of GDP

**TABLE III.C1.—ESTIMATED OASDI AND HI INCOME EXCLUDING INTEREST, OUTGO, AND BALANCE AS A PERCENTAGE OF GDP BY ALTERNATIVE, CALENDAR YEARS 1994-2070**

Calendar year	Percentage of GDP									GDP in dollars (billions)
	OASDI			HI			Combined			
	In-come <sup>1</sup>	Out-go	Bal-ance	In-come <sup>1</sup>	Out-go	Bal-ance	In-come <sup>1</sup>	Out-go	Bal-ance	
<b>Intermediate:</b>										
1994 .....	5.16	4.83	0.33	1.50	1.60	-0.10	6.66	6.43	0.23	\$6,726
1995 .....	5.19	4.82	.37	1.51	1.66	-.15	6.70	6.47	.22	7,107
1996 .....	5.19	4.82	.38	1.51	1.71	-.20	6.70	6.53	.17	7,499
1997 .....	5.19	4.82	.37	1.51	1.76	-.25	6.69	6.58	.12	7,902
1998 .....	5.18	4.82	.36	1.51	1.82	-.32	6.68	6.64	.04	8,322
1999 .....	5.17	4.82	.35	1.51	1.89	-.38	6.68	6.71	-.03	8,784
2000 .....	5.17	4.82	.35	1.51	1.95	-.44	6.67	6.77	-.10	9,289
2001 .....	5.16	4.82	.33	1.51	2.01	-.50	6.67	6.84	-.17	9,832
2002 .....	5.15	4.83	.32	1.51	2.07	-.57	6.66	6.90	-.25	10,408
2003 .....	5.14	4.83	.31	1.51	2.13	-.62	6.65	6.97	-.32	11,025
2005 .....	5.14	4.83	.31	1.51	2.24	-.73	6.65	7.08	-.42	12,396
2010 .....	5.14	4.96	.19	1.52	2.48	-.96	6.66	7.44	-.78	16,499
2015 .....	5.14	5.38	-.24	1.53	2.84	-1.31	6.68	8.22	-1.54	21,665
2020 .....	5.14	5.95	-.81	1.55	3.22	-1.67	6.68	9.16	-2.48	28,156
2025 .....	5.13	6.44	-1.31	1.56	3.64	-2.08	6.69	10.08	-3.39	36,437
2030 .....	5.11	6.71	-1.61	1.57	4.04	-2.47	6.67	10.75	-4.08	47,321
2035 .....	5.08	6.76	-1.69	1.56	4.33	-2.76	6.64	11.09	-4.45	61,687
2040 .....	5.03	6.66	-1.63	1.55	4.47	-2.92	6.59	11.14	-4.55	80,332
2045 .....	4.99	6.60	-1.61	1.54	4.55	-3.00	6.54	11.15	-4.61	104,183
2050 .....	4.95	6.62	-1.66	1.54	4.59	-3.06	6.49	11.21	-4.72	134,630
2055 .....	4.92	6.72	-1.80	1.53	4.66	-3.13	6.45	11.38	-4.93	173,805
2060 .....	4.88	6.80	-1.92	1.53	4.77	-3.25	6.41	11.57	-5.16	224,580
2065 .....	4.85	6.84	-2.00	1.52	4.90	-3.38	6.37	11.74	-5.38	290,371
2070 .....	4.81	6.86	-2.05	1.51	5.03	-3.52	6.32	11.89	-5.58	375,336
<b>Summarized rates:<sup>2</sup></b>										
<b>25-year:</b>										
1994-2018 .	5.43	5.22	.20	1.60	2.39	-.78	7.03	7.61	-.58	---
<b>50-year:</b>										
1994-2043 .	5.28	5.80	-.51	1.58	3.10	-1.52	6.87	8.90	-2.03	---
<b>75-year:</b>										
1994-2068 .	5.19	6.02	-.83	1.57	3.51	-1.94	6.76	9.53	-2.77	---
<b>Low Cost:</b>										
1994 .....	5.16	4.77	.39	1.50	1.58	-.09	6.65	6.35	.30	6,787
1995 .....	5.19	4.70	.50	1.51	1.61	-.10	6.70	6.31	.39	7,224
1996 .....	5.21	4.62	.59	1.51	1.64	-.13	6.72	6.26	.46	7,686
1997 .....	5.22	4.56	.65	1.51	1.66	-.15	6.72	6.22	.50	8,159
1998 .....	5.22	4.51	.71	1.51	1.69	-.18	6.73	6.20	.53	8,647
1999 .....	5.23	4.47	.76	1.51	1.72	-.21	6.74	6.19	.55	9,152
2000 .....	5.24	4.43	.81	1.51	1.75	-.24	6.75	6.18	.57	9,671
2001 .....	5.25	4.40	.86	1.52	1.79	-.27	6.77	6.18	.59	10,207
2002 .....	5.26	4.37	.89	1.52	1.81	-.30	6.77	6.19	.59	10,764
2003 .....	5.26	4.35	.92	1.52	1.84	-.32	6.78	6.19	.60	11,351
2005 .....	5.27	4.30	.97	1.52	1.88	-.36	6.80	6.18	.62	12,646
2010 .....	5.29	4.32	.97	1.53	1.93	-.39	6.83	6.25	.58	16,497
2015 .....	5.31	4.66	.65	1.55	2.04	-.50	6.86	6.70	.16	21,196
2020 .....	5.32	5.11	.21	1.57	2.13	-.56	6.89	7.24	-.35	27,015
2025 .....	5.32	5.47	-.15	1.58	2.22	-.64	6.90	7.69	-.79	34,431
2030 .....	5.32	5.61	-.30	1.59	2.32	-.74	6.90	7.94	-1.03	44,143
2035 .....	5.30	5.54	-.25	1.59	2.40	-.81	6.88	7.94	-1.06	56,942
2040 .....	5.27	5.34	-.07	1.58	2.44	-.86	6.85	7.78	-.93	73,521
2045 .....	5.25	5.18	.07	1.57	2.48	-.91	6.82	7.66	-.84	94,705
2050 .....	5.22	5.09	.14	1.57	2.52	-.95	6.79	7.61	-.82	121,839

Appendices

**TABLE III.C1.—ESTIMATED OASDI AND HI INCOME EXCLUDING INTEREST, OUTGO, AND BALANCE AS A PERCENTAGE OF GDP BY ALTERNATIVE, CALENDAR YEARS 1994-2070 (Cont.)**

Calendar year	Percentage of GDP									GDP in dollars (billions)
	OASDI			HI			Combined			
	In-come <sup>1</sup>	Out-go	Bal-ance	In-come <sup>1</sup>	Out-go	Bal-ance	In-come <sup>1</sup>	Out-go	Bal-ance	
Low Cost (Cont.):										
2055 . . . . .	5.20	5.06	0.14	1.56	2.56	-1.00	6.76	7.63	-0.86	\$156,798
2060 . . . . .	5.18	5.03	.15	1.56	2.64	-1.08	6.74	7.67	-.93	202,088
2065 . . . . .	5.16	4.98	.18	1.55	2.72	-1.17	6.71	7.70	-.99	260,678
2070 . . . . .	5.13	4.94	.20	1.54	2.81	-1.26	6.68	7.74	-1.07	335,891
Summarized rates: <sup>2</sup>										
25-year:										
1994-2018 . . . . .	5.53	4.69	.84	1.61	1.93	-.32	7.14	6.62	.52	---
50-year:										
1994-2043 . . . . .	5.44	5.00	.43	1.60	2.10	-.50	7.03	7.10	-.07	---
75-year:										
1994-2068 . . . . .	5.38	5.01	.37	1.59	2.23	-.64	6.96	7.23	-.27	---
High Cost:										
1994 . . . . .	5.16	4.87	.29	1.50	1.61	-.11	6.66	6.48	0.18	6,697
1995 . . . . .	5.26	5.05	.21	1.52	1.73	-.20	6.79	6.78	.01	6,885
1996 . . . . .	5.16	4.99	.17	1.51	1.78	-.28	6.67	6.78	-.11	7,413
1997 . . . . .	5.15	5.04	.10	1.51	1.85	-.34	6.66	6.90	-.24	7,942
1998 . . . . .	5.21	5.36	-.16	1.53	1.99	-.46	6.73	7.35	-.62	8,139
1999 . . . . .	5.10	5.35	-.24	1.50	2.06	-.55	6.61	7.40	-.80	8,748
2000 . . . . .	5.08	5.34	-.27	1.50	2.15	-.65	6.58	7.49	-.92	9,389
2001 . . . . .	5.07	5.38	-.31	1.50	2.25	-.75	6.57	7.63	-1.06	10,003
2002 . . . . .	5.05	5.42	-.37	1.50	2.36	-.85	6.55	7.78	-1.22	10,630
2003 . . . . .	5.04	5.46	-.42	1.50	2.46	-.96	6.54	7.92	-1.38	11,303
2005 . . . . .	5.02	5.45	-.43	1.50	2.67	-1.16	6.53	8.12	-1.59	12,823
2010 . . . . .	5.01	5.55	-.54	1.51	3.19	-1.68	6.52	8.74	-2.22	17,430
2015 . . . . .	4.99	5.94	-.94	1.51	3.97	-2.45	6.51	9.91	-3.40	23,433
2020 . . . . .	4.97	6.57	-1.59	1.53	4.92	-3.39	6.50	11.49	-4.99	31,091
2025 . . . . .	4.95	7.18	-2.23	1.54	6.02	-4.48	6.49	13.21	-6.72	40,958
2030 . . . . .	4.92	7.64	-2.72	1.55	7.09	-5.54	6.46	14.72	-8.26	53,989
2035 . . . . .	4.88	7.89	-3.02	1.55	7.87	-6.33	6.42	15.76	-9.34	71,213
2040 . . . . .	4.83	8.00	-3.17	1.54	8.28	-6.74	6.36	16.28	-9.92	93,581
2045 . . . . .	4.78	8.15	-3.38	1.53	8.40	-6.87	6.31	16.55	-10.24	121,985
2050 . . . . .	4.73	8.40	-3.67	1.53	8.45	-6.92	6.26	16.85	-10.59	158,121
2055 . . . . .	4.69	8.73	-4.04	1.52	8.53	-7.00	6.22	17.26	-11.04	204,419
2060 . . . . .	4.65	9.05	-4.40	1.52	8.69	-7.17	6.18	17.75	-11.57	264,270
2065 . . . . .	4.61	9.30	-4.69	1.52	8.90	-7.38	6.13	18.19	-12.07	341,979
2070 . . . . .	4.57	9.50	-4.93	1.51	9.08	-7.58	6.07	18.58	-12.51	441,747
Summarized rates: <sup>2</sup>										
25-year:										
1994-2018 . . . . .	5.34	5.76	-.42	1.60	3.00	-1.40	6.94	8.76	-1.82	---
50-year:										
1994-2043 . . . . .	5.15	6.56	-1.42	1.57	4.82	-3.25	6.72	11.38	-4.66	---
75-year:										
1994-2068 . . . . .	5.03	7.12	-2.09	1.56	5.78	-4.22	6.59	12.90	-6.31	---

<sup>1</sup>Income excludes interest on the trust funds.

<sup>2</sup>Summarized rates are calculated on the present-value basis including the value of the trust funds on January 1, 1994 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.

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

*Percentage of GDP*

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 OASDI taxable payroll to GDP, which are presented in table III.C2. HI taxable payroll is about 20 percent larger than the OASDI taxable payroll throughout the long-range period (see section III.A for a detailed description of the difference). 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.

**TABLE III.C2.—RATIO OF OASDI TAXABLE PAYROLL TO GDP BY ALTERNATIVE, CALENDAR YEARS 1994-2070**

Calendar year	Intermediate	Low Cost	High Cost
1994	0.415	0.415	0.415
1995	.413	.414	.416
1996	.411	.413	.409
1997	.411	.414	.407
1998	.411	.415	.412
1999	.410	.416	.404
2000	.410	.416	.402
2001	.409	.417	.401
2002	.408	.418	.400
2003	.407	.418	.398
2005	.406	.418	.396
2010	.404	.418	.392
2015	.401	.416	.387
2020	.397	.415	.382
2025	.394	.413	.376
2030	.390	.411	.371
2035	.386	.409	.366
2040	.382	.407	.360
2045	.379	.405	.355
2050	.375	.403	.350
2055	.372	.401	.345
2060	.368	.399	.340
2065	.365	.397	.335
2070	.361	.395	.331

Projections of GDP for the first several years were based on assumed quarterly changes in real GDP and the GDP implicit price deflator. Thereafter, projections of GDP were based on the projected increases in U.S. employment, labor productivity, and the GDP implicit 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

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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.

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 40 years 1953-92 and 0.33, 0.39, 0.56, and 0.09 percent for the 10-year periods 1953-62, 1963-72, 1973-82, and 1983-92, 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 the low cost alternative I, the ratio of taxable payroll to GDP is projected to rise slowly through the year 2003, and then to decrease for the remainder of the long-range period. For the intermediate and high cost alternatives, the ratio of taxable payroll to GDP is projected to decrease essentially throughout the long-range period.

**D. TEN YEAR HISTORY OF ACTUARIAL BALANCE ESTIMATES**

This appendix chronicles the recent history of the primary measure of long-range actuarial status, namely the actuarial balance, as shown in the annual reports for 1984 and later. Actuarial balance is defined in detail in section II.F, Actuarial Estimates. Conceptually, the two basic components of actuarial balance are the summarized income rate and the summarized cost rate. Both rates are expressed as percentages of taxable payroll. For any given period, the actuarial balance is the difference between the present value of tax income for the period, and the present value of the outgo for the period, each divided by the present value of taxable payroll for all years in the period. Also included in the calculation of the actuarial balance are:

1. The amount of the trust fund balances on hand at the beginning of the valuation period, as shown in the reports for 1988 and later, and
2. The present value of a target trust fund balance equal to 100 percent of the amount of annual outgo to be reached and maintained by the end of the valuation period, as shown in the reports for 1991 and later.

It should be noted that the current method of calculating the actuarial balance based on present values, though used prior to the 1973 Annual Report, was not used for the annual reports of 1973-87. Instead, a simpler method that approximates the results of the present-value approach, called the "average-cost" method, was used during that period. Under the average-cost method, the sum of the annual cost rates (which are expressed as percentages of taxable payroll) over the 75-year projection period was divided by the total number of years, 75, to obtain the average cost rate per year. The average income rate was similarly calculated, and the difference between the average income rate and the average cost rate was called the actuarial balance.

In 1973, when the average-cost method was first used, the long-range financing of the program was more nearly on a pay-as-you-go basis. Also, based on the long-range economic and demographic assumptions then being used, the annual rate of growth in taxable payroll was about the same as the annual rate at which the trust funds earned interest. In either situation (i.e., pay-as-you-go financing,

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where the annual income rate is the same as the annual cost rate, or an annual rate of growth in taxable payroll equal to the annual interest rate), the average-cost method produces the same result as the present-value method. However, by 1988, neither of these situations still existed.

As a result of legislation enacted in 1977 and in 1983, substantial increases in the trust funds were estimated to occur well into the next century, so that the program was partially "advance funded," rather than being funded on a pay-as-you-go basis. Also, because of declines in long-range fertility rates and average real-wage growth that were assumed in the annual reports over the period 1973-87, the annual rate of growth in taxable earnings assumed for the long range became significantly lower than the assumed interest rate. Therefore, during the period 1973-87, the results of the average-cost method and the present-value method began to diverge, and by 1988 they were quite different. While the average-cost method still accounted for most of the effects of the assumed interest rate, it no longer accounted for all of the interest effects. The present-value method, of course, does account for the full effect of the assumed interest rates. So, in 1988, the present-value method of calculating the actuarial balance was resumed.

A positive actuarial balance indicates that estimated income is more than sufficient to meet estimated trust fund obligations for the period as a whole. A negative actuarial balance indicates that estimated income is insufficient to meet estimated trust fund obligations for the entire period. An actuarial balance of zero indicates that the estimated income exactly matches estimated trust fund obligations for the period.

Table III.D.1 shows the estimated OASDI actuarial balances, as well as the summarized income and cost rates, for the last 10 annual reports (1984-1993), along with the estimates for the current report. The values shown are based on the intermediate alternative II assumptions, or alternative II-B for years prior to 1991.

**TABLE III.D1.—LONG-RANGE ACTUARIAL BALANCES FOR THE OASDI PROGRAM  
AS SHOWN FOR THE INTERMEDIATE ASSUMPTIONS<sup>1</sup> IN THE TRUSTEES  
REPORTS ISSUED IN YEARS 1984-1994**

[As a percentage of taxable payroll]				
Year of report	Summarized income rate	Summarized cost rate	Actuarial balance	Change from previous year
1984	12.90	12.95	-0.06	-0.08
1985	12.94	13.35	-.41	-.35
1986	12.96	13.40	-.44	-.03
1987	12.89	13.51	-.62	-.18
1988	12.94	13.52	-.58	+.04
1989	13.02	13.72	-.70	-.13
1990	13.04	13.95	-.91	-.21
1991	13.11	14.19	-1.08	-.17
1992	13.16	14.63	-1.46	-.38
1993	13.21	14.67	-1.46	-.00
1994	13.24	15.37	-2.13	-.66

<sup>1</sup>Values shown are based on the intermediate alternative II assumptions for 1991-94, and on the intermediate alternative II-B assumptions for 1984-90.

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

For several of the years included in the table, significant legislative changes or definitional changes have affected the estimated actuarial balance. In 1985, for example, the estimated actuarial balance changed largely because of an adjustment made to the method for estimating the age distribution of immigrants.

Rebenchmarking of the National Income and Product Accounts, and changes in demographic assumptions contributed to the change in actuarial balance for 1987. Various changes in assumptions and methods for the 1988 report had roughly offsetting effects on the actuarial balance. In 1989 and 1990, changes in economic assumptions accounted for most of the changes in the estimated actuarial balance. In 1991, the effect of legislation, changes in economic assumptions, and the introduction of the cost of reaching and maintaining an ending trust fund target combined to produce the change in actuarial balance. In 1992, changes in disability assumptions and the method for projecting average benefit levels accounted for most of the change in the actuarial balance. In 1993, numerous small changes in assumptions and methods had offsetting effects on the actuarial balance. Changes affecting the actuarial balance shown for the 1994 report are described in section II.F.2 of this report.

*Appendices*

***E. ACTUARIAL ANALYSIS OF BENEFIT DISBURSEMENTS  
FROM THE FEDERAL OLD-AGE AND SURVIVORS  
INSURANCE TRUST FUND WITH RESPECT TO  
DISABLED BENEFICIARIES***

*(Required by section 201(c) of the Social Security Act)*

Effective January 1957, monthly benefits have been payable from the OASI Trust Fund to disabled children aged 18 and over of retired and deceased workers in those cases for which the disability began before age 18. The age before which disability is required to have begun was subsequently changed to age 22. Effective February 1968, reduced monthly benefits have been payable from this trust fund to disabled widows and widowers at ages 50 and above. Effective January 1991, the requirements for the disability of the widow or widower were made less restrictive.

On December 31, 1993, about 743,000 persons were receiving monthly benefits from the OASI Trust Fund because of their disabilities or the disabilities of children. This total includes 48,000 mothers and fathers (wives or husbands under age 65 of retired-worker beneficiaries and widows or widowers of deceased insured workers) who met all other qualifying requirements and were receiving unreduced benefits solely because they had disabled-child beneficiaries (or disabled children aged 16 or 17) in their care. Benefits paid from this trust fund to the persons described above totaled \$3,752 million in calendar year 1993. Table III.E1 shows these and similar figures for selected calendar years during 1960-93, and estimated experience for 1994-2003 based on the intermediate set of assumptions.

*OASI Expenditures for Disabled*

**TABLE III.E1.—BENEFIT DISBURSEMENTS FROM THE OASI TRUST FUND WITH RESPECT TO DISABLED BENEFICIARIES, SELECTED CALENDAR YEARS 1960-1993, AND ESTIMATED FUTURE DISBURSEMENTS DURING 1994-2003 BASED ON INTERMEDIATE ASSUMPTIONS**

[Beneficiaries in thousands; benefit payments in millions]

Calendar year	Disabled beneficiaries, end of year			Amount of benefit payments <sup>1</sup>		
	Total	Children <sup>2</sup>	Widows-widowers <sup>3</sup>	Total	Children <sup>2</sup>	Widows-widowers <sup>4</sup>
<b>Historical data:</b>						
1960.....	117	117	—	\$59	\$59	—
1965.....	214	214	—	134	134	—
1970.....	316	281	36	301	260	\$41
1975.....	435	376	58	664	560	104
1980.....	519	460	59	1,223	1,097	126
1985.....	594	547	47	2,072	1,885	187
1986.....	614	565	49	2,219	2,022	197
1987.....	629	580	49	2,331	2,128	203
1988.....	633	584	49	2,518	2,307	211
1989.....	651	602	49	2,680	2,459	221
1990.....	662	613	49	2,882	2,649	233
1991.....	687	627	61	3,179	2,875	304
1992.....	715	643	72	3,459	3,079	380
1993.....	743	662	81	3,752	3,296	456
<b>Estimates:</b>						
1994.....	776	683	93	4,054	3,520	534
1995.....	803	705	98	4,356	3,758	598
1996.....	825	727	98	4,634	4,020	614
1997.....	847	749	98	4,941	4,301	640
1998.....	867	769	97	5,258	4,593	665
1999.....	886	790	97	5,592	4,903	689
2000.....	905	810	95	5,949	5,236	713
2001.....	922	829	93	6,329	5,595	734
2002.....	938	847	91	6,730	5,978	752
2003.....	953	865	88	7,142	6,375	768

<sup>1</sup>Beginning in 1966, includes payments for vocational rehabilitation services.

<sup>2</sup>Also includes certain mothers and fathers (see text).

<sup>3</sup>In 1984 and later years, only disabled widows and widowers aged 50-59 are included because disabled widows and widowers aged 60-64 would be eligible for the same benefit as a nondisabled aged widow; therefore, they are not receiving benefits solely because of a disability.

<sup>4</sup>In 1983 and prior years, reflects the offsetting effect of lower benefits payable to disabled widows and widowers who continue to receive benefits after attaining age 60 (62, for disabled widowers, prior to 1973) as compared to the higher nondisabled widow's and widower's benefits that would otherwise be payable. In 1984 and later years, only benefit payments to disabled widows and widowers aged 50-59 are included (see footnote 3).

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

Total benefit payments from the OASI Trust Fund with respect to disabled beneficiaries are estimated to increase from \$4,054 million in calendar year 1994 to \$7,142 million in calendar year 2003, based on the intermediate assumptions.

In calendar year 1993, benefit payments (including expenditures for vocational rehabilitation services) with respect to disabled persons from the OASI Trust Fund and from the DI Trust Fund (including payments from the latter fund to all children and spouses of dis-

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abled-worker beneficiaries) totaled \$38,378 million. Of this amount, \$3,752 million or 9.8 percent represented payments from the OASI Trust Fund. These and similar figures for selected calendar years during 1960-93 and estimates for calendar years 1994-2003 are presented in table III.E2.

**TABLE III.E2.—BENEFIT DISBURSEMENTS UNDER THE OASDI PROGRAM WITH RESPECT TO DISABLED BENEFICIARIES, BY TRUST FUND, SELECTED CALENDAR YEARS 1960-1993, AND ESTIMATED FUTURE DISBURSEMENTS DURING 1994-2003 BASED ON INTERMEDIATE ASSUMPTIONS**

[Amounts in millions]

Calendar year	Total <sup>1</sup>	DI Trust Fund <sup>2</sup>	OASI Trust Fund	
			Amount <sup>3</sup>	Percentage of total
<b>Historical data:</b>				
1960.....	\$627	\$568	\$59	9.4
1965.....	1,707	1,573	134	7.9
1970.....	3,386	3,085	301	8.9
1975.....	9,169	8,505	664	7.2
1980.....	16,738	15,515	1,223	7.3
1985.....	20,908	18,836	2,072	9.9
1986.....	22,075	19,856	2,219	10.1
1987.....	22,858	20,527	2,331	10.2
1988.....	24,226	21,708	2,518	10.4
1989.....	25,591	22,911	2,680	10.5
1990.....	27,717	24,835	2,882	10.4
1991.....	30,877	27,698	3,179	10.3
1992.....	34,583	31,124	3,459	10.0
1993.....	38,378	34,626	3,752	9.8
<b>Estimates:</b>				
1994.....	42,053	37,999	4,054	9.6
1995.....	46,168	41,812	4,356	9.4
1996.....	50,354	45,720	4,634	9.2
1997.....	54,584	49,643	4,941	9.1
1998.....	59,288	54,030	5,258	8.9
1999.....	64,227	58,835	5,592	8.7
2000.....	69,420	63,471	5,949	8.6
2001.....	75,079	68,751	6,329	8.4
2002.....	81,131	74,401	6,730	8.3
2003.....	87,748	80,606	7,142	8.1

<sup>1</sup>Beginning in 1966, includes payments for vocational rehabilitation services.

<sup>2</sup>Benefit payments to disabled workers and their children and spouses.

<sup>3</sup>Benefit payments to disabled children aged 18 and over, to certain mothers and fathers (see text), and to disabled widows and widowers (see footnote 4, table III.E1).

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