Table 24 also shows the expected future experience in calendar years 1979–83, under the intermediate set of economic assumptions described in an earlier section. Total benefit payments from the OASI trust fund with respect to disabled beneficiaries are estimated to increase from $1,051 million in calendar year 1979 to $1,539 million in calendar year 1983, under the intermediate assumptions.

In calendar year 1978, 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 dependents of disabled-worker beneficiaries) totaled $13,549 million, of which $950 million, or 7.0 percent, represented payments from the OASI trust fund. Similar figures for selected calendar years 1960–78 and estimates for calendar years 1979–83, under the intermediate set of assumptions, are presented in table 25. Figures relating to past experience for years not shown in table 25 are contained in the 1976 annual report.

TABLE 25.—BENEFIT PAYMENTS UNDER THE OLD-AGE, SURVIVORS, AND DISABILITY INSURANCE PROGRAM WITH RESPECT TO DISABLED BENEFICIARIES, BY TRUST FUND, SELECTED CALENDAR YEARS 1960–83

[Amounts in millions]

| | | Benefit payments [1] from— | | |
| | | | Old-age and survivors insurance trust fund | |
Calendar year	Total [1]	Disability insurance trust fund [2]	Amount [3]	As a percentage of total benefit payments with respect to disabled beneficiaries
Past experience:				
1960	$627	$568	$59	9.4
1965	1,707	1,573	134	7.9
1970	3,386	3,085	301	8.9
1971	4,146	3,783	363	8.8
1972	4,911	4,502	409	8.3
1973	6,256	5,764	492	7.9
1974	7,524	6,957	567	7.5
1975	9,169	8,505	664	7.2
1976	10,803	10,055	748	6.9
1977	12,415	11,547	868	7.0
1978	13,549	12,599	950	7.0
Estimated future experience: [4]				
1979	15,099	14,048	1,051	7.0
1980	16,881	15,704	1,177	7.0
1981	18,624	17,323	1,301	7.0
1982	20,403	18,979	1,424	7.0
1983	22,183	20,644	1,539	6.9

[1] Beginning in 1966, includes payments for vocational rehabilitation services.
[2] Benefit payments to disabled workers and their dependents.
[3] Benefit payments to disabled children aged 18 and over, to certain mothers and fathers (see text), and to disabled widows and widowers. (See footnote 3, table 24.)
[4] The estimates are based on the intermediate set of assumptions and reflect the resulting assumed changes under the automatic increase provisions, as described in an earlier section.

E. ACTUARIAL STATUS OF THE TRUST FUNDS

In recent reports, the medium-range and long-range actuarial statuses have been measured by the corresponding actuarial balances, computed over the 25-year and 75-year periods beginning with the calendar year of issuance of the report. In accordance with this practice, the statement of the medium-range and long-range actuarial statuses

contained in this report pertains to the periods 1979–2003 and 1979–2053, respectively. 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 time series of estimated trust fund ratios—that is, the assets at the beginning of the year expressed as a percentage of expenditures during the year—and the other is the time series of the estimated annual expenditures (expressed as a percentage of taxable payroll). These indicators are described earlier in this section and are analyzed later in this section.

The annual expenditures as a percentage of taxable payroll are useful in establishing tax rate schedules according to the current-cost method described earlier. However, these cost estimates do not reflect any adjustment to the trust fund ratio. Therefore, before developing any financing provisions, the desired trust fund ratio and the time by which that ratio is to be attained should be determined. This is so the tax schedule can be designed not only to meet the annual expenditures but also to provide for the desired change in the trust fund ratio. For example, if it were considered appropriate to increase the combined OASDI trust fund ratio to 100 percent of the projected annual expenditures by the end of the 75-year period, it is estimated under alternative II that the trust funds would require an additional 0.14 percent of taxable payroll per year, in excess of what is needed to meet expenditures. Similarly, if it were considered appropriate to increase that ratio to 75 percent, the corresponding estimate would be 0.10 percent of taxable payroll.

1. Medium-Range Cost Estimates: 1979-2003

The medium-range cost estimates are summarized in the tables shown below. For convenience of reference, those tables also summarize the long-range (1979–2053) projections discussed later in this section.

In general, the medium-range cost estimates are less sensitive than the long-range estimates to changes in demographic and economic assumptions. For example, variations in projected fertility rates have little effect on the medium-range cost estimates since almost all covered workers and beneficiaries projected for this period were born prior to the start of the projection period. The degree of confidence that can be placed in economic and demographic assumptions is greater for the first 25 years than for the entire 75-year period. Nonetheless, economic factors such as wage and price increases are subject to such a wide range of possible variation that the projections of expenditures over the medium-range period are only an indication of the trend and general range of the actual expenditures. Appendix A contains a more detailed discussion of the effect of variance in selected economic and demographic assumptions on the estimated average medium-range expenditures.

Table 26 compares the estimated expenditures under alternative II with the scheduled OASDI tax rates. After the first 2 years, the OASDI system is projected to have a surplus in each year of the medium-range period. These annual surpluses produce a medium-range actuarial surplus of 1.17 percent of taxable payroll.

TABLE 26.—ESTIMATED EXPENDITURES OF OASDI SYSTEM UNDER ALTERNATIVE II AND COMPARISON WITH SCHEDULED TAX RATES, CALENDAR YEARS 1979–2055

[As percent of taxable payroll]

Calendar year	Estimated expenditures			Scheduled tax rate	Difference
	OASI	DI	Total		
1979	8.97	1.39	10.36	10.16	—0.20
1980	9.16	1.40	10.56	10.16	—.40
1981	9.03	1.36	10.39	10.70	.31
1982	9.06	1.36	10.41	10.80	.39
1983	9.08	1.36	10.44	10.80	.36
1984	9.11	1.37	10.48	10.80	.32
1985	9.12	1.38	10.50	11.40	.90
1986	9.12	1.39	10.51	11.40	.89
1987	9.11	1.40	10.51	11.40	.89
1988	9.08	1.41	10.49	11.40	.91
1989	9.18	1.42	10.60	11.40	.80
1990	9.27	1.42	10.70	12.40	1.70
1991	9.25	1.45	10.69	12.40	1.71
1992	9.22	1.47	10.68	12.40	1.72
1993	9.19	1.49	10.68	12.40	1.72
1994	9.16	1.52	10.67	12.40	1.73
1995	9.13	1.54	10.67	12.40	1.73
1996	9.08	1.58	10.66	12.40	1.74
1997	9.02	1.62	10.64	12.40	1.76
1998	8.98	1.66	10.64	12.40	1.76
1999	8.94	1.70	10.64	12.40	1.76
2000	8.90	1.74	10.65	12.40	1.75
2001	8.87	1.78	10.66	12.40	1.74
2002	8.86	1.82	10.69	12.40	1.71
2003	8.87	1.86	10.74	12.40	1.66
2005	8.89	1.95	10.83	12.40	1.57
2010	9.46	2.12	11.58	12.40	.82
2015	10.57	2.22	12.79	12.40	—.39
2020	12.04	2.25	14.29	12.40	—1.89
2025	13.49	2.18	15.67	12.40	—3.27
2030	14.35	2.08	16.44	12.40	—4.04
2035	14.53	2.05	16.58	12.40	—4.18
2040	14.21	2.07	16.29	12.40	—3.89
2045	14.00	2.12	16.12	12.40	—3.72
2050	14.02	2.13	16.15	12.40	—3.75
2055	14.16	2.10	16.27	12.40	—3.87
25-yr averages:					
1979–2003	9.07	1.52	10.59	11.76	1.17
2004–28	11.12	2.15	13.26	12.40	—.86
2029–53	14.21	2.09	16.30	12.40	—3.90
75-yr average: 1979–2053	11.47	1.92	13.38	12.19	—1.20

Note: Alternative II is described in the text of this report. Taxable payroll is adjusted to take into account the lower contribution rates on self-employment income, on tips, and on multiple-employer "excess wages" as compared with the combined employer-employee rate.

Table 27 compares the expenditures estimated under alternative II with those estimated under alternatives I and III. As a percentage of taxable payroll the estimated average medium-range expenditures varies from 10.01 percent under alternative I to 11.16 percent under alternative III. Under each alternative, the expenditures are fairly level throughout the medium-range period; they range from 9.81 to 10.48 percent under alternative I and from 10.35 to 11.69 percent under alternative III. The values of the annual expenditures near the end of the medium-range period under alternatives I and III differ by less than 2 percentage points. In comparison with the estimated expenditures for the year 1978 of 10.78 percent, the highest level attained during the medium-range period varies from a slightly lower value under alternative I (10.48 percent) to a somewhat higher value under alternative II (11.69 percent). As a percentage of GNP, the estimated average medium-range expenditures is fairly constant, varying from 4.40 percent under alternative I to 4.65 percent under alternative III.

TABLE 27.—ESTIMATED EXPENDITURES OF OASDI SYSTEM UNDER ALTERNATIVES I, II, AND III, CALENDAR YEARS 1979–2055

Calendar year	Expenditures as percent of taxable payroll by alternative			Expenditures as percent of gross national product by alternative		
	I	II	III	I	II	III
1979	10.35	10.36	10.35	4.54	4.54	4.57
1980	10.48	10.56	10.85	4.65	4.68	4.83
1981	10.28	10.39	10.77	4.63	4.68	4.83
1982	10.21	10.41	10.85	4.61	4.66	4.84
1983	10.16	10.44	10.84	4.57	4.68	4.81
1984	10.13	10.48	10.84	4.55	4.70	4.78
1985	10.09	10.50	10.87	4.53	4.71	4.78
1986	10.04	10.51	10.90	4.49	4.69	4.78
1987	9.97	10.51	10.93	4.44	4.67	4.77
1988	9.91	10.49	10.95	4.39	4.65	4.76
1989	9.98	10.60	11.10	4.45	4.66	4.76
1990	10.05	10.70	11.25	4.45	4.68	4.80
1991	10.02	10.69	11.28	4.43	4.64	4.77
1992	9.99	10.68	11.31	4.40	4.61	4.73
1993	9.97	10.68	11.33	4.38	4.59	4.69
1994	9.95	10.67	11.36	4.36	4.56	4.65
1995	9.94	10.67	11.39	4.34	4.53	4.62
1996	9.90	10.66	11.39	4.31	4.50	4.57
1997	9.87	10.64	11.39	4.28	4.47	4.53
1998	9.86	10.64	11.40	4.27	4.44	4.48
1999	9.84	10.64	11.42	4.24	4.41	4.45
2000	9.83	10.65	11.44	4.23	4.38	4.41
2001	9.81	10.66	11.50	4.21	4.36	4.39
2002	9.81	10.69	11.59	4.19	4.34	4.38
2003	9.82	10.74	11.69	4.18	4.33	4.37
2005	9.85	10.83	11.91	4.17	4.30	4.36
2010	10.33	11.58	13.09	4.31	4.46	4.59
2015	11.19	12.79	14.90	4.60	4.83	5.10
2020	12.24	14.29	17.21	4.96	5.29	5.74
2025	13.08	15.67	19.64	5.22	5.68	6.39
2030	13.31	16.44	21.59	5.23	5.84	6.85
2035	13.00	16.58	22.93	5.03	5.77	7.10
2040	12.38	16.29	23.75	4.72	5.56	7.17
2045	11.98	16.12	24.53	4.50	5.39	7.22
2050	11.87	16.15	25.17	4.39	5.30	7.23
2055	11.91	16.27	25.65	4.34	5.23	7.18
25-yr averages:						
1979–2003	10.01	10.59	11.16	4.40	4.57	4.65
2004–28	11.48	13.26	15.74	4.70	4.98	5.36
2029–53	12.45	16.30	23.74	4.73	5.54	7.13
75-yr average: 1979–2053	11.31	13.38	16.88	4.61	5.03	5.71

Note: Alternatives I, II, and III are described in the text of this report. Taxable payroll is adjusted to take into account the lower contribution rates on self-employment income, on tips, and on multiple-employer "excess wages" as compared with the combined employer-employee rate.

Table 28 compares the average expenditures by trust fund under all three alternatives with the average scheduled tax rates. Under alternative II, the OASI and DI programs are estimated to have medium-range actuarial surpluses of 0.69 percent and 0.48 percent, respectively. In addition, under each of the other two alternatives both programs are also estimated to have medium-range actuarial surpluses. Thus, over the medium-range period as a whole, for both the OASI and DI programs, the financing appears to be more than adequate under all three alternatives. However, the pattern of estimated expenditures is such that, under the pessimistic assumptions, a cash-flow problem develops in the early years within the OASI program (as described earlier in this report).

TABLE 28.—ESTIMATED AVERAGE EXPENDITURES OF OASDI SYSTEM UNDER ALTERNATIVES I, II, AND III AND COMPARISON WITH AVERAGE SCHEDULED TAX RATE

[As percent of taxable payroll]

Calendar year	Average scheduled tax rate	Estimated average expenditures by alternative			Difference by alternative		
		I	II	III	I	II	III
OASI:							
1979–2003 _____	9.76	8.60	9.07	9.54	1.16	0.69	0.22
2004–2028 _____	10.20	9.62	11.12	13.25	.58	−.92	−3.05
2029–2053 _____	10.20	10.71	14.21	21.14	−.51	−4.01	−10.94
1979–2053 _____	10.05	9.65	11.47	14.65	.41	−1.41	−4.59
DI:							
1979–2003 _____	2.00	1.41	1.52	1.62	.59	.48	.38
2004–2028 _____	2.20	1.86	2.15	2.49	.34	.05	−.29
2029–2053 _____	2.20	1.74	2.09	2.60	.46	.11	−.40
1979–2053 _____	2.13	1.67	1.92	2.24	.47	.21	−.10
Total:							
1979–2003 _____	11.76	10.01	10.59	11.16	1.75	1.17	.60
2004–2028 _____	12.40	11.48	13.26	15.74	.92	−.86	−3.34
2029–2053 _____	12.40	12.45	16.30	23.74	−.05	−3.90	−11.34
1979–2053 _____	12.19	11.31	13.38	16.88	.87	−1.20	−4.69

Note: Alternatives I, II, and III are described in the text of this report. Taxable payroll is adjusted to take into account the lower contribution rates on self-employment income, on tips, and on multiple-employer "excess wages" as compared with the combined employer-employee rate.

Table 29 shows how the pattern of the estimated expenditures affects the size of the trust funds under all three alternatives. The annual surpluses estimated to occur during the medium-range period are reflected in the high levels attained by the trust fund ratios by the end of that period. Under alternative II, the OASI and DI ratios are estimated to increase to 197 percent and 631 percent, respectively. Under alternative I, they are estimated to increase to 344 and 850 percent, respectively. The combined OASDI trust fund at the end of the medium-range period represents about 18 percent and 6 percent of the Gross National Product under alternatives I and III, respectively. Nonetheless, under the pessimistic assumptions (alternative III), while the DI ratio is estimated to increase to levels well above 400 percent, the OASI program experiences a cash-flow problem beginning in 1983 (as described earlier) so that legislative action would be necessary to guarantee the timely payment of benefits for the rest of the decade. Because of this cash-flow problem, the trust fund ratios shown for 1983 and later are theoretical in that they are calculated on the assumption that the cash-flow problem that develops in 1983 can be resolved by allowing the trust funds to borrow money, although no such borrowing authority exists in present law.

TABLE 29.—ESTIMATED TRUST FUND RATIOS OF OASDI SYSTEM UNDER ALTERNATIVES I, II, AND III, CALENDAR YEARS 1979–2055

Calendar year	Alternative I			Alternative II			Alternative III		
	OASI	DI	Total	OASI	DI	Total	OASI [1]	DI	Total [1]
1979 _____	30	29	30	30	29	30	30	29	29
1980 _____	24	35	25	24	35	25	24	34	25
1981 _____	20	43	23	19	42	22	16	39	19
1982 _____	20	63	25	18	60	23	12	53	17
1983 _____	22	87	30	18	81	26	8	68	16
1984 _____	25	112	36	19	101	29	5	83	15
1985 _____	29	138	43	19	121	32	2	98	15
1986 _____	37	182	56	22	156	40	2	126	19
1987 _____	45	226	69	26	190	48	2	153	23
1988 _____	55	270	83	30	223	56	2	179	26

See footnotes at end of table.

TABLE 29.—ESTIMATED TRUST FUND RATIOS OF OASDI SYSTEM UNDER ALTERNATIVES
I, II, AND III, CALENDAR YEARS 1979–2055—Continued

Calendar year	Alternative I			Alternative II			Alternative III		
	OASI	DI	Total	OASI	DI	Total	OASI [1]	DI	Total [1]
1989	64	315	97	34	256	64	2	203	30
1990	73	358	110	37	287	70	1	224	31
1991	89	419	133	46	334	85	5	262	41
1992	106	478	156	56	379	100	10	296	50
1993	124	533	180	66	421	116	14	328	58
1994	142	586	204	77	460	131	18	357	67
1995	161	635	228	88	495	147	22	383	75
1996	182	675	253	100	525	163	27	403	84
1997	203	711	279	112	550	179	32	420	92
1998	226	743	305	126	571	195	37	434	100
1999	249	772	330	139	590	211	43	445	108
2000	273	798	357	154	606	228	49	454	116
2001	297	818	382	168	617	243	56	459	124
2002	320	835	406	182	625	258	62	461	131
2003	344	850	430	197	631	272	67	461	136
2005	393	873	477	225	637	299	77	454	145
2010	485	919	563	268	634	335	74	413	136
2015	521	976	599	258	629	323	20	356	78
2020	498	1,061	586	194	635	263	(²)	292	(²)
2025	440	1,201	547	89	671	170	(²)	229	(²)
2030	378	1,391	510	(²)	737	³59	(²)	171	(²)
2035	330	1,560	490	(²)	800	(²)	(²)	110	(²)
2040	307	1,671	496	(²)	841	(²)	(²)	42	(²)
2045	305	1,742	517	(²)	867	(²)	(²)	(²)	(²)
2050	307	1,839	537	(²)	902	(²)	(²)	(²)	(²)
2055	306	1,977	552	(²)	955	(²)	(²)	(²)	(²)
Trust fund is projected to be first exhausted in calendar year	(⁴)	(⁴)	(⁴)	2028	(⁴)	2032	2016	2042	2018

[1] The ratios for 1983 and later are theoretical because they are calculated on the assumption that the OASI cash-flow problem that develops in 1983 (see text) can be resolved by allowing the OASI trust fund to borrow money.
[2] The fund is projected to be exhausted.
[3] This figure is theoretical, because the OASI trust fund is projected to be exhausted.
[4] The fund is not projected to be exhausted within the projection period.

Note: Alternatives I, II, and III are described in the text of this report. The trust fund ratio is defined to be the trust fund assets at the beginning of the year expressed as a percentage of expenditures during that year.

The patterns of the trust fund ratios indicate an imbalance in the financing of the OASI and DI programs over the medium-range period. That is, while overall there is more than adequate financing for the medium-range period, there is not sufficient financing for OASI in the early years to preclude a cash-flow problem under the pessimistic assumptions.

The cost estimates and actuarial balances shown in this report are different from those published in last year's report. Table 30 traces the difference between the estimates in the two reports.

TABLE 30.—CHANGE IN ESTIMATED AVERAGE EXPENDITURES OF OASDI SYSTEM UNDER ALTERNATIVE II BY REASON FOR CHANGE

[As percent of taxable payroll]

Item	Medium range			Long range		
	OASI	DI	Total	OASI	DI	Total
Shown in 1978 report: [1]						
Actuarial balance	+0.79	+0.23	+1.02	−1.26	−0.14	−1.40
Average scheduled tax rate	9.70	1.97	11.67	10.03	2.12	12.16
Estimated average expenditures	8.91	1.74	10.64	11.29	2.26	13.55
Changes in estimated average expenditures due to changes in: [2]						
Average wage indexing series	+.03	+.01	+.04	+.02	+.00	+.02
Valuation date	−.02	+.03	+.01	+.06	+.01	+.07

See footnotes at end of table.

TABLE 30.—CHANGE IN ESTIMATED AVERAGE EXPENDITURES OF OASDI SYSTEM UNDER ALTERNATIVE II BY REASON FOR CHANGE—Continued

[As percent of taxable payroll]

Item	Medium range			Long range		
	OASI	DI	Total	OASI	DI	Total
Changes in estimated average expenditures due to changes in: [2]—Continued						
Economic assumptions	+.17	+.03	+.20	+.05	+.01	+.06
Mortality assumptions	+.13	+.00	+.13	+.39	+.00	+.39
Disability assumptions		−.29	−.29		−.43	−.43
Methods	+.07	+.02	+.09	−.23	+.06	−.17
All other factors	−.22	−.02	−.24	−.11	+.00	−.11
Total change in estimated average expenditures	+.16	−.21	−.05	+.18	−.34	−.16
Shown in this report: [3]						
Estimated average expenditures	9.07	1.52	10.59	11.47	1.92	13.38
Average scheduled tax rate	9.76	2.00	11.76	10.05	2.13	12.19
Actuarial balance	+.69	+.48	+1.17	−1.41	+.21	−1.20

[1] Expenditures and taxable payroll are calculated under the intermediate set of assumptions (alternative II) described in last year's report which incorporates ultimate annual increases of 5¾ percent in average wages in covered employment and 4 percent in the CPI, an ultimate annual unemployment rate of 5 percent, and an ultimate total fertility rate of 2.1 children per woman. The averages are computed over projection periods commencing with 1978.
[2] See the text for a discussion of the items shown below.
[3] Expenditures and taxable payroll are calculated under the intermediate set of assumptions (alternative II) described in the text of this report. The ultimate values for the annual increases in average wages in covered employment and in the CPI for the annual unemployment rate and for the total fertility rate are the same as those included in the intermediate set of assumptions described in last year's report. The averages are computed over projection periods commencing with 1979.

Note: Taxable payroll is adjusted to take into account the lower contribution rates on self-employment income, on tips, and on multiple-employer "excess wages" as compared with the combined employer-employee rate.

On December 29, 1978, the series of annual average total wages to be used for indexing purposes was published in the Federal Register. Due to differences between that series and the one used prior to that time for cost estimating purposes, projected costs are increased.

In changing from the valuation periods of last year's report, 1978–2002 and 1978–2052 for the medium-range and long-range periods, respectively, to the valuation periods of this report, 1979–2003 and 1979–2053, the year 1978 is replaced by 2003 in the medium-range and 2053 in the long-range. Except for the OASI medium-range, the replacement year is a year of relatively high cost compared to the year being replaced, thereby increasing the estimated average expenditures even in the absence of any other changes.

The ultimate economic assumptions as to wage-CPI increases are the same as in last year's report. The increase in cost due to economic assumptions is primarily because of lower productivity assumed in the first 10 years of the projection period.

In the demographic area, the ultimate fertility assumption has not been changed, but the mortality level assumed in this report is about 17 percent lower by the year 2050 than in last year's report. This difference in assumed mortality levels results from incorporating in this projection an additional year of experience both in determining the trends and also in determining the level at the beginning of the projection period. Both factors reflect more improvement in mortality than was previously assumed. In addition, when determining the trends, more recognition was given to the recent rapid improvement in mortality over the past decade, as has been recommended by the Panel of Actuaries and Economists appointed by the current Social Security Advisory Council to review the social security cost projections.

Large decreases in the estimated cost of the disability insurance program in both the medium-range and long-range are due to changes in assumptions regarding disability incidences and terminations. Both incidence and termination rates have been changed to reflect more recent experience. These revised assumptions were also recommended by the Panel of Actuaries and Economists of the current Advisory Council.

Numerous changes were made in the methods used to project the costs of the OASDI system. The net result of these changes was to increase the DI estimated cost and the OASI medium-range cost, and to decrease the OASI long-range cost. The major change in method is the updating of the procedure for relating assumed future wage and CPI increases to the resulting increases in future benefit levels. The procedure uses a sample of workers with theoretical earnings histories to project future benefits. This year, in order to improve the usefulness of the procedure, the pattern of assumed age-specific wage increases was modified, and other minor changes were made as well. There were a number of other changes in method which had only minor effects on the projected costs.

Many factors other than those specifically mentioned above were changed from last year's report. The net result of these changes was a decrease in the OASI and DI medium-range and long-range costs.

Overall, the combined OASDI trust fund is shown to be in a better position in the 1979 Trustees Report for both the medium-range and long-range periods than in the 1978 Report, primarily because of the change in disability assumptions.

2. Long-Range Cost Estimates: 1979–2053

As mentioned earlier in this section, the degree of confidence that can be placed in demographic and economic assumptions and in cost estimates based thereon decreases as the length of the projection period increases. Therefore, the degree of confidence that can be placed in the estimates shown over the long-range 75-year period is less than that which can be placed in the estimates shown over the medium-range 25-year period. Appendix A contains a more detailed discussion of the effect of differences in selected economic and demographic assumptions on the estimated average long-range expenditures. Despite the sensitivity of the long-range projections to differences in assumptions, those projections provide insights which are essential for making informed policy decisions. It is with the intention of providing these insights that the long-range estimates are presented. The tables summarizing those estimates appear earlier in this section.

As shown in table 26, under alternative II the cost of the OASI program is projected to be a relatively constant percentage of taxable payroll during the remainder of this century. After the turn of the century, it is projected to increase rapidly to a peak around 2035. The reason for the increase is that the number of beneficiaries will be increasing faster than the number of covered workers, since the large number of persons born during the period from the post-World War II years through the late 1950's and into the 1960's (when fertility rates were high) will reach retirement age and begin to receive benefits while the relatively small number of persons born during the period of current and projected low fertility rates will comprise the labor force. During the last years of the projection period, the OASI expend-

itures are projected to decrease slightly, because of the effect on the number of beneficiaries of the low birth rates experienced during the 1970's and projected through the 1980's. Table 31 shows the projected changes in the demographic structure of the United States by comparing the projected numbers of beneficiaries with the projected numbers of covered workers through calendar year 2055.

TABLE 31.—COMPARISON OF OASDI BENEFICIARIES AND COVERED WORKERS UNDER ALTERNATIVES I, II, AND III, CALENDAR YEARS 1945-2055

Calendar year	Covered workers (in thousands) [1]	Beneficiaries (in thousands) [2] OASI	DI	Total	Covered workers per OASDI beneficiary	OASDI beneficiaries per 100 covered workers
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	23,185	2,568	25,753	3.6	28
1975	100,400	27,244	4,125	31,369	3.2	31
1978	110,480	29,327	4,861	34,188	3.2	31
Alternative I:						
1979	113,570	29,900	4,879	34,779	3.3	31
1980	115,470	30,523	4,904	35,427	3.3	31
1985	127,960	33,637	5,187	38,824	3.3	30
1990	134,710	35,435	5,696	41,131	3.3	31
1995	138,190	37,006	6,397	43,403	3.2	31
2000	142,040	37,880	7,395	45,275	3.1	32
2005	149,020	39,248	8,538	47,786	3.1	32
2010	155,370	42,433	9,535	51,968	3.0	33
2015	159,960	47,427	10,150	57,577	2.8	36
2020	163,610	53,652	10,430	64,082	2.6	39
2025	167,990	59,774	10,318	70,092	2.4	42
2030	174,040	63,457	10,077	73,534	2.4	42
2035	181,510	64,455	10,209	74,664	2.4	41
2040	189,690	63,554	10,775	74,329	2.6	39
2045	197,920	63,506	11,578	75,084	2.6	38
2050	206,320	65,483	12,181	77,664	2.7	38
2055	215,150	68,697	12,550	81,247	2.6	38
Alternative II:						
1979	113,570	29,923	4,881	34,804	3.3	31
1980	115,400	30,593	4,914	35,507	3.3	31
1985	126,400	33,976	5,315	39,291	3.2	31
1990	133,100	36,060	5,971	42,031	3.2	32
1995	136,780	37,834	6,765	44,599	3.1	33
2000	140,330	38,908	7,819	46,727	3.0	33
2005	145,480	40,488	9,005	49,493	2.9	34
2010	149,340	43,972	10,015	53,987	2.8	36
2015	151,170	49,297	10,606	59,903	2.5	40
2020	151,700	55,985	10,806	66,791	2.3	44
2025	152,190	62,618	10,569	73,187	2.1	48
2030	153,540	66,898	10,168	77,066	2.0	50
2035	155,630	68,463	10,097	78,560	2.0	50
2040	158,080	68,016	10,367	78,383	2.0	50
2045	160,300	67,921	10,754	78,675	2.0	49
2050	162,410	68,916	10,946	79,862	2.0	49
2055	164,520	70,475	10,974	81,449	2.0	50
Alternative III:						
1979	113,180	29,946	4,885	34,831	3.2	31
1980	112,650	30,678	4,927	35,605	3.2	32
1985	124,930	34,345	5,447	39,792	3.1	32
1990	131,520	36,806	6,225	43,031	3.1	33
1995	134,990	38,862	7,067	45,929	2.9	34
2000	138,270	40,103	8,103	48,206	2.9	35
2005	140,640	41,878	9,244	51,122	2.8	36
2010	140,690	45,638	10,204	55,842	2.5	40
2015	138,270	51,321	10,703	62,024	2.2	45
2020	134,260	58,416	10,759	69,175	1.9	52
2025	129,540	65,576	10,336	75,912	1.7	59
2030	124,770	70,471	9,701	80,172	1.6	64
2035	120,280	72,626	9,319	81,945	1.5	68
2040	116,010	72,657	9,110	81,767	1.4	70
2045	111,650	72,337	8,851	81,188	1.4	73
2050	107,280	71,589	8,438	80,027	1.3	75
2055	103,160	70,202	8,013	78,215	1.3	76

[1] Workers with taxable earnings at some time during the year.
[2] Those with monthly benefits in current-payment status as of June 30.

Note: Alternatives I, II, and III are described in the text of this report.

As shown in table 26 the cost of the DI program as a percentage of taxable payroll is also projected to remain level for the next decade and then to increase steadily until about 2020 after which it decreases slightly. The pattern of the estimated DI expenditures is affected by the same demographic factors affecting the pattern of the estimated OASI expenditures, and in addition, by the assumptions about future disability incidence experience. The increasing DI costs that are projected result in part from the projection of disability incidence rates that are higher than current levels (see Appendix A for further information).

Table 26 shows that under alternative II for the OASDI system, estimated annual surpluses continue beyond the medium-range period to about 2010, after which the system experiences annual deficits. These deficits grow rapidly to a peak around 2035 after which they decline to about 3¾ percent of taxable payroll during the last 10 years of the long-range projection period. The large deficits in the third 25-year portion of the projection period result in a long-range actuarial deficit for the total 75-year period of 1.20 percent of taxable payroll, even though the surpluses of the medium-range period more than offset the deficits of the second 25 years. This long-range deficit is about 9 percent of the estimated 75-year average expenditures (which is 13.38 percent of taxable payroll). Since the deficit exceeds 5 percent of the estimated average expenditures (that is, exceeds 0.67 percent of taxable payroll), the system is not regarded as being in close actuarial balance over the long-range period. Nonetheless, because the projected deficits described above do not occur until after the turn of the century, there is ample time to study the system and to make well-considered decisions regarding how to improve its long-range financial status. The current Social Security Advisory Council is specifically examining the financial status of the trust funds in relation to the long-term commitments of the programs.

Table 27 shows that under each alternative the estimated expenditures as a percentage of taxable payroll increase rapidly after the turn of the century. Under alternatives I and II, the expenditures peak around 2030 or 2035, while under alternative III they are still increasing somewhat at the end of the projection period. The rapid increase that occurs shortly after the turn of the century results from the post-World War II births mentioned above, a factor which is reflected in the estimates based on each set of assumptions. As a percentage of GNP, the estimated average long-range expenditures varies from 4.61 percent under alternative I to 5.71 percent under alternative III, with a value under alternative II of 5.03 percent.

Table 28 shows that for the OASI program a long-range surplus is projected under alternative I and a long-range deficit under alternatives II and III, while for the DI program a long-range surplus is projected under alternatives I and II and a long-range deficit under alternative III. The combined OASDI long-range actuarial balance ranges from a surplus of 0.87 percent under alternative I to a deficit of 4.69 percent under alternative III.

The effect on the trust funds is shown in table 29. Under alternative II, the OASI trust fund ratio is projected to rise steadily after 1982 to more than 250 percent around 2010 before decreasing rapidly until 2028, the year in which the OASI trust fund is projected to be ex-

hausted. The DI trust fund ratio is projected to rise steadily through-
out the projection period to more than 900 percent by the end of the
long-range projection period. Under alternative I, the OASI ratio
peaks around 2015 at about 500 percent before decreasing to about 300
percent by the end of the projection period; the DI ratio increases to
about 1900 percent by the end of the projection period. The combined
OASDI trust fund at the end of the long-range period represents
about 24 percent of the projected Gross National Product, under alter-
native I. Under alternative III, the OASI trust fund experiences a
cash-flow problem beginning in 1983 (as described earlier), and the
DI trust fund is exhausted in 2042 after reaching levels in excess of
450 percent around the turn of the century.

VII. Conclusion

The actuarial cost estimates indicate that the combined assets of
the old-age and suvivors insurance and disability insurance trust funds
will continue to decline through 1980 or 1981, depending on economic
and demographic conditions, before starting to increase. Under the
intermediate set of economic and demographic assumptions, the com-
bined funds begin to increase in 1981, and continue to increase until
after the turn of the century. After that, the projections suggest that
because of demographic factors, demands on the OASI trust fund
will severely strain the system.

It must be emphasized, however, that while the assumptions on
which these estimates are based appear reasonable in view of past
trends, actual experience may differ significantly from the assump-
tions. It is particularly important to note that long-range projections
are subject to more uncertainty than are projections for shorter
periods. The medium-range estimates for the next 25 years are sub-
stantially more reliable than the estimates for the next 50 or 75 years.

The OASI trust fund is expected to decline to a level that is only
barely adequate to meet immediate program needs before it begins to
increase under the intermediate and optimistic assumptions. By the
beginning of 1982, the OASI trust fund falls to a low point of 18
percent of outgo under the intermediate assumptions, or 20 percent
under the optimistic assumptions. If the economic conditions projected
under the intermediate or optimistic assumptions occur, the fund is
adequately financed for at least well into the next century. It should
be recognized, however, that a severe or prolonged economic down-
turn could jeopardize the short-range acturial soundness of the OASI
program. For example, under the pessimistic assumptions, the assets
drop to a level of only 2 percent of outgo by the beginning of 1985.
This is considerably lower than the 9-percent level which, as explained
in the body of the report, is needed for the timely payment of benefits.
Thus, the financing under present law does not provide a wide margin
of safety in the event that actual short-range economic conditions
prove to be markedly worse than those projected under the inter-
mediate assumptions.

The projections indicate that the increase in the DI trust fund that
began in 1978 will continue throughout the next 75 years under both
the intermediate and optimistic assumptions, and through the turn of
the century under the pessimistic assumptions. The increase in 1978

was primarily due to the reallocation of contribution rates provided under the 1977 amendments, as well as to lower disability incidence rates in 1978. This reduction in the incidence of disability was not anticipated and its causes are not very clear, so it is uncertain whether the trend will continue in the future. Thus, the higher DI trust fund levels projected in this report (as compared to last year's report) are contingent on the realization of the lower incidence rates assumed in this year's report.

Another measure of the trust funds' actuarial soundness is the difference between expenditures and tax revenues. For the next 25 years, under present law, average annual tax income will exceed expenditures by about 1.17 percent of taxable payroll under the intermediate assumptions. This margin ranges from an excess of 1.75 percent under the optimistic assumptions to 0.60 percent under the more pessimistic assumptions. According to these projections, assets ranging from 136 to 430 percent of annual expenditures would accumulate by the end of the 25-year period.

Over the entire 75-year period, however, average annual expenditures will exceed income from taxes by 1.20 percent of taxable payroll under the intermediate assumptions and by 4.69 percent under the pessimistic assumptions. Only under the optimistic assumptions would there be a slight excess of income over expenditures. And even under the optimistic assumptions, expenditures would exceed tax revenue during the third 25-year period (2029–2053) of the long-range projections.

While the long-range forecasts are somewhat more favorable than last year's projections, the trustees emphasize that the balance between the aggregate revenues and expenditures of the combined trust funds is quite fragile in the immediate future. Therefore, the Board recommends that no reduction be made in the scheduled revenues of the old-age and suvivors insurance or disability insurance trust funds without making provisions for offsetting reductions in expenditures or alternative financing arrangements, until the funds reach a level sufficient to withstand a serious economic downturn. Since the funds will not reach such a level for several years, it might be advisable to examine the need for flexibility to reallocate funds between the two trust funds in the short run.

The Board also notes that, by the turn of the century, the combined trust funds will have increased to levels ranging from about 100 to 350 percent of annual expenditures, depending on the economic and demographic assumptions. Trust fund levels in this range are higher than is generally considered necessary for contingency reserves. The Board believes that the question of long-range financing of the system, including the appropriate size of the trust funds, should be the subject of extensive study during the next several years. The current Advisory Council on Social Security is examining these issues and will report their recommendations later this year.