E. ACTUARIAL STATUS OF THE TRUST FUNDS

Historically, the actuarial status of the OASDI program has been measured by the actuarial balance, as described earlier in this section. Recent annual reports have shown both medium-range and long-range actuarial balances, which have been computed, respectively, for the 25-year and 75-year valuation periods beginning with the calendar year of issuance of the report. Thus, the medium-range and long-range actuarial balances shown in this report pertain to the periods 1987-2011 and 1987-2061, respectively. Also presented are actuarial balances for the second and third 25-year subperiods of the 75-year projection period.

As described earlier in this section, a single measure of the actuarial balance over a long period may not reveal problems which could occur during that period. Therefore, in addition to the medium-range and long-range actuarial balances, two other indicators of the financial condition of the trust funds are shown in this report. One is the series of annual balances (that is, the year-by-year differences between the estimated income rates and cost rates), and the other is the series of estimated contingency fund ratios, as defined in the introduction to this section.

The estimates are sensitive to changes in the underlying economic and demographic assumptions. The degree of sensitivity, however, varies considerably among the various assumptions. For example, variations in assumed fertility rates have little effect on the estimates for the early years, because almost all of the projected covered workers and beneficiaries were born prior to the start of the projection period. Variations in economic factors, however, such as increases in wages and prices, have significant effects on the estimates in the short term, as well as the long term. In general, the degree of confidence that can be placed in the assumptions and estimates is greater for the earlier years than for the later years. Nonetheless, even for the earlier years, the estimates are only an indication of the trend and general range of future program experience. Appendix B contains a more detailed discussion of the effects on the estimates of varying certain economic and demographic assumptions.

Table 26 presents a comparison of the estimated income and cost rates by trust fund and alternative. A few of the most significant figures shown in this table are the 75-year average income rates, average cost rates, and actuarial balances of the OASDI program, as well as the corresponding figures for the three 25-year subperiods.

Under alternative II-A, the long-range 75-year actuarial balance of the OASDI program is a positive 0.08 percent of taxable payroll, consisting of a positive balance of 2.52 percent of payroll for the first 25-year subperiod, followed by deficits of 0.48 and 1.80 percent of payroll for the second and third subperiods, respectively. The 75-year actuarial balance results from estimated average annual income and cost rates of 12.87 and 12.79 percent of taxable payroll, respectively. Under alternative II-A, the long-range average income rate is about 100.6 percent of the average cost rate.

Under alternative II-B, the 75-year actuarial balance of the OASDI program is a deficit of 0.62 percent of taxable payroll, consisting of a positive balance of 2.10 percent of payroll for the first 25-year subperiod, followed by deficits of 1.22 and 2.74 percent of payroll for the second

and third subperiods, respectively. The 75-year actuarial balance results from estimated average annual income and cost rates of 12.89 and 13.51 percent of taxable payroll, respectively. Under alternative II-B, the long-range average income rate is about 95.4 percent of the average cost rate.

Thus, under each of the intermediate alternatives, the OASDI program, as a whole, is in close actuarial balance, as defined in the introduction to this section, although imbalances exist in the subperiods.

TABLE 26.—COMPARISON OF ESTIMATED INCOME RATES AND COST RATES BY TRUST FUND AND ALTERNATIVE, CALENDAR YEARS 1987-2065
[As a percentage of taxable payroll]

	OASI			DI			Total		
Calendar year	Income rate	Cost rate	Balance	Income rate	Cost rate	Balance	Income rate	Cost rate	Balance
Alternative I:									
1987	10.57	9.67	0.90	1.01	1.07	-0.06	11.58	10.74	0.84
1988	11.23	9.56	1.67	1.07	1.04	.04	12.30	10.59	1.71
1989	11.23	9.40	1.83	1.07	1.00	.07	12.31	10.40	1.90
1990	11.37	9.35	2.02	1.21	.98	.24	12.59	10.33	2.26
1991	11.39	9.24	2.15	1.21	.96	.26	12.60	10.19	2.41
1992	11.40	9.13	2.27	1.21	.94	.27	12.61	10.07	2.54
1993	11.40	9.06	2.34	1.21	.94	.28	12.61	10.00	2.61
1994	11.40	9.00	2.40	1.21	.94	.28	12.61	9.94	2.68
1995	11.40	8.93	2.47	1.21	.94	.27	12.61	9.88	2.74
1996	11.40	8.87	2.53	1.21	.94	.27	12.61	9.81	2.80
2000	11.20	8.06	3.13	1.44	.97	.47	12.64	9.03	3.61
2005	11.22	7.44	3.78	1.45	1.06	.39	12.68	8.50	4.17
2010	11.25	7.62	3.63	1.46	1.20	.26	12.72	8.82	3.89
2015	11.30	8.53	2.77	1.47	1.28	.19	12.77	9.80	2.96
2020	11.36	9.72	1.63	1.47	1.32	.15	12.83	11.04	1.79
2025	11.41	10.64	.77	1.47	1.37	.11	12.88	12.00	.87
2030	11.44	11.03	.40	1.47	1.32	.16	12.91	12.35	.56
2035	11.44	10.88	.57	1.47	1.26	.21	12.91	12.13	.78
2040	11.44	10.41	1.02	1.47	1.23	.24	12.91	11.65	1.26
2045	11.43	9.99	1.43	1.48	1.25	.22	12.91	11.25	1.66
2050	11.42	9.75	1.67	1.48	1.25	.22	12.89	11.00	1.89
2055	11.41	9.60	1.82	1.48	1.24	.24	12.89	10.84	2.05
2060	11.41	9.45	1.96	1.47	1.23	.25	12.88	10.68	2.20
2065	11.40	9.36	2.04	1.47	1.23	.25	12.88	10.59	2.29
25-year averages:									
1987-2011	11.27	8.35	2.92	1.31	1.03	.28	12.58	9.38	3.20
2012-2036	11.38	10.04	1.34	1.47	1.31	.16	12.85	11.34	1.51
2037-2061	11.42	9.90	1.52	1.47	1.24	.23	12.90	11.14	1.76
75-year average:									
1987-2061	11.36	9.43	1.93	1.42	1.19	.23	12.78	10.62	2.15
Alternative II-A:									
1987	10.57	9.72	.85	1.01	1.09	-.08	11.58	10.81	.77
1988	11.23	9.70	1.53	1.07	1.06	.01	12.30	10.77	1.53
1989	11.24	9.63	1.61	1.07	1.04	.03	12.31	10.67	1.64
1990	11.40	9.64	1.76	1.22	1.03	.19	12.62	10.67	1.94
1991	11.40	9.56	1.84	1.21	1.02	.20	12.61	10.58	2.03
1992	11.41	9.50	1.91	1.21	1.01	.20	12.62	10.51	2.11
1993	11.41	9.47	1.94	1.21	1.01	.20	12.62	10.49	2.14
1994	11.41	9.45	1.96	1.21	1.02	.19	12.63	10.47	2.16
1995	11.41	9.42	1.99	1.22	1.03	.18	12.63	10.45	2.18
1996	11.41	9.39	2.02	1.22	1.04	.18	12.63	10.43	2.20
2000	11.21	8.70	2.51	1.45	1.13	.32	12.66	9.83	2.83
2005	11.25	8.13	3.11	1.46	1.31	.15	12.71	9.44	3.27
2010	11.28	8.39	2.89	1.47	1.54	-.06	12.76	9.93	2.83
2015	11.33	9.49	1.85	1.48	1.67	-.19	12.82	11.16	1.66
2020	11.40	10.99	.41	1.49	1.75	-.26	12.89	12.74	.15
2025	11.47	12.30	-.83	1.49	1.85	-.35	12.96	14.15	-1.18
2030	11.52	13.12	-1.60	1.49	1.81	-.31	13.01	14.93	-1.91
2035	11.55	13.35	-1.80	1.49	1.75	-.26	13.04	15.10	-2.06
2040	11.55	13.16	-1.61	1.50	1.74	-.25	13.05	14.91	-1.86
2045	11.56	12.99	-1.42	1.50	1.79	-.30	13.06	14.78	-1.72
2050	11.56	13.01	-1.45	1.50	1.81	-.31	13.07	14.82	-1.76
2055	11.57	13.09	-1.52	1.50	1.80	-.30	13.07	14.89	-1.82
2060	11.57	13.10	-1.53	1.50	1.78	-.28	13.07	14.88	-1.81
2065	11.57	13.10	-1.53	1.50	1.78	-.28	13.07	14.88	-1.81
25-year averages:									
1987-2011	11.29	8.89	2.39	1.31	1.19	.13	12.60	10.08	2.52
2012-2036	11.44	11.66	-.21	1.49	1.76	-.27	12.93	13.42	-.48
2037-2061	11.56	13.08	-1.52	1.50	1.78	-.29	13.06	14.86	-1.80
75-year average:									
1987-2061	11.43	11.21	.22	1.43	1.58	-.14	12.87	12.79	.08

TABLE 26.—COMPARISON OF ESTIMATED INCOME RATES AND COST RATES BY TRUST FUND AND ALTERNATIVE, CALENDAR YEARS 1987-2065 (Cont.)
[As a percentage of taxable payroll]

Calendar year	OASI			DI			Total		
	Income rate	Cost rate	Balance	Income rate	Cost rate	Balance	Income rate	Cost rate	Balance
Alternative II-B:									
1987	10.57	9.79	0.78	1.01	1.10	-0.09	11.58	10.89	0.69
1988	11.23	9.82	1.41	1.07	1.08	.00	12.30	10.90	1.41
1989	11.24	9.88	1.36	1.07	1.07	.01	12.32	10.95	1.37
1990	11.42	9.92	1.50	1.22	1.06	.16	12.64	10.98	1.66
1991	11.40	9.92	1.49	1.21	1.05	.17	12.62	10.97	1.65
1992	11.41	9.88	1.53	1.21	1.04	.17	12.63	10.92	1.71
1993	11.42	9.86	1.56	1.22	1.04	.17	12.63	10.90	1.73
1994	11.42	9.84	1.58	1.22	1.05	.17	12.63	10.89	1.75
1995	11.42	9.82	1.60	1.22	1.06	.16	12.64	10.87	1.76
1996	11.42	9.79	1.63	1.22	1.06	.15	12.64	10.85	1.78
2000	11.22	9.15	2.07	1.45	1.16	.29	12.67	10.31	2.36
2005	11.26	8.59	2.67	1.46	1.35	.11	12.72	9.94	2.79
2010	11.30	8.87	2.43	1.48	1.58	-.11	12.77	10.46	2.32
2015	11.35	10.02	1.33	1.48	1.72	-.24	12.84	11.75	1.09
2020	11.43	11.62	-.19	1.49	1.81	-.32	12.92	13.43	-.51
2025	11.50	13.03	-1.53	1.49	1.90	-.41	12.99	14.93	-1.94
2030	11.55	13.97	-2.41	1.50	1.87	-.37	13.05	15.83	-2.78
2035	11.58	14.26	-2.67	1.50	1.81	-.31	13.08	16.06	-2.98
2040	11.60	14.10	-2.51	1.50	1.80	-.30	13.09	15.90	-2.81
2045	11.60	13.91	-2.31	1.50	1.85	-.35	13.11	15.77	-2.66
2050	11.61	13.93	-2.32	1.50	1.87	-.37	13.11	15.80	-2.69
2055	11.61	14.01	-2.40	1.50	1.86	-.36	13.11	15.87	-2.76
2060	11.61	14.02	-2.41	1.50	1.84	-.33	13.11	15.85	-2.74
2065	11.61	14.02	-2.41	1.50	1.84	-.34	13.11	15.86	-2.75
25-year averages:									
1987-2011	11.30	9.29	2.01	1.32	1.22	.10	12.61	10.51	2.10
2012-2036	11.47	12.37	-.90	1.49	1.81	-.32	12.96	14.18	-1.22
2037-2061	11.60	14.00	-2.40	1.50	1.84	-.34	13.10	15.85	-2.74
75-year average:									
1987-2061	11.46	11.89	-.43	1.44	1.63	-.19	12.89	13.51	-.62
Alternative III:									
1987	10.57	10.05	.53	1.01	1.15	-.14	11.58	11.20	.39
1988	11.24	10.34	.90	1.07	1.17	-.09	12.31	11.50	.81
1989	11.25	10.47	.79	1.07	1.18	-.10	12.33	11.64	.69
1990	11.46	10.94	.51	1.22	1.22	.00	12.68	12.17	.51
1991	11.43	10.95	.48	1.22	1.22	-.01	12.64	12.17	.47
1992	11.44	10.92	.52	1.22	1.23	-.01	12.65	12.15	.50
1993	11.44	10.89	.56	1.22	1.24	-.02	12.66	12.12	.54
1994	11.44	10.86	.58	1.22	1.26	-.04	12.66	12.11	.55
1995	11.44	10.83	.62	1.22	1.28	-.06	12.66	12.10	.56
1996	11.44	10.80	.65	1.22	1.30	-.08	12.66	12.10	.57
2000	11.25	10.19	1.07	1.45	1.43	.02	12.70	11.61	1.09
2005	11.29	9.61	1.69	1.47	1.68	-.20	12.77	11.29	1.48
2010	11.34	9.98	1.36	1.49	2.01	-.52	12.83	11.99	.84
2015	11.41	11.42	-.02	1.50	2.24	-.73	12.91	13.66	-.75
2020	11.50	13.55	-2.04	1.51	2.40	-.88	13.01	15.94	-2.93
2025	11.61	15.71	-4.10	1.52	2.58	-1.06	13.13	18.29	-5.17
2030	11.70	17.57	-5.87	1.52	2.59	-1.07	13.23	20.16	-6.94
2035	11.78	18.83	-7.05	1.53	2.57	-1.04	13.30	21.40	-8.10
2040	11.83	19.59	-7.76	1.53	2.62	-1.09	13.37	22.21	-8.85
2045	11.89	20.34	-8.45	1.54	2.78	-1.23	13.43	23.11	-9.68
2050	11.94	21.37	-9.44	1.55	2.86	-1.31	13.48	24.23	-10.75
2055	11.99	22.47	-10.49	1.55	2.85	-1.31	13.53	25.33	-11.79
2060	12.02	23.28	-11.26	1.54	2.82	-1.27	13.57	26.10	-12.53
2065	12.05	23.91	-11.86	1.54	2.82	-1.28	13.60	26.74	-13.14
25-year averages:									
1987-2011	11.32	10.26	1.07	1.32	1.48	-.16	12.65	11.74	.91
2012-2036	11.58	15.06	-3.48	1.52	2.46	-.94	13.10	17.52	-4.42
2037-2061	11.92	21.24	-9.31	1.54	2.78	-1.24	13.47	24.01	-10.55
75-year average:									
1987-2061	11.61	15.52	-3.91	1.46	2.24	-.78	13.07	17.76	-4.69

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

Also significant are the long-range actuarial balances of the separate OASI and DI programs, as estimated under the intermediate alternatives. The long-range actuarial balances of the OASI program under alternatives II-A and II-B are a positive balance of 0.22 percent of taxable payroll and a deficit of 0.43 percent, respectively. The positive balance

under alternative II-A results from long-range average income and cost rates of 11.43 and 11.21 percent of taxable payroll, respectively; the deficit under alternative II-B results from corresponding income and cost rates of 11.46 and 11.89 percent, respectively. Because the long-range average income rates are about 102.0 and 96.4 percent, of the corresponding cost rates under alternatives II-A and II-B, respectively, the OASI program is in close actuarial balance under each of these alternatives, although imbalances exist in the subperiods.

As in the case of the OASDI program as a whole, the long-range actuarial balance for the OASI program consists of positive balances during the early years, followed by deficits in the later years. Under alternative
II-A, the actuarial balances for the three subperiods are 2.39, –0.21, and –1.52 percent of payroll, respectively. Under alternative II-B, the pattern is 2.01, –0.90, and –2.40 percent.

The long-range actuarial balances of the DI program under alternatives II-A and II-B are deficits of 0.14 percent and of 0.19 percent of taxable payroll, respectively. Under alternative II-A, this deficit results from long-range average income and cost rates of 1.43 and 1.58 percent of taxable payroll, respectively; under alternative II-B, it results from corresponding income and cost rates of 1.44 and 1.63 percent, respectively. Because the long-range average income rates are less than 95 percent of the corresponding cost rates—90.5 and 88.3 percent under alternatives II-A and II-B, respectively—the DI program is not in close actuarial balance under either alternative. The DI program could be brought into close actuarial balance by a small reallocation of the tax rate from the OASI program to the DI program, in such a way that the OASI program would remain in close actuarial balance.

Under alternative II-A, the long-range actuarial balance of the DI program consists of an average positive balance of 0.13 percent of payroll for the first 25-year subperiod, followed by average deficits of 0.27 and 0.29 percent for the second and third subperiods, respectively. Under alternative II-B, the pattern is similar, with the actuarial balances for the three 25-year subperiods being 0.10, –0.32, and –0.34 percent of payroll.

Table 26 also illustrates the spread of the long-range actuarial balances among the four alternatives. For the OASI program, long-range positive actuarial balances are estimated based on alternatives I and II-A, and deficits are estimated based on alternatives II-B and III. For the DI program, a positive balance is estimated based on alternative I, and deficits are estimated based on the other three alternatives. The combined OASDI long-range actuarial balance varies from a positive balance of 2.15 percent of taxable payroll based on alternative I, to a deficit of 4.69 percent based on alternative III.

In addition, table 26 shows the ranges of the actuarial balances for the 25-year subperiods. For example, for the OASI program, positive balances are estimated for the first 25-year subperiod on the basis of all four alternatives. For the DI program, positive balances are estimated for the first subperiod on the basis of all alternatives except alternative III. The combined OASDI positive balance for the first subperiod varies

from 3.20 percent of taxable payroll based on alternative I, to 0.91 percent based on alternative III.

Table 26 also shows the OASDI annual balances. On the basis of alternative II-A, OASDI annual positive balances are estimated through about 2020, after which annual deficits are estimated. These deficits are estimated to increase steadily to a peak around 2035, when the magnitude is 2.06 percent of taxable payroll; thereafter they decrease somewhat to about 1.8 percent by the end of the long-range valuation period. On the basis of alternative II-B, OASDI annual positive balances are estimated through about 2015, after which annual deficits are estimated. These estimated deficits increase more rapidly than those based on alternative II-A and also peak around 2035, when the magnitude is 2.98 percent of taxable payroll. Although the annual deficits thereafter are significantly larger than those based on alternative II-A, they follow a similar pattern, decreasing by approximately 0.2 percent of taxable payroll to about 2.7 percent by the end of the long-range valuation period.

The OASDI cost rates based on alternatives I and III differ by about 15.6 percentage points at the end of the long-range valuation period, although the difference is only about 3.3 percentage points at the end of the medium-range valuation period. The long-range average cost rate for the OASDI program varies from 10.62 percent on the basis of alternative I, to 17.76 percent on the basis of alternative III, while the medium-range average cost rate varies much less—from 9.38 to 11.74 percent.

Figure 2 shows in graphical form the patterns of the OASDI annual income and cost rates. In figure 2, the income rates for alternative II-B represent those for all of the alternatives in order to simplify the graphical presentation. Such representation is satisfactory because, as shown in table 27, the variation in the income rates by alternative is very small. The OASDI long-range average income rates for alternatives I and III differ by only 0.29 percent of taxable payroll. At the end of the long-range valuation period, the annual income rates for alternatives I and III differ by only 0.69 percent of taxable payroll. The income rates in figure 2 and table 27 show two distinct increases in 1988 and 1990, when the payroll-tax rate is scheduled to rise under present law. Thereafter, only small fluctuations are noticeable, as the rate of income from taxation of benefits varies slightly, by alternative, with changes in the cost rate.

The patterns of the annual balances are indicated in figure 2. For each alternative, the magnitude of each of the positive balances in the early years is represented by the distance between the appropriate cost-rate curve and the income-rate curve above it. The magnitude of each of the deficits in subsequent years is represented by the distance between the appropriate cost-rate curve and the income-rate curve below it.

The future OASDI cost rate will not necessarily be within the range encompassed by alternatives I and III. Nonetheless, because alternatives I and III define a reasonably wide range of economic and demographic conditions, the resulting estimates delineate a reasonable range for future program costs.

FIGURE 2.—ESTIMATED OASDI INCOME RATES AND COST RATES BY ALTERNATIVE, CALENDAR YEARS 1986-2065

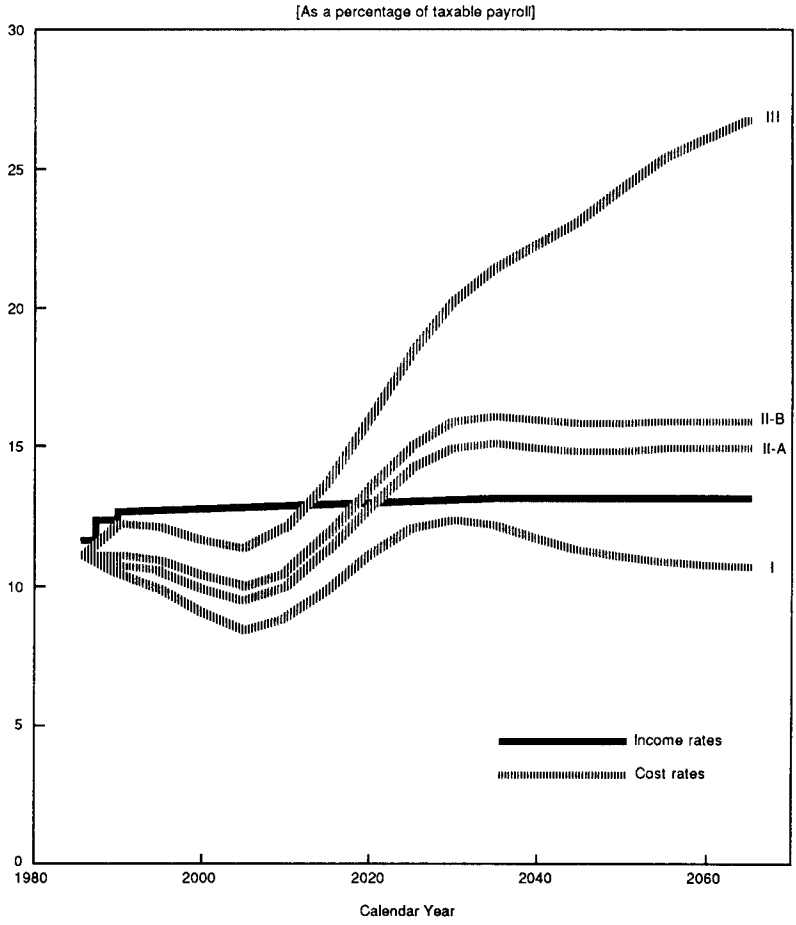

TABLE 27.—ESTIMATED INCOME RATES BY TRUST FUND AND ALTERNATIVE, CALENDAR YEARS 1987-2065

[As a percentage of taxable payroll]

Calendar year	OASI			DI			Total		
	Payroll tax	Taxation of benefits	Total	Payroll tax	Taxation of benefits	Total	Payroll tax	Taxation of benefits	Total
Alternative I:									
1987	10.40	0.17	10.57	1.00	0.01	1.01	11.40	0.18	11.58
1988	11.06	.17	11.23	1.06	.01	1.07	12.12	.18	12.30
1989	11.06	.17	11.23	1.06	.01	1.07	12.12	.19	12.31
1990	11.20	.17	11.37	1.20	.01	1.21	12.40	.19	12.59
1991	11.20	.19	11.39	1.20	.01	1.21	12.40	.20	12.60
1992	11.20	.20	11.40	1.20	.01	1.21	12.40	.21	12.61
1993	11.20	.20	11.40	1.20	.01	1.21	12.40	.21	12.61
1994	11.20	.20	11.40	1.20	.01	1.21	12.40	.21	12.61
1995	11.20	.20	11.40	1.20	.01	1.21	12.40	.21	12.61
1996	11.20	.20	11.40	1.20	.01	1.21	12.40	.21	12.61
2000	10.98	.22	11.20	1.42	.02	1.44	12.40	.24	12.64
2005	10.98	.24	11.22	1.42	.03	1.45	12.40	.28	12.68
2010	10.98	.27	11.25	1.42	.04	1.46	12.40	.32	12.72
2015	10.98	.32	11.30	1.42	.05	1.47	12.40	.37	12.77
2020	10.98	.38	11.36	1.42	.05	1.47	12.40	.43	12.83
2025	10.98	.43	11.41	1.42	.05	1.47	12.40	.48	12.88
2030	10.98	.46	11.44	1.42	.05	1.47	12.40	.51	12.91
2035	10.98	.46	11.44	1.42	.05	1.47	12.40	.51	12.91
2040	10.98	.46	11.44	1.42	.05	1.47	12.40	.51	12.91
2045	10.98	.45	11.43	1.42	.06	1.48	12.40	.51	12.91
2050	10.98	.44	11.42	1.42	.06	1.48	12.40	.49	12.89
2055	10.98	.43	11.41	1.42	.06	1.48	12.40	.49	12.89
2060	10.98	.43	11.41	1.42	.05	1.47	12.40	.48	12.88
2065	10.98	.42	11.40	1.42	.05	1.47	12.40	.48	12.88
25-year averages:									
1987-2011	11.05	.22	11.27	1.29	.02	1.31	12.34	.24	12.58
2012-2036	10.98	.40	11.38	1.42	.05	1.47	12.40	.45	12.85
2037-2061	10.98	.44	11.42	1.42	.05	1.47	12.40	.50	12.90
75-year average:									
1987-2061	11.00	.35	11.36	1.38	.04	1.42	12.38	.40	12.78
Alternative II-A:									
1987	10.40	.17	10.57	1.00	.01	1.01	11.40	.18	11.58
1988	11.06	.17	11.23	1.06	.01	1.07	12.12	.18	12.30
1989	11.06	.18	11.24	1.06	.01	1.07	12.12	.19	12.31
1990	11.20	.20	11.40	1.20	.02	1.22	12.40	.22	12.62
1991	11.20	.20	11.40	1.20	.01	1.21	12.40	.21	12.61
1992	11.20	.21	11.41	1.20	.01	1.21	12.40	.22	12.62
1993	11.20	.21	11.41	1.20	.01	1.21	12.40	.22	12.62
1994	11.20	.21	11.41	1.20	.01	1.21	12.40	.23	12.63
1995	11.20	.21	11.41	1.20	.02	1.22	12.40	.23	12.63
1996	11.20	.21	11.41	1.20	.02	1.22	12.40	.23	12.63
2000	10.98	.23	11.21	1.42	.03	1.45	12.40	.26	12.66
2005	10.98	.27	11.25	1.42	.04	1.46	12.40	.31	12.71
2010	10.98	.30	11.28	1.42	.05	1.47	12.40	.36	12.76
2015	10.98	.35	11.33	1.42	.06	1.48	12.40	.42	12.82
2020	10.98	.42	11.40	1.42	.07	1.49	12.40	.49	12.89
2025	10.98	.49	11.47	1.42	.07	1.49	12.40	.56	12.96
2030	10.98	.54	11.52	1.42	.07	1.49	12.40	.61	13.01
2035	10.98	.57	11.55	1.42	.07	1.49	12.40	.64	13.04
2040	10.98	.57	11.55	1.42	.08	1.50	12.40	.65	13.05
2045	10.98	.58	11.56	1.42	.08	1.50	12.40	.66	13.06
2050	10.98	.58	11.56	1.42	.08	1.50	12.40	.67	13.07
2055	10.98	.59	11.57	1.42	.08	1.50	12.40	.67	13.07
2060	10.98	.59	11.57	1.42	.08	1.50	12.40	.67	13.07
2065	10.98	.59	11.57	1.42	.08	1.50	12.40	.67	13.07
25-year averages:									
1987-2011	11.05	.24	11.29	1.29	.03	1.31	12.34	.26	12.60
2012-2036	10.98	.46	11.44	1.42	.07	1.49	12.40	.53	12.93
2037-2061	10.98	.58	11.56	1.42	.08	1.50	12.40	.66	13.06
75-year average:									
1987-2061	11.00	.43	11.43	1.38	.06	1.43	12.38	.49	12.87

TABLE 27.—ESTIMATED INCOME RATES BY TRUST FUND AND ALTERNATIVE, CALENDAR YEARS 1987-2065 (Cont.)
[As a percentage of taxable payroll]

Calendar year	OASI			DI			Total		
	Payroll tax	Taxation of benefits	Total	Payroll tax	Taxation of benefits	Total	Payroll tax	Taxation of benefits	Total
Alternative II-B:									
1987	10.40	0.17	10.57	1.00	0.01	1.01	11.40	0.18	11.58
1988	11.06	.17	11.23	1.06	.01	1.07	12.12	.18	12.30
1989	11.06	.18	11.24	1.06	.01	1.07	12.12	.20	12.32
1990	11.20	.22	11.42	1.20	.02	1.22	12.40	.24	12.64
1991	11.20	.20	11.40	1.20	.01	1.21	12.40	.22	12.62
1992	11.20	.21	11.41	1.20	.01	1.21	12.40	.23	12.63
1993	11.20	.22	11.42	1.20	.02	1.22	12.40	.23	12.63
1994	11.20	.22	11.42	1.20	.02	1.22	12.40	.23	12.63
1995	11.20	.22	11.42	1.20	.02	1.22	12.40	.24	12.64
1996	11.20	.22	11.42	1.20	.02	1.22	12.40	.24	12.64
2000	10.98	.24	11.22	1.42	.03	1.45	12.40	.27	12.67
2005	10.98	.28	11.26	1.42	.04	1.46	12.40	.32	12.72
2010	10.98	.32	11.30	1.42	.06	1.48	12.40	.37	12.77
2015	10.98	.37	11.35	1.42	.06	1.48	12.40	.44	12.84
2020	10.98	.45	11.43	1.42	.07	1.49	12.40	.52	12.92
2025	10.98	.52	11.50	1.42	.07	1.49	12.40	.59	12.99
2030	10.98	.57	11.55	1.42	.08	1.50	12.40	.65	13.05
2035	10.98	.60	11.58	1.42	.08	1.50	12.40	.68	13.08
2040	10.98	.62	11.60	1.42	.08	1.50	12.40	.69	13.09
2045	10.98	.62	11.60	1.42	.08	1.50	12.40	.71	13.11
2050	10.98	.63	11.61	1.42	.08	1.50	12.40	.71	13.11
2055	10.98	.63	11.61	1.42	.08	1.50	12.40	.71	13.11
2060	10.98	.63	11.61	1.42	.08	1.50	12.40	.71	13.11
2065	10.98	.63	11.61	1.42	.08	1.50	12.40	.71	13.11
25-year averages:									
1987-2011	11.05	.25	11.30	1.29	.03	1.32	12.34	.28	12.61
2012-2036	10.98	.49	11.47	1.42	.07	1.49	12.40	.56	12.96
2037-2061	10.98	.62	11.60	1.42	.08	1.50	12.40	.70	13.10
75-year average:									
1987-2061	11.00	.45	11.46	1.38	.06	1.44	12.38	.51	12.89
Alternative III:									
1987	10.40	.17	10.57	1.00	.01	1.01	11.40	.18	11.58
1988	11.06	.18	11.24	1.06	.01	1.07	12.12	.19	12.31
1989	11.06	.19	11.25	1.06	.01	1.07	12.12	.21	12.33
1990	11.20	.26	11.46	1.20	.02	1.22	12.40	.28	12.68
1991	11.20	.23	11.43	1.20	.02	1.22	12.40	.24	12.64
1992	11.20	.24	11.44	1.20	.02	1.22	12.40	.25	12.65
1993	11.20	.24	11.44	1.20	.02	1.22	12.40	.26	12.66
1994	11.20	.24	11.44	1.20	.02	1.22	12.40	.26	12.66
1995	11.20	.24	11.44	1.20	.02	1.22	12.40	.26	12.66
1996	11.20	.24	11.44	1.20	.02	1.22	12.40	.26	12.66
2000	10.98	.27	11.25	1.42	.03	1.45	12.40	.30	12.70
2005	10.98	.31	11.29	1.42	.05	1.47	12.40	.37	12.77
2010	10.98	.36	11.34	1.42	.07	1.49	12.40	.43	12.83
2015	10.98	.43	11.41	1.42	.08	1.50	12.40	.51	12.91
2020	10.98	.52	11.50	1.42	.09	1.51	12.40	.61	13.01
2025	10.98	.63	11.61	1.42	.10	1.52	12.40	.73	13.13
2030	10.98	.72	11.70	1.42	.10	1.52	12.40	.83	13.23
2035	10.98	.80	11.78	1.42	.11	1.53	12.40	.90	13.30
2040	10.98	.85	11.83	1.42	.11	1.53	12.40	.97	13.37
2045	10.98	.91	11.89	1.42	.12	1.54	12.40	1.03	13.43
2050	10.98	.96	11.94	1.42	.13	1.55	12.40	1.08	13.48
2055	10.98	1.01	11.99	1.42	.13	1.55	12.40	1.13	13.53
2060	10.98	1.04	12.02	1.42	.12	1.54	12.40	1.17	13.57
2065	10.98	1.07	12.05	1.42	.12	1.54	12.40	1.20	13.60
25-year averages:									
1987-2011	11.05	.27	11.32	1.29	.04	1.32	12.34	.31	12.65
2012-2036	10.98	.60	11.58	1.42	.10	1.52	12.40	.70	13.10
2037-2061	10.98	.94	11.92	1.42	.12	1.54	12.40	1.07	13.47
75-year average:									
1987-2061	11.00	.61	11.61	1.38	.08	1.46	12.38	.69	13.07

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

The primary reason that the estimated OASDI cost rate increases rapidly after 2005 is that the number of beneficiaries is projected to increase more rapidly than the number of covered workers. This occurs because the relatively large number of persons born during the period of high fertility rates from the end of World War II through the mid-1960s

will reach retirement age, and begin to receive benefits, while the relatively small number of persons born during the subsequent period of low fertility rates will comprise the labor force. A comparison of the numbers of covered workers and beneficiaries is shown in table 28.

TABLE 28.—COMPARISON OF OASDI COVERED WORKERS AND BENEFICIARIES BY ALTERNATIVE, CALENDAR YEARS 1945-2065

Calendar year	Covered workers[1] (in thousands)	Beneficiaries[2] (in thousands)			Covered workers per OASDI beneficiary	Beneficiaries per 100 covered workers
		OASI	DI	Total		
Past experience:						
1945	46,390	1,106	—	1,106	41.9	2
1950	48,280	2,930	—	2,930	16.5	6
1955	65,200	7,563	—	7,563	8.6	12
1960	72,530	13,740	522	14,262	5.1	20
1965	80,680	18,509	1,648	20,157	4.0	25
1970	93,090	22,618	2,568	25,186	3.7	27
1975	100,200	26,998	4,125	31,123	3.2	31
1980	113,000	30,385	4,734	35,119	3.2	31
1985	[3]121,830	32,776	3,874	36,650	[3]3.3	[3]30
1986	[3]124,200	33,349	3,972	37,321	[3]3.3	[3]30
Alternative I:						
1987	125,840	33,953	4,018	37,971	3.3	30
1990	132,234	35,683	4,063	39,746	3.3	30
1995	139,957	37,715	4,252	41,967	3.3	30
2000	146,133	38,036	4,601	42,637	3.4	29
2005	150,693	40,128	5,217	45,345	3.3	30
2010	153,672	42,518	5,946	48,464	3.2	32
2015	155,427	47,719	6,355	54,074	2.9	35
2020	156,291	54,019	6,603	60,622	2.6	39
2025	157,546	59,067	6,921	65,988	2.4	42
2030	160,440	64,367	6,874	71,241	2.3	44
2035	164,514	65,632	6,782	72,414	2.3	44
2040	168,800	66,428	6,853	73,281	2.3	43
2045	173,166	66,533	7,139	73,672	2.4	43
2050	177,967	66,561	7,363	73,924	2.4	42
2055	183,366	67,417	7,539	74,956	2.4	41
2060	189,161	68,381	7,718	76,099	2.5	40
2065	195,026	69,643	7,963	77,606	2.5	40
Alternative II-A:						
1987	125,707	33,959	4,028	37,987	3.3	30
1990	131,570	35,785	4,173	39,958	3.3	30
1995	138,919	38,129	4,537	42,666	3.3	31
2000	143,983	38,636	5,171	43,807	3.3	30
2005	147,326	40,978	6,089	47,067	3.1	32
2010	149,042	43,654	7,125	50,779	2.9	34
2015	149,066	49,140	7,703	56,843	2.6	38
2020	147,737	55,785	8,032	63,817	2.3	43
2025	146,227	61,223	8,397	69,620	2.1	48
2030	145,980	66,968	8,280	75,248	1.9	52
2035	146,405	68,643	8,092	76,735	1.9	52
2040	146,761	69,852	8,083	77,935	1.9	53
2045	146,891	70,109	8,320	78,429	1.9	53
2050	146,904	70,261	8,430	78,691	1.9	54
2055	147,329	70,689	8,419	79,108	1.9	54
2060	148,044	71,155	8,389	79,544	1.9	54
2065	148,740	71,444	8,445	79,889	1.9	54
Alternative II-B:						
1987	125,476	33,959	4,051	38,010	3.3	30
1990	130,452	35,784	4,172	39,956	3.3	31
1995	137,880	38,119	4,536	42,655	3.2	31
2000	142,820	38,627	5,168	43,795	3.3	31
2005	146,468	40,965	6,081	47,046	3.1	32
2010	148,276	43,636	7,112	50,748	2.9	34
2015	148,375	49,122	7,686	56,808	2.6	38
2020	147,055	55,771	8,011	63,782	2.3	43
2025	145,658	61,209	8,372	69,581	2.1	48
2030	145,277	66,954	8,252	75,206	1.9	52
2035	145,689	68,621	8,063	76,684	1.9	53
2040	146,043	69,820	8,053	77,873	1.9	53
2045	146,200	70,071	8,289	78,360	1.9	54
2050	146,292	70,217	8,399	78,616	1.9	54
2055	146,610	70,643	8,388	79,031	1.9	54
2060	147,320	71,104	8,358	79,462	1.9	54
2065	148,013	71,407	8,414	79,821	1.9	54

TABLE 28.—COMPARISON OF OASDI COVERED WORKERS AND BENEFICIARIES BY ALTERNATIVE, CALENDAR YEARS 1945-2065 (Cont.)

Calendar year	Covered workers[1] (in thousands)	Beneficiaries[2] (in thousands)			Covered workers per OASDI beneficiary	Beneficiaries per 100 covered workers
		OASI	DI	Total		
Alternative III:						
1987	124,667	33,966	4,075	38,041	3.3	31
1990	125,276	35,877	4,376	40,253	3.1	32
1995	135,010	38,507	5,141	43,648	3.1	32
2000	139,562	39,156	5,797	44,953	3.1	32
2005	142,227	41,784	7,020	48,804	2.9	34
2010	142,710	44,808	8,364	53,172	2.7	37
2015	140,826	50,783	9,107	59,890	2.4	43
2020	136,995	58,068	9,495	67,563	2.0	49
2025	132,433	64,311	9,886	74,197	1.8	56
2030	128,409	71,010	9,660	80,670	1.6	63
2035	124,775	73,693	9,335	83,028	1.5	67
2040	120,900	75,949	9,199	85,148	1.4	70
2045	116,377	76,940	9,330	86,270	1.3	74
2050	111,643	77,796	9,226	87,022	1.3	78
2055	107,164	78,078	8,865	86,943	1.2	81
2060	103,170	78,299	8,458	86,757	1.2	84
2065	99,358	77,555	8,178	85,733	1.2	86

[1]Workers who pay OASDI taxes at some time during the year.

[2]Beneficiaries with monthly benefits in current-payment status as of June 30.

[3]Preliminary.

Note: The numbers of beneficiaries do not include certain uninsured persons, most of whom both attained age 72 before 1968 and have fewer than 3 quarters of coverage, in which cases the costs are reimbursed by the general fund of the Treasury. The number of such uninsured persons was 27,695 as of June 30, 1986, and is estimated to be less than 500 by the turn of the century. Totals do not necessarily equal the sums of rounded components.

Table 28 shows that the number of covered workers per beneficiary, which was about 3.3 in 1986, is estimated to decline in the future. Based on alternative I, for which high fertility rates and small reductions in death rates are assumed, the ratio declines to an ultimate level of about 2.5. Based on alternative III, for which low fertility rates and substantial reductions in death rates are assumed, the decline is much greater, reaching 1.2 workers per beneficiary. Based on alternatives II-A and II-B, the ratio declines to 1.9 workers per beneficiary.

The impact of the demographic shifts under the four alternatives on the OASDI cost rates is better understood by considering the projected number of beneficiaries per 100 workers. As compared to the current level of 30 beneficiaries per 100 covered workers, this ratio rises by the end of the long-range valuation period to a significantly higher level, which ranges from 40 under alternative I to 84 under alternative III. The salience of these numbers can be seen by comparing figure 2 to figure 3, which is a graphical representation of the beneficiaries per 100 covered workers shown in table 28. For each alternative, the shape of the curve in figure 3 is strikingly similar to that of the corresponding cost-rate curve in figure 2, thereby emphasizing the extent to which the cost of the OASDI program is determined by the age patterns of the population. Because, conceptually, the cost rate consists of the product of the number of beneficiaries and their average benefit, divided by the product of the number of covered workers and their average earnings, it is reasonable that the pattern of the annual cost rates is similar to that of the annual ratios of beneficiaries to workers. A graphical presentation of covered workers per beneficiary is shown in the "Summary."

FIGURE 3.—RATIOS OF ESTIMATED OASDI BENEFICIARIES PER 100 COVERED WORKERS BY ALTERNATIVE, CALENDAR YEARS 1987-2065

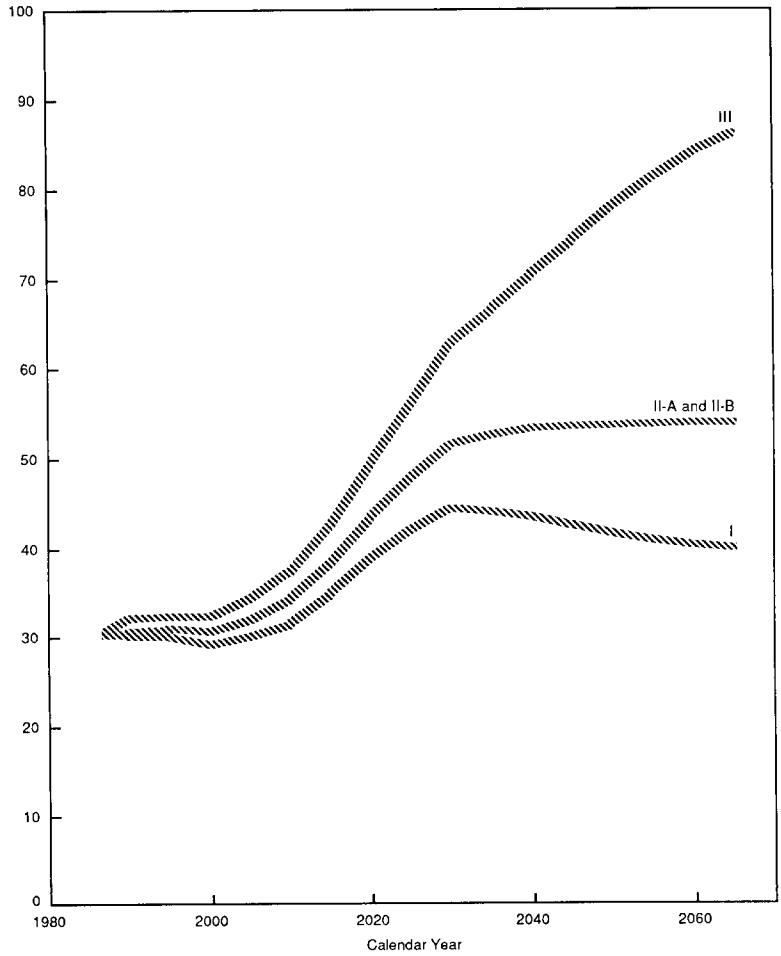

Table 29 shows, by alternative, the estimated contingency fund ratios for the OASI, DI, and combined OASDI Trust Funds. The OASI and DI ratios are estimated to be relatively low for the next several years, before generally increasing to very high levels thereafter. Based on alternatives II-A and II-B, the OASI ratio peaks about 2015, when it is 772 and 613 percent, respectively, and the DI ratio peaks about 2005, when it is 281 and 236 percent, respectively. Thereafter, the OASI and DI ratios decline steadily. Under alternative II-A, the DI Trust Fund becomes exhausted in 2028; under alternative II-B, the OASI and DI funds become exhausted in 2055 and 2023, respectively. Based on alternative I, the ratios increase throughout the long-range projection period to extremely high levels, around 1,500-1,700 percent for the OASI and DI programs. In contrast, under alternative III, the OASI and the DI Trust Funds are estimated to be exhausted within 40 years and 10 years, respectively. Thus, because of the high costs estimated for the last third of the long-range projection period under all but the most optimistic assumptions, eventually income will need to be increased or program costs will need to be reduced in order to prevent the OASI and DI Trust Funds from becoming exhausted.

TABLE 29.—ESTIMATED CONTINGENCY FUND RATIOS BY TRUST FUND AND ALTERNATIVE, CALENDAR YEARS 1987-2065
[In percent]

	Alternative I			Alternative II-A			Alternative II-B			Alternative III		
Calendar year	OASI	DI	Total	OASI	DI	Total	OASI	DI	Total	OASI	DI	Total
1987	30	45	31	30	44	31	30	44	31	30	43	31
1988	42	44	42	41	41	41	40	40	40	37	34	37
1989	61	50	60	58	44	56	55	41	53	46	27	44
1990	83	62	81	76	50	73	69	45	67	53	20	49
1991	107	89	105	96	70	94	85	61	83	58	19	54
1992	134	120	132	118	91	115	102	78	100	63	19	59
1993	162	151	161	140	112	137	119	95	117	69	18	64
1994	191	183	191	162	133	159	136	113	134	75	16	69
1995	222	213	221	185	152	182	154	129	152	81	13	74
1996	252	242	251	208	169	204	172	144	169	88	9	79
2000	416	345	408	330	212	316	268	178	258	129	[1]	110
2005	678	522	658	524	281	491	420	236	395	206	[1]	170
2010	916	605	874	702	264	634	562	211	509	286	[2]	220
2015	1,028	669	981	772	216	689	613	151	545	298	[2]	210
2020	1,042	730	1,005	751	150	668	580	74	512	235	[2]	139
2025	1,031	769	1,001	693	68	612	508	[1]	441	123	[1]	23
2030	1,031	849	1,012	626	[1]	547	420	[1]	356	[1]	[1]	[1]
2035	1,070	966	1,059	568	[1]	490	333	[1]	270	[1]	[1]	[1]
2040	1,156	1,078	1,148	526	[1]	444	254	[1]	189	[1]	[1]	[1]
2045	1,267	1,157	1,255	491	[1]	401	179	[1]	111	[1]	[1]	[1]
2050	1,378	1,246	1,363	450	[1]	354	102	[1]	30	[1]	[1]	[1]
2055	1,487	1,347	1,471	404	[1]	303	22	[1]	[1]	[1]	[1]	[1]
2060	1,604	1,454	1,586	357	[1]	251	[1]	[1]	[1]	[1]	[1]	[1]
2065	1,720	1,550	1,701	308	[1]	198	[1]	[1]	[1]	[1]	[1]	[1]
Trust fund is estimated to be exhausted in:	[2]	[2]	[2]	[2]	2028	[2]	2055	2023	2051	2029	1996	2025

[1]The fund is estimated to be exhausted in the year shown in the last line of the table.

[2]The fund is not estimated to be exhausted within the projection period.

Note: See footnote 2 of table 13 for definition of contingency fund ratio. The OASDI ratios shown for years after a given fund is estimated to be exhausted are theoretical and are shown for informational purposes only.

Table 30 itemizes the reasons for the changes in the long-range actuarial balances, based on alternative II-B, between last year's report and this report. Also shown are the estimated effects associated with each reason for change.

TABLE 30.—CHANGE IN ACTUARIAL BALANCE ESTIMATED ON THE BASIS OF ALTERNATIVE II-B BY TRUST FUND AND REASON FOR CHANGE
[As a percentage of taxable payroll]

Item	OASI	DI	Total
Shown in last year's report:[1]			
Average income rate	11.52	1.44	12.96
Average cost rate	11.81	1.59	13.40
Actuarial balance	-.29	-.15	-.44
Changes in actuarial balance due to changes in:			
Legislation:			
Decreased taxes on OASDI benefits[2]	-.06	-.01	-.07
Elimination of COLA trigger	+.02	+.00	+.02
Valuation period	-.04	-.00	-.04
Economic assumptions:			
Revised measures[3]	-.14	-.02	-.16
Tax/labor changes[4]	+.16	+.02	+.18
Demographic assumptions	-.08	-.01	-.09
Disability assumptions	-.00	-.02	-.02
All other factors	+.00	-.00	+.00
Total change in actuarial balance	-.14	-.04	-.18
Shown in this report:[5]			
Actuarial balance	-.43	-.19	-.62
Average income rate	11.46	1.44	12.89
Average cost rate	11.89	1.63	13.51

[1]Income rates, cost rates, and taxable payroll are calculated on the basis of alternative II-B as described in the 1986 report, for which the ultimate assumptions include annual increases of 5.5 percent in average wages in covered employment and 4.0 percent in the CPI, an annual unemployment rate of 6.0 percent, a total fertility rate of 2.0 children per woman, and net annual immigration of 500,000 persons, only the last of which differs from this year's assumptions. The averages are computed for projection periods commencing with 1986.

[2]Decreased taxes on OASDI benefits result from lower personal income tax rates that were provided under the Tax Reform Act of 1986.

[3]Represents changes due to the rebenchmarking of the NIPA and the reflection of other additional data.

[4]Represents (1) changes in the growth of nontaxable fringe benefits due to recent legislation, including the Tax Reform Act of 1986, and (2) assumed changes in hours worked.

[5]Income rates, cost rates, and taxable payroll are calculated on the basis of alternative II-B as described in a preceding subsection of this report. The averages are computed for projection periods commencing with 1987.

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

Since the issuance of last year's report, new legislation has provided for several changes that are expected to have a significant effect on the long-range actuarial balance. (See section II for a description of these changes.) The lower personal income tax rates provided in the Tax Reform Act of 1986 are projected to reduce the OASDI income based on taxation of benefits and thus to reduce the actuarial balance. The Omnibus Budget Reconciliation Act of 1986 permanently eliminated the 3.0-percent trigger on the annual automatic benefit increase, resulting in a projected net gain in the actuarial balance. No specific effects of the Immigration Reform and Control Act of 1986 are included in the cost and income projections because (1) no net illegal immigration is assumed for years after 1986, and (2) the regulations under which the provisions of this Act are to be implemented were not yet promulgated when the estimates were prepared.

In changing from the valuation period of last year's report, which was 1986-2060, to the valuation period of this report, 1987-2061, 1986 was replaced by 2061. For the OASI program, the estimated positive balance for 1986 shown in last year's report (0.61 percent of taxable payroll) was replaced by a deficit for 2061 (2.27 percent), thereby decreasing the actuarial balance. For the DI program, the estimated deficit for 1986 shown in last year's report (0.12 percent) was replaced by a deficit for 2061 (0.31 percent) which is sufficiently similar in magnitude that the resulting decrease in the actuarial balance is negligible. The net effect of these OASI and DI changes is an OASDI actuarial balance that is lower.

Various economic assumptions were revised for this report. The most significant change is that the average annual rate of increase in productivity was reduced, largely to reflect the lower historical rate of increase that resulted from the rebenchmarking, in 1986, of the National Income and Product Accounts. The effect of the lower productivity assumption is partially offset, however, by a slower rate of decline in the average number of hours worked per week. Provisions of recent legislation, including the Tax Reform Act of 1986, are expected to slow the growth of nontaxable fringe benefits and thus to increase the actuarial balance. In addition, although no specific prediction of higher labor force participation was assumed, the average number of hours worked per week was assumed to be higher as a result of the provisions. These changes in economic assumptions result in a net increase in the long-range actuarial balance.

Various demographic assumptions were changed for this report. The starting population was changed slightly, to reflect updated estimates by the Bureau of the Census. The updated estimates include the effects of death rates which are higher than those previously estimated. With respect to fertility, however, the rates for 1984-86, based on recent data, are lower than those estimated a year ago; these lower estimated rates are reflected in lower fertility rates for the first 24 years of the projection period. The ultimate total fertility rate is the same as was assumed last year. The estimated initial death rates at the older ages, which reflect new and revised data for 1983-85, are slightly higher. Projected net legal immigration was lowered from 500,000 to 400,000 persons per year as the result of a reassessment of the rate of emigration from the United States. The net effect of all the changes in demographic assumptions is a decrease in the long-range actuarial balance.

Various modifications were made to the disability assumptions for this report. Although the ultimate disability incidence assumptions are about the same as for last year's report, higher incidence rates for the early years of the projection period reflect the worse-than-expected actual experience of 1986. Death termination rates were raised throughout the long-range period, in keeping with the changes in death rates assumed for the general population. The net effect of these changes in disability assumptions is to decrease the long-range actuarial balance.

Numerous changes were made in other items. These changes result in a negligible increase in the OASI and the combined OASDI long-range actuarial balances and a negligible decrease in the DI actuarial balance.

The cost of the OASDI program has been discussed in this section in relation to taxable payroll, which is a program-related concept that is very useful in analyzing the financial status of the OASDI program. The cost can also be discussed in relation to broader economic concepts, such as the gross national product (GNP). A discussion of both the cost and the taxable payroll of the OASDI program in relation to GNP is presented in Appendix F.

VI. CONCLUSION

The actuarial estimates shown in this report indicate that the assets of the OASI and DI Trust Funds, on a combined basis, will be sufficient to enable the timely payment of OASDI benefits for many years into the future, on the basis of all four sets of economic and demographic assumptions. The long-range 75-year estimates indicate that the OASDI program, on an overall basis, is in close actuarial balance, based on the two intermediate sets of assumptions, although deficits appear in the second and third 25-year subperiods.

The economy continued to grow in 1986, and trust fund assets, for both trust funds combined, also grew—more rapidly than was estimated in the 1986 Annual Report, based on any of the four sets of assumptions. As a result, the ability of the OASDI program to withstand temporary economic downturns continues to improve.

The estimates for each trust fund, separately, indicate that the OASI program can operate satisfactorily for many years, as shown by all four sets of estimates. However, while the DI program would operate satisfactorily for many years on the basis of optimistic or intermediate assumptions like those designated as alternatives I, II-A, and II-B, it would become unable to make timely benefit payments by 1996 on the basis of the more pessimistic assumptions represented by alternative III.

For the long-range 75-year projection period, the estimates based on the intermediate alternative II-B assumptions indicate that the OASDI program has an average annual deficit of 0.62 percent of taxable payroll. This deficit represents about 4.6 percent of the average annual cost rate. In other words, the long-range income rate represents about 95.4 percent of the long-range cost rate. The program is defined to be in "close actuarial balance," if the estimated average annual income rate is between 95 and 105 percent of the estimated average annual cost rate. The OASDI program as a whole is therefore estimated to be in close actuarial balance over the next 75 years, although deficits appear after the first three decades.

For OASI and DI, separately, the average long-range deficits, based on alternative II-B, are 0.43 percent and 0.19 percent of taxable payroll, respectively. The deficit for DI represents about 12 percent of the average annual cost rate; thus, the DI program is not in close actuarial balance. The DI program could be brought into close actuarial balance, however, by a small reallocation of the contribution rate from OASI to DI, in such a way that the OASI program would still remain in close actuarial balance. While such a reallocation is not being recommended, the financial condition of the DI program, in both the short range and the long range, will need to be carefully monitored.

The long-range estimates based on alternative II-B show a pattern of recurring annual actuarial positive balances in the first three decades and recurring annual actuarial deficits thereafter. These positive balances and deficits do not reflect interest earnings, which result in trust fund growth continuing for about another 15 years after the first actuarial deficit occurs. The long-range actuarial deficit of 0.62 percent of taxable payroll consists of an average annual positive balance of 2.10 percent of taxable payroll for the first 25-year subperiod, and average annual deficits of

1.22 and 2.74 percent for the second and third 25-year subperiods, respectively. Thus, in the absence of other changes, the long-range actuarial balance will tend to decline slowly in future annual reports, as the valuation period moves forward and near-term years of positive balances are replaced by distant years of deficit. The actuarial deficits in the later years of the 75-year projection period are caused primarily by the demographic trends, which will result in a lower ratio of workers to beneficiaries in the future.