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FEDERAL OLD-AGE AND SURVIVORS INSURANCE AND DISABILITY INSURANCE TRUST FUNDS

COMMUNICATION

FROM

THE BOARD OF TRUSTEES

TRANSMITTING

THE 1989 ANNUAL REPORT OF THE BOARD OF TRUSTEES OF THE FEDERAL OLD-AGE AND SURVIVORS INSURANCE TRUST FUND AND THE FEDERAL DISABILITY INSURANCE TRUST FUND, PURSUANT TO 42 U.S.C. 401(c)(2), 1395i(b)(2), 1395t(b)(2)

APRIL 26, 1989.—Referred to the Committee on Ways and Means and ordered to be printed

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LETTER OF TRANSMITTAL

BOARD OF TRUSTEES OF THE
FEDERAL OLD-AGE AND SURVIVORS INSURANCE
AND DISABILITY INSURANCE TRUST FUNDS,
Washington, D.C., April 24, 1989

HONORABLE JAMES C. WRIGHT, JR.
Speaker of the House of Representatives
Washington, D.C.

HONORABLE DAN QUAYLE
President of the Senate
Washington, D.C.

GENTLEMEN: We have the honor of transmitting to you the 1989 Annual Report of the Board of Trustees of the Federal Old-Age and Survivors Insurance Trust Fund and the Federal Disability Insurance Trust Fund (the 49th such report), in compliance with section 201(c)(2) of the Social Security Act.

Respectfully,

NICHOLAS F. BRADY, *Secretary of the Treasury, and Managing Trustee of the Trust Funds.*

ELIZABETH DOLE, *Secretary of Labor, and Trustee.*

LOUIS W. SULLIVAN, M.D., *Secretary of Health and Human Services, and Trustee.*

MARY FALVEY FULLER, *Trustee.*

SUZANNE DENBO JAFFE, *Trustee.*

DORCAS R. HARDY, *Commissioner of Social Security, and Secretary, Board of Trustees.*

1989 ANNUAL REPORT OF THE BOARD OF TRUSTEES OF THE FEDERAL OLD-AGE AND SURVIVORS INSURANCE AND DISABILITY INSURANCE TRUST FUNDS

COMMUNICATION

FROM

THE BOARD OF TRUSTEES, FEDERAL OLD-AGE AND SURVIVORS INSURANCE AND DISABILITY INSURANCE TRUST FUNDS

TRANSMITTING

THE 1989 ANNUAL REPORT OF THE BOARD, PURSUANT TO SECTION 201(c)(2) OF THE SOCIAL SECURITY ACT, AS AMENDED

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SUMMARY

Highlights

As shown in the 1989 Annual Report, the assets of the Old-Age and Survivors Insurance (OASI) Trust Fund increased by $40.7 billion in calendar year 1988, reflecting, in part, the continuing growth in the economy. Including the increase of $0.2 billion in the Disability Insurance (DI) Trust Fund, the growth in the combined trust funds, at $41.0 billion, was about the same as the increase estimated in the 1988 Annual Report on the basis of the intermediate alternative II-A assumptions.

The trust funds are expected to continue growing for many years into the future. Based on intermediate assumptions, the combined trust funds are estimated to reach a level of about 5 or 6 times annual outgo in the next 20 to 30 years. Even if future experience is very adverse, the combined funds are estimated to increase to about 2 1/2 times annual outgo during the next 20 to 25 years. However, under such adverse conditions, the assets of the DI Trust Fund could decline to such a low level that financial problems with that fund would occur within the next 10 years.

The long-range 75-year estimates indicate that, under the intermediate assumptions, the OASDI program will experience about 3 decades of positive annual balances, with continuing annual deficits thereafter. Based on the intermediate alternative II-A assumptions, the positive balances in the first part of the 75-year projection period nearly offset the later deficits, so that the program, as a whole, has an actuarial deficit of 0.10 percent of taxable payroll. Based on the intermediate alternative II-B assumptions, the OASDI program has larger future deficits that yield an actuarial deficit of 0.70 percent of taxable payroll, which is 0.12 percent larger than in the 1988 report. However, the expected accumulation of the trust funds during the next 20 to 30 years provides ample time to monitor the financial status of the program and to take corrective action at some time in the future if it still appears to be warranted at that time.

During the first part of the long-range projection period, the combined OASI and DI Trust Funds are expected to accumulate rapidly to a peak fund ratio of 547 percent of annual outgo in the year 2014, based on the alternative II-B assumptions. Thereafter, the fund ratio is estimated to decline until the funds are exhausted in 2046, 2 years earlier than in last year's report. Thus, according to the alternative II-B projections, the OASDI program will have enough funds to cover expenditures for about 57 years into the future.

For OASI and DI, separately, the long-range actuarial balances, based on the alternative II-A assumptions, are +0.03 percent and -0.13 percent of taxable payroll, respectively. Based on the alternative II-B assumptions, both programs have actuarial deficits, which are 0.53 percent and 0.17 percent of taxable payroll, respectively. Because of the size of the DI deficit, relative to its cost rate, the DI program needs careful monitoring in both the short-range and the long-range periods.

1. Program Description

The OASDI program consists of two separate parts which pay monthly benefits to workers and their families:

(1) Old-Age and Survivors Insurance (OASI) pays benefits after a worker retires and to survivors after a worker dies.

(2) Disability Insurance (DI) pays benefits after a worker becomes disabled.

The Board of Trustees of the trust funds is required by law to report annually to the Congress on the financial condition of the funds and on estimated future results. The Board has five members, three of whom serve in an ex officio capacity: the Secretaries of the Treasury, Labor, and Health and Human Services. The Board also has two members of the public, who are nominated by the President and confirmed by the Senate for 4-year terms. The terms of the present public members, Mary Falvey Fuller and Suzanne Denbo Jaffe, began on September 28, 1984. They are currently serving under recess appointments, which the Senate received on January 3, 1989, after the adjournment of the 100th Congress.

Most OASDI revenue consists of contributions paid by employees, their employers, and the self-employed. (Additional contributions are paid into a separate trust fund for the Hospital Insurance part of Medicare. This summary focuses on OASDI and does not discuss Medicare.) The contribution rates are established by law. Contributions are paid on earnings not exceeding the earnings base—$48,000 in 1989.

The earnings base will rise in the future as average wages increase. The current and future OASDI contribution rates for employees and employers, each, are shown below (as percentages):

Year	OASI	DI	Total
1989	5.53	0.53	6.06
1990-99	5.60	.60	6.20
2000 and later	5.49	.71	6.20

Since 1984, a portion (not more than one-half) of OASDI benefits received by higher income beneficiaries is subject to Federal income taxation. The revenues collected as a result of this provision are transferred from the general fund of the Treasury to the trust funds.

The outgo of the OASI and DI Trust Funds consists of benefit payments and administrative expenses. Trust fund assets may not be used for any other purposes.

During periods when outgo temporarily exceeds income, trust fund assets are used to meet the shortfall. In the event of recurring shortfalls, the trust funds can allow time for legislation to be enacted to restore balance to the program. The assets of the trust funds are invested in U.S. Government securities bearing rates of interest similar to those for long-term securities issued to the general public.

2. Recent Results

During 1988, about 128 million workers made contributions to the OASDI program. At the end of September 1988, 38.5 million persons were receiving monthly benefits under the OASDI program. Administrative expenses represented about 1.2 percent of benefit payments in fiscal year 1988.

Income to the OASI and DI Trust Funds in fiscal year 1988 was $258.1 billion, while outgo was $219.3 billion. Thus, the assets of the combined funds increased by $38.8 billion during the fiscal year. A summary of the OASDI financial operations in fiscal year 1988 is shown below (in billions):

Trust fund assets at end of fiscal year 1987	$65.4
Income during year:	
Contributions	248.1
Revenue from taxation of benefits	3.4
Payments from general fund	.1
Net interest	6.5
Total income	258.1
Outgo during year:	
Benefit payments	213.9
Administrative expenses	2.5
Transfer to Railroad Retirement program	2.9
Total outgo	219.3
Net increase in assets during year	38.8
Trust fund assets at end of fiscal year 1988	104.2

Note: Totals may not equal sums of components, due to rounding.

3. Actuarial Estimates

The annual report contains 75-year estimates of each fund's financial operations and status. Because precise prediction of the future is impossible, alternative sets of assumptions, representing a reasonable range of possible future experience, are used to make short- and long-range estimates. Future experience could, however, fall outside the range indicated by these assumptions.

Future OASDI income and outgo will depend on a variety of economic and demographic factors, including economic growth, inflation, unemployment, fertility, and mortality. These factors affect the levels of workers' earnings and OASDI benefits, as well as the numbers of people making contributions and receiving benefits.

The estimates in this report were prepared using four alternative sets of assumptions. Two sets—alternatives II-A and II-B—are designated "intermediate." Both intermediate sets share the same demographic assumptions, but differ with respect to economic assumptions; somewhat more robust economic growth is assumed for alternative II-A than for alternative II-B. One set—alternative I—is designated "optimistic," and another—alternative III—is "pessimistic."

No single measure is used to assess the actuarial status of the OASDI funds. Short-range measures usually focus on the adequacy of reserves available to pay benefits. Long-range measures usually focus on the balance between income and outgo during the projection period as well as the adequacy of the reserves.

The *contingency fund ratio* is the usual measure of the OASDI program's ability to pay benefits on time in the near future. This ratio is the amount in the trust funds at the beginning of the year, including advance tax transfers for January, divided by that year's expenditures. Thus, if the trust fund ratio is 50 percent, the amount in the fund represents about 6 months' outgo. A ratio of at least 8 to 9 percent is required to pay benefits at the beginning of each month. At the beginning of 1989, the fund ratio for OASDI was about 57 percent.

In analyzing the actuarial status of OASDI for the next 75 years, several different measures are commonly used. The *income rate* is the combined OASDI employee-employer contribution rate scheduled in the law, plus the income from taxation of benefits, expressed as a percentage of taxable payroll. The *cost rate* is the annual outgo expressed as a percentage of taxable payroll. The annual balance, which is the difference between the annual income rate and the annual cost rate, measures the adequacy of funding in each year of the long-range projection period. If the difference is negative, the annual balance is a deficit. The level and pattern of annual positive balances and annual deficits during various periods of time within the next 75 years measure the financial strength of the program over such periods.

If a trust fund becomes exhausted during the projection period, the year in which the exhaustion occurs is an important measure of the financial condition of the fund.

Summarized income and cost rates over the 75-year projection period can be compared directly to measure the adequacy of the program's

overall level of financing during the entire long-range period. The summarized income and cost rates reflect the full effect of interest. In addition, the trust fund balance at the beginning of the projection period, expressed as a percentage of taxable payroll, is included in the summarized income rate for the 75-year period.

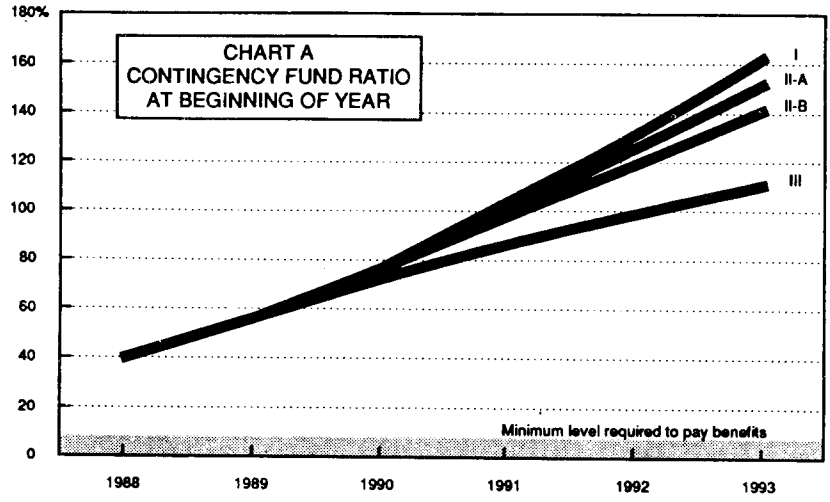
The *actuarial balance* for the 75-year long-range projection period, is the difference between the summarized estimated income rate and the summarized estimated cost rate. If this actuarial balance is negative, the program is said to have an actuarial deficit. Such a deficit is a warning that future changes may be needed in the program's financing or benefit provisions, although it does not present a complete picture without the other measures of financing discussed here.

4. Short-Range Financing (1989-93)

Estimates for the next 5 years are used to assess the adequacy of OASDI financing in the short range. In this period, the numbers of persons receiving OASDI benefits can be estimated fairly accurately. Changes in the national economy, however, which are difficult to predict, can have major effects on income and outgo.

The actuarial estimates shown in the 1989 report indicate that the combined assets of the OASI and DI Trust Funds will be sufficient to pay OASDI benefits on time throughout the 5-year period and for many years thereafter, based on all four sets of assumptions. In addition, the estimates based on alternatives I, II-A, and II-B indicate that the OASI and DI programs, separately, can operate satisfactorily for many years. During the next 10 years, however, if experience is very adverse, the assets of the DI Trust Fund could decline to such a low level that financial problems would occur.

Chart A shows the OASDI contingency fund ratio for 1989, 57 percent, and the projected OASDI ratios for 1990-93, on the basis of all four sets of assumptions. The fund ratios for the combined trust funds are estimated to increase each year.



5. Long-Range Financing (1989-2063)

Long-range 75-year estimates for OASDI, although sensitive to variations in the assumptions, indicate the trend and general range of the program's future financial status. During this long-range period, income and outgo are greatly affected by demographic, as well as economic, conditions. Most of the beneficiaries during the next 75 years have already been born, so that their numbers are projected mainly from the present population. The numbers of workers involved in these projections, however, depend largely on future birth rates, which are subject to more variability.

Several important demographic trends are anticipated, which will raise the proportion of the aged in the population during the next 75 years. First, because of the large number of persons born in the two decades after World War II, rapid growth is expected in the aged population after the turn of the century. Second, assumed declines in death rates also would increase the numbers of aged persons. At the same time, birth rates, which began to decline in the 1960s and are assumed to remain relatively low in the future, would hold down the numbers of young people.

Chart B shows the long-range trend in the number of covered workers per OASDI beneficiary. (The term "beneficiary" includes not only retired workers, but also disabled workers, spouses, children, and survivor beneficiaries.) Based on the intermediate assumptions, this ratio is estimated to decline gradually from 3.3 in 1988 to 3.0 in 2010. From 2010 to 2030, the estimated ratio falls rapidly to 2.0 as the number of beneficiaries increases more rapidly than the number of covered workers. After 2030, the ratio is estimated to decline gradually.

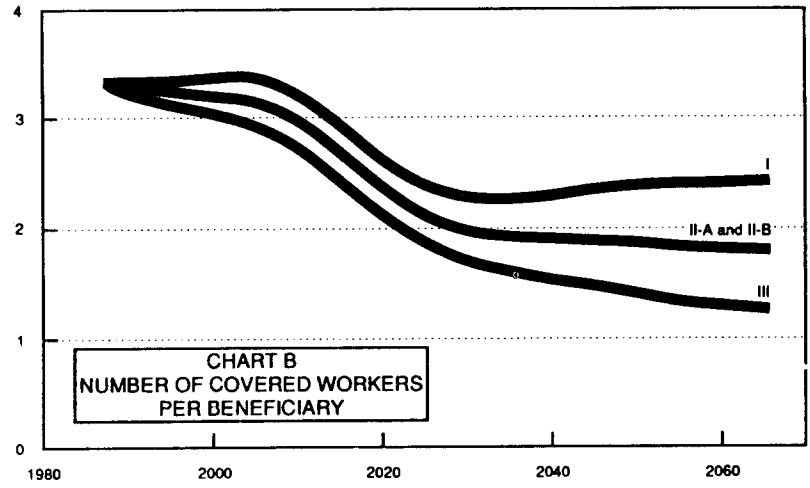


Chart C shows the estimated OASDI income and cost rates for the long-range projection period, based on the intermediate II-B assumptions. During the first three decades of this period, the estimates indicate that the income rate will generally exceed the cost rate, resulting in substantial positive balances each year. Beginning about 2020, the reverse is true, with the cost rate exceeding the income rate, thus resulting in substantial deficits. These positive balances and deficits do not reflect interest earnings, which result in trust fund growth continuing for about 10 years after the first actuarial deficits occur. The cost rate is estimated to increase rapidly after the first half of the 75-year projection period, primarily because the number of beneficiaries is projected to increase more rapidly than the number of covered workers.

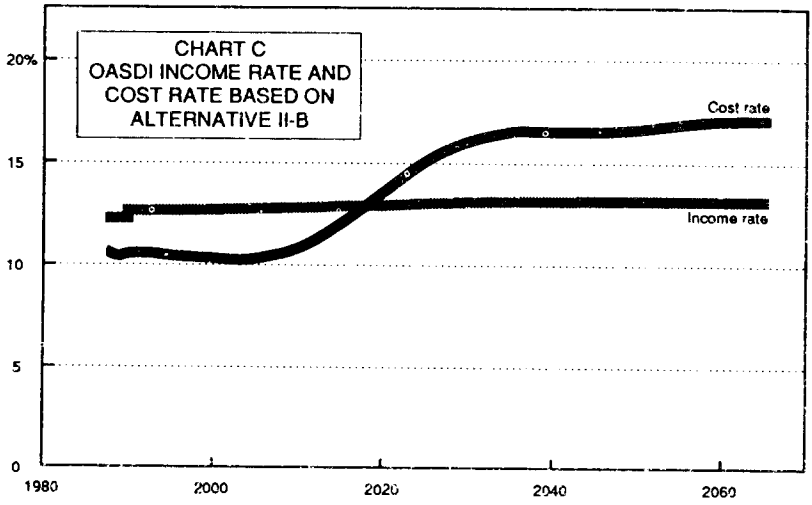
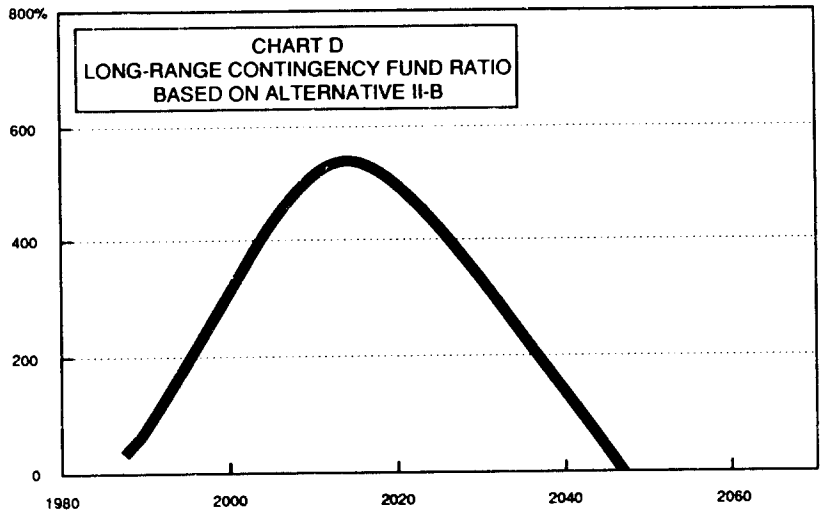


Chart D shows the projected OASDI contingency fund ratios for the 75-year period, based on the intermediate alternative II-B assumptions. The ratio rises steadily and reaches 547 percent in 2014. After 2014, the ratio declines until the combined funds are exhausted in 2046. The importance of the trust fund accumulating reserves is emphasized by Chart D. As the chart shows, the build-up in the reserves will be needed later on to pay benefits to the increasing numbers of retired persons who were born in the high birth-rate years from the mid-1940s to the mid-1960s.



The table below presents a comparison of the annual income and cost rates for the 75-year long-range projection period, based on the four sets of assumptions. The figures are expressed as percentages of taxable payroll.

Assumptions	Income rate	Cost rate	Actuarial balance
Optimistic	12.90	11.16	1.74
Intermediate II-A	12.98	13.08	-.10
Intermediate II-B	13.02	13.72	-.70
Pessimistic	13.15	16.78	-3.63

Note: Income rate, cost rate, and actuarial balance are defined in the text.

The long-range OASDI actuarial deficit of 0.70 percent of taxable payroll, based on the intermediate II-B assumptions, results from an income rate of 13.02 percent of taxable payroll over the 75-year period (including beginning trust fund balances) and a cost rate of 13.72 percent over the period. In the absence of other changes, the long-range actuarial balance will tend to worsen slowly in future annual reports, as the valuation period moves forward and additional distant years of deficit are included in the valuation. The actuarial deficits in the later years of the 75-year projection period are caused primarily by the demographic trends described above, in combination with a flat contribution rate schedule.

I. THE BOARD OF TRUSTEES

The Federal Old-Age and Survivors Insurance Trust Fund and the Federal Disability Insurance Trust Fund are held by the Board of Trustees under the authority of section 201(c)(1) of the Social Security Act. The Board has five members, three of whom serve in an ex officio capacity: the Secretary of the Treasury, the Secretary of Labor, and the Secretary of Health and Human Services. The other two members, Mary Falvey Fuller and Suzanne Denbo Jaffe, are members of the public whose terms began on September 28, 1984. They are currently serving under recess appointments, which the Senate received on January 3, 1989, after the adjournment of the 100th Congress.

By law, the Secretary of the Treasury is designated as the Managing Trustee, and the Commissioner of Social Security is designated as the Secretary of the Board. The Board of Trustees reports to the Congress each year on the operations and status of the trust funds, in compliance with section 201(c)(2) of the Social Security Act. This annual report, for 1989, is the 49th such report.

II. SOCIAL SECURITY AMENDMENTS SINCE THE 1988 REPORT

Since the 1988 Annual Report was transmitted to the Congress on May 5, 1988, only one law affecting the OASDI program in a significant way has been enacted. The Technical and Miscellaneous Revenue Act of 1988 (Public Law 100-647, enacted into law on November 10, 1988) included a number of provisions affecting the OASDI program. The more important legislative changes, from an actuarial standpoint, are described below.

1. Provides for the payment of interim disability benefits to those persons who have had a disability claim allowed (or continued) by an administrative law judge (ALJ) but who have not received a final decision within 110 days after the ALJ decision because the Appeals Council has the case for review. The interim benefits would not be considered overpayments if the favorable ALJ decision is later reversed. The provisions are effective for ALJ decisions made after May 9, 1989 (180 days after enactment).
2. Provides that when a beneficiary who is subject to the retirement earnings test dies during a year, the full annual exempt amount is applicable to the beneficiary's earnings in that year, rather than a pro rata share of the exempt amount based on the number of months the beneficiary lived during the year. Also provides that in a year in which a beneficiary dies before attaining the normal retirement age (NRA) in that year, the applicable annual exempt amount is the amount that would have applied if the beneficiary had attained the NRA by the beginning of the year. (The NRA, currently age 65, is the age at which full-rate benefits are payable.) These provisions are effective with respect to deaths after November 10, 1988 (date of enactment).
3. Modifies the provisions that eliminate windfall benefits for persons receiving pensions from noncovered employment as well as monthly Social Security retirement or disability benefits. Instead of gradually phasing out for persons having 26 to 30 years of covered employment, the provisions eliminating the windfall benefits will phase out more gradually for persons having 21 to 30 years of covered employment. The provision is effective for benefits for months after December 1988 (requiring the recomputation of benefits for persons already being paid).
4. Extends for 1 year a provision that enables disability beneficiaries, whose benefits would otherwise be terminated due to a determination of medical cessation of disability, to have their benefits temporarily continued while they are appealing that cessation decision. Under the provision, benefits may be continued until an ALJ makes a decision on the appeal. The provision was extended to include determinations made prior to January 1, 1990. However, benefits may not be continued under this provision beyond June 1990.

Detailed information regarding these changes and other less significant changes can be found in documents prepared by and for the Congress. The actuarial estimates shown in this report reflect the anticipated effects of these changes.

III. BASIS FOR TRUST FUND RECEIPTS AND EXPENDITURES

The Federal Old-Age and Survivors Insurance Trust Fund was established on January 1, 1940, as a separate account in the United States Treasury. All the financial operations of the OASI program are handled through this fund. The Federal Disability Insurance Trust Fund is another separate account in the United States Treasury; it was established on August 1, 1956. All the financial operations of the DI program are handled through this fund.

The primary receipts of these two funds are amounts appropriated to each of them under permanent authority on the basis of contributions payable by workers, their employers, and individuals with self-employment income, in work covered by the OASDI program. Beginning January 1, 1987, these appropriated amounts include contributions paid by, or on behalf of, workers employed by State and local governments and by such employers, with respect to wages covered under the program through State agreements. (Prior to 1987, such contributions were collected by the State and deposited directly into the trust funds.) All employees, and their employers, in covered employment are required to pay contributions with respect to their wages. Employees, and their employers, are also required to pay contributions with respect to cash tips if their monthly cash tips amount to at least $20. (Prior to 1988, employers were required to pay contributions on only that part of tip income deemed to be wages under the Federal minimum-wage law.) All self-employed persons are required to pay contributions with respect to their covered net earnings from self-employment. In addition to making the required employer contributions on the wages of covered Federal employees, the Federal Government also pays amounts equivalent to the employer and employee contributions that would be paid on deemed wage credits attributable to military service performed after 1956 if such wage credits were covered wages.

In general, an individual's contributions, or taxes, are computed on annual wages or net earnings from self-employment, or both wages and net self-employment earnings combined, up to a specified maximum annual amount. The contributions are determined first on the wages and then on any net self-employment earnings, such that the total does not exceed the annual maximum amount. An employee who pays contributions on wages in excess of the annual maximum amount (because of employment with two or more employers) is eligible for a refund of the excess employee contributions. The monthly benefit amount to which an individual (or his or her spouse and children) may become entitled under the OASDI program is based on the individual's taxable earnings during his or her lifetime. In computing benefits for almost all persons who first become eligible to receive benefits in 1979 or later, the earnings in each year are indexed to take account of increases in average wage levels. The maximum amount of earnings on which contributions are payable in a year, and which is also the maximum amount of earnings creditable in that year for benefit-computation purposes, is called the contribution and benefit base.

The contribution rates, or tax rates, applicable in each calendar year, and the allocation of the rates between the two trust funds, are shown in

table 1. For 1990 and later, the rates shown are those scheduled in present law. The contribution and benefit bases are also shown in table 1. The bases for 1975-78 were determined under the automatic-adjustment provisions in section 230 of the Social Security Act. The bases for 1979-81 were specified in the law, as amended in 1977. The bases for 1982-89 were again determined under the automatic-adjustment provisions, as will be the bases in 1990 and later.

TABLE 1.—CONTRIBUTION AND BENEFIT BASE AND CONTRIBUTION RATES

Calendar years	Contribution and benefit base	Contribution rates (percent)					
		Employees and employers, each			Self-employed		
		OASDI	OASI	DI	OASDI	OASI	DI
1937-49	$3,000	1.000	1.000	—	—	—	—
1950	3,000	1.500	1.500	—	—	—	—
1951-53	3,600	1.500	1.500	—	2.2500	2.2500	—
1954	3,600	2.000	2.000	—	3.0000	3.0000	—
1955-56	4,200	2.000	2.000	—	3.0000	3.0000	—
1957-58	4,200	2.250	2.000	0.250	3.3750	3.0000	0.3750
1959	4,800	2.500	2.250	.250	3.7500	3.3750	.3750
1960-61	4,800	3.000	2.750	.250	4.5000	4.1250	.3750
1962	4,800	3.125	2.875	.250	4.7000	4.3250	.3750
1963-65	4,800	3.625	3.375	.250	5.4000	5.0250	.3750
1966	6,600	3.850	3.500	.350	5.8000	5.2750	.5250
1967	6,600	3.900	3.550	.350	5.9000	5.3750	.5250
1968	7,800	3.800	3.325	.475	5.8000	5.0875	.7125
1969	7,800	4.200	3.725	.475	6.3000	5.5875	.7125
1970	7,800	4.200	3.650	.550	6.3000	5.4750	.8250
1971	7,800	4.600	4.050	.550	6.9000	6.0750	.8250
1972	9,000	4.600	4.050	.550	6.9000	6.0750	.8250
1973	10,800	4.850	4.300	.550	7.0000	6.2050	.7950
1974	13,200	4.950	4.375	.575	7.0000	6.1850	.8150
1975	14,100	4.950	4.375	.575	7.0000	6.1850	.8150
1976	15,300	4.950	4.375	.575	7.0000	6.1850	.8150
1977	16,500	4.950	4.375	.575	7.0000	6.1850	.8150
1978	17,700	5.050	4.275	.775	7.1000	6.0100	1.0900
1979	22,900	5.080	4.330	.750	7.0500	6.0100	1.0400
1980	25,900	5.080	4.520	.560	7.0500	6.2725	.7775
1981	29,700	5.350	4.700	.650	8.0000	7.0250	.9750
1982	32,400	5.400	4.575	.825	8.0500	6.8125	1.2375
1983	35,700	5.400	4.775	.625	8.0500	7.1125	.9375
1984[1]	37,800	5.700	5.200	.500	11.4000	10.4000	1.0000
1985[1]	39,600	5.700	5.200	.500	11.4000	10.4000	1.0000
1986[1]	42,000	5.700	5.200	.500	11.4000	10.4000	1.0000
1987[1]	43,800	5.700	5.200	.500	11.4000	10.4000	1.0000
1988[1]	45,000	6.060	5.530	.530	12.1200	11.0600	1.0600
1989[1]	48,000	6.060	5.530	.530	12.1200	11.0600	1.0600
Rates scheduled in present law:							
1990-99	(2)	6.200	5.600	.600	12.4000	11.2000	1.2000
2000 and later	(2)	6.200	5.490	.710	12.4000	10.9800	1.4200

[1]See text for description of tax credits.

[2]Subject to automatic adjustment.

In 1984 only, an immediate credit of 0.3 percent of taxable wages was allowed against the OASDI contributions paid by employees. In accordance with the law, this credit was implemented by a deliberate underwithholding of the employee contributions for 1984, resulting in an effective contribution rate of 5.4 percent (as compared to the employer rate of 5.7 percent). The appropriations of contributions to the trust funds, however, were based on the combined employee-employer rate of 11.4 percent, as if the credit for employees did not apply. Similar credits

of 2.7 percent, 2.3 percent, and 2.0 percent are allowed against the combined OASDI and Hospital Insurance (HI) contributions on net earnings from self-employment in 1984, 1985, and 1986-89, respectively. The appropriations of contributions to the trust funds, however, are based on the contribution rates, before adjustment for the credit, that apply in each year. After 1989, self-employed persons will be allowed a deduction, for purposes of computing their net earnings, equal to half of the combined OASDI and HI contributions that would be payable without regard to the contribution and benefit base. The contribution rate is then applied to net earnings after this deduction, but subject to the base. This provision will reduce contributions for those self-employed persons with earnings less than, or not greatly above, the contribution and benefit base.

All contributions, except for amounts received under State agreements for covered wages paid prior to January 1, 1987, are collected by the Internal Revenue Service and deposited in the general fund of the Treasury. The exact amount of contributions received is not known initially because amounts paid under the OASDI and HI programs and individual income taxes are not separately identified in collection reports received by the Internal Revenue Service.

Amounts representing the estimated total collections of OASDI contributions by the IRS for each month are credited to the OASI and DI Trust Funds on the first day of the month. Because these estimated collections are credited to the trust funds on the first of the month, instead of throughout the month as contributions are actually received, the trust funds pay interest to the general fund to reimburse it for the interest costs attributable to these advance transfers. Periodic adjustments (principal only) are subsequently made to the extent that the estimates are found to differ from the amounts of contributions actually payable as determined from reported earnings. Adjustments are also made to account for any refunds to employees (with more than one employer) who paid contributions on wages in excess of the contribution and benefit base.

Beginning in 1984, a portion (not more than one-half) of OASDI benefits is subject to Federal income taxation under certain circumstances. The proceeds from this taxation of benefits are credited to the trust funds, in advance, on an estimated basis, at the beginning of each calendar quarter, with no reimbursement to the general fund for interest costs attributable to the advance transfers. Subsequent adjustments are made based on the actual amounts as shown on annual income tax records. The amounts appropriated from the general fund of the Treasury are allocated to the OASI and DI Trust Funds on the basis of the income taxes paid on the benefits from each fund. (A special provision applies to benefits paid to non-resident aliens. A flat-rate tax, usually 15 percent, is withheld from the benefits before they are paid and, therefore, remains in the trust funds.)

Another source of income to the trust funds is interest received on investments held by the trust funds. That portion of each trust fund which, in the judgment of the Managing Trustee, is not required to meet current expenditures for benefits and administration is invested, on a

daily basis, in interest-bearing obligations of the U.S. Government (including special public-debt obligations described below), in obligations guaranteed as to both principal and interest by the United States, or in certain federally sponsored agency obligations that are designated in the laws authorizing their issuance as lawful investments for fiduciary and trust funds under the control and authority of the United States or any officer of the United States. These obligations may be acquired on original issue at the issue price or by purchase of outstanding obligations at their market price.

The Social Security Act authorizes the issuance of special public-debt obligations for purchase exclusively by the trust funds. The Act provides that these obligations shall bear interest at a rate equal to the average market yield (computed on the basis of market quotations as of the end of the calendar month next preceding the date of such issue) on all marketable interest-bearing obligations of the United States then forming a part of the public debt which are not due or callable until after the expiration of 4 years from the end of such calendar month. These special issues are always redeemable at par value and thus bear no risk with respect to the interest rate (i.e., risk due to price fluctuations).

Income is also affected by provisions of the Social Security Act for (1) transfers between the general fund of the Treasury and the OASI and DI Trust Funds for any adjustments to prior payments for the cost arising from the granting of noncontributory wage credits for military service prior to 1957, according to periodic determinations made by the Secretary of Health and Human Services; (2) annual reimbursements from the general fund of the Treasury to the OASI Trust Fund for any costs arising from the special monthly cash payments to certain uninsured persons—i.e., those who attained age 72 before 1968 and who generally are not eligible for cash benefits under other provisions of the OASDI program; and (3) the receipt of unconditional money gifts or bequests made for the benefit of the trust funds or any activity financed through the funds.

The major expenditures of the OASI and DI Trust Funds are for (1) OASDI benefit payments, net of any reimbursements from the general fund of the Treasury for unnegotiated benefit checks, and (2) expenses incurred by the Department of Health and Human Services and by the Department of the Treasury in administering the OASDI program and the provisions of the Internal Revenue Code relating to the collection of contributions. Such administrative expenses include expenditures for construction, rental and lease, or purchase of office buildings and related facilities for the Social Security Administration. The Social Security Act does not permit expenditures from the OASI and DI Trust Funds for any purpose not related to the payment of benefits or administrative costs for the OASDI program.

The expenditures of the trust funds are also affected by (1) costs of vocational rehabilitation services furnished as an additional benefit to disabled persons receiving cash benefits because of their disabilities where such services contributed to their successful rehabilitation, and (2) the provisions of the Railroad Retirement Act which provide for a system of coordination and financial interchange between the Railroad

Retirement program and the Social Security program. Under these provisions, transfers between the Railroad Retirement program's Social Security Equivalent Benefit Account and the trust funds are made on an annual basis in order to place each trust fund in the same position in which it would have been if railroad employment had always been covered under Social Security.

The net worth of facilities and other fixed capital assets is not carried in the statements of the operations of the trust funds presented in this report. This is because the value of fixed capital assets does not represent funds available for the payment of benefits or administrative expenditures, and therefore is not considered in assessing the actuarial status of the trust funds.

From December 29, 1981, until January 1, 1988, the Social Security Act authorized borrowing among the OASI, DI, and HI Trust Funds when necessary "to best meet the need for financing the benefit payments" from the three funds. (Although the initial borrowing authority expired at the end of 1982, the Social Security Amendments of 1983 reinstated the borrowing authority and extended it through 1987.) Interfund loans under the borrowing authority were made to the OASI Trust Fund from the DI and HI Trust Funds in November and December 1982. The loans were fully repaid by May 1, 1986. No additional interfund loans were made after 1982. In this report, the assets of the OASI Trust Fund, as of the end of each year 1982-85, include any amounts then owed to the DI and HI Trust Funds. The assets of the trust funds to which amounts were owed do not include such amounts. This procedure is followed because the borrowed amounts were available for the payment of benefits or other obligations of the OASI fund, while such amounts were not readily available to the lending funds.

IV. SUMMARY OF THE OPERATIONS OF THE OLD-AGE AND SURVIVORS INSURANCE AND DISABILITY INSURANCE TRUST FUNDS, FISCAL YEAR 1988

A. OLD-AGE AND SURVIVORS INSURANCE TRUST FUND

A statement of the income and disbursements of the Federal Old-Age and Survivors Insurance Trust Fund in fiscal year 1988, and of the assets of the fund at the beginning and end of the fiscal year, is presented in table 2.

TABLE 2.—STATEMENT OF OPERATIONS OF THE OASI TRUST FUND DURING FISCAL YEAR 1988
[In thousands]

Total assets, September 30, 1987		$58,264,742
Receipts:		
Contributions:		
Appropriations:		
Employment taxes	$224,524,817	
Tax credits	2,072,064	
Total appropriations	226,596,881	
Deposits arising from State agreements	39,815	
Payment from general fund of the Treasury representing employee-employer contributions on deemed wage credits for military service in 1988	284,000	
Gross contributions	226,920,696	
Less payment to the general fund of the Treasury for contributions subject to refund	511,950	
Net contributions		225,408,746
Income from taxation of benefit payments:		
Withheld from benefit payments to non-resident aliens	69,662	
All other, not subject to withholding[1]	3,265,000	
Total income from taxation of benefits		3,334,662
Reimbursement from general fund of the Treasury for costs of payments to uninsured persons who attained age 72 before 1968		54,554
Investment income and interest adjustments:		
Interest on investments	6,744,298	
Interest on interfund transfers due to adjustment in allocation of administrative expenses	14,354	
Gross investment income and interest adjustments	6,758,652	
Less interest on transfers between the trust fund and the general fund account for the Supplemental Security Income program due to adjustment in allocation of administrative expenses	315	
Less interest on general fund advance tax transfers	836,040	
Net investment income and interest adjustments		5,922,297
Gifts		52
Total receipts		235,720,311

TABLE 2.—STATEMENT OF OPERATIONS OF THE OASI TRUST FUND DURING FISCAL YEAR 1988 (Cont.)
[In thousands]

Disbursements:		
Benefit payments:		
Gross benefit payments	$193,299,786	
Less collected overpayments	759,006	
Less reimbursement for unnegotiated checks	39,136	
Net benefit payments		$192,501,645
Transfer to the Railroad Retirement "Social Security Equivalent Benefit Account"		2,789,968
Administrative expenses:		
Department of Health and Human Services	1,461,172	
Department of the Treasury	268,855	
Gross administrative expenses	1,730,027	
Less reimbursements from general fund of the Treasury for costs of furnishing information on deferred vested pension benefits	790	
Less receipts from sales of supplies, materials, etc	130	
Net administrative expenses		1,729,107
Total disbursements		197,020,720
Net increase in assets		38,699,591
Total assets, September 30, 1988		96,964,333

[1]Includes $29 million transferred to the OASI Trust Fund from the general fund of the Treasury to correct estimated amounts appropriated for calendar year 1986.

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

The total assets of the OASI Trust Fund amounted to $58,265 million on September 30, 1987. During fiscal year 1988, total receipts amounted to $235,720 million, and total disbursements were $197,021 million. The assets of the OASI Trust Fund thus increased by $38,700 million during the year, to a total of $96,964 million on September 30, 1988.

Included in total receipts during fiscal year 1988 were $226,597 million representing contributions appropriated to the fund (including transfers of $2,072 million from the general fund of the Treasury to offset the tax credits allowed against contributions due on earnings of self-employed persons). Also included in total receipts were $40 million representing adjustments to taxes on wages paid to State and local government employees before January 1, 1987. The collection of contributions on wages paid after that date became the responsibility of the Internal Revenue Service as a result of Public Law 99-509, and such contributions are now included in employment taxes appropriated to the trust funds. Another $284 million was received from the general fund of the Treasury representing partial payment for the contributions that would have been paid on estimated deemed wage credits for military service in 1988 if such credits had been considered to be covered wages. (The amount to be transferred under section 229(b) of the Social Security Act was originally determined to be about $350 million. Only $284 million was transferred in fiscal year 1988 because the transfer was limited to amounts available in the fiscal year 1988 appropriation. It is anticipated that the difference will be transferred in 1990.) As an offset to gross contributions, $512 million was transferred from the trust fund to the general fund of the Treasury for the estimated amount of refunds to employees who worked for more than one employer during a year and paid contributions on wages in excess of the contribution and benefit base.

Net contributions (including the general fund payments for offsetting tax credits and deemed military-service wage credits) amounted to $226,409 million, an increase of 13.5 percent over the amount in the preceding fiscal year. This level of growth in contribution income resulted primarily from the effects of (1) increased covered employment and earnings, (2) the increase in the OASI tax rate that became effective on January 1, 1988, and (3) the increases in the contribution and benefit base that became effective on January 1 of each year 1987 and 1988. (Table 1 in the preceding section shows the tax rates that became effective for 1988, and the contribution and benefit bases that became effective for 1987 and 1988.)

Income from the taxation of benefits amounted to $3,335 million, of which 98 percent represented amounts credited to the trust fund in advance, on an estimated basis, together with an adjustment to 1986 transfers to account for actual experience. The remaining 2 percent of the total income from taxation of benefits represented amounts withheld from the benefits paid to non-resident aliens.

Special payments are made to uninsured persons who either attained age 72 before 1968, or who attained age 72 after 1967 and had 3 quarters of coverage for each year after 1966 and before the year of attainment of age 72. The costs associated with providing such payments to persons having fewer than 3 quarters of coverage are reimbursable from the general fund of the Treasury. Accordingly, a reimbursement of $55 million was transferred to the OASI Trust Fund in fiscal year 1988, as required by section 228 of the Social Security Act. The reimbursement reflected the costs of payments made in fiscal year 1986.

Net receipts totaling $5,922 million consisted of (1) interest earned on the investments of the trust fund; (2) interest arising from the revised allocation of administrative expenses among the trust funds; less (3) interest on transfers between the trust fund and the general fund account for the Supplemental Security Income program due to adjustments in the allocation of administrative expenses; less (4) reimbursement to the general fund for interest costs resulting from the advance transfer of contributions.

The remaining $51,669 of receipts consisted of gifts received under the provisions authorizing the deposit of money gifts or bequests in the trust funds.

Of the $197,021 million in total disbursements, $192,502 million was for net benefit payments, excluding collected overpayments of $759 million and the reimbursement of $39 million for unnegotiated benefit checks. The amount of net benefit payments in fiscal year 1988 represents an increase of 5.8 percent over the corresponding amount in fiscal year 1987. This increase was due primarily to (1) the automatic cost-of-living benefit increases of 1.3 percent and 4.2 percent which became effective for December 1986 and December 1987, respectively, under the automatic-adjustment provisions in section 215(i) of the Social Security Act, (2) an increase in the total number of beneficiaries, and (3) an increase in the average benefit amount resulting from the rising level of earnings.

As described in the preceding section, certain provisions of the Railroad Retirement Act coordinate the Railroad Retirement and OASDI programs and govern the financial interchanges arising from the allocation of costs between the two programs. The objective of the financial interchanges is to place the trust funds in the same financial position in which they would have been if railroad employment had always been covered under Social Security. Accordingly, the Railroad Retirement Board and the Secretary of Health and Human Services determined that a transfer of $2,635 million to the Social Security Equivalent Benefit Account (SSEBA) from the OASI Trust Fund would put the trust fund in such a financial position as of September 30, 1987. A total amount of $2,790 million was transferred to the SSEBA in June 1988, including interest to the date of transfer amounting to $155 million.

The remaining $1,729 million of disbursements from the OASI Trust Fund represented net administrative expenses. The expenses of administering the OASDI and Medicare programs are allocated and charged directly to each of the various trust funds, through which those programs are financed, on the basis of provisional estimates. Similarly, the expenses of administering the Supplemental Security Income program are also allocated and charged directly to the general fund of the Treasury on a provisional basis. Periodically, as actual experience develops and is analyzed, adjustments to the allocations of administrative expenses for prior periods are effected by interfund transfers and transfers between the OASI Trust Fund and the general fund account for the Supplemental Security Income program, with appropriate interest adjustments.

Section 1131 of the Social Security Act authorizes annual reimbursements from the general fund of the Treasury to the OASI Trust Fund for additional administrative expenses incurred as a result of furnishing information on deferred vested benefits to pension plan participants, as required by the Employee Retirement Income Security Act of 1974 (Public Law 93-406). The reimbursement in fiscal year 1988 amounted to $789,816.

Net administrative expenses charged to the OASI and DI Trust Funds in fiscal year 1988 totaled $2,532 million. (The operations of the DI Trust Fund are presented in detail in the next subsection.) This amount represented 1.0 percent of contribution income and 1.2 percent of expenditures for benefit payments. Corresponding percentages for each trust fund separately and for the OASDI program as a whole are shown in table 3 for each of the last 5 years.

TABLE 3.— NET ADMINISTRATIVE EXPENSES AS A PERCENTAGE OF CONTRIBUTION INCOME AND OF BENEFIT PAYMENTS, BY TRUST FUND, FISCAL YEARS 1984-88

Fiscal year	OASI Trust Fund		DI Trust Fund		Total	
	Contribution income	Benefit payments	Contribution income	Benefit payments	Contribution income	Benefit payments
1984	1.0	1.0	3.6	3.3	1.3	1.3
1985	0.9	1.0	3.6	3.2	1.1	1.2
1986	.9	.9	3.3	3.1	1.1	1.1
1987	.8	.8	3.8	3.6	1.0	1.1
1988	.8	.9	3.7	3.8	1.0	1.2

In table 4, the actual amounts of contributions and benefit payments in fiscal year 1988 are compared to the corresponding estimated amounts which appeared in the 1987 and 1988 Annual Reports. The estimates shown are the ones based on the alternative II-B set of assumptions from each report. Actual OASI and DI contributions and benefit payments were reasonably close, relatively, to the estimates shown in the 1988 Annual Report. The estimates in the 1987 report, however, understated OASI and DI tax contributions somewhat, as well as DI benefit payments.

Reference was made in an earlier section to the appropriation of contributions to the trust funds on an estimated basis, with subsequent periodic adjustments to account for differences from the amounts of contributions actually payable on the basis of reported earnings. In interpreting the figures in table 4, it should be noted that the "actual" amount of contributions in fiscal year 1988 reflects the aforementioned adjustments to contributions for prior fiscal years. The "estimated" contributions in fiscal year 1988 also include the adjustments for prior years, but on an estimated basis.

TABLE 4.—COMPARISON OF ACTUAL AND ESTIMATED OPERATIONS OF THE OASI AND DI TRUST FUNDS, FISCAL YEAR 1988
[Amounts in millions]

	OASI Trust Fund		DI Trust Fund	
	Net contributions	Benefit payments[1]	Net contributions	Benefit payments[1]
Actual amount	$226,409	$192,502	$21,736	$21,405
Estimated amount published in 1987 report	$221,541	$193,054	$21,251	$21,001
Actual as percentage of estimate	102.2	99.7	102.3	101.9
Estimated amount published in 1988 report	$224,708	$192,360	$21,566	$21,338
Actual as percentage of estimate	100.8	100.1	100.8	100.3

[1]Includes payments for vocational rehabilitation services furnished to disabled persons receiving benefits because of their disabilities.

At the end of fiscal year 1988, about 38.5 million persons were receiving monthly benefits under the OASDI program. Of these persons, about 34.5 million and 4.1 million were receiving monthly benefits from the OASI Trust Fund and the DI Trust Fund, respectively. The estimated distribution of benefit payments (before reflecting the reimbursement for unnegotiated checks) in fiscal years 1987 and 1988, by type of beneficiary, is shown in table 5 for each trust fund separately.

TABLE 5.—ESTIMATED DISTRIBUTION OF BENEFIT PAYMENTS FROM THE OASI AND DI TRUST FUNDS, BY TYPE OF BENEFICIARY OR PAYMENT, FISCAL YEARS 1987 AND 1988
[Amounts in millions]

	Fiscal year 1987		Fiscal year 1988	
	Amount	Percentage of total	Amount	Percentage of total
Total OASDI benefit payments	$202,477	100.0	$213,938	100.0
OASI benefit payments	182,055	89.9	192,541	90.0
DI benefit payments	20,422	10.1	21,397	10.0
OASI benefit payments, total	182,055	100.0	192,541	100.0
Monthly benefits:				
Retired workers and auxiliaries	140,050	76.9	148,168	77.0
Retired workers	127,374	70.0	134,836	70.0
Wives and husbands	11,495	6.3	12,123	6.3
Children	1,181	.6	1,209	.6
Survivors of deceased workers	41,763	22.9	44,135	22.9
Aged widows and widowers	32,030	17.6	34,202	17.8
Disabled widows and widowers	434	.2	444	.2
Parents	45	(1)	43	(1)
Children	7,852	4.3	8,058	4.2
Widowed mothers and fathers caring for child beneficiaries	1,402	.8	1,389	.7
Uninsured persons generally aged 72 before 1968	38	(1)	30	(1)
Lump-sum death payments	204	.1	207	.1
DI benefit payments, total	20,422	100.0	21,397	100.0
Disabled workers	17,957	87.9	18,889	88.3
Wives and husbands	538	2.6	529	2.5
Children	1,927	9.4	1,979	9.2

[1]Less than 0.05 percent.

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

The assets of the OASI Trust Fund at the end of fiscal year 1988 totaled $96,964 million, consisting of $97,137 million in U.S. Government obligations and, as an offset, an extension of credit amounting to $173 million against securities to be redeemed within the following few days. Table 6 shows the total assets of the fund and their distribution at the end of each fiscal year 1987 and 1988.

TABLE 6.—ASSETS OF THE OASI TRUST FUND, BY TYPE, AT END OF FISCAL YEAR, 1987 AND 1988

	September 30, 1987	September 30, 1988
Obligations sold only to the trust funds (special issues):		
Certificates of indebtedness:		
9 percent, 1988	$4,888,728,000.00	—
9.25 percent, 1989	—	$12,305,822,000.00
Bonds:		
8.375 percent, 1989	313,296,000.00	—
8.375 percent, 1990	313,296,000.00	313,296,000.00
8.375 percent, 1991-2000	3,132,950,000.00	3,132,950,000.00
8.375 percent, 2001	2,370,396,000.00	2,370,396,000.00
8.625 percent, 1989	1,301,731,000.00	—
8.625 percent, 1990-2001	15,620,772,000.00	15,620,772,000.00
8.625 percent, 2002	3,672,127,000.00	3,672,127,000.00
9.25 percent, 1990	—	2,240,308,000.00
9.25 percent, 1991-2000	—	22,403,090,000.00
9.25 percent, 2001-02	—	4,480,616,000.00
9.25 percent, 2003	—	5,912,435,000.00
10.375 percent, 1988	2,057,101,000.00	—
10.375 percent, 1989-90	4,114,202,000.00	4,114,202,000.00
10.375 percent, 1991	1,865,345,000.00	1,865,345,000.00
10.375 percent, 1992-99	4,521,488,000.00	4,521,488,000.00
10.375 percent, 2000	2,057,101,000.00	2,057,101,000.00
10.75 percent, 1992-96	5,111,155,000.00	5,111,155,000.00
10.75 percent, 1997-98	2,044,460,000.00	2,044,460,000.00
13.75 percent, 1991	191,756,000.00	191,756,000.00
13.75 percent, 1992-96	2,348,420,000.00	2,348,420,000.00
13.75 percent, 1997-98	939,370,000.00	939,370,000.00
13.75 percent, 1999	1,491,915,000.00	1,491,915,000.00
Total investments	58,355,609,000.00	97,137,024,000.00
Undisbursed balances[1]	-90,867,407.08	-172,691,216.36
Total assets	58,264,741,592.92	96,964,332,783.64

[1] Negative figures represented extensions of credit against securities to be redeemed within the following few days.

Note: Special issues are always purchased at par value. Therefore, book value and par value are the same for each special issue, and the common value is shown above. Where the maturity years are grouped for special issues, the amount maturing in each year is the amount shown divided by the number of years.

All securities held by the OASI Trust Fund are special issues (i.e., securities sold only to the trust funds). These are of two types: short-term certificates of indebtedness and long-term bonds. The certificates of indebtedness are issued through the investment of receipts not required to meet current expenditures, and they mature on the next June 30 following the date of issue. Special-issue bonds, on the other hand, are normally acquired only when the certificates of indebtedness (and bonds, issued previously) mature on June 30. The amount of bonds acquired on June 30 is equal to the amount of special issues maturing, less amounts required to meet expenditures on that day.

Table 7 shows the investment transactions of the OASI and DI Trust Funds, separate and combined, in fiscal year 1988. All amounts shown in the table are at par value.

TABLE 7.—INVESTMENT TRANSACTIONS OF THE OASI AND DI TRUST FUNDS IN FISCAL YEAR 1988
[In thousands]

	OASI Trust Fund	DI Trust Fund	Total
Invested assets, September 30, 1987	$58,355,609	$7,192,839	$65,548,448
Acquisitions:			
Certificates of indebtedness	234,444,860	22,288,584	256,733,444
Bonds	37,276,757	1,395,901	38,672,658
Total acquisitions	271,721,617	23,684,485	295,406,102
Dispositions:			
Certificates of indebtedness	227,027,766	22,005,776	249,033,542
Bonds	5,912,436	1,526,187	7,438,623
Total dispositions	232,940,202	23,531,963	256,472,165
Net increase in invested assets	38,781,415	152,522	38,933,937
Invested assets, September 30, 1988	97,137,024	7,345,361	104,482,385

Note: All investments are shown at par value. No transactions in the marketable securities held by the DI Trust Fund occurred during fiscal year 1988.

The effective annual rate of interest earned by the assets of the OASI Trust Fund during the 12 months ending on June 30, 1988, was 9.9 percent, as compared to 10.8 percent earned during the 12 months ending on June 30, 1987. (This period is used, rather than the fiscal year, because interest on special issues is paid semiannually on June 30 and December 31.) The interest rate on special issues purchased by the trust fund in June 1988 was 9.25 percent, payable semiannually. Special-issue bonds with a total par value of $37,277 million were purchased in June 1988.

Section 201(d) of the Social Security Act provides that the public-debt obligations issued for purchase by the OASI and DI Trust Funds shall have maturities fixed with due regard for the needs of the funds. The usual practice in the past has been to spread the holdings of special issues, as of each June 30, so that the amounts maturing in each of the next 15 years are approximately equal. Accordingly, the amounts and maturity dates of the special-issue bonds purchased on June 30, 1988, were selected in such a way that the maturity dates of the total portfolio of special issues were spread evenly over the 15-year period 1989-2003.

B. DISABILITY INSURANCE TRUST FUND

A statement of the income and disbursements of the Federal Disability Insurance Trust Fund during fiscal year 1988, and of the assets of the fund at the beginning and end of the fiscal year, is presented in table 8.

TABLE 8.—STATEMENT OF OPERATIONS OF THE DI TRUST FUND DURING FISCAL YEAR 1988
[In thousands]

Total assets, September 30, 1987		$7,172,732
Receipts:		
Contributions:		
Appropriations:		
Employment taxes	$21,548,798	
Tax credits	200,054	
Total appropriations	21,748,852	
Deposits arising from State agreements	8,849	
Payments from general fund of the Treasury representing employee-employer contributions on deemed wage credits for military service in 1988	27,000	
Gross contributions	21,784,701	
Less payment to the general fund of the Treasury for contributions subject to refund	48,450	
Net contributions		21,736,251
Income from taxation of benefit payments:		
Withheld from benefit payments to non-resident aliens	3,547	
All other, not subject to withholding[1]	52,000	
Total income from taxation of benefits		55,547
Investment income and interest adjustments:		
Interest on investments	689,735	
Less interest on interfund transfers due to adjustment in allocation of administrative expenses	32,360	
Less interest on general fund advance tax transfers	79,891	
Net investment income and interest adjustments		577,484
Total receipts		22,369,282
Disbursements:		
Benefit payments:		
Gross benefit payments	21,491,911	
Less collected overpayments	94,925	
Less reimbursement for unnegotiated checks	10,864	
Net benefit payments		21,386,122
Transfer to the Railroad Retirement "Social Security Equivalent Benefit Account"		61,305
Payment for costs of vocational rehabilitation services for disabled beneficiaries		18,897
Administrative expenses:		
Department of Health and Human Services	773,987	
Department of the Treasury	28,986	
Gross administrative expenses	802,974	
Less receipts from sales of supplies, materials, etc.	8	
Net administrative expenses		802,966
Total disbursements		22,269,290
Net increase in assets		99,992
Total assets, September 30, 1988		7,272,724

[1]Reflects $116 million transferred from the DI Trust Fund to the general fund of the Treasury to correct estimated amounts appropriated for calendar year 1986.

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

The total assets of the DI Trust Fund amounted to $7,173 million on September 30, 1987. During fiscal year 1988, total receipts amounted to $22,369 million, and total disbursements were $22,269 million. The assets of the trust fund thus increased by $100 million during the year, to a total of $7,273 million on September 30, 1988.

Included in total receipts were $21,749 million representing contributions appropriated to the fund (including transfers of $200 million from the general fund of the Treasury to offset the tax credits allowed against contributions due on earnings of self-employed persons), $9 million representing adjustments to taxes on wages paid to State and local government employees before January 1, 1987, and $27 million in payments from the general fund of the Treasury representing a portion of the contributions that would have been paid on estimated deemed wage credits for military service in 1988 if such credits had been considered to be covered wages (an additional amount will be credited in fiscal year 1990 for this last purpose, for the same reason given in the preceding subsection). As an offset, $48 million was transferred from the trust fund to the general fund of the Treasury for the estimated amount of refunds to employees who worked for more than one employer during a year and paid contributions on wages in excess of the contribution and benefit base.

Net contributions amounted to $21,736 million, an increase of 12.5 percent from the amount in the preceding fiscal year. This increase is primarily attributable to the same factors, insofar as they apply to the DI program, that accounted for the change in contributions to the OASI Trust Fund (described in the preceding subsection). Income from the taxation of benefit payments amounted to $56 million in fiscal year 1988, representing the net of $172 million of such income offset by $116 million transferred to the general fund of the Treasury to correct estimated amounts appropriated for calendar year 1986.

Net interest totaling $577 million consisted of interest on the investments of the fund, less interest on amounts of interfund and general-fund transfers (see preceding subsection).

Of the $22,269 million in total disbursements, $21,386 million was for net benefit payments, excluding collected overpayments of $95 million and the reimbursement of $11 million for unnegotiated benefit checks. This represents an increase of 4.8 percent over the corresponding amount of benefit payments in fiscal year 1987. This increase reflects somewhat the same factors that resulted in the net increase in benefit payments from the OASI Trust Fund (as described in the preceding subsection).

Provisions governing the financial interchanges between the Railroad Retirement and OASDI programs are described in a preceding section. The determination made as of September 30, 1987, required that a transfer of $57,900,000 be made from the DI Trust Fund to the Social Security Equivalent Benefit Account. A total amount of $61,305,000 was transferred to the SSEBA in June 1988, including interest to the date of transfer amounting to $3,405,000.

The remaining disbursements amounted to $803 million for net administrative expenses and $19 million for the costs of vocational rehabilitation services furnished to disabled-worker beneficiaries and to those children of disabled workers who were receiving benefits on the basis of disabilities that began before age 22. Reimbursement from the trust funds for the costs of such services is made only in those cases where the services contributed to the successful rehabilitation of the beneficiaries.

The assets of the DI Trust Fund at the end of fiscal year 1988 totaled $7,273 million, consisting of $7,345 million in U.S. Government obligations and, as an offset, an extension of credit amounting to $72 million against securities to be redeemed within the following few days. Table 9 shows the total assets of the fund and their distribution at the end of each fiscal year 1987 and 1988.

TABLE 9.—ASSETS OF THE DI TRUST FUND, BY TYPE, AT END OF FISCAL YEAR, 1987 AND 1988

	September 30, 1987	September 30, 1988
Investments in public-debt obligations:		
Public issues:		
Treasury bonds:		
3.5 percent, 1990	$10,500,000.00	$10,500,000.00
3.5 percent, 1998	5,000,000.00	5,000,000.00
4.125 percent, 1989-94	68,400,000.00	68,400,000.00
4.25 percent, 1987-92	80,800,000.00	80,800,000.00
7.5 percent, 1988-93	26,500,000.00	26,500,000.00
7.625 percent, 2002-07	10,000,000.00	10,000,000.00
8 percent, 1996-2001	26,000,000.00	26,000,000.00
8.25 percent, 2000-05	3,750,000.00	3,750,000.00
11.75 percent, 2010	30,250,000.00	30,250,000.00
Total investments in public issues at par value, as shown above	261,200,000.00	261,200,000.00
Unamortized premium or discount, net	-824,770.04	-714,629.84
Total investments in public issues at book value	260,375,229.96	260,485,370.16
Obligations sold only to the trust funds (special issues):		
Certificates of indebtedness:		
9.25 percent, 1989	—	282,808,000.00
Bonds:		
8.375 percent, 1990	38,694,000.00	—
8.375 percent, 1991	201,767,000.00	—
8.375 percent, 1992	201,767,000.00	160,260,000.00
8.375 percent, 1993	201,767,000.00	201,767,000.00
8.375 percent, 1994-95	219,226,000.00	219,226,000.00
8.375 percent, 1996-2000	1,008,835,000.00	1,008,835,000.00
8.375 percent, 2001	591,226,000.00	591,226,000.00
8.75 percent, 1993	47,479,000.00	47,479,000.00
8.75 percent, 1994	339,277,000.00	339,277,000.00
9.25 percent, 1990-91	—	930,600,000.00
9.75 percent, 1993	142,337,000.00	142,337,000.00
9.75 percent, 1994	142,336,000.00	142,336,000.00
9.75 percent, 1995	481,613,000.00	481,613,000.00
10.375 percent, 1990	177,111,000.00	—
10.375 percent, 1991	101,503,000.00	—
10.375 percent, 1992-93	203,006,000.00	203,006,000.00
10.375 percent, 1996-98	304,512,000.00	304,512,000.00
10.375 percent, 1999	152,904,000.00	152,904,000.00
10.375 percent, 2000	389,459,000.00	389,459,000.00

TABLE 9.—ASSETS OF THE DI TRUST FUND, BY TYPE, AT END OF FISCAL YEAR, 1987 AND 1988 (Cont.)

	September 30, 1987	September 30, 1988
Investments in public-debt obligations: (Cont.)		
Obligations sold only to the trust funds (special issues): (Cont.)		
Bonds: (Cont.)		
10.75 percent, 1990	$212,348,000.00	—
10.75 percent, 1991	287,956,000.00	—
10.75 percent, 1992	287,956,000.00	$287,956,000.00
10.75 percent, 1993	98,140,000.00	98,140,000.00
10.75 percent, 1996-98	863,865,000.00	863,865,000.00
13.75 percent, 1999	236,555,000.00	236,555,000.00
Total obligations sold only to the trust funds (special issues)	6,931,639,000.00	7,084,161,000.00
Total investments in public-debt obligations (book value[1])	7,192,014,229.96	7,344,646,370.16
Undisbursed balances[2]	-19,282,218.00	-71,922,200.23
Total assets (book value[1])	7,172,732,011.96	7,272,724,169.93

[1] Par value, plus unamortized premium or less discount outstanding.

[2] Negative figures represented extensions of credit against securities to be redeemed within the following few days.

Note: Special issues are always purchased at par value. Therefore, book value and par value are the same for each special issue, and the common value is shown above. Where the maturity years are grouped for special issues, the amount maturing in each year is the amount shown divided by the number of years.

The effective annual rate of interest earned by the assets of the DI Trust Fund during the 12 months ending on June 30, 1988, was 9.5 percent, as compared to 9.9 percent earned during the 12 months ending on June 30, 1987. The interest rate on public-debt obligations issued for purchase by the trust fund in June 1988 was 9.25 percent, payable semiannually. Special-issue bonds with a total par value of $1,396 million were purchased in June 1988.

The investment policies and practices described in the preceding subsection concerning the OASI Trust Fund apply as well to the investment of the assets of the DI Trust Fund.

V. ACTUARIAL ESTIMATES

Section 201(c)(2) of the Social Security Act requires the Board of Trustees to report annually to the Congress on the operations and status of the OASI and DI Trust Funds during the preceding fiscal year and on the expected operations and status of those trust funds during the ensuing 5 fiscal years. Such information for the fiscal year that ended September 30, 1988, is presented in the preceding section of this report. Estimates of the operations and status of the trust funds during fiscal years 1989-93 are presented in this section. Similar estimates for calendar years 1989-93 are also presented.

In the short range, the adequacy of the trust fund level is often measured by the "contingency fund ratio," which is defined to be the assets at the beginning of the year, including advance tax transfers for January, expressed as a percentage of the outgo during the year. (For the years 1983-86, the assets at the beginning of the year also included amounts owed or excluded amounts lent, to another trust fund.) Thus, this ratio represents the proportion of the year's outgo which is available at the beginning of the year. During periods when outgo temporarily exceeds income, as might happen during an economic recession, trust fund assets are used to meet the shortfall. In the event of recurring shortfalls for an extended period, the trust funds can allow sufficient time for the development and enactment of legislation to restore financial balance to the program.

Section 201(c) of the Act also requires that the annual report include "a statement of the actuarial status of the Trust Funds." Such statements have customarily been made for the medium-range valuation period (25 years) and the long-range valuation period (75 years), each period commencing with the calendar year of issuance of the report. The statement of the long-range actuarial status has customarily included the actuarial status during the second and third 25-year subperiods of the long-range projection period. Statements of the current actuarial status are presented in this section. The methods used to estimate the short-range operations of the trust funds and the actuarial status are described in Appendix A.

Basic to the discussion of the actuarial status are the concepts of "income rate" and "cost rate," each of which is expressed as a percentage of taxable payroll. The OASDI taxable payroll consists of the total earnings which are subject to OASDI taxes, adjusted to include, after 1982, deemed wages based on military service, and to reflect the lower effective tax rates (as compared to the combined employee-employer rate) which apply to multiple-employer "excess wages," and which did apply, before 1984, to net earnings from self-employment and, before 1988, to tips. Because the taxable payroll reflects these adjustments, the income rate can be defined to be the sum of the OASDI combined employee-employer contribution rate (or the payroll-tax rate) scheduled in the law and the rate of income from taxation of benefits (which is in turn expressed as a percentage of taxable payroll). As such, it excludes reimbursements from the general fund of the Treasury for the costs associated with special monthly payments to certain uninsured persons who attained age 72 before 1968 and who have fewer than 3

quarters of coverage, transfers under the interfund borrowing provisions, and net investment income. The cost rate is the ratio of the cost (or outgo or disbursements) of the program to the taxable payroll. In this context, the outgo is defined to include benefit payments, special monthly payments to certain uninsured persons who have 3 or more quarters of coverage (and whose payments are therefore not reimbursable from the general fund of the Treasury), administrative expenses, net transfers from the trust funds to the Railroad Retirement program under the financial-interchange provisions, and payments for vocational rehabilitation services for disabled beneficiaries; it excludes special monthly payments to certain uninsured persons whose payments are reimbursable from the general fund of the Treasury (as described above), and transfers under the interfund borrowing provisions. For any year, the income rate minus the cost rate is referred to as the "balance" for the year.

The long-range financial status of the trust funds has generally been summarized by the calculation of the actuarial balance. This is defined as the difference between the income rate and the cost rate over the long-range period—i.e., the next 75 years. If the actuarial balance is estimated to be negative, the program is said to have an actuarial deficit. Such deficit, when estimated, serves as a warning that, unless the projections turn out to be too pessimistic, changes in the program's financing or benefit provisions will be needed in the future.

As in the 1988 report, the actuarial balance in this report is calculated on the "level-financing" basis. The "level-financing" calculations are based on the present value of future income, outgo, and taxable payroll. The present value is calculated by discounting the future annual amounts at the assumed rate of interest. The income and cost rates over the projection period are then obtained by dividing the present value of the taxable payroll into the present values of income and outgo, respectively. The difference between the income rate and cost rate over the long-range projection period, after an adjustment to take into account the fund balance at the valuation date, is computed to obtain the long-range actuarial balance. However, it should be noted that a single measure over a long period, such as the actuarial balance, may not reveal problems which could occur during that period. Thus, other measures should also be considered.

The "level-financing" calculations result in estimated actuarial balances that are sensitive to changes in the assumed rate of interest whenever the projected annual balances vary significantly through time, as is the case with the projections presented in this report. As shown in Appendix B, a change of one percentage point in the assumed rate of interest would change the estimated long-range actuarial balance by about 0.5 percent of taxable payroll based on alternative II-B assumptions.

The Board is of the opinion that decisions about the long-range future of the OASDI program should not be based solely on the estimated long-range actuarial balance. This particular concept, although useful in the decision-making process, does not fully capture all of the information that may be necessary for arriving at appropriate decisions. It is particularly inadequate now since it does not reveal what actually occurs

when a substantial reserve accumulates during the early part of the projection period and decumulates during the latter part of the period. The Board therefore has chosen to focus more attention on: (1) the pattern and ultimate levels of projected annual cost and income rates (particularly to the differences between these two, which have been previously defined as annual balances), (2) the size of future fund accumulations (particularly to the year and amount of maximum projected fund ratio and the year and amount of maximum funds in dollars), and (3) the year of projected fund exhaustion. Estimates of these indicators are highlighted in this section or the appendices.

To further reinforce this view, the Board agreed at its April 1988 meeting to drop the concept of "close actuarial balance" from the report beginning in 1989. The Board does not want to put undue emphasis on the concept of close actuarial balance by continuing to report on whether the actuarial balance falls within an arbitrary range of values. The Board is of the opinion that the "close actuarial balance" test, by itself, might inappropriately influence the decision as to whether and when changes in the program's financing or benefit provisions are needed in the future. The system may be out of close actuarial balance because of projected deficits in the very long run, even though benefits could be paid for many years into the future, and immediate action may not be required. [1]

Because the program is entering a period of large fund accumulation, the Board believes that the subject of the proper level of fund accumulation should be made a specific part of the agenda for the next Social Security Advisory Council. The Board particularly requests that a Panel of Financing Experts (consisting of actuaries, economists, and demographers) be appointed by the Advisory Council, and that the panel be instructed to provide advice regarding the measures that should be used to judge the program's short-range and long-range financial soundness.

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[1]The Social Security Administration's Chief Actuary believes that "close actuarial balance" is a valid concept, that it is generally accepted by the actuarial profession in evaluating the actuarial status of the OASDI program, and that it should be included in the report, continuing the practice in effect since the late 1950's. Furthermore, the Chief Actuary wishes to note that the General Accounting Office in an independent study recognizes the importance of the concept of "close actuarial balance" but also recommends adding other measures to it to serve as an early-warning device. A program is out of close actuarial balance if its actuarial deficit or surplus is greater than 5 percent of its cost rate. If the concept were continued this year, it would show (using the alternative II-B assumptions) that the OASI program (long-run actuarial deficit equal to 4.4 percent of its cost rate) is in close actuarial balance, the DI program (deficit equal to 11 percent of its cost rate) is out of close actuarial balance, and the combined OASDI program (deficit equal to 5.1 percent of its cost rate) is just barely out of close actuarial balance. This has not, however, been unexpected. It has been clear for some time that the annual revisions in OASDI projections involve the addition of future high-cost years, which adversely affect the actuarial balance of the program.

A. ECONOMIC AND DEMOGRAPHIC ASSUMPTIONS

The future income and outgo of the OASDI program depend on many economic and demographic factors, including gross national product, labor force, unemployment, average earnings, productivity, inflation, fertility, mortality, net immigration, marriage, divorce, retirement patterns, and disability incidence and termination. The income will depend on how these factors affect the size and composition of the working population and the general level of earnings. Similarly, the outgo will depend on how these factors affect the size and composition of the beneficiary population and the general level of benefits.

Because precise forecasting of these various factors is impossible, estimates are shown in this report on the basis of four sets of assumptions, designated as alternatives I, II-A, II-B, and III. The two intermediate sets—alternatives II-A and II-B—share the same demographic assumptions but differ in their economic assumptions. More robust economic growth is assumed for alternative II-A than for alternative II-B. This presentation illustrates the effect on the financial status of the program of higher real earnings growth, higher employment, and lower inflation, for a given set of demographic assumptions. In terms of the net effect on the status of the program, alternative II-A is more optimistic than is alternative II-B. Of all four sets, alternative I is the most optimistic, and alternative III is the most pessimistic.

Although these sets of economic and demographic assumptions have been developed using the best available information, the resulting estimates should be interpreted with care. In particular, they are not intended to be exact predictions of the future status of the OASDI program, but rather, they are intended to be indicators of the trend and range of future income and outgo, under a variety of plausible economic and demographic conditions.

Economic assumptions

The principal economic assumptions for the four alternatives are summarized in table 10.

TABLE 10.— SELECTED ECONOMIC ASSUMPTIONS BY ALTERNATIVE, CALENDAR YEARS 1960-2065

Calendar year	Average annual percentage increase in— Real GNP[1]	Average annual wage in covered employment	Consumer Price Index[2]	Real-wage differential[3] (percent)	Average annual interest rate[4] (percent)	Average annual unemployment rate[5] (percent)
Past experience:						
1960-64	3.9	3.4	1.3	2.1	3.7	5.7
1965-69	4.4	5.4	3.4	2.0	5.2	3.8
1970-74	2.4	6.3	6.1	.1	6.7	5.4
1975	-1.3	6.7	9.2	-2.5	7.4	8.5
1976	4.9	8.7	5.7	3.0	7.1	7.7
1977	4.7	7.3	6.5	.8	7.1	7.1
1978	5.3	9.7	7.6	2.1	8.2	6.1
1979	2.5	9.8	11.4	-1.6	9.1	5.8
1980	-.2	8.7	13.5	-4.7	11.0	7.1
1981	1.9	9.9	10.3	-.4	13.3	7.6
1982	-2.5	6.5	6.0	.5	12.8	9.7
1983	3.6	*4.8	3.0	*1.8	11.0	9.6
1984	6.8	*6.5	3.4	*3.0	12.4	7.5
1985	3.4	*4.4	3.5	*.8	10.8	7.2
1986	2.8	*4.1	1.6	*2.5	8.0	7.0
1987	3.4	*5.8	3.6	*2.2	8.4	6.2

TABLE 10.— SELECTED ECONOMIC ASSUMPTIONS BY ALTERNATIVE, CALENDAR YEARS 1960-2065 (Cont.)

Calendar year	Average annual percentage increase in— Real GNP[1]	Average annual wage in covered employment	Consumer Price Index[2]	Real-wage differential[3] (percent)	Average annual interest rate[4] (percent)	Average annual unemployment rate[5] (percent)
Alternative I:						
1988	3.9	6.4	4.0	2.4	8.8	5.5
1989	3.7	6.4	3.8	2.6	9.3	5.2
1990	3.6	5.5	3.0	2.4	8.7	5.0
1991	3.6	5.4	2.8	2.5	7.8	5.0
1992	3.4	5.0	2.5	2.5	6.9	4.9
1993	3.3	4.7	2.3	2.5	6.2	4.9
1994	3.2	4.4	2.1	2.3	5.5	4.8
1995	3.2	4.1	2.0	2.1	4.9	4.7
1996	3.0	4.0	2.0	2.0	4.7	4.7
1997	2.9	4.1	2.0	2.1	4.9	4.7
1998	2.9	4.1	2.0	2.1	5.0	4.7
2000	3.1	4.3	2.0	2.2	5.0	5.0
2010 & later[7]	2.6	4.2	2.0	2.2	5.0	5.0
Alternative II-A:						
1988	3.9	6.4	4.0	2.4	8.8	5.5
1989	3.2	6.0	3.9	2.1	9.3	5.2
1990	3.2	5.5	3.7	1.8	9.0	5.1
1991	3.1	5.1	3.2	1.9	8.2	5.1
1992	2.9	5.0	3.0	2.0	7.5	5.1
1993	2.8	5.0	3.0	2.0	6.7	5.2
1994	2.7	4.9	3.0	1.9	6.2	5.2
1995	2.6	4.7	3.0	1.7	5.8	5.2
1996	2.6	4.7	3.0	1.7	5.6	5.2
1997	2.6	4.8	3.0	1.8	5.6	5.2
1998	2.5	4.7	3.0	1.7	5.6	5.2
2000	2.6	4.8	3.0	1.7	5.5	5.5
2010 & later[7]	2.1	4.7	3.0	1.7	5.5	5.5
Alternative II-B:						
1988	3.8	6.4	4.0	2.4	8.8	5.5
1989	2.6	6.2	4.8	1.4	9.5	5.4
1990	2.6	5.3	4.5	.8	9.4	5.5
1991	2.6	5.5	4.5	1.0	9.1	5.5
1992	2.5	5.6	4.3	1.2	8.6	5.5
1993	2.5	5.8	4.2	1.6	8.0	5.5
1994	2.4	5.6	4.0	1.6	7.4	5.5
1995	2.3	5.5	4.0	1.5	6.9	5.5
1996	2.3	5.5	4.0	1.5	6.6	5.6
1997	2.3	5.6	4.0	1.6	6.4	5.6
1998	2.2	5.4	4.0	1.4	6.2	5.6
2000	2.2	5.4	4.0	1.3	6.0	6.0
2010 & later[7]	1.8	5.3	4.0	1.3	6.0	6.0
Alternative III:						
1988	3.8	5.2	4.0	1.2	8.8	5.5
1989	-.6	4.7	5.4	-.8	9.7	5.9
1990	.9	5.4	5.8	-.4	10.1	6.7
1991	2.4	6.4	6.4	(8)	10.5	6.4
1992	1.2	5.8	6.3	-.5	10.3	6.2
1993	-.7	4.6	5.0	-.3	9.6	7.2
1994	2.7	6.8	5.3	1.5	8.8	6.9
1995	1.9	5.9	5.0	.9	7.9	6.7
1996	1.8	5.9	5.0	.9	7.5	6.6
1997	1.6	6.0	5.0	1.0	7.2	6.5
1998	1.6	5.8	5.0	.8	6.8	6.5
2000	1.7	5.9	5.0	.8	6.5	7.0
2010 & later[7]	1.2	5.8	5.0	.8	6.5	7.0

[1]The real GNP (gross national product) is the value of total output of goods and services, expressed in 1982 dollars.

[2]The Consumer Price Index is the average of the 12 monthly values of the Consumer Price Index for Urban Wage Earners and Clerical Workers (CPI-W).

[3]The real-wage differential is the difference between the percentage increases, before rounding, in (1) the average annual wage in covered employment, and (2) the average annual Consumer Price Index.

[4]The average annual interest rate is the average of the nominal interest rates, which, in practice, are compounded semiannually, for special public-debt obligations issuable to the trust funds in each of the 12 months of the year.

[5]Through 1998, the rates shown are crude civilian unemployment rates. After 1998, the rates are total rates (including military personnel), adjusted by age and sex based on the estimated total labor force on July 1, 1988.

[6]Preliminary.

[7]This value is for 2010. The annual percentage increase in real GNP is assumed to continue to change after 2010 for each alternative to reflect the dependence of labor force growth on the size and age-sex distribution of the population. The increases for 2065 are 2.7, 1.8, 1.5, and 0.5 percent for alternatives I, II-A, II-B, and III, respectively.

[8]This value is between 0.05 percent and -0.05 percent.

Alternatives I, II-A, II-B, and III present a range of generally consistent sets of economic assumptions which have been designed to encompass most of the possibilities that might be encountered. A range for GNP and wages was included for 1988 because complete data for the year were not available at the time the assumptions were established. Alternative I presents the most optimistic outlook, with robust economic growth and low inflation. The intermediate sets of assumptions—alternatives II-A and II-B—bracket the current consensus view of moderate growth and inflation for the first few years; thereafter, alternative II-A continues to reflect more robust economic growth than does alternative II-B. Alternative III is a pessimistic forecast in which the economy experiences two recessions during the next 10 years. The total declines in real GNP for the projected recessions in alternative III are slightly less than those of recent recessions; however, the intervening recoveries are assumed to be substantially weaker than those experienced in the recent past. This scenario presents an assessment of the combined effects on the OASDI program of business cycles and generally weak economic growth.

The period of real economic growth, which began in the fourth quarter of 1982 and includes a significant increase in estimated U.S. wages relative to GNP during 1988, is assumed to continue through the end of the decade under alternatives I, II-A, and II-B. Real GNP is assumed to be stronger for alternative I than for alternative II-A. Similarly, growth for alternative II-A is stronger than that for alternative II-B. During the last 3 quarters of 1989, under the alternative II-B assumptions, a period of relatively slow growth is assumed to occur. A return to steady growth at more normal rates is assumed thereafter.

For alternative III, a significantly lower average wage increase is assumed for 1988 as a result of not recognizing the full 1988 estimated increase in U.S. wages relative to GNP. (This assumption allows for the possibility of future downward revisions in estimated total wages and a decline in the proportion of total wages which are taxable, both of which have adverse implications for program revenues.) The recovery is assumed to have ended in the first quarter of 1989; a recession is assumed to occur during the balance of 1989. After 9 quarters of recovery, a second recession is assumed to begin in the second quarter of 1992, lasting through the first quarter of 1993.

For each of the alternatives I, II-A, and II-B, the unemployment rate is assumed to move gradually toward its ultimate average level. For alternative III, the unemployment rate is assumed to reach its ultimate average level after the recovery that is assumed to follow the second recession. Unemployment rates through 1998 represent the most commonly cited crude civilian rate, which describes the differences between aggregate civilian labor force and aggregate civilian employment. For years after 1998, however, total rates are presented that include the military (which reduces the rate by about 0.1 percent relative to the civilian rate) and are age-sex adjusted to the 1988 labor force. Such total rates better represent the total population covered by the OASDI program and adjust for the changing age-sex distribution of the labor force, which can obscure the comparison of unemployment rates over

different time periods. After the early 1990s, the projected rates of growth in real GNP, for all four alternatives, are determined by the assumed rates of growth in employment, average hours worked, and productivity.

Assumed values for the other economic variables are consistent with the assumed rates of real GNP growth. For alternative II-A, the average annual unemployment rate declines slightly from the level experienced for 1988, 5.5 percent, before returning to the assumed ultimate average rate of 5.5 percent (age-sex adjusted to the 1988 labor force) by the year 2000. The annual rate of increase in the average wage in covered employment is assumed to decline from the assumed 6.4-percent increase in 1988 to its ultimate rate of 4.7 percent by 2010. The annual rate of increase in the Consumer Price Index for Urban Wage Earners and Clerical Workers (CPI-W) is assumed to decline steadily from 4.0 percent in 1988 to an ultimate rate of 3.0 percent in 1992. The CPI-W (hereinafter denoted as "CPI") is used to determine automatic cost-of-living benefit increases under the OASDI program. The real-wage differential (i.e., the difference between the annual rates of increase in the average wage in covered employment and in the CPI) is assumed to remain between 1.7 and 2.1 percentage points after 1988, reaching its ultimate value of 1.7 percentage points by 2010. The annual interest rate is assumed to reach its ultimate value of 5.5 percent by 2000.

For alternative II-B, the average annual unemployment rate remains between 5.4 and 5.6 percent (on a non-age-sex-adjusted basis) from 1988 through 1998. Because of the changing age structure of the population, however, the age-sex-adjusted average annual unemployment rate (adjusted to the 1988 labor-force distribution) rises gradually to its ultimate level of 6.0 percent by 2000. The annual rate of increase in the average wage in covered employment is assumed to decline generally from the assumed 6.4-percent increase in 1988 to its ultimate rate of 5.3 percent by 2010. The annual rate of increase in the CPI is assumed to rise from 4.0 percent in 1988 to 4.8 percent in 1989, and then to decline to an ultimate rate of 4.0 percent in 1994. The real-wage differential is assumed to remain between 0.8 and 1.6 percentage points after 1988, reaching its ultimate value of 1.3 percentage points by 2010. The annual interest rate is assumed to decline to its ultimate value of 6.0 percent by 2000.

Demographic assumptions

The principal demographic assumptions for the four alternatives are shown in table 11.

The demographic assumptions for alternatives II-A and II-B are identical. The assumed ultimate total fertility rate of 1.9 children per woman is attained in 2013, after a very gradual decrease from the estimated 1988 level of 1.91 children per woman. The age-sex-adjusted death rate is assumed to decrease gradually during the entire projection period, with a reduction of 34 percent from the 1988 level by 2065. The resulting life expectancies at birth in 2065 are 77.0 years for men and 83.9 years for women, compared to 71.6 and 78.6 years, respectively, in 1988. Life expectancies at age 65 in 2065 are projected to be 18.0 years for men and 22.4 years for women, compared to 14.9 and 18.8 years, respectively, in 1988. The projected death rates reflect the effects of

assumed new infections by the Human Immunodeficiency Virus (HIV) throughout the 75-year period and the resulting cases of Acquired Immunodeficiency Syndrome (AIDS), using projections through 1992 prepared by the Centers for Disease Control (CDC) as a starting point. Total net immigration is assumed to be 600,000 persons per year. The assumed level of net annual immigration is the combination of 400,000 net legal immigrants per year and 200,000 net other-than-legal immigrants per year.

For alternative I, the total fertility rate is assumed to reach an ultimate level of 2.2 children per woman in 2013. The age-sex-adjusted death rate is assumed to decrease more slowly than for alternatives II-A and II-B, with the reduction from the 1988 level being 19 percent by 2065. The resulting life expectancies at birth in 2065 are 74.9 years for men and 81.0 years for women, while at age 65 they are 16.1 and 20.1 years, respectively. Total net immigration is assumed to be 750,000 persons per year. The assumed level of net annual immigration is the combination of 450,000 net legal immigrants per year and 300,000 net other-than-legal immigrants per year.

For alternative III, the total fertility rate is assumed to decrease from the estimated 1988 level to an ultimate level of 1.6 in 2013. The age-sex-adjusted death rate is assumed to decrease more rapidly than for alternatives II-A and II-B, with the reduction from the 1988 level being 51 percent by 2065. The resulting life expectancies at birth in 2065 are 80.8 years for men and 88.1 years for women, while at age 65 they are 21.3 and 25.8 years, respectively. Total net immigration is assumed to be 450,000 persons per year. The assumed level of net annual immigration is the combination of 350,000 net legal immigrants per year and 100,000 net other-than-legal immigrants per year.

TABLE 11.—SELECTED DEMOGRAPHIC ASSUMPTIONS BY ALTERNATIVE, CALENDAR YEARS 1940-2065

Calendar year	Total fertility rate[1]	Age-sex-adjusted death rate[2] (per 100,000)	Life expectancy[3]			
			At birth		At age 65	
			Male	Female	Male	Female
Past experience:						
1940	2.23	1,532.8	61.4	65.7	11.9	13.4
1945	2.42	1,366.4	62.9	68.4	12.6	14.4
1950	3.03	1,225.3	65.6	71.1	12.8	15.1
1955	3.50	1,134.2	66.7	72.8	13.1	15.6
1960	3.61	1,128.6	66.7	73.2	12.9	15.9
1965	2.88	1,103.6	66.8	73.8	12.9	16.3
1970	2.43	1,041.8	67.1	74.9	13.1	17.1
1975	1.77	934.0	68.7	76.6	13.7	18.0
1976	1.74	923.2	69.1	76.8	13.7	18.1
1977	1.80	898.0	69.4	77.2	13.9	18.3
1978	1.76	892.4	69.6	77.3	13.9	18.3
1979	1.82	864.2	70.0	77.7	14.2	18.6
1980	1.85	878.0	69.9	77.5	14.0	18.4
1981	1.83	853.4	70.4	77.9	14.2	18.6
1982	1.83	827.8	70.8	78.2	14.5	18.8
1983	1.81	835.0	70.9	78.1	14.3	18.6
1984	1.80	828.2	71.1	78.2	14.4	18.7
1985	1.84	830.0	71.1	78.2	14.4	18.6
1986	1.84	821.8	71.2	78.3	14.5	18.7
1987	1.88	808.5	71.5	78.4	14.9	18.7
1988[4]	1.91	801.1	71.6	78.6	14.9	18.8
Alternative I:						
1989	1.92	797.8	71.7	78.6	14.9	18.8
1990	1.93	794.3	71.8	78.7	15.0	18.8
1995	1.99	773.9	72.4	78.9	15.0	18.9
2000	2.05	760.9	72.8	79.1	15.0	18.9
2005	2.11	749.8	73.0	79.3	15.1	18.9
2010	2.17	739.5	73.2	79.5	15.2	19.0

TABLE 11.—SELECTED DEMOGRAPHIC ASSUMPTIONS BY ALTERNATIVE, CALENDAR YEARS 1940-2065 (Cont.)

Calendar year	Total fertility rate[1]	Age-sex-adjusted death rate[2] (per 100,000)	Life expectancy[3]			
			At birth		At age 65	
			Male	Female	Male	Female
Alternative I: (Cont.)						
2015	2.20	729.9	73.4	79.6	15.3	19.1
2020	2.20	720.7	73.5	79.7	15.3	19.2
2025	2.20	711.7	73.7	79.9	15.4	19.3
2030	2.20	703.0	73.8	80.0	15.5	19.4
2035	2.20	694.4	74.0	80.2	15.6	19.5
2040	2.20	686.1	74.1	80.3	15.7	19.6
2045	2.20	678.0	74.3	80.4	15.8	19.7
2050	2.20	670.2	74.4	80.6	15.9	19.8
2055	2.20	662.5	74.6	80.7	15.9	19.9
2060	2.20	655.1	74.7	80.8	16.0	20.0
2065	2.20	647.8	74.9	81.0	16.1	20.1
Alternatives II-A and II-B:						
1989	1.91	801.9	71.7	78.7	15.0	18.9
1990	1.91	794.5	71.8	78.9	15.1	19.0
1995	1.91	756.3	72.1	79.5	15.4	19.3
2000	1.91	725.1	72.7	80.1	15.6	19.6
2005	1.91	694.5	73.5	80.5	15.8	19.8
2010	1.90	673.2	74.1	80.8	16.0	20.1
2015	1.90	656.6	74.4	81.1	16.2	20.3
2020	1.90	641.1	74.6	81.4	16.4	20.5
2025	1.90	626.3	74.9	81.7	16.6	20.7
2030	1.90	611.9	75.2	82.0	16.8	20.9
2035	1.90	598.1	75.5	82.3	16.9	21.1
2040	1.90	584.8	75.7	82.6	17.1	21.4
2045	1.90	571.9	76.0	82.8	17.3	21.6
2050	1.90	559.5	76.3	83.1	17.5	21.8
2055	1.90	547.5	76.5	83.4	17.7	22.0
2060	1.90	536.0	76.8	83.6	17.8	22.2
2065	1.90	524.8	77.0	83.9	18.0	22.4
Alternative III:						
1989	1.90	806.9	71.8	78.8	15.1	19.0
1990	1.88	796.3	71.9	79.1	15.2	19.1
1995	1.82	754.6	72.3	80.1	15.8	19.8
2000	1.75	735.9	72.0	80.7	16.2	20.4
2005	1.69	682.6	73.2	81.4	16.6	20.8
2010	1.63	623.2	75.0	82.3	17.0	21.2
2015	1.60	587.6	76.0	82.9	17.4	21.6
2020	1.60	561.8	76.5	83.4	17.8	22.0
2025	1.60	539.2	77.0	84.0	18.2	22.5
2030	1.60	517.8	77.4	84.5	18.6	22.9
2035	1.60	497.3	77.9	85.0	18.9	23.3
2040	1.60	477.6	78.4	85.5	19.3	23.7
2045	1.60	458.7	78.8	86.0	19.7	24.1
2050	1.60	440.7	79.3	86.5	20.1	24.5
2055	1.60	423.5	79.8	87.1	20.5	24.9
2060	1.60	407.2	80.3	87.6	20.9	25.4
2065	1.60	391.7	80.8	88.1	21.3	25.8

[1]The total fertility rate for any year is the average number of children who would be born to a woman in her lifetime if she were to experience the birthrates by age observed in, or assumed for, the selected year, and if she were to survive the entire child-bearing period. The ultimate total fertility rate is assumed to be reached in 2013.

[2]The age-sex-adjusted death rate is the crude rate that would occur in the enumerated total population as of April 1, 1980, if that population were to experience the death rates by age and sex observed in, or assumed for, the selected year.

[3]The life expectancy for any year is the average number of years of life remaining for a person if that person were to experience the death rates by age observed in, or assumed for, the selected year.

[4]Estimated.

The values assumed after the early years for both the economic and the demographic factors are intended to represent the average experience and are not intended to be exact predictions of year-by-year values. Actual future values will likely exhibit fluctuations or cyclical patterns, as in the past.

In addition to the assumptions discussed above, many other factors are necessary to prepare the estimates presented in this report. Appendix A includes a discussion of some of those factors.

The economic and demographic assumptions described in this section differ in some significant respects from the assumptions used in the 1988

report to take account of recent experience and research. In particular, the ultimate annual real-wage differential for alternative II-B was reduced from 1.4 percent in the 1988 report to 1.3 percent in this report. A comparable reduction was also made in the other alternative sets of assumptions. Also, as already mentioned in this section, the estimates in this report reflect the projected effects of new HIV infections and cases of AIDS throughout the projection period using estimates prepared by the Centers for Disease Control through 1992 as a starting point. In the 1988 report no new HIV infections beyond those implied by the CDC estimates for years through 1991 were included.

B. AUTOMATIC ADJUSTMENTS

Under the automatic-adjustment provisions of the law, benefits generally are increased once a year to reflect increases in the cost of living. These automatic increases may be modified under certain circumstances, as explained below. For persons becoming eligible for benefits in 1979 and later, the increases generally begin with the year in which the worker reaches age 62, or becomes disabled or dies, if earlier. An automatic cost-of-living benefit increase of 4.0 percent, effective for December 1988, was announced in October 1988, as described in Appendix C. The automatic cost-of-living benefit increase for any year is normally based on the change in the CPI from the third quarter of the previous year through the third quarter of the current year. [1]

The law provides for an automatic increase in the contribution and benefit base, based on the increase in average wages, for the year following a year in which an automatic benefit increase becomes effective. For 1989, the contribution and benefit base was automatically increased to $48,000.

The exempt amounts under the retirement earnings test are also increased automatically by the increase in average wages, following an automatic benefit increase. An automatic increase in the exempt amount for beneficiaries at ages 65 through 69— from $8,400 in 1988 to $8,880 in 1989—was announced in October 1988. Similarly, an automatic increase was announced in the exempt amount for beneficiaries under age 65— from $6,120 in 1988 to $6,480 in 1989. Appendix C describes the aforementioned automatic adjustments, as well as the determinations of the following amounts:

1. The amount of earnings a worker must have in 1989 to be credited with a quarter of coverage;
2. The dollar amounts (or "bend points") in the formulas used to compute benefits payable on the earnings of workers who first become eligible for retirement or disability benefits, or who die before becoming eligible for such benefits, in 1989; and

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[1] If the combined assets of the OASI and DI Trust Funds, as a percentage of annual expenditures, are below a specified level, the automatic benefit increase is limited to the lesser of the increases in wages or prices. This specified level is 15.0 percent with respect to benefit increases for December of each year 1984-88, and 20.0 percent thereafter. This "stabilizer" provision has not affected any benefit increases since its enactment in 1983, and it would not affect any specific future increases shown in this report under any of the four sets of assumptions. Based on alternatives II-B and III, however, the combined trust funds eventually fall below the 20.0-percent threshold shortly before exhaustion in the next century. Thus, at that time, the stabilizer provision could affect a benefit increase if average wages are then increasing at a slower pace than prices.

3. The average of total wages reported for calendar year 1987, to be used for indexing earnings of workers who first become eligible for benefits, or who die before such eligibility, in 1989 or later.

An historical summary of the Social Security program amounts determined under the automatic-adjustment provisions, and the average-wage series used for indexing earnings, are shown in Appendix D. Estimates of the corresponding amounts through 1994 are also shown in Appendix D.

The four alternative sets of economic assumptions described previously result in the cost-of-living benefit increases and contribution and benefit bases shown in table 12 for each year through 1994. (The actual benefit increase for 1988 and the actual contribution and benefit bases for 1988 and 1989 are also shown as a basis for comparison.)

TABLE 12.—COST-OF-LIVING BENEFIT INCREASES AND CONTRIBUTION AND BENEFIT BASES, BY ALTERNATIVE, CALENDAR YEARS 1988-94

Calendar year	Cost-of-living benefit increase[1] (percent) based on alternative—				Contribution and benefit base[2] based on alternative—			
	I	II-A	II-B	III	I	II-A	II-B	III
1988	4.0	4.0	4.0	4.0	$45,000	$45,000	$45,000	$45,000
1989	3.6	3.6	4.8	5.5	48,000	48,000	48,000	48,000
1990	3.0	3.9	4.5	5.9	50,700	50,400	50,400	49,800
1991	2.8	3.2	4.4	6.5	53,700	53,400	53,400	51,900
1992	2.5	3.0	4.4	6.2	56,700	56,400	56,100	54,600
1993	2.3	3.0	4.1	5.0	59,700	59,100	59,100	57,900
1994	2.0	3.0	4.0	5.1	62,700	61,800	62,400	61,200

[1]Effective with benefits for December of the year shown.

[2]Effective on January 1 of the year shown.

C. ESTIMATED OPERATIONS AND STATUS OF THE TRUST FUNDS DURING THE PERIOD OCTOBER 1, 1988, TO DECEMBER 31, 1993

This subsection presents estimates of the operations and status of the OASI and DI Trust Funds during the period October 1, 1988, to December 31, 1993, based on the assumptions described in the preceding subsections. As previously stated, no changes are assumed to occur in the present statutory provisions and regulations under which the OASDI program operates. [1]

These estimates indicate that the assets of the OASI and DI Trust Funds would be sufficient to permit the timely payment of benefits throughout the short-range period under each of the four sets of assumptions shown. The assets of the OASI Trust Fund are estimated to increase substantially during 1989-93 under each alternative. DI assets are expected to increase slowly in 1989 and at a much faster rate in 1990-93. Under adverse conditions, however, the growth in DI assets would cease near the end of the 5-year projection period, and DI assets would be depleted within another 5 years thereafter.

The estimated operations of the OASI Trust Fund shown in this report are substantially more favorable than the corresponding estimates in the 1988 Annual Report. This improvement is attributable to the net effect of a number of factors. Income is significantly greater than projected in the 1988 Annual Report as a result of (1) actual economic experience in 1988 that was better than had been assumed, (2) higher projected ratios of wage income to total national income (reflecting an unusually large upward revision in the data on recent actual experience for this ratio), and (3) higher interest earnings (in part due to the greater level of trust fund assets and in part to higher assumed interest rates). With the exception of alternative III, projected OASI benefit payments are slightly higher than in the 1988 Annual Report, reflecting the net effect of (1) the actual 4.0-percent benefit increase for December 1988 that was higher than assumed, and (2) somewhat higher wage and price assumptions for future years. Under alternative III, projected OASI benefit payments are somewhat lower than in the 1988 Annual Report, primarily as a result of a lower benefit increase for December 1988 than had been assumed.

For the DI Trust Fund during 1989-93, the estimated operations in this report under all four alternatives are somewhat better than the corresponding estimates from the 1988 report. This improvement is primarily attributable to the 1988 economic performance and other factors cited above.

OASI Trust Fund operations

Estimates of the operations and status of the OASI Trust Fund during calendar years 1989-93 are shown in table 13 based on each of the four

[1] The estimates shown in this subsection reflect 12 months of benefit payments in each year of the short-range projection period. In practice, 13 benefit payments can be made in certain years, with the next year having only 11 payments. This situation can result from the statutory requirement that benefit checks be delivered early when the normal check delivery date is a Saturday, Sunday, or legal public holiday. For example, the benefit checks for December 1987 would normally have been delivered on January 3, 1988; however, because that day was a Sunday, and the two preceding days were a Saturday and a holiday, the checks were actually delivered on December 31, 1987. The annual benefit figures are shown as if those benefit checks had been delivered on the usual date.

alternative sets of assumptions, which are described in a preceding subsection. Actual operations for calendar year 1988 are also shown in the table.

The increases in estimated income shown in table 13 on the basis of each set of assumptions reflect increases in estimated taxable earnings as well as the increase in the OASI tax rate scheduled to become effective for 1990. For each alternative, employment and earnings are assumed to increase in every year through 1993 (except that employment declines temporarily during each of the economic recessions assumed under alternative III). The number of persons with taxable earnings under the OASDI program is expected to increase on the basis of alternatives I, II-A, II-B, and III, from 128 million during calendar year 1988 to about 136 million, 135 million, 134 million, and 131 million, respectively, by 1993. The total annual amount of taxable earnings is expected to increase from about $2,117 billion in 1988 to $2,917 billion, $2,887 billion, $2,909 billion, and $2,772 billion, in 1993, on the basis of alternatives I, II-A, II-B, and III, respectively. (In 1988 dollars—taking account of assumed increases in the CPI from 1988 to 1993 based on each alternative—the estimated amounts of taxable earnings in 1993 are $2,530 billion, $2,353 billion, $2,341 billion, and $2,092 billion, on the basis of alternatives I, II-A, II-B, and III, respectively.) These increases are due in part to the increases in the contribution and benefit base assumed to occur in 1989-93 under the automatic-adjustment provisions. The increases in taxable earnings are also due to (1) projected increases in employment levels and average earnings in covered employment, and (2) various provisions enacted into law in 1983-87, including the mandatory coverage of all newly hired Federal civilian employees and the voluntary coverage of certain Federal employees who were not previously covered.

TABLE 13.—ESTIMATED OPERATIONS OF THE OASI TRUST FUND BY ALTERNATIVE, CALENDAR YEARS 1988-93
[Amounts in billions]

Calendar year	Income	Disbursements	Net increase in fund	Fund at end of year	Contingency fund	
					Amount[1]	Ratio[2]
1988[3]	$240.8	$200.0	$40.7	$102.9	$81.9	41
Alternative I:						
1989	270.1	211.8	58.2	161.1	125.4	59
1990	294.0	225.1	68.9	230.0	185.4	82
1991	317.7	237.0	80.6	310.7	255.9	108
1992	341.6	248.4	93.1	403.8	338.1	136
1993	365.7	259.4	106.2	510.1	432.4	167
Alternative II-A:						
1989	268.9	212.0	56.9	159.8	125.4	59
1990	292.8	225.5	67.3	227.2	184.0	82
1991	315.3	239.6	75.7	302.8	252.8	105
1992	338.6	252.4	86.2	389.0	329.9	131
1993	362.5	265.1	97.5	486.5	417.4	157
Alternative II-B:						
1989	269.1	212.0	57.0	159.9	125.4	59
1990	292.2	228.0	64.2	224.1	184.0	81
1991	314.8	243.7	71.2	295.3	249.7	102
1992	339.5	259.4	80.1	375.4	322.4	124
1993	366.5	275.8	90.7	466.1	403.9	146

TABLE 13.—ESTIMATED OPERATIONS OF THE OASI TRUST FUND BY ALTERNATIVE, CALENDAR YEARS 1988-93 (Cont.)
[Amounts in billions]

Calendar year	Income	Disbursements	Net increase in fund	Fund at end of year	Contingency fund	
					Amount[1]	Ratio[2]
Alternative III:						
1989	$263.1	$212.2	$50.9	$153.8	$125.4	59
1990	280.7	229.8	50.8	204.6	176.8	77
1991	303.4	249.0	54.4	259.0	229.2	92
1992	329.9	270.4	59.5	318.5	285.5	106
1993	349.0	292.3	56.6	375.1	345.7	118

[1]Represents assets at beginning of year, plus advance tax transfers for January.

[2]Represents assets at beginning of year, plus advance tax transfers, as a percentage of disbursements during the year. See text concerning interpretation of these ratios.

[3]Figures for 1988 represent actual experience.

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

Rising disbursements during calendar years 1989-93 reflect the effects of the assumed automatic benefit increases previously shown, as well as the long-range upward trend in the numbers of beneficiaries and in the amounts of average monthly earnings underlying benefits payable by the program. The growth in the number of beneficiaries in the past and the expected growth in the future result both from the increase in the aged population and from the increase in the proportion of the population which is eligible for benefits. The latter increase is primarily due to various amendments enacted after 1950, which modified eligibility provisions and extended coverage to additional categories of employment.

Growth has also occurred, and will continue to occur, in the proportion of eligible persons who, in fact, receive benefits. This growth is due to several factors, among which are (1) the amendments enacted since 1950 which affect the conditions governing the receipt of benefits and (2) the increasing percentage of eligible persons who are aged 70 and over and who therefore may receive benefits regardless of earnings.

The estimates shown in table 13 indicate that income would exceed disbursements in every year of the short-range projection period, based on each of the four alternative sets of assumptions used in this report. The assets of the OASI Trust Fund at the beginning of 1988, including advance tax transfers for January, were equal to 41 percent of the fund's disbursements in 1988. As described in the introduction to this section, this ratio is known as the "contingency fund ratio"; it provides a useful measure of the relative level of trust fund assets. During 1988, income exceeded disbursements by $40.7 billion. As a result, the contingency fund ratio increased to about 59 percent at the beginning of 1989.

Assets are estimated to increase substantially in each year of the short-range projection period, based on each of the four alternative sets of assumptions. The increase in the contingency fund ratio from the relatively low level of 59 percent at the beginning of 1989 to more adequate levels during the projection period is due, in part, to the increase in the OASI tax rate that became effective for 1988, and also to the increase scheduled for 1990 under present law. Asset growth is also assisted by recent increases in taxable earnings that have generally exceeded the rate of growth in benefit payments and the expected continuation of this experience (except under alternative III).

In interpreting the contingency fund ratios in table 13, it should be noted that, at the beginning of any month, assets of at least 8-9 percent of annual expenditures are required to make the benefit payments that are due at the beginning of the month. Therefore, the difference between the estimated contingency fund ratios shown above, and the minimum level of 8-9 percent, represents the reserve available to handle adverse contingencies.

DI Trust Fund operations

The estimated operations and status of the DI Trust Fund during calendar years 1989-93 on the basis of the four sets of assumptions are shown in table 14, together with figures on actual experience in 1988. On the basis of each alternative, income is estimated to increase rapidly during 1989-93. This increase reflects the same factors, insofar as they apply to income to the DI Trust Fund, that are reflected in the estimated increase in income to the OASI Trust Fund during the same period.

TABLE 14.— ESTIMATED OPERATIONS OF THE DI TRUST FUND BY ALTERNATIVE, CALENDAR YEARS 1988-93
[Amounts in billions]

Calendar year	Income	Disbursements	Net increase in fund	Fund at end of year	Contingency fund	
					Amount[1]	Ratio[2]
1988[3]	$22.7	$22.5	$0.2	$6.9	$8.6	38
Alternative I:						
1989	25.3	23.3	2.0	8.8	9.0	39
1990	30.3	24.4	6.0	14.8	11.4	47
1991	32.9	25.3	7.6	22.4	17.5	69
1992	35.4	26.5	8.9	31.3	25.3	96
1993	37.9	27.7	10.2	41.5	34.3	124
Alternative II-A:						
1989	25.1	23.7	1.5	8.3	9.0	38
1990	30.1	24.9	5.2	13.6	10.9	44
1991	32.5	26.3	6.2	19.8	16.3	62
1992	34.8	27.8	7.1	26.9	22.7	82
1993	37.3	29.5	7.7	34.6	29.8	101
Alternative II-B:						
1989	25.2	23.7	1.5	8.3	9.0	38
1990	30.0	25.2	4.9	13.2	10.8	43
1991	32.4	26.7	5.7	18.9	15.9	60
1992	34.9	28.5	6.4	25.3	21.8	76
1993	37.6	30.6	7.0	32.3	28.3	93
Alternative III:						
1989	24.6	24.2	.3	7.2	9.0	37
1990	28.7	26.1	2.6	9.7	9.6	37
1991	30.9	28.4	2.6	12.3	12.3	43
1992	33.4	31.2	2.2	14.5	15.1	48
1993	34.9	34.5	.5	14.9	17.3	50

[1]See footnote 1 of table 13.

[2]See footnote 2 of table 13.

[3]See footnote 3 of table 13.

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

Disbursements are estimated to increase because of automatic benefit increases and because of projected increases in the amounts of average monthly earnings on which benefits are based. In addition, on the basis of all four sets of assumptions, the number of DI beneficiaries is projected to continue increasing throughout the short-range projection period.

The projected growth in the number of DI beneficiaries primarily reflects the effects of (1) gradual increases in the number of persons estimated to be insured for disability benefits and (2) assumed increases

in the proportion of those insured who become disabled. The proportion of insured workers who become disabled in a given year has fluctuated substantially in past years, and the causes for the variation have not been precisely determined. The trend has generally been upward since 1982, but shows some signs of leveling off. An increasing trend has been projected in past annual reports; actual increases, however, have generally been larger than expected. In this report, the proportion of workers becoming disabled is assumed to continue increasing beyond the short-range period but is not assumed to return to the high levels experienced during the 1970s.

The continuing spread of Acquired Immunodeficiency Syndrome (AIDS) has recently contributed to a significant increase in both DI awards and terminations. Due to the extremely high mortality rates of affected individuals, however, the total number of disabled workers currently receiving benefits has not increased greatly as a result of AIDS. Although many aspects of AIDS are well understood, there remains considerable uncertainty regarding future medical advances and future incidence of the disease. To reflect this uncertainty, the projected numbers of benefit awards to AIDS patients (and their projected longevity) are varied by alternative. Through 1992, the projected range of results under the alternative sets of assumptions is very similar to the corresponding range developed by the Centers for Disease Control. Under the intermediate sets of assumptions, benefit awards to people with AIDS are projected to continue to increase rapidly in the short range. Under alternative I the number of new awards begins to decline in the near future, while the number projected under alternative III increases at a very rapid rate throughout the short-range period.

At the beginning of 1988, the assets of the DI Trust Fund (including advance tax transfers for January) represented 38 percent of annual expenditures. During 1988, DI income exceeded DI expenditures by about $0.2 billion. Thus, DI assets increased slightly during the year, and the contingency fund ratio remained at about 38 percent for the beginning of 1989. Income is estimated to exceed expenditures through 1993 under each of the alternative sets of assumptions, as a result of the recent favorable economic experience (described previously) and the increase in the DI tax rate scheduled for 1990. Under alternatives I, II-A, and II-B, the DI contingency fund ratio is projected to increase steadily in 1989-93, reaching more than 90 percent by the beginning of 1993, based on alternative II-B, or higher levels, based on alternatives I or II-A.

Under the conditions assumed for alternative III, DI assets would grow slowly in 1989-93, to about 50 percent of annual expenditures at the beginning of 1993. As will be discussed in the next section, under the alternative III assumptions, the DI Trust Fund would begin to decline rapidly in 1994 and would be depleted in 1998 in the absence of corrective legislation.

Combined OASI and DI Trust Fund operations

The estimated operations and status of the OASI and DI Trust Funds, combined, during calendar years 1989-93 on the basis of the four alternatives, are shown in table 15, together with figures on actual

experience in 1988. These figures are the sums of the corresponding figures shown in tables 13 and 14.

TABLE 15.— ESTIMATED OPERATIONS OF THE OASI AND DI TRUST FUNDS, COMBINED, BY ALTERNATIVE, CALENDAR YEARS 1988-93
[Amounts in billions]

Calendar year	Income	Disbursements	Net increase in funds	Funds at end of year	Contingency fund	
					Amount[1]	Ratio[2]
1988[3]	$263.5	$222.5	$41.0	$109.8	$90.5	41
Alternative I:						
1989	295.3	235.2	60.2	169.9	134.4	57
1990	324.4	249.5	74.9	244.8	196.7	79
1991	350.6	262.3	88.2	333.1	273.4	104
1992	376.9	274.9	102.0	435.1	363.3	132
1993	403.5	287.1	116.4	551.6	466.8	163
Alternative II-A:						
1989	294.1	235.7	58.4	168.1	134.4	57
1990	322.9	250.4	72.6	240.7	194.8	78
1991	347.8	265.9	81.9	322.6	269.1	101
1992	373.4	280.1	93.3	415.9	352.6	126
1993	399.8	294.6	105.2	521.1	447.2	152
Alternative II-B:						
1989	294.2	235.7	58.5	168.3	134.4	57
1990	322.2	253.2	69.1	237.3	194.8	77
1991	347.2	270.3	76.9	314.2	265.6	98
1992	374.4	287.9	86.5	400.7	344.2	120
1993	404.1	306.4	97.6	498.4	432.2	141
Alternative III:						
1989	287.7	236.5	51.2	161.0	134.4	57
1990	309.3	256.0	53.4	214.3	186.4	73
1991	334.3	277.4	57.0	271.3	241.5	87
1992	363.2	301.6	61.7	332.9	300.7	100
1993	383.9	326.8	57.1	390.0	363.0	111

[1]See footnote 1 of table 13.

[2]See footnote 2 of table 13.

[3]See footnote 3 of table 13.

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

At the beginning of 1988, the contingency fund ratio for the OASI and DI Trust Funds combined was 41 percent, as shown in table 15. During 1988, total income to the two trust funds was $41.0 billion higher than total expenditures, resulting in combined OASDI assets at the beginning of 1989 which represented about 57 percent of estimated combined expenditures for the year. Based on alternatives I, II-A, and II-B, the contingency fund ratio for the combined funds is projected to increase substantially, exceeding 140 percent at the beginning of 1993, based on alternative II-B, or higher levels, based on alternatives I or II-A. Under the alternative III assumptions, assets would grow more slowly, but would still reach 111 percent at the beginning of 1993. Under all four alternatives, the level of projected assets is significantly greater than the corresponding estimates from the 1988 Annual Report, primarily as a result of the higher level of wages in 1988 than had been previously projected.

Section 215(i) of the Social Security Act defines an "OASDI fund ratio" for the purpose of determining automatic benefit increases in 1984 and later. If this ratio is below a specified threshold, the benefit increase would be based on the lesser of certain wage and price increases. Following the final repayment in January 1986 of amounts borrowed from the HI Trust Fund, the "OASDI fund ratio" specified for the purpose of determining benefit increases is equal to the contingency fund

ratio shown in table 15. Under all four alternatives, this ratio would not be lower than the 20.0-percent threshold applicable in 1989 and later. Thus, the benefit-increase "stabilizer" provision would not be triggered at any time during the short-range projection period under any of the sets of assumptions used in this report.

Figure 1 illustrates the pattern of the estimated future contingency fund ratios under the four alternatives for OASI and DI, combined. Contingency fund ratios for selected years prior to 1989, and estimates for 1989-93 under the four alternatives, are shown in table 16 for OASI, DI, and both funds combined. In evaluating the ratios shown in figure 1 and table 16, it should be recalled that a minimum of 8-9 percent is needed to meet monthly cash-flow requirements. The shaded area in figure 1 depicts this requirement.

FIGURE 1.—ESTIMATED CONTINGENCY FUND RATIOS, FOR OASI AND DI TRUST FUNDS COMBINED, CALENDAR YEARS 1988-93

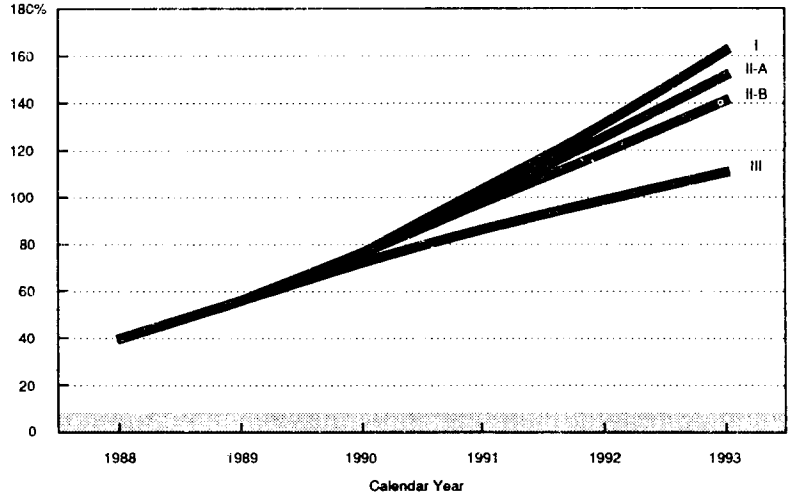


TABLE 16.—CONTINGENCY FUND RATIOS[1] BY TRUST FUND, SELECTED CALENDAR YEARS 1950-88, AND ESTIMATED FUTURE RATIOS BY ALTERNATIVE, CALENDAR YEARS 1989-93
[In percent]

Calendar year	OASI Trust Fund	DI Trust Fund	OASI and DI Trust Funds, combined
Past experience:			
1950	1,156	—	1,156
1955	405	—	405
1960	180	304	186
1965	109	121	110
1970	101	126	103
1975	63	92	66
1980	23	35	25
1981	18	21	18
1982	15	17	15
1983	15	14	14
1984	20	35	21
1985	24	27	24
1986	28	38	29
1987	30	44	31
1988	41	38	41
Alternative I:			
1989	59	39	57
1990	82	47	79
1991	108	69	104
1992	136	96	132
1993	167	124	163
Alternative II-A:			
1989	59	38	57
1990	82	44	76
1991	105	62	101
1992	131	82	126
1993	157	101	152
Alternative II-B:			
1989	59	38	57
1990	81	43	77
1991	102	60	98
1992	124	76	120
1993	146	93	141
Alternative III:			
1989	59	37	57
1990	77	37	73
1991	92	43	87
1992	106	48	100
1993	118	50	111

[1]See footnote 2 of table 13 for definition of contingency fund ratio.

Table 17 shows that expenditures in calendar year 1988 from both trust funds, combined, were about 10.5 percent of taxable payroll for the year—1.8 percentage points less than the income rate of 12.3 percent. Since 1982, the cost rate has fallen steadily—from 11.9 percent in 1982 to 10.5 percent in 1988. This reduction is primarily attributable to the combined effect of (1) the continuing favorable economic experience, which has resulted in faster growth in covered earnings than in benefit payments, and (2) the declining proportion of beneficiaries with benefits determined under the computation method used prior to the 1977 amendments. As described in various other references, the benefit computation procedure in effect prior to the 1977 amendments had the unintended effect of increasing benefit levels for new beneficiaries at a faster rate than the increase in average wages. Other factors contributing to the recent decline in cost rates include rapid growth in the work force (as the last of the "baby boom" reached working age), declines in the number of certain types of beneficiaries (such as children of retired, disabled, or deceased workers) as a result of both demographic causes and various past amendments, and the provisions of the 1983 amendments that reduced benefits and expanded coverage of employment. Based on alternatives I and II-A, the cost rate is estimated to decline slowly during the short-range projection period, reaching 9.86 and 10.22 percent, respectively, in 1993. Based on alternative II-B, the cost rate would remain in the neighborhood of 10.5 percent through 1993. Under alternative III, it would increase significantly, to 11.81 percent in 1993. These percentages are shown in table 17 for both trust funds, separately and combined. Table 17 also shows a comparison of the cost rates with the corresponding income rates. As explained previously, the income rate represents the sum of the combined employee-employer contribution rate and the income derived from the Federal income taxation of OASDI benefits, expressed as a percentage of effective taxable payroll. The difference between the income rate and the cost rate for a given year is referred to as the "balance" for that year.

TABLE 17.—COMPARISON OF INCOME RATES AND COST RATES, BY TRUST FUND, SELECTED CALENDAR YEARS 1950-88, AND ESTIMATED RATES BY ALTERNATIVE, CALENDAR YEARS 1989-93

[As a percentage of taxable payroll]

Calendar year	OASI Trust Fund			DI Trust Fund			Total		
	Income rate	Cost rate	Balance	Income rate	Cost rate	Balance	Income rate	Cost rate	Balance
Past experience:									
1950	3.00	1.17	1.83	—	—	—	3.00	1.17	1.83
1955	4.00	3.34	.66	—	—	—	4.00	3.34	.66
1960	5.50	5.59	-.09	0.50	0.30	0.20	6.00	5.89	.11
1965	6.75	7.23	-.48	.50	.70	-.20	7.25	7.93	-.68
1970	7.30	7.32	-.02	1.10	.81	.29	8.40	8.12	.28
1975	8.75	9.29	-.54	1.15	1.36	-.21	9.90	10.65	-.75
1980	9.04	9.36	-.32	1.12	1.38	-.26	10.16	10.74	-.58
1981	9.40	9.97	-.57	1.30	1.39	-.09	10.70	11.36	-.66
1982	9.15	10.59	-1.44	1.65	1.34	.31	10.80	11.94	-1.14
1983	[1]9.91	10.27	-.36	[1]1.33	1.22	.10	[1]11.24	11.50	-.26
1984[2]	10.58	10.08	.50	1.01	1.16	-.14	11.59	11.24	.35
1985[2]	[1]10.72	9.99	.72	[1]1.07	1.14	-.07	[1]11.79	11.13	.66
1986[2]	10.59	9.86	.73	1.01	1.12	-.11	11.60	10.98	.62
1987[2]	10.57	9.63	.94	1.00	1.10	-.10	11.57	10.72	.84
1988[2]	11.22	9.46	1.76	1.06	1.06	([3])	12.28	10.53	1.76
Alternative I:									
1989	11.23	9.27	1.96	1.07	1.02	.05	12.30	10.29	2.00
1990	[1]11.38	9.26	2.12	[1]1.21	1.00	.21	[1]12.59	10.26	2.33
1991	11.38	9.14	2.24	1.21	.98	.23	12.59	10.12	2.48
1992	11.38	9.03	2.36	1.21	.96	.25	12.60	9.99	2.61
1993	11.39	8.91	2.48	1.21	.95	.26	12.60	9.86	2.73
Alternative II-A:									
1989	11.23	9.32	1.91	1.07	1.04	.03	12.30	10.36	1.94
1990	[1]11.39	9.33	2.07	[1]1.21	1.03	.18	[1]12.61	10.36	2.25
1991	11.39	9.32	2.07	1.21	1.02	.19	12.60	10.34	2.25
1992	11.39	9.26	2.13	1.21	1.02	.19	12.60	10.28	2.32
1993	11.39	9.20	2.19	1.21	1.02	.19	12.60	10.22	2.38
Alternative II-B:									
1989	11.23	9.32	1.91	1.07	1.04	.03	12.30	10.36	1.94
1990	[1]11.42	9.48	1.94	[1]1.21	1.05	.17	[1]12.63	10.52	2.11
1991	11.39	9.51	1.88	1.21	1.04	.17	12.60	10.55	2.05
1992	11.39	9.52	1.87	1.21	1.05	.17	12.61	10.57	2.04
1993	11.40	9.50	1.90	1.21	1.05	.16	12.61	10.56	2.05
Alternative III:									
1989	11.23	9.56	1.68	1.07	1.09	-.02	12.30	10.65	1.65
1990	[1]11.44	9.96	1.48	[1]1.22	1.13	.08	[1]12.65	11.09	1.56
1991	11.40	10.05	1.35	1.21	1.15	.07	12.61	11.20	1.41
1992	11.41	10.19	1.22	1.21	1.18	.04	12.62	11.37	1.26
1993	11.42	10.56	.86	1.21	1.25	-.03	12.64	11.81	.83

[1]Income rates for 1983, 1985, and 1990 are adjusted to include the lump-sum payments from the general fund of the Treasury (or adjustments to such payments) for the cost of noncontributory wage credits for military service in 1940-56.

[2]Figures shown are preliminary.

[3]Income rate differs from cost rate by less than 0.005 percent of taxable payroll.

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

As stated previously, estimates of the operations of the trust funds during calendar years 1989-93 have been presented in the preceding tables of this section on the basis of four different sets of economic assumptions, because of the uncertainty of future economic and demographic developments. Under the provisions of the Social Security Act, however, estimates of the expected operations and status of the trust funds during the next 5 *fiscal* years are required to be shown in this report. Accordingly, detailed estimates of the expected operations and status of the trust funds during each fiscal year 1989-93 are shown in the remaining tables of this section for the two intermediate sets of assumptions (alternatives II-A and II-B) only. Similar detailed estimates are also shown on a calendar-year basis for 1989-93.

Data on the actual operations of the OASI Trust Fund for selected years during 1940-88, and estimates of the expected operations of the trust fund during 1989-93 on the basis of the intermediate sets of assumptions, are shown in tables 18 and 19 on a fiscal- and calendar-year basis, respectively. Corresponding figures on the operations of the DI Trust Fund are shown in tables 20 and 21. Operations of both trust funds combined are shown in tables 22 and 23. (Data relating to the operations of the two trust funds for years not shown in tables 18-23 are contained in past annual reports.) The figures shown in tables 19, 21, and 23 for 1981, 1982, 1987, and 1988 are adjusted to reflect 12 months of benefit payments in each year. Similarly, the estimated figures for 1992 and 1993 are also so adjusted.

TABLE 18.—OPERATIONS OF THE OASI TRUST FUND DURING SELECTED FISCAL YEARS 1940-88 AND ESTIMATED FUTURE OPERATIONS DURING FISCAL YEARS 1989-93 ON THE BASIS OF THE INTERMEDIATE SETS OF ASSUMPTIONS

[In millions]

	Income					Disbursements						
Fiscal year[1]	Total	Net contributions[2]	Income from taxation of benefits	Payments from the general fund of the Treasury[3]	Net interest[4]	Total	Benefit payments[5]	Administrative expenses	Transfers to Railroad Retirement program	Interfund borrowing transfers[6]	Net increase in fund	Fund at end of period
Past experience:												
1940	$592	$550	—	—	$42	$28	$16	$12	—	—	$564	$1,745
1945	1,434	1,310	—	—	124	267	240	27	—	—	1,167	6,613
1950	2,367	2,106	—	$4	257	784	727	57	—	—	1,583	12,893
1955	5,525	5,087	—	—	438	4,427	4,333	103	-$10	—	1,098	21,141
1960	10,360	9,843	—	—	517	11,073	10,270	202	600	—	-713	20,829
1965	16,443	15,857	—	—	586	15,962	15,226	300	436	—	482	20,180
1970	31,746	29,955	—	442	1,350	27,321	26,268	474	579	—	4,425	32,818
1975	58,757	56,017	—	447	2,292	56,676	54,847	848	982	—	2,081	39,948
1980	100,051	97,608	—	557	1,886	103,228	100,626	1,160	1,442	—	-3,177	24,566
1981	121,572	119,016	—	540	2,016	122,304	119,421	1,298	1,585	—	-732	23,834
1982	126,629	124,246	—	675	1,708	137,926	134,681	1,474	1,793	—	-11,299	12,535
1983	148,434	138,127	—	6,096	6,210	151,827	148,025	1,551	2,251	$17,519	14,125	26,661
1984	160,729	156,553	$2,132	125	1,919	159,820	155,831	1,585	2,404	—	909	27,570
1985	179,861	175,305	3,151	105	1,321	169,210	165,310	1,589	2,310	-4,364	6,308	33,877
1986	195,331	187,007	3,329	2,293	2,701	178,534	174,340	1,609	2,585	-13,155	3,642	37,519
1987	208,846	199,554	3,323	69	3,900	186,101	182,003	1,541	2,557	—	20,745	58,265
1988	235,720	226,409	3,335	55	5,922	197,021	192,502	1,729	2,790	—	38,700	96,964
Alternative II-A:												
1989	262,047	248,619	3,723	43	9,663	208,880	204,427	1,625	2,828	—	53,168	150,132
1990	285,222	266,076	4,217	34	14,892	222,039	217,377	1,661	3,001	—	63,182	213,314
1991	308,897	283,213	4,662	381	20,842	236,256	231,390	1,731	3,135	—	72,641	285,955
1992	330,331	298,813	5,063	21	26,435	249,194	244,078	1,793	3,324	—	81,137	367,092
1993	356,238	318,485	5,462	16	32,296	261,921	256,632	1,851	3,438	—	94,317	461,409
Alternative II-B:												
1989	262,403	248,947	3,723	43	9,691	208,880	204,427	1,625	2,828	—	53,523	150,487
1990	284,171	264,792	4,255	34	15,090	223,933	219,267	1,661	3,004	—	60,238	210,725
1991	308,561	282,160	4,735	834	20,833	239,913	234,997	1,736	3,180	—	68,648	279,373
1992	330,927	298,604	5,192	21	27,110	255,486	250,276	1,808	3,402	—	75,440	354,814
1993	359,241	320,191	5,669	16	33,365	271,769	268,342	1,880	3,567	—	87,452	442,265

See following page for footnotes.

[1]Under the Congressional Budget Act of 1974 (Public Law 93-344), fiscal years 1977 and later consist of the 12 months ending on September 30 of each year. The act further provides that the calendar quarter July-September 1976 is a period of transition from fiscal year 1976, which ended on June 30, 1976, to fiscal year 1977, which began on October 1, 1976.

[2]Beginning in 1983, includes government contributions on deemed wage credits for military service in 1957 and later. The amount shown for 1983 includes, in addition to the annual contributions on 1983 wage credits, a net amount of $5,388 million representing (1) retroactive contributions on deemed wage credits for military service in 1957-82, less (2) all reimbursements received prior to 1983 for the costs of such credits. An adjustment to these amounts totaling $466 million was transferred to the trust fund from the general fund of the Treasury in 1984.

[3]Includes payments (1) in 1947-52 and in 1967 and later, for costs of noncontributory wage credits for military service performed before 1957; (2) in 1972-83, for costs of deemed wage credits for military service performed after 1956; and (3) in 1969 and later, for costs of benefits to certain uninsured persons who attained age 72 before 1968.

[4]Net interest includes net profits or losses on marketable investments. Beginning in 1967, administrative expenses are charged currently to the trust fund on an estimated basis, with a final adjustment, including interest, made in the following fiscal year. The amounts of these interest adjustments are included in net interest. For years prior to 1967, a description of the method of accounting for administrative expenses is contained in the 1970 Annual Report. Beginning in 1983, these figures reflect payments from a borrowing trust fund to a lending trust fund for interest on amounts owed under the interfund borrowing provisions. Also, beginning in 1983, interest paid from the trust fund to the general fund on advance tax transfers is reflected. The amount shown for 1983 includes $6,677 million in interest on (1) retroactive government contributions on deemed wage credits for military service in 1957-82, and (2) unnegotiated benefit checks issued before 1983. The amount shown for 1984 includes an interest adjustment of $1,732 million on government contributions on deemed wage credits for military service in 1957-83. The amounts shown for 1985 and 1986 include interest adjustments of $76.5 million and $11.5 million, respectively, on unnegotiated checks issued before April 1985.

[5]Beginning in 1967, includes payments for vocational rehabilitation services furnished to disabled persons receiving benefits because of their disabilities. Beginning in 1983, amounts are reduced by amount of reimbursement for unnegotiated benefit checks. The amount shown for 1983 is reduced by $288 million for all unnegotiated checks issued before 1983; reductions in subsequent years are relatively small.

[6]Positive figure represents amounts lent to the OASI Trust Fund from the DI and HI Trust Funds. Negative figures represent amounts repaid from the OASI Trust Fund to the DI and HI Trust Funds.

TABLE 19.—OPERATIONS OF THE OASI TRUST FUND DURING SELECTED CALENDAR YEARS 1940-88 AND ESTIMATED FUTURE OPERATIONS DURING CALENDAR YEARS 1989-93 ON THE BASIS OF THE INTERMEDIATE SETS OF ASSUMPTIONS

[In millions]

	Income					Disbursements						
Calendar year	Total	Net contributions[1]	Income from taxation of benefits	Payments from the general fund of the Treasury[2]	Net interest[3]	Total	Benefit payments[4]	Administrative expenses	Transfers to Railroad Retirement program	Interfund borrowing transfers[5]	Net increase in fund	Fund at end of period
Past experience:												
1940	$368	$325	—	—	$43	$62	$35	$26	—	—	$306	$2,031
1945	1,420	1,285	—	—	134	304	274	30	—	—	1,116	7,121
1950	2,928	2,667	—	$4	257	1,022	961	61	—	—	1,905	13,721
1955	6,167	5,713	—	—	454	5,079	4,968	119	-$7	—	1,087	21,663
1960	11,382	10,866	—	—	516	11,198	10,677	203	318	—	184	20,324
1965	16,610	16,017	—	—	593	17,501	16,737	328	436	—	-890	18,235
1970	32,220	30,256	—	449	1,515	29,848	28,798	471	579	—	2,371	32,454
1975	59,605	56,816	—	425	2,364	60,395	58,517	896	982	—	-790	36,987
1980	105,841	103,456	—	540	1,845	107,678	105,083	1,154	1,442	—	-1,837	22,823
1981	125,361	122,627	—	675	2,060	126,695	123,803	1,307	1,585	—	-1,334	21,490
1982	125,198	123,673	—	680	845	142,119	138,806	1,519	1,793	$17,519	598	22,088
1983	150,584	138,337	—	5,541	6,706	152,999	149,221	1,528	2,251	—	-2,416	19,672
1984	169,328	164,122	$2,835	105	2,266	161,883	157,841	1,638	2,404	—	7,445	27,117
1985	184,239	176,958	3,208	2,203	1,871	171,150	167,248	1,592	2,310	-4,364	8,725	35,842
1986	197,393	190,741	3,424	160	3,069	181,000	176,813	1,601	2,585	-13,155	3,239	39,081
1987	210,736	202,735	3,257	55	4,690	187,668	183,587	1,524	2,557	—	23,068	62,149
1988	240,770	229,775	3,384	43	7,568	200,020	195,454	1,776	2,790	—	40,750	102,899
Alternative II-A:												
1989	268,943	252,809	3,854	34	12,247	212,031	207,601	1,601	2,828	—	56,913	159,812
1990	292,809	270,362	4,343	381	17,724	225,470	220,791	1,678	3,001	—	67,339	227,150
1991	315,321	287,001	4,765	21	23,534	239,636	234,755	1,746	3,135	—	75,685	302,835
1992	338,568	304,053	5,163	16	29,337	252,354	247,224	1,807	3,324	—	86,215	389,050
1993	362,533	321,762	5,561	12	35,198	265,051	259,750	1,864	3,438	—	97,482	486,532
Alternative II-B:												
1989	269,068	252,823	3,854	34	12,357	212,031	207,602	1,601	2,828	—	57,037	159,935
1990	292,195	269,074	4,392	834	17,895	227,996	223,312	1,679	3,004	—	64,199	224,134
1991	314,836	286,036	4,846	21	23,933	243,655	238,722	1,753	3,180	—	71,181	295,315
1992	339,495	303,985	5,308	16	30,186	259,387	254,160	1,825	3,402	—	80,108	375,423
1993	366,503	323,982	5,789	12	36,720	275,839	270,376	1,896	3,567	—	90,664	466,087

See following page for footnotes.

[1]Beginning in 1983, includes government contributions on deemed wage credits for military service in 1957 and later. The amount shown for 1983 includes, in addition to the annual contributions on 1983 wage credits, a net amount of $5,388 million representing (1) retroactive contributions on deemed wage credits for military service in 1957-82, less (2) all reimbursements received prior to 1983 for the costs of such credits. An adjustment to these amounts totaling $466 million was transferred to the trust fund from the general fund of the Treasury in 1984.

[2]Includes payments (1) in 1947-51 and in 1966 and later, for costs of noncontributory wage credits for military service performed before 1957; (2) in 1971-82, for costs of deemed wage credits for military service performed after 1956; and (3) in 1968 and later, for costs of benefits to certain uninsured persons who attained age 72 before 1968.

[3]Net interest includes net profits or losses on marketable investments. Beginning in 1967, administrative expenses are charged currently to the trust fund on an estimated basis, with a final adjustment, including interest, made in the following fiscal year. The amounts of these interest adjustments are included in net interest. For years prior to 1967, a description of the method of accounting for administrative expenses is contained in the 1970 Annual Report. Beginning in 1983, these figures reflect payments from a borrowing trust fund to a lending trust fund for interest on amounts owed under the interfund borrowing provisions. Also, beginning in 1983, interest paid from the trust fund to the general fund on advance tax transfers is reflected. The amount shown for 1983 includes $6,677 million in interest on (1) retroactive government contributions on deemed wage credits for military service in 1957-82, and (2) unnegotiated benefit checks issued before 1983. The amount shown for 1984 includes an interest adjustment of $1,732 million on government contributions on deemed wage credits for military service in 1957-83. The amount shown for 1985 includes an interest adjustment of $88 million on unnegotiated checks issued before April 1985.

[4]Beginning in 1966, includes payments for vocational rehabilitation services furnished to disabled persons receiving benefits because of their disabilities. Beginning in 1983, amounts are reduced by amount of reimbursement for unnegotiated benefit checks. The amount shown for 1983 is reduced by $288 million for all unnegotiated checks issued before 1983; reductions in subsequent years are relatively small.

[5]Positive figure represents amounts lent to the OASI Trust Fund from the DI and HI Trust Funds. Negative figures represent amounts repaid from the OASI Trust Fund to the DI and HI Trust Funds.

TABLE 20.—OPERATIONS OF THE DI TRUST FUND DURING SELECTED FISCAL YEARS 1960-88 AND ESTIMATED FUTURE OPERATIONS DURING FISCAL YEARS 1989-93 ON THE BASIS OF THE INTERMEDIATE SETS OF ASSUMPTIONS

[In millions]

	Income					Disbursements						
Fiscal year[1]	Total	Net contributions[2]	Income from taxation of benefits	Payments from the general fund of the Treasury[3]	Net interest[4]	Total	Benefit payments[5]	Administrative expenses	Transfers to Railroad Retirement program	Interfund borrowing transfers[6]	Net increase in fund	Fund at end of period
Past experience:												
1960	$1,034	$987	—	—	$47	$533	$528	$32	-$27	—	$501	$2,167
1965	1,237	1,175	—	—	62	1,495	1,392	79	24	—	-257	2,007
1970	4,380	4,141	—	$16	223	2,954	2,795	149	10	—	1,426	5,104
1975	7,920	7,356	—	52	512	7,982	7,701	253	29	—	-62	8,191
1980	17,376	16,805	—	118	453	15,320	14,996	334	-12	—	2,056	7,680
1981	12,993	12,589	—	130	273	17,280	16,846	405	29	—	-4,288	3,392
1982	21,398	20,866	—	168	363	18,035	17,437	572	26	—	3,363	6,755
1983	21,846	19,036	—	1,295	1,515	18,231	17,544	659	28	-$5,081	-1,466	5,290
1984	17,732	16,394	$143	—	1,195	18,379	17,772	585	22	—	-647	4,643
1985	17,984	16,876	217	—	891	19,294	18,648	603	43	2,540	1,230	5,873
1986	20,130	18,139	229	1,017	746	20,196	19,529	600	68	2,541	2,475	8,348
1987	20,047	19,324	[7]-16	—	738	21,222	20,427	738	57	—	-1,175	7,173
1988	22,369	21,736	56	—	577	22,269	21,405	803	61	—	100	7,273
Alternative II-A:												
1989	24,676	23,832	200	—	644	23,296	22,542	717	37	—	1,380	8,653
1990	28,777	27,728	234	—	815	24,601	23,805	752	44	—	4,176	12,829
1991	31,940	30,349	267	84	1,240	25,907	25,083	789	36	—	6,033	18,862
1992	34,036	32,012	298	—	1,726	27,392	26,527	827	39	—	6,644	25,506
1993	36,658	34,118	329	—	2,211	29,079	28,172	867	40	—	7,579	33,085
Alternative II-B:												
1989	24,709	23,864	200	—	646	23,296	22,542	717	37	—	1,413	8,686
1990	28,653	27,598	236	—	819	24,801	24,005	752	44	—	3,852	12,538
1991	31,846	30,233	271	111	1,231	26,284	25,455	791	38	—	5,562	18,100
1992	34,029	31,986	305	—	1,737	28,023	27,147	833	42	—	6,006	24,106
1993	36,879	34,299	341	—	2,240	30,052	29,126	880	45	—	6,827	30,933

See following page for footnotes.

[1]Under the Congressional Budget Act of 1974 (Public Law 93-344), fiscal years 1977 and later consist of the 12 months ending on September 30 of each year. The act further provides that the calendar quarter July-September 1976 is a period of transition from fiscal year 1976, which ended on June 30, 1976, to fiscal year 1977, which began on October 1, 1976.

[2]Beginning in 1983, includes government contributions on deemed wage credits for military service in 1957 and later. The amount shown for 1983 includes, in addition to the annual contributions on 1983 wage credits, a net amount of $402 million representing (1) retroactive contributions on deemed wage credits for military service in 1957-82, less (2) all reimbursements received prior to 1983 for the costs of such credits. An adjustment to these amounts totaling $62 million was transferred to the trust fund from the general fund of the Treasury in 1984.

[3]Includes payments (1) in 1967 and later, for costs of noncontributory wage credits for military service performed before 1957; and (2) in 1972-83, for costs of deemed wage credits for military service performed after 1956.

[4]Net interest includes net profits or losses on marketable investments. Beginning in 1967, administrative expenses are charged currently to the trust fund on an estimated basis, with a final adjustment, including interest, made in the following fiscal year. The amounts of these interest adjustments are included in net interest. For years prior to 1967, a description of the method of accounting for administrative expenses is contained in the 1970 Annual Report. Beginning in 1983, these figures reflect payments from a borrowing trust fund to a lending trust fund for interest on amounts owed under the interfund borrowing provisions. Also, beginning in 1983, interest paid from the trust fund to the general fund on advance tax transfers is reflected. The amount shown for 1983 includes $660 million in interest on (1) retroactive government contributions on deemed wage credits for military service in 1957-82, and (2) unnegotiated benefit checks issued before 1983. The amount shown for 1984 includes an interest adjustment of $169 million on government contributions on deemed wage credits for military service in 1957-83. The amount shown for 1985 includes an interest adjustment of $14.8 million on unnegotiated checks issued before April 1985.

[5]Beginning in 1967, includes payments for vocational rehabilitation services furnished to disabled persons receiving benefits because of their disabilities. Beginning in 1983, amounts are reduced by amount of reimbursement for unnegotiated benefit checks. The amount shown for 1983 is reduced by $48 million for all unnegotiated checks issued before 1983; reductions in subsequent years are relatively small.

[6]Negative figure represents amounts lent by the DI Trust Fund to the OASI Trust Fund. Positive figures represent repayment of these amounts.

[7]Reflects $195 million in transfers from the DI Trust Fund to the general fund of the Treasury to correct estimated amounts transferred for calendar years 1984 and 1985.

TABLE 21.—OPERATIONS OF THE DI TRUST FUND DURING SELECTED CALENDAR YEARS 1960-88 AND ESTIMATED FUTURE OPERATIONS DURING CALENDAR YEARS 1989-93 ON THE BASIS OF THE INTERMEDIATE SETS OF ASSUMPTIONS

[In millions]

Calendar year	Income					Disbursements						
	Total	Net contributions[1]	Income from taxation of benefits	Payments from the general fund of the Treasury[2]	Net interest[3]	Total	Benefit payments[4]	Administrative expenses	Transfers to Railroad Retirement program	Interfund borrowing transfers[5]	Net increase in fund	Fund at end of period
Past experience:												
1960	$1,063	$1,010	—	—	$53	$600	$568	$36	-$5	—	$464	$2,289
1965	1,247	1,188	—	—	59	1,687	1,573	90	24	—	-440	1,606
1970	4,774	4,481	—	$16	277	3,259	3,085	164	10	—	1,514	5,614
1975	8,035	7,444	—	90	502	8,790	8,505	256	29	—	-754	7,354
1980	13,871	13,255	—	130	485	15,872	15,515	368	-12	—	-2,001	3,629
1981	17,078	16,738	—	168	172	17,658	17,192	436	29	—	-580	3,049
1982	22,715	21,995	—	174	546	17,992	17,376	590	26	-$5,081	-358	2,691
1983	20,682	17,991	—	1,121	1,569	18,177	17,524	625	28	—	2,505	5,195
1984	17,309	15,945	$190	—	1,174	18,546	17,898	626	22	—	-1,237	3,959
1985	19,301	17,191	222	1,017	870	19,478	18,827	608	43	2,540	2,363	6,321
1986	19,439	18,399	238	—	803	20,522	19,853	600	68	2,541	1,459	7,780
1987	20,303	19,691	[6]-36	—	648	21,425	20,519	849	57	—	-1,122	6,658
1988	22,699	22,039	61	—	600	22,494	21,695	737	61	—	206	6,864
Alternative II-A:												
1989	25,148	24,230	208	—	711	23,676	22,922	717	37	—	1,472	8,336
1990	30,133	28,804	243	84	1,002	24,906	24,100	782	44	—	5,227	13,563
1991	32,513	30,755	276	—	1,483	26,272	25,437	799	36	—	6,242	19,804
1992	34,849	32,574	306	—	1,969	27,796	26,920	837	39	—	7,053	26,858
1993	37,259	34,472	337	—	2,450	29,524	28,606	878	40	—	7,735	34,593
Alternative II-B:												
1989	25,154	24,232	208	—	714	23,676	22,922	717	37	—	1,478	8,341
1990	30,024	28,670	245	111	998	25,172	24,365	762	44	—	4,852	13,194
1991	32,408	30,647	280	—	1,481	26,682	25,842	803	38	—	5,726	18,920
1992	34,866	32,565	314	—	1,987	28,498	27,609	846	42	—	6,369	25,288
1993	37,560	34,706	350	—	2,505	30,584	29,645	893	45	—	6,976	32,265

See following page for footnotes.

[3]Beginning in 1983, includes government contributions on deemed wage credits for military service in 1957 and later. The amount shown for 1983 includes, in addition to the annual contributions on 1983 wage credits, a net amount of $402 million representing (1) retroactive contributions on deemed wage credits for military service in 1957-82, less (2) all reimbursements received prior to 1983 for the costs of such credits. An adjustment to these amounts totaling $62 million was transferred to the trust fund from the general fund of the Treasury in 1984.

[4]Includes payments (1) in 1966 and later, for costs of noncontributory wage credits for military service performed before 1957; and (2) in 1971-82, for costs of deemed wage credits for military service performed after 1956.

[5]Net interest includes net profits or losses on marketable investments. Beginning in 1967, administrative expenses are charged currently to the trust fund on an estimated basis, with a final adjustment, including interest, made in the following fiscal year. The amounts of these interest adjustments are included in net interest. For years prior to 1967, a description of the method of accounting for administrative expenses is contained in the 1970 Annual Report. Beginning in 1983, these figures reflect payments from a borrowing trust fund to a lending trust fund for interest on amounts owed under the interfund borrowing provisions. Also, beginning in 1983, interest paid from the trust fund to the general fund on advance tax transfers is reflected. The amount shown for 1983 includes $660 million in interest on (1) retroactive government contributions on deemed wage credits for military service in 1957-82, and (2) unnegotiated benefit checks issued before 1983. The amount shown for 1984 includes an interest adjustment of $169 million on government contributions on deemed wage credits for military service in 1957-83. The amount shown for 1985 includes an interest adjustment of $14.8 million on unnegotiated checks issued before April 1985.

[6]Beginning in 1966, includes payments for vocational rehabilitation services furnished to disabled persons receiving benefits because of their disabilities. Beginning in 1983, amounts are reduced by amount of reimbursement for unnegotiated benefit checks. The amount shown for 1983 is reduced by $48 million for all unnegotiated checks issued before 1983; reductions in subsequent years are relatively small.

[7]Negative figure represents amounts lent by the DI Trust Fund to the OASI Trust Fund. Positive figures represent repayment of these amounts.

[8]Reflects $195 million in transfers from the DI Trust Fund to the general fund of the Treasury to correct estimated amounts transferred for calendar years 1984 and 1985.

TABLE 22.—OPERATIONS OF THE OASI AND DI TRUST FUNDS, COMBINED, DURING SELECTED FISCAL YEARS 1960-88 AND ESTIMATED FUTURE OPERATIONS DURING FISCAL YEARS 1989-93 ON THE BASIS OF THE INTERMEDIATE SETS OF ASSUMPTIONS

[In millions]

	Income					Disbursements						
Fiscal year[1]	Total	Net contributions[2]	Income from taxation of benefits	Payments from the general fund of the Treasury[3]	Net interest[4]	Total	Benefit payments[5]	Administrative expenses	Transfers to Railroad Retirement program	Interfund borrowing transfers[6]	Net increase in funds	Funds at end of period
Past experience:												
1960	$11,394	$10,830	—	—	$564	$11,606	$10,798	$234	$574	—	-$212	$22,996
1965	17,681	17,032	—	—	648	17,456	16,618	379	459	—	224	22,187
1970	36,127	34,096	—	$458	1,572	30,275	29,063	623	589	—	5,851	37,720
1975	66,677	63,374	—	499	2,804	64,658	62,547	1,101	1,010	—	2,018	48,138
1980	117,427	114,413	—	675	2,339	118,548	115,624	1,494	1,430	—	-1,121	32,246
1981	134,565	131,606	—	670	2,289	139,584	136,267	1,703	1,614	—	-5,019	27,226
1982	148,027	145,113	—	843	2,072	155,963	152,097	2,046	1,820	—	-7,936	19,290
1983	170,280	155,163	—	7,391	7,725	170,058	165,569	2,210	2,279	$12,437	12,660	31,950
1984	178,461	172,946	$2,275	125	3,114	178,199	173,603	2,170	2,426	—	262	32,212
1985	197,865	192,181	3,368	105	2,211	188,504	183,959	2,192	2,353	-1,824	7,538	39,750
1986	215,461	205,146	3,558	3,310	3,447	198,730	193,869	2,209	2,653	-10,613	6,117	45,867
1987	226,893	218,878	3,307	69	4,638	207,323	202,430	2,279	2,614	—	19,570	65,437
1988	258,090	248,145	3,390	55	6,500	219,290	213,907	2,532	2,851	—	38,800	104,237
Alternative II-A:												
1989	286,724	272,450	3,923	43	10,308	232,176	226,968	2,342	2,865	—	54,548	158,785
1990	313,998	293,806	4,452	34	15,707	246,640	241,182	2,413	3,046	—	67,358	226,143
1991	340,838	313,562	4,929	465	21,882	262,164	256,473	2,520	3,171	—	78,674	304,817
1992	364,367	330,825	5,361	21	28,161	276,586	270,605	2,619	3,362	—	87,781	392,598
1993	392,897	352,583	5,791	16	34,507	291,000	284,804	2,718	3,478	—	101,897	494,494
Alternatve II-B:												
1989	287,112	272,810	3,923	43	10,337	232,177	226,969	2,342	2,865	—	54,936	159,173
1990	312,824	292,390	4,491	34	15,909	248,733	243,272	2,413	3,049	—	64,091	223,263
1991	340,408	312,393	5,006	945	22,064	266,197	260,453	2,527	3,217	—	74,210	297,474
1992	364,955	330,590	5,497	21	28,847	283,509	277,423	2,641	3,444	—	81,446	378,920
1993	396,120	354,490	6,009	16	35,605	301,841	295,469	2,760	3,612	—	94,279	473,199

See following page for footnotes.

[1]Under the Congressional Budget Act of 1974 (Public Law 93-344), fiscal years 1977 and later consist of the 12 months ending on September 30 of each year. The act further provides that the calendar quarter July-September 1976 is a period of transition from fiscal year 1976, which ended on June 30, 1976, to fiscal year 1977, which began on October 1, 1976.

[2]Beginning in 1983, includes government contributions on deemed wage credits for military service in 1957 and later. The amount shown for 1983 includes, in addition to the annual contributions on 1983 wage credits, a net amount of $5,790 million representing (1) retroactive contributions on deemed wage credits for military service in 1957-82, less (2) all reimbursements received prior to 1983 for the costs of such credits. An adjustment to these amounts totaling $528 million was transferred to the trust funds from the general fund of the Treasury in 1984.

[3]Includes payments (1) in 1947-52 and in 1967 and later, for costs of noncontributory wage credits for military service performed before 1957; (2) in 1972-83, for costs of deemed wage credits for military service performed after 1956; and (3) in 1969 and later, for costs of benefits to certain uninsured persons who attained age 72 before 1968.

[4]Net interest includes net profits or losses on marketable investments. Beginning in 1967, administrative expenses are charged currently to the trust funds on an estimated basis, with a final adjustment, including interest, made in the following fiscal year. The amounts of these interest adjustments are included in net interest. For years prior to 1967, a description of the method of accounting for administrative expenses is contained in the 1970 Annual Report. Beginning in 1983, these figures reflect payments from a borrowing trust fund to a lending trust fund for interest on amounts owed under the interfund borrowing provisions. Also, beginning in 1983, interest paid from the trust funds to the general fund of the Treasury on advance tax transfers is reflected. The amount shown for 1983 includes $7,337 million in interest on (1) retroactive government contributions on deemed wage credits for military service in 1957-82, and (2) unnegotiated benefit checks issued before 1983. The amount shown for 1984 includes an interest adjustment of $1,901 million on government contributions on deemed wage credits for military service in 1957-83. The amounts shown for 1985 and 1986 include interest adjustments of $91.3 million and $11.5 million, respectively, on unnegotiated checks issued before April 1985.

[5]Beginning in 1967, includes payments for vocational rehabilitation services furnished to disabled persons receiving benefits because of their disabilities. Beginning in 1983, amounts are reduced by amount of reimbursement for unnegotiated benefit checks. The amount shown for 1983 is reduced by $336 million for all unnegotiated checks issued before 1983; reductions in subsequent years are relatively small.

[6]Positive figure represents amounts lent to the OASI Trust Fund from the HI Trust Fund. Negative figures represent amounts repaid from the OASI Trust Fund to the HI Trust Fund.

TABLE 23.—OPERATIONS OF THE OASI AND DI TRUST FUNDS, COMBINED, DURING SELECTED CALENDAR YEARS 1960-88 AND ESTIMATED FUTURE OPERATIONS DURING CALENDAR YEARS 1989-93 ON THE BASIS OF THE INTERMEDIATE SETS OF ASSUMPTIONS

[In millions]

Calendar year	Income					Disbursements							
	Total	Net contributions[1]	Income from taxation of benefits	Payments from the general fund of the Treasury[2]	Net interest[3]	Total	Benefit payments[4]	Administrative expenses	Transfers to Railroad Retirement program	Interfund borrowing transfers[5]	Net increase in funds	Funds at end of period
Past experience:												
1960	$12,445	$11,876	—	—	$569	$11,798	$11,245	$240	$314	—	$647	$22,613
1965	17,857	17,205	—	—	651	19,187	18,311	418	459	—	-1,331	19,841
1970	36,993	34,737	—	$465	1,791	33,108	31,884	635	589	—	3,886	38,068
1975	67,640	64,259	—	515	2,866	69,184	67,022	1,152	1,010	—	-1,544	44,342
1980	119,712	116,711	—	670	2,330	123,550	120,598	1,522	1,430	—	-3,838	26,453
1981	142,438	139,364	—	843	2,231	144,352	140,995	1,743	1,614	—	-1,914	24,539
1982	147,913	145,667	—	854	1,391	160,111	156,182	2,109	1,820	$12,437	239	24,778
1983	171,266	156,328	—	6,662	8,276	171,177	166,744	2,153	2,279	—	89	24,867
1984	186,637	180,066	$3,025	105	3,440	180,429	175,739	2,264	2,426	—	6,208	31,075
1985	203,540	194,149	3,430	3,220	2,741	190,628	186,075	2,200	2,353	-1,824	11,088	42,163
1986	216,833	209,140	3,662	160	3,871	201,522	196,667	2,202	2,653	-10,613	4,698	46,861
1987	231,039	222,425	3,221	55	5,338	209,093	204,106	2,373	2,614	—	21,946	68,807
1988	263,469	251,814	3,445	43	8,168	222,514	217,149	2,513	2,851	—	40,955	109,762
Alternative II-A:												
1989	294,092	277,039	4,061	34	12,957	235,707	230,523	2,319	2,865	—	58,385	168,147
1990	322,942	299,166	4,585	465	18,726	250,376	244,891	2,440	3,046	—	72,566	240,713
1991	347,834	317,756	5,041	21	25,017	265,908	260,192	2,545	3,171	—	81,926	322,639
1992	373,418	336,627	5,470	16	31,305	280,150	274,143	2,644	3,362	—	93,268	415,907
1993	399,792	356,234	5,898	12	37,648	294,575	288,355	2,741	3,478	—	105,218	521,124
Alternative II-B:												
1989	294,222	277,055	4,061	34	13,072	235,708	230,524	2,319	2,865	—	58,514	168,277
1990	322,219	297,744	4,637	945	18,892	253,167	247,677	2,442	3,049	—	69,051	237,328
1991	347,244	316,683	5,126	21	25,414	270,337	264,564	2,556	3,217	—	76,907	314,235
1992	374,361	336,550	5,622	16	32,173	287,885	281,770	2,671	3,444	—	86,476	400,711
1993	404,063	358,688	6,138	12	39,225	306,423	300,022	2,789	3,612	—	97,640	498,352

See following page for footnotes.

[1]Beginning in 1983, includes government coniributions on deemed wage credits for military service in 1957 and later. The amount shown for 1983 includes, in addition to the annual contributions on 1983 wage credits, a net amount of $5,790 million representing (1) retroactive contributions on deemed wage credits for military service in 1957-82, less (2) all reimbursements received prior to 1983 for the costs of such credits. An adjustment to these amounts totaling $528 million was transferred to the trust funds from the general fund of the Treasury in 1984.

[2]Includes payments (1) in 1947-51 and in 1966 and later, for costs of noncontributory wage credits for military service performed before 1957; (2) in 1971-82, for costs of deemed wage credits for military service performed after 1956; and (3) in 1968 and later, for costs of benefits to certain uninsured persons who attained age 72 before 1968.

[3]Net interest includes net profits or losses on marketable investments. Beginning in 1967, administrative expenses are charged currently to the trust funds on an estimated basis, with a final adjustment, including interest, made in the following fiscal year. The amounts of these interest adjustments are included in net interest. For years prior to 1967, a description of the method of accounting for administrative expenses is contained in the 1970 Annual Report. Beginning in 1983, these figures reflect payments from a borrowing trust fund to a lending trust fund for interest on amounts owed under the interfund borrowing provisions. Also, beginning in 1983, interest paid from the trust funds to the general fund of the Treasury on advance tax transfers is reflected. The amount shown for 1983 includes $7,337 million in interest on (1) retroactive government contributions on deemed wage credits for military service in 1957-82, and (2) unnegotiated benefit checks issued before 1983. The amount shown for 1984 includes an interest adjustment of $1,901 million on government contributions on deemed wage credits for military service in 1957-83. The amount shown for 1985 includes an interest adjustment of $102.8 million on unnegotiated checks issued before April 1985.

[4]Beginning in 1966, includes payments for vocational rehabilitation services furnished to disabled persons receiving benefits because of their disabilities. Beginning in 1983, amounts are reduced by amount of reimbursement for unnegotiated benefit checks. The amount shown for 1983 is reduced by $336 million for all unnegotiated checks issued before 1983; reductions in subsequent years are relatively small.

[5]Positive figure represents amounts lent to the OASI Trust Fund from the HI Trust Fund. Negative figures represent amounts repaid from the OASI Trust Fund to the HI Trust Fund.

D. 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.

On December 31, 1988, about 640,000 persons were receiving monthly benefits from the OASI Trust Fund because of their disabilities or the disabilities of children. This total includes 53,000 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 $2,517 million in calendar year 1988. Table 24 shows these and similar figures for selected calendar years during 1960-88, and estimated experience for 1989-93.

TABLE 24.— BENEFITS PAYABLE FROM THE OASI TRUST FUND WITH RESPECT TO DISABLED BENEFICIARIES, SELECTED CALENDAR YEARS 1960-93
[Beneficiaries in thousands; benefit payments in millions]

Calendar year	Disabled beneficiaries, end of year			Amount of benefit payments[1]		
	Total	Children[2]	Widows-widowers	Total	Children[2]	Widows-widowers[3]
Past experience:						
1960	117	117	—	$59	$59	—
1965	214	214	—	134	134	—
1970	316	281	36	301	260	$41
1975	435	376	59	664	560	104
1980	519	460	59	1,223	1,097	126
1981	527	473	54	1,421	1,296	125
1982	533	484	49	1,566	1,451	115
1983	550	504	46	1,691	1,581	110
1984	574	528	47	1,882	1,707	175
1985	594	547	47	2,043	1,860	183
1986	614	565	49	2,198	2,001	197
1987	629	580	49	2,314	2,111	203
1988	640	591	49	2,517	2,292	225
Alternative II-A:						
1989	655	607	48	2,692	2,461	231
1990	669	622	48	2,876	2,635	241
1991	684	636	48	3,078	2,826	252
1992	699	651	48	3,278	3,009	269
1993	715	666	49	3,482	3,197	285
Alternative II-B:						
1989	655	607	48	2,692	2,461	231
1990	669	622	48	2,908	2,665	244
1991	684	636	48	3,130	2,874	256
1992	699	651	48	3,368	3,093	275
1993	715	666	49	3,622	3,327	295

[1]Beginning in 1966, includes payments for vocational rehabilitation services.

[2]Also includes certain mothers and fathers (see text).

[3]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.

Total benefit payments from the OASI Trust Fund with respect to disabled beneficiaries are estimated to increase from $2,692 million in

calendar year 1989 to $3,482 million in calendar year 1993, based on alternative II-A, and to $3,622 million in calendar year 1993, based on alternative II-B.

In calendar year 1988, 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 disabled-worker beneficiaries) totaled $24,225 million, of which $2,517 million, or 10.4 percent, represented payments from the OASI Trust Fund. These and similar figures for selected calendar years during 1960-88 and estimates for calendar years 1989-93 are presented in table 25.

TABLE 25.—BENEFIT PAYMENTS UNDER THE OASDI PROGRAM WITH RESPECT TO DISABLED BENEFICIARIES, BY TRUST FUND, SELECTED CALENDAR YEARS 1960-93
[Amounts in millions]

Calendar year	Total[1]	DI Trust Fund[2]	OASI Trust Fund	
			Amount[3]	Percentage of total
Past experience:				
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
1981	18,613	17,192	1,421	7.6
1982	18,942	17,376	1,566	8.3
1983	19,215	17,524	1,691	8.8
1984	19,782	17,900	1,882	9.5
1985	20,879	18,836	2,043	9.8
1986	22,054	19,856	2,198	10.0
1987	22,841	20,527	2,314	10.1
1988	24,225	21,708	2,517	10.4
Alternative II-A:				
1989	25,615	22,923	2,692	10.5
1990	26,979	24,103	2,876	10.7
1991	28,519	25,441	3,078	10.8
1992	30,202	26,923	3,278	10.9
1993	32,092	28,610	3,482	10.9
Alternative II-B:				
1989	25,614	22,923	2,692	10.5
1990	27,277	24,369	2,908	10.7
1991	28,976	25,846	3,130	10.8
1992	30,982	27,613	3,368	10.9
1993	33,272	29,649	3,622	10.9

[1]Beginning in 1966, includes payments for vocational rehabilitation services.

[2]Benefit payments to disabled workers and their children and spouses.

[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).

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, calculated on a level-financing basis, pertain to the periods 1989-2013 and 1989-2063, respectively. Also presented is the level-financing actuarial balance for the first 50 years 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, other indicators of the financial conditions of the program are shown in this report. One is the series of projected annual balances (that is, the year-by-year differences between the projected income rates and cost rates), with particular attention being paid to the ultimate level of the annual balances and the time at which the annual balances may change from positive to negative values. Another is the series of projected contingency fund ratios, with particular attention being paid to the amount and year of maximum fund ratio accumulation and to the year of exhaustion of the funds. These additional indicators are 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 covered workers and beneficiaries projected for the early years were born prior to the start of the projection period. However, lower fertility rates have negative impacts on the actuarial balance in the later years. Variations in economic factors, such as interest rates and increases in wages and prices, have significant effects on the estimates for the short term, as well as for 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 expected 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 rates and cost rates by trust fund and alternative. As previously mentioned, the annual income rate excludes net interest income, as well as certain other transfers from the general fund of the Treasury. Detailed long-range projections of trust-fund operations, in nominal dollar amounts, are shown in Appendix F.

The projections for OASDI show income rates that increase slowly and steadily due to the combination of the flat payroll tax rate after 1989 and the gradually increasing effect of the taxation of benefits. The

pattern followed by the cost rates is much different. Costs as a percent of taxable payroll are projected to be relatively stable for about 20 years, to increase rather rapidly for the next 25 years, and to increase slowly thereafter. The relatively high cost rates during the third 25-year subperiod are at a level of about 16.0 percent of taxable payroll under the II-A assumptions and about 16.9 percent of taxable payroll under the II-B assumptions. The income rate during the third 25-year subperiod covers about 82 percent of the cost under alternative II-A and about 78 percent of the cost under alternative II-B.

Attention is called to the projected pattern of the OASDI annual balances (that is, the difference between the income rates and the cost rates). Under alternative II-A assumptions the annual balances are positive for about 30 years and change to negative balances thereafter. This annual deficit reaches 3.28 percent of taxable payroll by 2065. The pattern is similar under the alternative II-B assumptions, but early year positive balances are smaller and later deficits are larger. The deficit reaches 4.10 percent of taxable payroll by 2065 under alternative II-B.

TABLE 26.—COMPARISON OF ESTIMATED INCOME RATES AND COST RATES BY TRUST FUND AND ALTERNATIVE, CALENDAR YEARS 1989-2065
[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 I:									
1989	11.23	9.27	1.96	1.07	1.02	0.05	12.30	10.29	2.00
1990	11.38	9.26	2.12	1.21	1.00	.21	12.59	10.26	2.33
1991	11.38	9.14	2.24	1.21	.98	.23	12.59	10.12	2.48
1992	11.38	9.03	2.36	1.21	.96	.25	12.60	9.99	2.61
1993	11.39	8.91	2.48	1.21	.95	.26	12.60	9.86	2.73
1994	11.39	8.79	2.60	1.21	.95	.27	12.60	9.74	2.86
1995	11.38	8.66	2.73	1.21	.94	.27	12.60	9.60	2.99
1996	11.38	8.55	2.83	1.21	.95	.27	12.60	9.50	3.10
1997	11.38	8.45	2.93	1.21	.95	.26	12.59	9.40	3.19
1998	11.38	8.36	3.02	1.21	.96	.25	12.59	9.32	3.27
2000	11.19	8.19	3.00	1.43	.98	.45	12.62	9.17	3.45
2005	11.24	7.85	3.40	1.44	1.08	.36	12.68	8.93	3.76
2010	11.29	8.03	3.26	1.44	1.22	.22	12.73	9.25	3.48
2015	11.35	8.93	2.42	1.45	1.31	.13	12.79	10.24	2.55
2020	11.42	10.17	1.24	1.45	1.35	.09	12.86	11.53	1.34
2025	11.47	11.15	.32	1.45	1.42	.04	12.92	12.56	.36
2030	11.51	11.66	-.15	1.45	1.38	.07	12.96	13.05	-.09
2035	11.52	11.64	-.12	1.45	1.34	.11	12.97	12.98	-.01
2040	11.51	11.25	.26	1.45	1.32	.13	12.96	12.57	.38
2045	11.50	10.88	.61	1.45	1.35	.10	12.95	12.24	.71
2050	11.49	10.72	.77	1.45	1.36	.09	12.94	12.09	.86
2055	11.49	10.67	.82	1.45	1.36	.09	12.95	12.03	.92
2060	11.49	10.61	.88	1.45	1.34	.11	12.94	11.95	.99
2065	11.49	10.52	.97	1.45	1.34	.11	12.94	11.86	1.08
Alternative II-A:									
1989	11.23	9.32	1.91	1.07	1.04	.03	12.30	10.36	1.94
1990	11.39	9.33	2.07	1.21	1.03	.18	12.61	10.36	2.25
1991	11.39	9.32	2.07	1.21	1.02	.19	12.60	10.34	2.25
1992	11.39	9.26	2.13	1.21	1.02	.19	12.60	10.28	2.32
1993	11.39	9.20	2.19	1.21	1.02	.19	12.60	10.22	2.38
1994	11.40	9.13	2.27	1.21	1.03	.18	12.61	10.16	2.45
1995	11.39	9.06	2.34	1.21	1.04	.17	12.60	10.10	2.51
1996	11.39	8.99	2.41	1.21	1.05	.16	12.61	10.04	2.57
1997	11.39	8.94	2.46	1.21	1.07	.14	12.61	10.01	2.60
1998	11.39	8.88	2.51	1.21	1.09	.12	12.61	9.97	2.64

TABLE 26.—COMPARISON OF ESTIMATED INCOME RATES AND COST RATES BY TRUST FUND AND ALTERNATIVE, CALENDAR YEARS 1989-2065 (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-A: (Cont.)									
2000	11.21	8.76	2.44	1.44	1.13	0.31	12.64	9.89	2.75
2005	11.27	8.54	2.73	1.44	1.27	.17	12.71	9.82	2.90
2010	11.33	8.83	2.50	1.45	1.47	-.03	12.78	10.30	2.48
2015	11.40	9.91	1.48	1.45	1.61	-.16	12.85	11.52	1.33
2020	11.48	11.44	.04	1.46	1.68	-.23	12.94	13.13	-.19
2025	11.56	12.78	-1.23	1.46	1.78	-.32	13.01	14.56	-1.55
2030	11.61	13.72	-2.11	1.46	1.77	-.31	13.07	15.48	-2.41
2035	11.64	14.07	-2.44	1.46	1.73	-.27	13.10	15.80	-2.71
2040	11.64	14.01	-2.36	1.46	1.74	-.28	13.10	15.75	-2.64
2045	11.65	13.93	-2.28	1.46	1.80	-.34	13.11	15.73	-2.62
2050	11.66	14.07	-2.41	1.46	1.84	-.38	13.12	15.90	-2.78
2055	11.67	14.33	-2.65	1.46	1.84	-.38	13.14	16.17	-3.03
2060	11.69	14.53	-2.84	1.46	1.82	-.36	13.15	16.35	-3.20
2065	11.69	14.61	-2.92	1.46	1.82	-.36	13.16	16.43	-3.28
Alternative II-B:									
1989	11.23	9.32	1.91	1.07	1.04	.03	12.30	10.36	1.94
1990	11.42	9.48	1.94	1.21	1.05	.17	12.63	10.52	2.11
1991	11.39	9.51	1.88	1.21	1.04	.17	12.60	10.55	2.05
1992	11.39	9.52	1.87	1.21	1.05	.17	12.61	10.57	2.04
1993	11.40	9.50	1.90	1.21	1.05	.16	12.61	10.56	2.05
1994	11.40	9.44	1.96	1.21	1.06	.15	12.61	10.50	2.11
1995	11.40	9.37	2.03	1.21	1.07	.15	12.61	10.44	2.17
1996	11.40	9.31	2.09	1.21	1.08	.13	12.61	10.39	2.22
1997	11.40	9.25	2.15	1.21	1.09	.12	12.61	10.35	2.27
1998	11.40	9.20	2.20	1.21	1.11	.10	12.61	10.31	2.30
2000	11.22	9.12	2.10	1.44	1.15	.28	12.65	10.27	2.38
2005	11.30	8.94	2.35	1.44	1.31	.14	12.74	10.25	2.49
2010	11.36	9.24	2.11	1.45	1.52	-.07	12.81	10.76	2.05
2015	11.43	10.37	1.06	1.45	1.66	-.20	12.88	12.03	.86
2020	11.51	11.97	-.45	1.46	1.73	-.27	12.97	13.70	-.73
2025	11.59	13.39	-1.80	1.46	1.83	-.37	13.06	15.23	-2.17
2030	11.65	14.41	-2.76	1.46	1.82	-.36	13.11	16.23	-3.11
2035	11.68	14.83	-3.14	1.46	1.78	-.32	13.14	16.61	-3.47
2040	11.69	14.79	-3.10	1.46	1.79	-.33	13.15	16.58	-3.43
2045	11.69	14.71	-3.02	1.46	1.86	-.39	13.15	16.56	-3.41
2050	11.70	14.84	-3.15	1.46	1.89	-.43	13.16	16.74	-3.58
2055	11.71	15.11	-3.39	1.46	1.89	-.43	13.18	17.00	-3.82
2060	11.73	15.32	-3.59	1.46	1.87	-.41	13.19	17.19	-4.00
2065	11.73	15.42	-3.69	1.46	1.87	-.41	13.20	17.29	-4.10
Alternative III:									
1989	11.23	9.56	1.68	1.07	1.09	-.02	12.30	10.65	1.65
1990	11.44	9.96	1.48	1.22	1.13	.08	12.65	11.09	1.56
1991	11.40	10.05	1.35	1.21	1.15	.07	12.61	11.20	1.41
1992	11.41	10.19	1.22	1.21	1.18	.04	12.62	11.37	1.26
1993	11.42	10.56	.86	1.21	1.25	-.03	12.64	11.81	.83
1994	11.42	10.51	.92	1.22	1.27	-.05	12.64	11.78	.86
1995	11.42	10.49	.94	1.22	1.30	-.09	12.64	11.79	.85
1996	11.42	10.44	.98	1.22	1.34	-.13	12.64	11.79	.86
1997	11.43	10.41	1.02	1.22	1.39	-.17	12.64	11.80	.85
1998	11.43	10.39	1.04	1.22	1.44	-.22	12.64	11.83	.82
2000	11.25	10.33	.92	1.44	1.48	-.04	12.69	11.81	.88
2005	11.34	10.18	1.17	1.45	1.64	-.19	12.79	11.82	.97
2010	11.42	10.51	.91	1.46	1.90	-.44	12.87	12.41	.46
2015	11.50	11.82	-.33	1.46	2.11	-.64	12.96	13.93	-.97
2020	11.60	13.79	-2.18	1.47	2.23	-.76	13.07	16.02	-2.94
2025	11.71	15.73	-4.03	1.47	2.39	-.92	13.18	18.12	-4.94
2030	11.80	17.42	-5.62	1.47	2.41	-.93	13.28	19.83	-6.55
2035	11.86	18.56	-6.69	1.48	2.41	-.93	13.34	20.96	-7.62
2040	11.90	19.22	-7.32	1.48	2.47	-.99	13.38	21.69	-8.31
2045	11.94	19.86	-7.92	1.48	2.61	-1.13	13.42	22.47	-9.05
2050	11.99	20.80	-8.81	1.48	2.70	-1.21	13.47	23.49	-10.02
2055	12.05	21.91	-9.87	1.48	2.71	-1.23	13.53	24.63	-11.10
2060	12.10	22.90	-10.80	1.48	2.67	-1.19	13.58	25.57	-11.99
2065	12.13	23.62	-11.48	1.48	2.67	-1.19	13.62	26.29	-12.67

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

Table 27 summarizes the projected annual figures presented in the previous table. Because any form of summarization involves choices of what to include and exclude in the summarized values, it is important to recognize that these summarized values should not be used as if they uniquely determined the status of the program or the financial effect of proposed modifications to it. These values are principally indicators that point towards possible significant situations projected for the future. As such, they are useful tools in an assessment of the long-range financial condition of the program.

Table 27 first shows the level-financing rates for each of the 25-year subperiods, excluding the funds on hand at the beginning of the period. The table next shows the level-financing rates including the funds on hand for valuation periods of the first 25 years, the first 50 years, and the first 75 years. Over the first 25-year valuation period, the OASDI program would have a positive actuarial balance under any of the four sets of assumptions. For a valuation period of the first 50 years, the program would have a positive actuarial balance under all but the most pessimistic set of assumptions, alternative III, which shows a deficit of 1.48 percent of taxable payroll. On the other hand, for the entire 75-year valuation period, the program would have actuarial deficits except for the most optimistic set of assumptions, alternative I. The actuarial balance for this long-range valuation period is projected to be -0.10 percent of taxable payroll, under alternative II-A, and -0.70 percent of taxable payroll under alternative II-B.

The values in table 27 show that the program would generally operate with positive balances over shorter valuation periods. For the first 25-year valuation period the summarizing values indicate that there would be positive balances of 3.40 percent of taxable payroll under alternative I, 2.74 percent under alternative II-A, 2.39 percent under II-B, and 1.10 percent under III. Thus, the program is more than adequately financed for the next 25-year valuation period under all four projections. Over a 50-year valuation period, 1989-2038, the program would have positive balances of 2.15 percent under alternative I, 0.94 percent under II-A, and 0.44 percent under II-B; and would have a deficit of 1.48 percent under the most pessimistic assumptions of alternative III. Thus, the program is more than adequately financed for the next 50-year valuation period under all but the most pessimistic set of assumptions.

TABLE 27.—COMPARISON OF SUMMARIZED INCOME RATES AND COST RATES BY TRUST FUND AND ALTERNATIVE, CALENDAR YEARS 1989-2063
[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 I:									
25-year subperiods[1]:									
1989-2013	11.30	8.41	2.89	1.33	1.06	0.27	12.63	9.47	3.17
2014-2038	11.45	10.80	.65	1.45	1.37	.08	12.90	12.17	.73
2039-2063	11.49	10.82	.66	1.45	1.35	.10	12.94	12.17	.76
Valuation ranges[2]:									
25 years:1989-2013	11.53	8.41	3.12	1.34	1.08	.29	12.87	9.47	3.40
50 years:1989-2038	11.49	9.53	1.96	1.39	1.20	.19	12.08	10.73	2.15
75 years:1989-2063	11.49	9.91	1.58	1.41	1.25	.16	12.90	11.16	1.74
Alternative II-A:									
25-year subperiods[1]:									
1989-2013	11.32	8.95	2.37	1.33	1.20	.12	12.65	10.16	2.50
2014-2038	11.53	12.50	-.97	1.46	1.72	-.27	12.99	14.23	-1.24
2039-2063	11.65	14.21	-2.56	1.46	1.81	-.35	13.11	16.03	-2.91
Valuation ranges[2]:									
25 years:1989-2013	11.55	8.95	2.60	1.34	1.20	.14	12.90	10.16	2.74
50 years:1989-2038	11.54	10.56	.98	1.39	1.44	-.04	12.94	12.00	.94
75 years:1989-2063	11.57	11.54	.03	1.41	1.54	-.13	12.98	13.08	-.10
Alternative II-B:									
25-year subperiods[1]:									
1989-2013	11.34	9.29	2.05	1.33	1.23	.09	12.67	10.52	2.14
2014-2038	11.57	13.13	-1.56	1.46	1.77	-.32	13.03	14.91	-1.88
2039-2063	11.69	15.00	-3.31	1.46	1.87	-.41	13.15	16.87	-3.72
Valuation ranges[2]:									
25 years:1989-2013	11.57	9.29	2.28	1.34	1.23	.11	12.91	10.52	2.39
50 years:1989-2038	11.57	11.04	.52	1.40	1.48	-.09	12.96	12.52	.44
75 years:1989-2063	11.60	12.13	-.53	1.41	1.59	-.17	13.02	13.72	-.70
Alternative III:									
25-year subperiods[1]:									
1989-2013	11.37	10.36	1.01	1.33	1.51	-.18	12.70	11.87	.83
2014-2038	11.68	15.63	-3.94	1.47	2.32	-.85	13.15	17.95	-4.79
2039-2063	11.98	21.04	-9.06	1.48	2.64	-1.16	13.46	23.68	-10.22
Valuation ranges[2]:									
25 years:1989-2013	11.63	10.36	1.27	1.34	1.51	-.16	12.97	11.87	1.10
50 years:1989-2038	11.65	12.67	-1.02	1.40	1.86	-.47	13.05	14.54	-1.46
75 years:1989-2063	11.73	14.73	-2.99	1.42	2.06	-.64	13.15	16.78	-3.63

[1]Income rates do not include beginning trust fund balances.

[2]Income rates do include beginning trust fund balances.

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

Also of interest are the long-range financial conditions of the separate OASI and DI programs. As may be concluded from tables 26 and 27, the OASI program is in much better financial condition than the DI program. The OASI program could operate for many decades into the future under all but the most pessimistic assumptions in alternative III, but the DI program would be able to do so only under the most optimistic assumptions in alternative I. The OASI program is projected to have a long-range positive balance of 0.03 percent and a deficit of 0.53 percent of taxable payroll under the II-A and II-B assumptions, respectively, over the 75-year valuation period (including the beginning trust fund balances). The DI program is projected to have long-range actuarial deficits of 0.13 percent and 0.17 percent of taxable payroll under alternatives II-A and II-B, respectively (including the beginning trust fund balances).

Tables 26 and 27 also illustrate the spread of possible long-range costs and actuarial balances. For OASI, the cost rate projected for 2065 ranges from a low of 10.52 percent of taxable payroll under alternative I to a high of 23.62 percent of taxable payroll under alternative III. The balances for that year are projected to range from a positive balance of 0.97 percent under alternative I to a deficit of 11.48 percent under alternative III. The summarized cost rate for the 75-year valuation period is projected to range from a low of 9.91 percent under alternative I to a high of 14.73 percent under alternative III. The long-range actuarial balances for the entire 75-year period range from a positive balance of 1.58 percent under alternative I to a deficit of 2.99 percent of taxable payroll under alternative III.

The spread in the DI cost for 2065 is from a low of 1.34 percent of taxable payroll under alternative I to a high of 2.67 percent of taxable payroll under alternative III. The summarized cost rate for the 75-year period ranges from a low of 1.25 percent of taxable payroll under alternative I to a high of 2.06 percent of taxable payroll under alternative III. The DI long-range actuarial balance ranges from a positive balance of 0.16 percent of taxable payroll under alternative I to a deficit of 0.64 percent of taxable payroll under alternative III.

The spread between the lowest and highest projected annual cost rates and balances grows wider as the projections move further into the future. For OASDI the projected spread of cost rates in 2000 is 2.64 percent of taxable payroll (from 9.17 percent to 11.81 percent for alternatives I and III, respectively). By 2025 the spread is projected to increase to 5.56 percent of taxable payroll (from 12.56 percent to 18.12 percent) and by 2050 it is 11.40 percent of taxable payroll (from 12.09 percent to 23.49 percent). Because of the even greater uncertainty in projecting costs and revenues in the more distant future, the Board recommends caution in using the specific values projected.

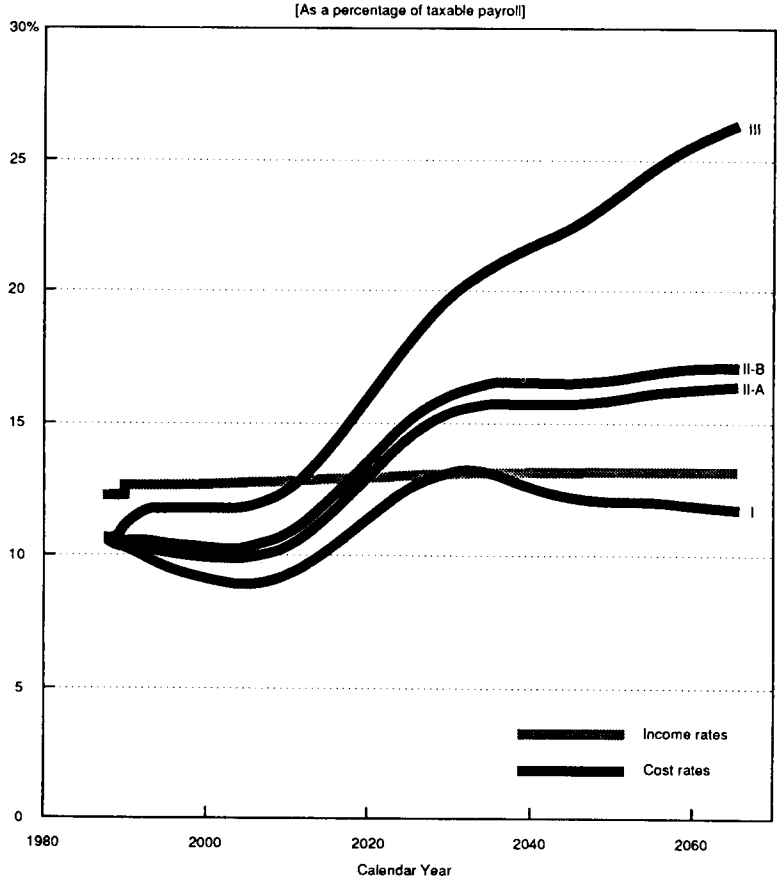
Figure 2 shows in graphical form the patterns of the OASDI annual income rates and cost rates. The income rates are shown only for alternative II-B in order to simplify the graphical presentation and because, as shown in table 26, the variation in the income rates by alternative is very small. The OASDI long-range summarized income rates for alternatives I and III, for the next 75 years differ by only 0.25 percent of taxable payroll. By 2065, the income rates for each year, under alternatives I and III, differ by only 0.67 percent of taxable payroll. The income rates in figure 2 and table 26 show a distinct increase in 1990, when the payroll-tax rate is scheduled to rise under present law. Thereafter, only small fluctuations are projected, as the rate of income from taxation of benefits varies only slightly, for each alternative, reflecting changes in the cost rate and the fact that benefit-taxation threshold amounts are not indexed.

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, as a percent of taxable payroll, 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.

In the future, the cost of the OASDI program, as a percent of taxable payroll, 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 1988-2065

[As a percentage of taxable payroll]



The components of the annual income rates are shown in table 28, for each alternative set of assumptions. The income rates reflect the effects of the tax-rate increase scheduled for 1990 and small changes in the rate of income from the taxation of benefits, reflecting changes in the cost rate and the fact that benefit-taxation threshold amounts are not indexed. Summarized values for the annual rates shown in table 28 are presented in table 29.

TABLE 28.—ESTIMATED INCOME RATES BY TRUST FUND AND ALTERNATIVE, CALENDAR YEARS 1989-2065
[As a percentage of taxable payroll]

	OASI			DI			Total		
Calendar year	Payroll tax	Taxation of benefits	Total	Payroll tax	Taxation of benefits	Total	Payroll tax	Taxation of benefits	Total
Alternative I:									
1989	11.06	0.17	11.23	1.06	0.01	1.07	12.12	0.18	12.30
1990	11.20	.18	11.38	1.20	.01	1.21	12.40	.19	12.59
1991	11.20	.18	11.38	1.20	.01	1.21	12.40	.19	12.59
1992	11.20	.18	11.38	1.20	.01	1.21	12.40	.20	12.60
1993	11.20	.19	11.39	1.20	.01	1.21	12.40	.20	12.60
1994	11.20	.19	11.39	1.20	.01	1.21	12.40	.20	12.60
1995	11.20	.18	11.38	1.20	.01	1.21	12.40	.20	12.60
1996	11.20	.18	11.38	1.20	.01	1.21	12.40	.20	12.60
1997	11.20	.18	11.38	1.20	.01	1.21	12.40	.19	12.59
1998	11.20	.18	11.38	1.20	.01	1.21	12.40	.19	12.59
2000	10.98	.21	11.19	1.42	.01	1.43	12.40	.22	12.62
2005	10.98	.26	11.24	1.42	.02	1.44	12.40	.28	12.68
2010	10.98	.31	11.29	1.42	.02	1.44	12.40	.33	12.73
2015	10.98	.37	11.35	1.42	.03	1.45	12.40	.39	12.79
2020	10.98	.44	11.42	1.42	.03	1.45	12.40	.46	12.86
2025	10.98	.49	11.47	1.42	.03	1.45	12.40	.52	12.92
2030	10.98	.53	11.51	1.42	.03	1.45	12.40	.56	12.96
2035	10.98	.54	11.52	1.42	.03	1.45	12.40	.57	12.97
2040	10.98	.53	11.51	1.42	.03	1.45	12.40	.56	12.96
2045	10.98	.52	11.50	1.42	.03	1.45	12.40	.55	12.95
2050	10.98	.51	11.49	1.42	.03	1.45	12.40	.54	12.94
2055	10.98	.51	11.49	1.42	.03	1.45	12.40	.55	12.95
2060	10.98	.51	11.49	1.42	.03	1.45	12.40	.54	12.94
2065	10.98	.51	11.49	1.42	.03	1.45	12.40	.54	12.94
Alternative II-A:									
1989	11.06	.17	11.23	1.06	.01	1.07	12.12	.18	12.30
1990	11.20	.19	11.39	1.20	.01	1.21	12.40	.21	12.61
1991	11.20	.19	11.39	1.20	.01	1.21	12.40	.20	12.60
1992	11.20	.19	11.39	1.20	.01	1.21	12.40	.20	12.60
1993	11.20	.19	11.39	1.20	.01	1.21	12.40	.20	12.60
1994	11.20	.20	11.40	1.20	.01	1.21	12.40	.21	12.61
1995	11.20	.19	11.39	1.20	.01	1.21	12.40	.20	12.60
1996	11.20	.19	11.39	1.20	.01	1.21	12.40	.21	12.61
1997	11.20	.19	11.39	1.20	.01	1.21	12.40	.21	12.61
1998	11.20	.19	11.39	1.20	.01	1.21	12.40	.21	12.61
2000	10.98	.23	11.21	1.42	.02	1.44	12.40	.24	12.64
2005	10.98	.29	11.27	1.42	.02	1.44	12.40	.31	12.71
2010	10.98	.35	11.33	1.42	.03	1.45	12.40	.38	12.78
2015	10.98	.42	11.40	1.42	.03	1.45	12.40	.45	12.85
2020	10.98	.50	11.48	1.42	.04	1.46	12.40	.54	12.94
2025	10.98	.58	11.56	1.42	.04	1.46	12.40	.61	13.01
2030	10.98	.63	11.61	1.42	.04	1.46	12.40	.67	13.07
2035	10.98	.66	11.64	1.42	.04	1.46	12.40	.70	13.10
2040	10.98	.66	11.64	1.42	.04	1.46	12.40	.70	13.10
2045	10.98	.67	11.65	1.42	.04	1.46	12.40	.71	13.11
2050	10.98	.68	11.66	1.42	.04	1.46	12.40	.72	13.12
2055	10.98	.69	11.67	1.42	.04	1.46	12.40	.74	13.14
2060	10.98	.71	11.69	1.42	.04	1.46	12.40	.75	13.15
2065	10.98	.71	11.69	1.42	.04	1.46	12.40	.76	13.16
Alternative II-B:									
1989	11.06	.17	11.23	1.06	.01	1.07	12.12	.18	12.30
1990	11.20	.22	11.42	1.20	.01	1.21	12.40	.23	12.63
1991	11.20	.19	11.39	1.20	.01	1.21	12.40	.20	12.60
1992	11.20	.19	11.39	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
1997	11.20	.20	11.40	1.20	.01	1.21	12.40	.21	12.61
1998	11.20	.20	11.40	1.20	.01	1.21	12.40	.21	12.61

TABLE 28.—ESTIMATED INCOME RATES BY TRUST FUND AND ALTERNATIVE, CALENDAR YEARS 1989-2065 (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: (Cont.)									
2000	10.98	0.24	11.22	1.42	0.02	1.44	12.40	0.25	12.65
2005	10.98	.32	11.30	1.42	.02	1.44	12.40	.34	12.74
2010	10.98	.38	11.36	1.42	.03	1.45	12.40	.41	12.81
2015	10.98	.45	11.43	1.42	.03	1.45	12.40	.48	12.88
2020	10.98	.53	11.51	1.42	.04	1.46	12.40	.57	12.97
2025	10.98	.61	11.59	1.42	.04	1.46	12.40	.66	13.06
2030	10.98	.67	11.65	1.42	.04	1.46	12.40	.71	13.11
2035	10.98	.70	11.68	1.42	.04	1.46	12.40	.74	13.14
2040	10.98	.71	11.69	1.42	.04	1.46	12.40	.75	13.15
2045	10.98	.71	11.69	1.42	.04	1.46	12.40	.75	13.15
2050	10.98	.72	11.70	1.42	.04	1.46	12.40	.76	13.16
2055	10.98	.73	11.71	1.42	.04	1.46	12.40	.78	13.18
2060	10.98	.75	11.73	1.42	.04	1.46	12.40	.79	13.19
2065	10.98	.75	11.73	1.42	.04	1.46	12.40	.80	13.20
Alternative III:									
1989	11.06	.17	11.23	1.06	.01	1.07	12.12	.18	12.30
1990	11.20	.24	11.44	1.20	.02	1.22	12.40	.25	12.65
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	.22	11.42	1.20	.01	1.21	12.40	.24	12.64
1994	11.20	.22	11.42	1.20	.02	1.22	12.40	.24	12.64
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
1997	11.20	.23	11.43	1.20	.02	1.22	12.40	.24	12.64
1998	11.20	.23	11.43	1.20	.02	1.22	12.40	.24	12.64
2000	10.98	.27	11.25	1.42	.02	1.44	12.40	.29	12.69
2005	10.98	.36	11.34	1.42	.03	1.45	12.40	.39	12.79
2010	10.98	.44	11.42	1.42	.04	1.46	12.40	.47	12.87
2015	10.98	.52	11.50	1.42	.04	1.46	12.40	.56	12.96
2020	10.98	.62	11.60	1.42	.05	1.47	12.40	.67	13.07
2025	10.98	.73	11.71	1.42	.05	1.47	12.40	.78	13.18
2030	10.98	.82	11.80	1.42	.05	1.47	12.40	.88	13.28
2035	10.98	.88	11.86	1.42	.06	1.48	12.40	.94	13.34
2040	10.98	.92	11.90	1.42	.06	1.48	12.40	.98	13.38
2045	10.98	.96	11.94	1.42	.06	1.48	12.40	1.02	13.42
2050	10.98	1.01	11.99	1.42	.06	1.48	12.40	1.07	13.47
2055	10.98	1.07	12.05	1.42	.06	1.48	12.40	1.13	13.53
2060	10.98	1.12	12.10	1.42	.06	1.48	12.40	1.18	13.58
2065	10.98	1.15	12.13	1.42	.06	1.48	12.40	1.22	13.62

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

TABLE 29.—SUMMARIZED INCOME RATES BY TRUST FUND AND ALTERNATIVE, CALENDAR YEARS 1989-2065
[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:									
25 years :1989-2013....	11.07	0.23	11.30	1.31	0.02	1.33	12.38	0.25	12.63
50 years :1989-2038....	11.02	.35	11.37	1.36	.02	1.38	12.39	.37	12.76
75 years :1989-2063....	11.01	.40	11.41	1.38	.02	1.40	12.39	.42	12.81
Alternative II-A:									
25 years :1989-2013....	11.07	.25	11.32	1.31	.02	1.33	12.38	.27	12.65
50 years :1989-2038....	11.02	.39	11.42	1.36	.03	1.39	12.38	.42	12.80
75 years :1989-2063....	11.01	.47	11.48	1.38	.03	1.41	12.39	.50	12.89
Alternative II-B:									
25 years :1989-2013....	11.07	.27	11.34	1.31	.02	1.33	12.38	.29	12.67
50 years :1989-2038....	11.02	.42	11.44	1.36	.03	1.39	12.38	.45	12.83
75 years :1989-2063....	11.01	.50	11.51	1.38	.03	1.41	12.38	.54	12.92
Alternative III:									
25 years :1989-2013....	11.07	.30	11.37	1.30	.02	1.33	12.37	.33	12.70
50 years :1989-2038....	11.02	.49	11.51	1.35	.04	1.39	12.38	.52	12.90
75 years :1989-2063....	11.01	.62	11.63	1.37	.04	1.41	12.38	.66	13.04

Note: Totals exclude beginning trust fund balances but are otherwise equivalent to summarized income rates shown in table 27. 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 30.

TABLE 30.—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	46,930	1,106	—	1,106	42.4	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	112,212	30,385	4,734	35,119	3.2	31
1985	[3]119,853	32,776	3,874	36,650	3.3	[3]31
1986	[3]122,700	33,349	3,972	37,321	3.3	[3]30
1987	[3]124,900	33,917	4,034	37,952	3.3	[3]30
1988	[3]128,000	34,343	4,077	38,421	3.3	[3]30
Alternative I:						
1989	129,910	34,788	4,112	38,901	3.3	30
1990	131,565	35,438	4,125	39,563	3.3	30
1995	138,987	37,332	4,266	41,598	3.3	30
2000	145,795	38,396	4,794	43,189	3.4	30
2005	152,450	39,537	5,414	44,951	3.4	29
2010	156,955	42,306	6,130	48,436	3.2	31
2015	159,321	47,620	6,551	54,172	2.9	34
2020	160,747	54,348	6,783	61,130	2.6	38
2025	162,331	60,582	7,152	67,734	2.4	42
2030	165,004	65,192	7,151	72,343	2.3	44
2035	168,673	67,447	7,099	74,546	2.3	44
2040	172,536	67,531	7,192	74,724	2.3	43
2045	176,397	67,393	7,506	74,899	2.4	42
2050	180,424	67,944	7,753	75,696	2.4	42
2055	184,883	69,143	7,937	77,081	2.4	42
2060	189,723	70,500	8,086	78,586	2.4	41
2065	194,668	71,822	8,306	80,128	2.4	41
Alternative II-A:						
1989	129,772	34,791	4,121	38,913	3.3	30
1990	131,281	35,452	4,166	39,618	3.3	30
1995	137,521	37,536	4,538	42,074	3.3	31
2000	143,377	38,947	5,270	44,217	3.2	31
2005	149,002	40,467	6,104	48,571	3.2	31
2010	152,593	43,551	7,034	50,585	3.0	33
2015	153,595	49,190	7,601	56,791	2.7	37
2020	153,168	56,275	7,892	64,167	2.4	42
2025	152,396	62,876	8,300	71,175	2.1	47
2030	152,183	67,958	8,250	76,209	2.0	50
2035	152,539	70,725	8,138	78,861	1.9	52
2040	152,778	71,281	8,177	79,458	1.9	52
2045	152,664	71,494	8,451	79,945	1.9	52
2050	152,355	72,272	6,602	80,874	1.9	53
2055	152,162	73,472	8,621	82,093	1.9	54
2060	152,183	74,475	8,552	83,027	1.8	55
2065	152,248	75,096	8,567	83,663	1.8	55
Alternative II-B:						
1989	129,538	34,791	4,121	38,913	3.3	30
1990	130,708	35,452	4,166	39,618	3.3	30
1995	138,765	37,536	4,538	42,074	3.3	31
2000	142,124	38,944	5,268	44,212	3.2	31
2005	147,400	40,462	6,099	46,560	3.2	32
2010	150,989	43,542	7,024	50,566	3.0	33
2015	151,997	49,176	7,586	56,762	2.7	37
2020	151,591	56,255	7,873	64,129	2.4	42
2025	150,826	62,849	8,277	71,127	2.1	47
2030	150,613	67,925	8,225	76,151	2.0	51
2035	150,950	70,684	8,110	78,794	1.9	52
2040	151,192	71,232	8,149	79,381	1.9	53

TABLE 30.—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 II-B: (Cont.)						
2045	151,088	71,438	8,422	79,860	1.9	53
2050	150,776	72,208	8,572	80,780	1.9	54
2055	150,592	73,400	8,592	81,992	1.8	54
2060	150,606	74,398	8,523	82,920	1.8	55
2065	150,672	75,016	8,537	83,553	1.8	55
Alternative III:						
1989	129,049	34,794	4,147	38,941	3.3	30
1990	128,276	35,465	4,244	39,710	3.2	31
1995	133,604	37,726	5,029	42,756	3.1	32
2000	138,702	39,445	5,899	45,344	3.1	33
2005	142,672	41,329	7,018	48,347	3.0	34
2010	145,190	44,741	8,207	52,948	2.7	36
2015	144,906	50,763	8,930	59,693	2.4	41
2020	142,821	58,322	9,265	67,587	2.1	47
2025	140,001	65,458	9,705	75,163	1.9	54
2030	137,233	71,275	9,589	80,864	1.7	59
2035	134,680	74,911	9,409	84,320	1.6	63
2040	131,775	76,402	9,394	85,796	1.5	65
2045	128,318	77,486	9,623	87,109	1.5	68
2050	124,434	79,021	9,638	88,659	1.4	71
2055	120,526	80,702	9,420	90,123	1.3	75
2060	116,916	81,741	9,040	90,781	1.3	78
2065	113,482	81,923	8,777	90,700	1.3	80

[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 16,031 as of June 30, 1988, and is estimated to be fewer than 500 by the turn of the century. Totals do not necessarily equal the sums of rounded components.

Table 30 shows that the number of covered workers per beneficiary, which was about 3.3 in 1988, 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 2.3 by 2030 and then rises to 2.4. Based on alternative III, for which low fertility rates and substantial reductions in death rates are assumed, the decline is much greater, reaching 1.3 workers per beneficiary. Based on alternatives II-A and II-B, the ratio declines to 1.8 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 (1989–2063) to a significantly higher level, which ranges from 41 under alternative I to 79 under alternative III. The salience of these numbers can be seen by comparing figure 2 to figure 3. For each alternative, the shape of the curve in figure 3, which shows beneficiaries per 100 covered workers, 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 the cost rate is basically the product of the number of beneficiaries and their average benefit, divided by the product of the number of covered workers and

their average taxable earnings (and average benefits rise at about the same rate as 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 1988-2065

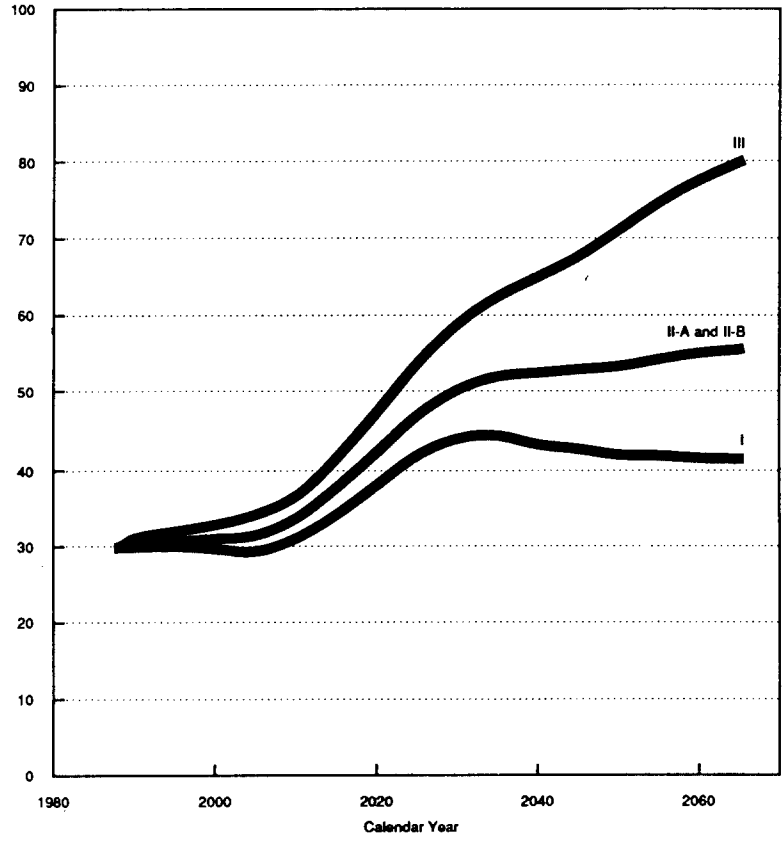


Table 31 shows, by alternative, the estimated contingency fund ratios for the separate and combined OASI and DI Trust Funds. The patterns of the combined fund ratios, over the 75-year period, are also shown in figure 4, for all four sets of assumptions. The OASI and DI ratios are estimated to be relatively low for the next several years, before generally increasing to very high levels. Based on alternatives II-A and II-B, the OASI ratio peaks about 2015, when it is 727 percent and 605 percent, respectively, and the DI ratio peaks about 2005, when it is 276 percent and 240 percent, respectively. Thereafter, the OASI and DI ratios decline steadily. Under alternative II-A, the DI Trust Fund becomes exhausted in 2029; under alternative II-B, the OASI and DI funds become exhausted in 2049 and 2025, respectively. Based on alternative I, the ratios increase throughout the long-range projection period to extremely high levels, around 1,000-1,300 percent for the OASI and DI programs. In contrast, under alternative III, the OASI and DI Trust Funds are estimated to be exhausted within 41 years and 10 years, respectively. Thus, because of the high ultimate cost rates that are projected 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.

The OASI and DI funds combined are projected to rise for several years under each of the alternative sets of assumptions. Under alternative I the combined funds are still rising at the end of the 75-year period. The combined fund ratios reach peaks in about 2015 under alternatives II-A and II-B, and in about 2010 under alternative III, before turning down. The combined funds are projected to be exhausted in 2025 under the pessimistic assumptions in alternative III, in 2046 under the intermediate assumptions of alternative II-B, and in 2060 under the intermediate assumptions of alternative II-A. This means that under the most pessimistic assumptions the OASDI funds and income would be able to cover expenditures for about 36 years into the future and that under the alternative II-B assumptions the OASDI funds and income would be able to cover expenditures for about 57 years into the future. The program would be able to cover expenditures for about 71 years under alternative II-A and for the indefinite future under the most optimistic assumptions in alternative I. In the 1988 report, the combined trust funds were projected to be exhausted in 2026 under alternative III and in 2048 under alternative II-B.

TABLE 31.—ESTIMATED CONTINGENCY FUND RATIOS BY TRUST FUND AND ALTERNATIVE, CALENDAR YEARS 1989-2065
[In percent]

Calendar year	Alternative I			Alternative II-A			Alternative II-B			Alternative III		
	OASI	DI	Total	OASI	DI	Total	OASI	DI	Total	OASI	DI	Total
1989	59	39	57	59	38	57	59	38	57	59	37	57
1990	82	47	79	82	44	78	81	43	77	77	37	73
1991	108	69	104	105	62	101	102	60	98	92	43	87
1992	136	96	132	131	82	126	124	76	120	106	48	100
1993	167	124	163	157	101	152	146	93	141	118	50	111
1994	200	154	196	186	120	179	170	108	164	130	48	121
1995	236	185	231	215	138	207	195	123	188	142	43	131
1996	274	214	268	246	155	236	221	137	212	154	36	140
1997	314	242	307	277	168	265	247	149	237	167	27	150
1998	354	268	345	308	180	294	274	159	262	179	14	159

TABLE 31.—ESTIMATED CONTINGENCY FUND RATIOS BY TRUST FUND AND ALTERNATIVE, CALENDAR YEARS 1989-2065 (Cont.)
[In percent]

Calendar year	Alternative I			Alternative II-A			Alternative II-B			Alternative III		
	OASI	DI	Total	OASI	DI	Total	OASI	DI	Total	OASI	DI	Total
2000	438	315	425	373	198	353	330	173	312	206	(1)	178
2005	655	477	633	533	276	499	459	240	431	262	(1)	220
2010	855	544	813	674	271	616	571	225	522	309	(1)	245
2015	952	587	905	727	229	657	605	172	546	303	(1)	222
2020	957	627	918	696	171	629	563	102	505	234	(1)	147
2025	937	643	904	632	93	566	485	13	428	121	(1)	32
2030	920	684	895	554	(1)	491	390	(1)	336	(1)	(1)	(1)
2035	931	753	912	479	(1)	418	291	(1)	239	(1)	(1)	(1)
2040	980	818	963	413	(1)	349	195	(1)	143	(1)	(1)	(1)
2045	1,050	857	1,028	348	(1)	280	98	(1)	44	(1)	(1)	(1)
2050	1,116	898	1,091	276	(1)	203	(1)	(1)	(1)	(1)	(1)	(1)
2055	1,175	948	1,150	194	(1)	118	(1)	(1)	(1)	(1)	(1)	(1)
2060	1,237	1,008	1,212	104	(1)	25	(1)	(1)	(1)	(1)	(1)	(1)
2065	1,309	1,061	1,281	7	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Trust fund is estimated to be exhausted in:	(2)	(2)	(2)	2065	2029	2060	2049	2025	2046	2029	1998	2025

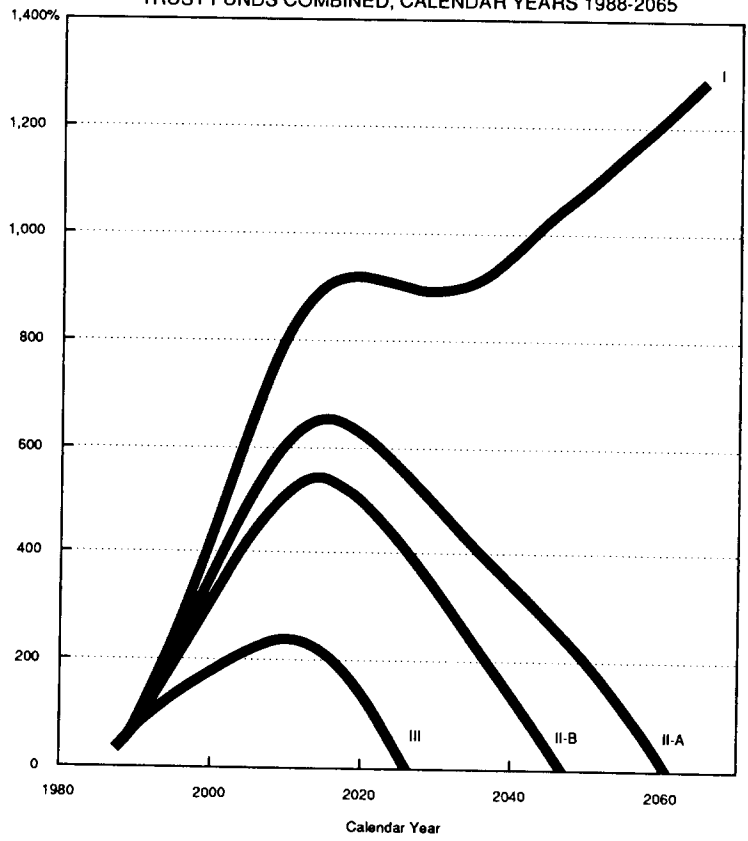
[1]The fund is estimated to be exhausted in the year shown in the last line of the table.

[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.

A graphic illustration of the contingency fund ratios for the combined trust funds is shown in figure 4 for each of the alternative sets of assumptions.

FIGURE 4.—ESTIMATED CONTINGENCY FUND RATIOS, FOR OASI AND DI TRUST FUNDS COMBINED, CALENDAR YEARS 1988-2065



Reasons for changes from last year's report and this report in the long-range actuarial balance under the II-B assumptions are itemized in table 32. Also shown are the estimated effects associated with each reason for change.

TABLE 32.—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]:			
Income rate	11.53	1.40	12.94
Cost rate	11.99	1.53	13.52
Actuarial balance	-.45	-.13	-.58
Changes in actuarial balance due to changes in:			
Valuation period	-.04	-.00	-.04
Demographic assumptions	+.06	+.01	+.07
Economic assumptions	-.10	-.01	-.11
Disability assumptions	-.00	-.04	-.04
Total change in actuarial balance	-.06	-.05	-.13
Shown in this report[2]:			
Actuarial balance	-.53	-.17	-.70
Income rate	11.60	1.41	13.02
Cost rate	12.13	1.59	13.72

[1]Income rates, cost rates, and taxable payroll are calculated on the basis of alternative II-B assumptions, as described in the 1988 report. Several of those assumptions have been modified for this year's report. A description of the modifications is presented in the text of this report. Includes the trust fund balances as of the start of the valuation period.

[2]Includes the trust fund balances as of the start of the valuation period.

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

In changing from the valuation period of last year's report, which was 1988-2062, to the valuation period of this report, 1989-2063, the deficit year of 2063 is included. This results in a decrease in the long-range actuarial balance. (Note that the positive balance for 1988 is, in effect, retained because the funds accumulated during the year are included in this year's report.)

Several demographic assumptions were modified: (1) the starting population, used in the projection of the Social Security Area population, was updated; (2) the total fertility rate was increased slightly for the first 25 projection years reflecting recently observed birthrates that were higher than expected; and (3) mortality assumptions were revised to incorporate the latest data and analyses, including the effects of HIV infections and AIDS throughout the long-range period (assumptions for the 1988 report included new HIV infections only through 1991). The net effect of these modifications is an increase in the long-range actuarial balance.

Short-range economic assumptions and projected rates of covered employment were updated to incorporate the latest information and analyses. The ultimate assumed real-wage differential was lowered from 1.4 to 1.3 percent per year. These changes have the net effect of decreasing the long-range actuarial balance.

Projections of the number of disabled beneficiaries were modified to reflect the latest data and analyses and to reflect the effects of HIV infections and AIDS throughout the long-range period (assumptions for the 1988 report included new HIV infections only through 1991). The net result is a decrease in the long-range actuarial balance.

Other assumptions were updated and modified, but the net effect on the long-range actuarial balance is negligible.

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). Discussion of both the cost and the taxable payroll of the OASDI program in relation to GNP is presented in Appendix G.

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 increase rapidly for many years into the future, under all four sets of economic and demographic assumptions. Based on the intermediate assumptions, the assets of the combined funds will be sufficient to enable the timely payment of OASDI benefits for the next 5 1/2 decades, under alternative II-B, or the next 7 decades, under alternative 11-A. Even on the basis of pessimistic assumptions, the combined funds will be sufficient to enable the timely payment of benefits for the next 3 1/2 decades, without any additional legislation to increase income or reduce expenditures. (However, legislation to reallocate contribution rates between OASI and DI might be required at some time in the future.) Both the OASI and DI funds would continue to grow throughout the next 75 years, based on alternative I, so that benefits would be payable during all of the long-range period.

Based on all but the most optimistic assumptions, the assets of the combined trust funds are estimated to decline after the initial, long period of growth, until the combined funds would be exhausted. The estimates show that the combined OASI and DI Trust Funds would become exhausted in 2046, based on alternative II-B, and in 2060, based on alternative II-A. Under the pessimistic assumptions, the combined funds would become exhausted in 2025.

The actuarial balance of the OASDI program as a whole over the next 75 years is a deficit of 0.10 percent of taxable payroll, on the basis of the intermediate alternative II-A assumptions. Based on the intermediate alternative II-B assumptions, the long-range balance is a deficit of 0.70 percent of taxable payroll. However, as stated elsewhere in this report, a single measure over a long period, such as the actuarial balance, is not a complete indicator of the extent or urgency of any financing problems it may indicate. As explained later in this section, the Trustees do not recommend that any legislative action be taken at this time to resolve the long-range deficit.

The deficit based on alternative II-B in this report is larger than the corresponding deficit of 0.58 percent of taxable payroll in the 1988 report primarily for three reasons. The first is the decrease in the assumed ultimate annual real-wage differential, from 1.4 percent in the 1988 report to 1.3 percent in this report. The second is the increase in the projected number of disabled-worker beneficiaries, which is due mostly to the recognition of greater long-range effects of Acquired Immunodeficiency Syndrome (AIDS). In the 1988 report, no new infections with the Human Immunodeficiency Virus (HIV—the precursor to AIDS) were assumed to occur after 1991. However, as stated earlier, such infections were assumed to occur after 1991 for the purposes of the estimates shown in this report. The third is the change in the valuation period, which now includes the high deficit year 2063.

The OASDI long-range estimates based on both alternatives II-A and II-B show a pattern of recurring annual positive balances in the first three decades and recurring annual deficits thereafter. These positive balances are estimated to occur even without taking account of interest

earnings. The addition of interest earnings to the positive cash flow results in trust fund growth, in dollars, that continues for about another 1 or 2 decades after the cost rate first exceeds the income rate.

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 exhausted in 1998, on the basis of the more pessimistic assumptions represented by alternative III.

For OASI and DI, separately, the level-financing long-range deficits, based on alternative II-B, are 0.53 percent and 0.17 percent of taxable payroll, respectively. Because the DI deficit is relatively large, compared to its cost rate, the financial condition of the DI program needs to be carefully monitored in both the short-range and long-range periods.

For the first 25-year subperiod, the OASDI program has a positive balance of 2.14 percent of taxable payroll. However, the balances in the second and third 25-year subperiods are deficits of 1.88 percent and 3.72 percent, respectively. (These balances, which are based on alternative II-B, do not include the funds on hand at the beginning of the projection period.)

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 additional distant years of deficit are included in the valuation. The actuarial deficits in the later years of the 75-year projection period are caused primarily by rapid increases in the cost rate, due largely to demographic trends. While the cost rate is rising, the income rate increases much more slowly as a result of the flat contribution rate scheduled for 1990 and later and relatively small increases in income from the taxation of benefits.

Because the program is projected to be solvent for several decades into the future, the Trustees do not recommend that any immediate action be taken to change either the financing or the benefit provisions for the OASDI program. However, study and analysis concerning the implications of the expected large buildup of the trust funds and possible ways of addressing the deficits projected for distant future years should begin soon. The Trustees believe that the Advisory Council to be appointed this year should be instructed to begin this process.

APPENDIX A.—ASSUMPTIONS AND METHODS UNDERLYING THE ACTUARIAL ESTIMATES

This appendix describes the assumptions and methods which underlie the actuarial estimates in this report. Unless specifically stated otherwise, the assumptions and methods were used for each of the four alternatives and for both the short-range and long-range periods. Some of the economic and demographic assumptions which vary by alternative are summarized in the section entitled "Actuarial Estimates." Further details about the assumptions, methods, and actuarial estimates are contained in Actuarial Studies published by the Office of the Actuary, Social Security Administration, and are available upon request.

TOTAL POPULATION

Projections were made of the population in the Social Security coverage area by age, sex, and marital status as of January 1 of each year 1988 through 2080. The projections started with an estimate of the United States population, including armed forces overseas, as of January 1, 1987, based on data from the Bureau of the Census. This population estimate was adjusted for net census undercount and increased for other U.S. citizens living abroad and for populations in the geographic areas covered by the OASDI program but not included in the U.S. population. This population was then projected using assumed rates of birth, death, marriage, and divorce and assumed levels of net immigration.

Historically, fertility rates in the U.S. have fluctuated widely. The total fertility rate is defined to be the average number of children that would be born to a woman in her lifetime if she were to experience the birthrates by age observed in, or assumed for, the selected year, and if she were to survive the entire child-bearing period. The total fertility rate decreased from 3.3 children per woman after World War I to 2.1 during the Great Depression, rose to 3.7 in 1957, and then fell to 1.7 in 1976. Since then, it has risen to a level currently estimated at 1.9.

These variations in fertility rates have resulted from changes in many factors, including social attitudes, economic conditions, and the use of birth-control methods. Future fertility rates may be expected to remain close to recent levels. The recent historical and projected trends in certain population characteristics are consistent with a continued relatively low fertility rate. These trends include the rising percentages of women who have never married, of women who are divorced, and of young women who are in the labor force. Based on consideration of these factors, ultimate total fertility rates of 2.2, 1.9, and 1.6 children per woman were selected for alternatives I, II-A and II-B, and III, respectively. For each alternative, the total fertility rate is assumed to reach its ultimate level in 2013. These ultimate values can be compared to those used by the Bureau of the Census for its latest series of population projections. Those fertility rates range from 2.2 to 1.5, with an intermediate assumption of 1.8.[1] A rate of 2.1 would ultimately result in a nearly constant population if net immigration were zero and if death rates were constant.

[1]U.S. Bureau of the Census, Current Population Reports, Series P-25, No. 1018, "Projections of the Population of the United States By Age, Sex, and Race: 1988-2080," U.S. Government Printing Office, Washington, D.C., January 1989.

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Historically, death rates in the U.S. have declined steadily. The age-sex-adjusted death rate—which is the crude rate that would occur in the enumerated total population as of April 1, 1980, if that population were to experience the death rates by age and sex for the selected year—declined at an average rate of 1.2 percent per year between 1900 and 1987. These reductions in death rates have resulted from many factors, including increased medical knowledge and availability of health-care services and improvements in personal health-care practices such as diet and exercise. Based on consideration of the likelihood of continued progress in these and other areas, three alternative sets of ultimate annual percentage reductions in central death rates by age, sex, and cause of death were selected for 2013 and later. The intermediate set, which is used for both alternatives II-A and II-B, is considered to be the one closest to average expectations. The average annual percentage reductions used for alternative I are smaller than those for alternatives II-A and II-B, while those used for alternative III are greater. Between 1988 and 2013, the reductions in central death rates for alternatives II-A and II-B are assumed to change gradually from the average annual reductions by age, sex, and cause of death observed between 1968 and 1986, to the ultimate annual percentage reductions by age, sex, and cause of death assumed for 2013 and later. Alternative I reductions are assumed to change gradually from 50 percent of the average annual reductions observed between 1968 and 1986, while alternative III reductions are assumed to change gradually from 150 percent of the average annual reductions observed between 1968 and 1986. The age-sex-adjusted death rate (for all causes combined) declined at an average rate of 1.6 percent per year between 1968 and 1986.

After adjustment for changes in the age-sex distribution of the population, the resulting death rates were projected to decline at an average annual rate of about 0.3 percent, 0.6 percent, and 0.9 percent between 1988 and 2063 for alternatives I, II-A and II-B, and III, respectively. Death rates for AIDS were included throughout the projection period, with rates for years prior to 1993 based on estimates by the Centers for Disease Control, Public Health Service. For alternatives II-A and II-B and alternative III, death rates due to AIDS were assumed to increase until around the year 2000 to levels of about 4 and 8 times the estimated 1988 values, respectively. Thereafter, as a result of assumed behavioral changes and medical developments, rates were assumed to decline rapidly to about one-half of their peak value and then to remain relatively constant. For alternative I, the death rates due to AIDS remain about the same as their estimated 1988 value through 1991. Thereafter, the rates decline rapidly to about one-half of their estimated 1988 value and then remain relatively constant.

Beginning with 1989, net immigration is assumed to be 750,000, 600,000, and 450,000 persons per year for alternatives I, II-A and II-B, and III, respectively. Of these net numbers of immigrants, 450,000, 400,000, and 350,000, respectively, are assumed to be legal, and the remainders are assumed to be other-than-legal. For 1987 and 1988, the net legal immigration is assumed to be 400,000 persons per year and, consistent with the estimates of other-than-legal immigration made by

the Bureau of the Census since the 1980 Census, net other-than-legal immigration is assumed to be 200,000 persons per year.

Table A1 shows the projected population as of July 1 by broad age group, for the four alternatives. Also shown are tabulated aged dependency ratios (see table footnotes for definitions). Because eligibility for many types of OASDI benefits depends on marital status, the population was projected by marital status, as well as by age and sex. Marriage and divorce rates were based on recent data from the National Center for Health Statistics.

TABLE A1.—SOCIAL SECURITY AREA POPULATION AS OF JULY 1 AND DEPENDENCY RATIOS, BY ALTERNATIVE AND BROAD AGE GROUP, CALENDAR YEARS 1950-2065

Calendar year	Population (in thousands)				Dependency ratio	
	Under 20	20-64	65 and over	Total	Aged[1]	Total[2]
Past experience:						
1950	53,895	92,739	12,752	159,386	0.138	0.719
1960	72,989	99,842	17,250	190,081	.173	.904
1970	80,885	113,073	20,892	214,850	.185	.900
1975	78,787	122,639	23,227	224,653	.189	.832
1980	74,924	134,202	26,117	235,243	.195	.753
1985	73,134	144,988	28,960	247,081	.200	.704
Alternative I:						
1990	74,418	152,719	31,945	259,082	.209	.696
1995	76,997	159,749	33,998	270,745	.213	.695
2000	79,065	167,585	34,766	281,417	.207	.679
2005	80,048	176,074	35,650	291,772	.202	.657
2010	81,373	182,925	38,167	302,465	.209	.653
2015	83,854	186,197	43,458	313,509	.233	.684
2020	87,024	186,937	50,095	324,056	.268	.734
2025	89,981	186,266	57,388	333,635	.308	.791
2030	92,306	187,120	62,822	342,248	.336	.829
2035	94,244	191,125	64,828	350,197	.339	.832
2040	96,570	196,536	64,704	357,810	.329	.821
2045	99,367	201,790	64,207	365,364	.318	.811
2050	102,260	206,106	64,796	373,162	.314	.811
2055	104,927	210,518	66,075	381,520	.314	.812
2060	107,409	215,744	67,481	390,634	.313	.811
2065	109,955	221,775	68,702	400,431	.310	.806
Alternatives II-A and II-B:						
1990	74,289	152,569	31,965	258,823	.210	.696
1995	76,068	158,954	34,258	269,280	.216	.694
2000	76,772	166,033	35,460	278,265	.214	.676
2005	75,836	173,808	36,842	286,487	.212	.648
2010	74,653	179,983	39,825	294,461	.221	.636
2015	74,363	182,087	45,563	302,012	.250	.659
2020	74,866	181,106	52,666	308,638	.291	.704
2025	75,258	178,188	60,482	313,928	.339	.762
2030	75,094	176,223	66,486	317,803	.377	.803
2035	74,636	176,751	69,041	320,428	.391	.813
2040	74,345	178,266	69,430	322,044	.389	.807
2045	74,370	179,188	69,358	322,916	.387	.802
2050	74,502	178,617	70,260	323,378	.393	.810
2055	74,499	177,567	71,714	323,780	.404	.823
2060	74,340	177,163	72,868	324,372	.411	.831
2065	74,172	177,524	73,482	325,179	.414	.832
Alternative III:						
1990	74,156	152,429	31,985	258,571	.210	.696
1995	75,092	158,286	34,511	267,888	.218	.692
2000	74,355	164,585	36,113	275,053	.219	.671
2005	71,422	171,298	37,953	280,674	.222	.639
2010	67,719	176,644	41,430	285,792	.235	.618
2015	64,813	177,641	47,720	290,173	.269	.633
2020	62,956	175,067	55,453	293,475	.317	.676
2025	61,219	170,049	64,019	295,287	.376	.736
2030	59,119	165,468	70,879	295,465	.428	.786
2035	56,924	162,800	74,361	294,085	.457	.806
2040	54,822	160,732	75,755	291,310	.471	.812
2045	53,016	157,674	76,675	287,364	.486	.823
2050	51,427	152,699	78,456	282,582	.514	.851
2055	49,871	146,882	80,591	277,344	.549	.888
2060	48,281	141,840	81,859	271,980	.577	.918
2065	46,728	137,825	82,083	266,636	.596	.935

[1]Population aged 65 and over, divided by population aged 20-64.

[2]Sum of population aged 65 and over, and population under age 20, divided by population aged 20-64.

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

COVERED POPULATION

The number of covered workers in a year is defined as the number of persons who, at any time during the year, have OASDI taxable earnings. Projections of the numbers of covered workers were made by applying projected coverage rates to the projected Social Security area population. The coverage rates—i.e., the number of covered workers in the year, as a percentage of the population as of July 1—were determined by age and sex using projected labor force participation rates and unemployment rates, and their historical relationships to coverage rates. In addition, the coverage rates were adjusted to reflect the increase in coverage of Federal civilian employment that will result from the 1983 Social Security Amendments and the subsequent opportunity offered to Federal civilian employees, who were hired before 1984, to become covered under the OASDI program.

Labor force participation rates were projected by age and sex, taking into account projections of the percentage of the population that is married, the percentage of the population that is disabled, the number of children in the population, the level of retirement benefits, and the state of the economy. All of these factors vary by alternative. For men, the projected age-adjusted labor force participation rates for the year 2065 for alternatives I, II-A, II-B, and III are 1.3, 2.0, 2.2, and 2.3 percentage points lower, respectively, than the 1988 level of 76.6 percent. For women, the projected age-adjusted labor force participation rates increase for all of the alternatives. The projected rates for 2065 are 4.9, 2.1, 1.6, and 0.3 percentage points, respectively, above the 1988 level of 56.6 percent.

The total age-sex-adjusted unemployment rate averaged 6.0 percent for the 30 years 1958-87 and 7.1 percent for the 10 years 1978-87. The ultimate total age-sex-adjusted unemployment rate is assumed to be 5.0, 5.5, 6.0, and 7.0 percent for alternatives I, II-A, II-B, and III, respectively. For alternatives I, II-A, and II-B, the unemployment rate is assumed to change gradually from its 1988 level of 5.5 percent, reaching its ultimate level by 2000. For alternative III, the unemployment rate is assumed to peak in 1990 and again in 1993, because of assumed recessions, and thereafter to decline gradually, reaching its ultimate level by 2000.

The projected age-adjusted coverage rate for men changes from its 1988 level of 74.2 percent to 75.2, 74.3, 73.7, and 72.4 percent in 2065 on the basis of alternatives I, II-A, II-B, and III, respectively. For women, it increases from its 1988 level of 57.2 percent to 62.9, 60.1, 59.4, and 57.7 percent for alternatives I, II-A, II-B, and III, respectively.

AVERAGE EARNINGS AND INFLATION

Future increases in average earnings and in the Consumer Price Index for Urban Wage Earners and Clerical Workers (CPI-W, hereinafter denoted as "CPI") will directly affect the OASDI program. Increases in the CPI directly affect the automatic cost-of-living benefit increases, while inflation in general affects the nominal levels of average earnings, GNP, and taxable payroll. Average earnings in covered employment for each year have a direct effect on the size of the taxable payroll and on

the future level of average benefits. In addition, increases in average wages in the U.S. economy directly affect the indexation, under the automatic-adjustment provisions in the law, of the benefit formulas, the contribution and benefit base, the exempt amounts under the retirement earnings test, the amount of earnings required for a quarter of coverage, and under certain circumstances, the automatic cost-of-living benefit increases.

Increases in average earnings were projected in two components—average earnings of wage-and-salary workers, usually referred to as average wages (and shown in table 10 of this report), and average net earnings of self-employed persons. Each of these was subdivided into increases in real average earnings and increases in the CPI. For simplicity, real-earnings increases are expressed in the form of real-earnings differentials—i.e., the percentage increase in average nominal earnings, minus the percentage increase in the CPI.

The assumed ultimate increases in average real earnings are based on analysis of trends in productivity gains and the factors linking productivity gains with increases in average real earnings. For the 30 years 1958-87, annual increases in productivity for the total U.S. economy averaged 1.7 percent, the result of average annual increases of 2.6, 1.6, and 0.9 percent for the 10-year periods 1958-67, 1968-77 and 1978-87, respectively. Meanwhile, the average annual rate of change in average real earnings was an increase of 0.9 percent for the 30 years 1958-87, the result of average annual increases of 2.3 and 0.5 percent, and an average annual decrease of 0.1 percent, respectively, for the aforementioned 10-year periods. The change in the linkage between annual increases in productivity and real earnings averaged 0.8 percent for the 30 years 1958-87, and 0.3, 1.1, and 1.0 percent, respectively, for the aforementioned 10-year periods. The change in the linkage reflects changes in such factors as the average number of hours worked per year, the extent to which workers share in the value of production, and the proportion of employee compensation paid as wages.

The ultimate annual increases in productivity for all sectors—wage-and-salary workers, self-employed persons, and the total economy—are assumed to be 2.2, 1.9, 1.7, and 1.4 percent for alternatives I, II-A, II-B, and III, respectively. The corresponding ultimate annual rates of change in the linkage for wage-and-salary workers are assumed not to change for alternative I and to be declines of 0.2, 0.4, and 0.6 percent for alternatives II-A, II-B, and III, respectively. This linkage is made up of assumed annual decreases of 0.0, 0.1, 0.2, and 0.3 percent in average hours worked per year, and 0.0, 0.1, 0.2, and 0.3 percent annual declines in wages as a share of compensation, for alternatives I, II-A, II-B, and III, respectively. No ultimate change is assumed for the historically stable ratio of employee compensation to GNP. The resulting ultimate real-wage differentials are 2.2, 1.7, 1.3, and 0.8 percent. Ultimate annual declines in the linkage for self-employed persons are smaller because the proportion of reported compensation that is considered earnings remains constant. As a result, ultimate real-earnings differentials for the self-employed are assumed to be higher than for wage-and-salary workers. The corresponding ultimate real-earnings differentials for wage-and-

salary workers and self-employed persons, combined, are slightly higher than those assumed for wage-and-salary workers only.

For alternative II-A, the CPI is assumed to increase ultimately at an annual rate of 3.0 percent. For alternative II-B, the CPI is assumed to increase ultimately at an annual rate of 4.0 percent, which is somewhat lower than the average annual increase of 4.7 percent experienced between 1958 and 1988. The ultimate increases in the average annual CPI for alternatives I and III of 2.0 percent and 5.0 percent, respectively, were chosen to include a reasonable range of possible values. Ultimate annual increases in the GNP price deflator are assumed to be the same, for each alternative, as for the CPI.

The ultimate increases in average annual wages in covered employment are assumed to be 4.2, 4.7, 5.3, and 5.8 percent, for alternatives I, II-A, II-B, and III, respectively. These were obtained, for each alternative, by adding the assumed annual percentage increase in the CPI to the real-wage differential. Ultimate increases in average wages and earnings for the U.S. economy are very similar to those assumed for average wages in covered employment.

TAXABLE PAYROLL AND TAXES

The taxable payroll for any period is that amount which, when multiplied by the combined employee-employer tax rate, yields the total amount of taxes paid by employees, employers, and the self-employed for work during the period. The taxable payroll is important not just in estimating OASDI income, but also in determining income and cost rates, and actuarial balances. These terms are defined in the introduction to the section entitled "Actuarial Estimates."

In practice, the taxable payroll is calculated as a weighted average of the earnings on which employees, employers, and self-employed persons make contributions to the OASDI program. The weighting takes into account the lower tax rates, as compared to the combined employee-employer rate, which apply to multiple-employer "excess wages," and which did apply, before 1984, to net earnings from self-employment and, before 1988, to tips. For 1983 and later, taxable payroll also includes deemed wage credits for military service. Estimates of taxable earnings for employees, employers, and the self-employed were developed from corresponding estimates of earnings in the U.S. economy, by means of factors which adjust for various differences in these measures. The factors adjust total U.S. earnings by removing earnings from noncovered employment, adding earnings from various outlying areas which are covered by Social Security but are not included in published "U.S." data, and removing earnings above the taxable earnings base.

Estimates of taxes collected were developed from the corresponding estimates of taxable earnings by applying the employee, employer, or self-employed tax rate, and by taking into account the lag time from the incurrence of tax liability to the collection of taxes.

INSURED POPULATION

There are three types of insured status under the OASDI program: fully insured, currently insured, and disability insured. Fully insured status is required of an aged worker for eligibility to a primary retirement benefit and for the eligibility of that worker's spouse and children to auxiliary benefits. Fully insured status is also required of a deceased worker for the eligibility of the worker's survivors to benefits (with the exception of child survivors and parents of eligible child survivors, in which cases the deceased worker is required to have had either currently insured status or fully insured status). Disability insured status, which is more restrictive than fully insured status, is required of a disabled worker for eligibility to a primary disability benefit and for the eligibility of the worker's spouse and children to auxiliary benefits.

Projections of the percentage of the population that is fully insured were made by age and sex, based on the requirement for fully insured status, past and projected coverage rates, and their historical relationships to fully insured rates. Currently insured status was disregarded for purposes of these estimates, because the number of cases in which eligibility for benefits is based solely on currently insured status is relatively small. Projections of the percentage of fully insured persons who are also disability insured were made by age and sex based on past and projected coverage rates, the requirement for disability insured status, and their historical relationships. Finally, the fully insured and disability insured populations were developed from the projected total population by applying the appropriate percentages.

Under this procedure, the percentage of the Social Security area population aged 62 and over that is fully insured is projected to increase from 75.6 on January 1, 1989, to 90.3, 90.0, 89.8, and 89.4 on January 1, 2061, based on alternatives I, II-A, II-B, and III, respectively. The increase for females is projected to be much greater than the increase for males. Based on alternative II-B, for example, the percentage for males is projected to increase only slightly during this period from 92.1 to 94.0, while that for females is projected to increase more substantially from 63.7 to 86.7. The percentage of fully insured persons under the normal retirement age who are disability insured is projected to change only slightly from 86.0 on January 1, 1989, to 85.9, 85.5, 85.4, and 84.8 on January 1, 2061, for alternatives I, II-A, II-B, and III, respectively.

The fully insured population by age and sex was further subdivided by marital status, by using the variation in labor force participation rates by marital status to estimate the variation in coverage rates by marital status. These coverage rates were then used to estimate the variation in the fully insured rates by marital status.

OLD-AGE AND SURVIVORS INSURANCE BENEFICIARIES

The numbers of OASI beneficiaries were projected for each type of benefit separately, by the sex of the worker on whose earnings the benefits are based, and by the age of the beneficiary. For selected types of benefits, the numbers of beneficiaries were also projected by marital status.

In the short-range period, the numbers of retired-worker beneficiaries were developed by applying award rates to the numbers of persons who are insured but not yet retired, and by applying termination rates to the numbers of persons already receiving retired-worker benefits. In the long range, the numbers of retired-worker beneficiaries who are not converted from disabled-worker beneficiaries were projected as a percentage of the aged fully insured population less those persons entitled to disability or widow(er)'s benefits (i.e., the exposed population). The percentages for ages 70 and over are assumed to be 100, because the retirement earnings test and delayed retirement credit do not apply after age 70. For 1990, the retired-worker beneficiaries as a percentage of the exposed population for ages 65 through 69 are assumed to increase, reflecting the change that will be effective then in benefit withholding under the retirement earnings test. The percentages for ages 62 through 69 are assumed to change for two reasons. They were adjusted upward through the year 2000, continuing the trend toward earlier retirement. They were further adjusted in the long-range period, for each year of attainment of age 62, as a function of the ratio of the monthly benefit amount payable at each age of entitlement to the amount payable at age-70 entitlement. This resulted in a gradual downward adjustment as the increases in the delayed retirement credit become effective and, beginning in 2000, during the years in which the normal retirement age is scheduled to increase. The net effect of these two adjustments is to increase the percentages at ages 62 through 69 into the 1990s and then to decrease the percentages. Ultimate percentages are assumed to be reached in 2030. The numbers of retired-worker beneficiaries who are converted from disabled-worker beneficiaries were calculated separately in a manner consistent with the calculation of disabled-worker beneficiaries.

The numbers of aged-spouse beneficiaries were estimated from the population projected by age and sex. The benefits of aged-spouse beneficiaries are based on the earnings records of their husbands or wives, who are referred to as "wage earners." In the short-range period, a regression equation was used to project the number of aged-spouse beneficiaries, as a proportion of the aged female or male population not receiving retired-worker or aged-widow(er) benefits. In the long-range period, aged-spouse beneficiaries were estimated from the population projected by age, sex, and marital status. To the numbers of spouses aged 62 and over in the population, a series of factors were applied, representing the probabilities that the spouse and the wage earner meet all of the conditions of eligibility—i.e., the probabilities that (1) the wage earner is 62 or over, (2) the wage earner is insured, (3) the wage earner is receiving benefits, (4) the spouse is not receiving a benefit for the care of an entitled child, (5) the spouse is not insured, (6) the spouse is not eligible to receive a significant government pension based on earnings in noncovered employment, and (7) a residual factor.

In addition, the same factors were applied to the numbers of divorced persons aged 62 and over in the population, with three differences. First, an additional factor is required to reflect the probability that the person's former wage-earner spouse is still alive (otherwise, the person may be entitled to a divorced widow(er)'s benefit). Second, a factor is required

to reflect the probability that the marriage to the wage-earner spouse was at least 10 years in duration. Third, factor (3) was not applied because, effective for January 1985, a divorced person generally need not wait to receive benefits until the former wage-earner spouse is receiving benefits.

The projected numbers of children under age 18, and students aged 18, who are eligible for benefits as children of retired-worker beneficiaries, were based on the projected numbers of children in the population. In the short-range period, a factor was applied, representing the probability that both parents are alive. A regression equation was then used to project the number of children of retired-worker beneficiaries. In the long-range period, entitled children were projected separately by sex of the wage-earner parent. To the numbers of children in the population, factors were applied representing the probabilities that the parent is alive, aged 62 or over, insured, and receiving a retired-worker benefit. Another factor was applied representing the probability that the child is not entitled to a benefit based on the other parent's earnings. For children aged 18, a factor was applied representing the probability that the child is attending a secondary school. The numbers of disabled children aged 18 and over of retired-worker beneficiaries were projected from the adult population in a similar manner, with the inclusion of a factor representing the probability of being disabled since childhood.

In the short-range period, the numbers of young-spouse beneficiaries were projected as a proportion of the projected numbers of child beneficiaries who are either under age 16 or disabled. In the long-range period, young-spouse beneficiaries were projected as a proportion of the projected numbers of child beneficiaries of retired workers, taking into account projected changes in average family size.

The numbers of aged-widow(er) beneficiaries were projected from the population by age and sex. In the short-range period, a regression equation projected the number of aged-widow(er) beneficiaries, as a proportion of the aged female or male population not receiving retired-worker or aged-spouse benefits. In the long-range period, aged-widow(er) beneficiaries were projected from the population by age, sex, and marital status. Four factors were applied to the numbers of widow(er)s in the population aged 60 and over. These factors represent the probabilities that (1) the deceased wage earner was fully insured at death, (2) the widow(er) is not receiving a benefit for the care of an entitled child, (3) the widow(er) is not fully insured, and (4) the widow(er)'s benefits are not withheld because of receipt of a significant government pension based on earnings in noncovered employment. In addition, some insured widow(er)s who had not applied for their retired-worker benefits are assumed to receive widow(er) benefits. Also, the same factors were applied to the numbers of divorced persons aged 60 and over in the population, with additional factors representing the probability that the person's former wage-earner spouse is deceased and that the marriage was at least 10 years in duration.

In the short-range period, the numbers of disabled-widow(er) beneficiaries were estimated as a proportion of the female or male population aged 50-64. In the long-range period, the numbers were projected for

each age 50 through 64 as a percentage of the widowed and divorced populations, adjusted for the insured status of the deceased spouse and the prevalence of disability.

The projected numbers of children under age 18, and students aged 18, who are eligible for benefits as survivors of deceased workers, were based on the projected numbers of children in the population whose mothers or fathers are deceased. In the short-range period, a regression equation was used to project the number of minor-child-survivor beneficiaries as a percentage of such orphaned children. In the long-range period, the numbers of child-survivor beneficiaries were projected in a manner analogous to that for child beneficiaries of retired workers, with the factor representing the probability that the parent is aged 62 or over being replaced by a factor that represented the probability that the parent was deceased.

In the short-range period, the numbers of mother-and-father-survivor beneficiaries were projected from the numbers of child-survivor beneficiaries who are either under age 16 or disabled. In the long-range period, mother-and-father-survivor beneficiaries were estimated from the numbers of child-survivor beneficiaries, taking into account projected changes in average family size.

The numbers of parent-survivor beneficiaries were projected based on the historical pattern of the numbers of such beneficiaries.

Table A2 shows the projected numbers of beneficiaries under the OASI program. Included among the beneficiaries who receive retired-worker benefits are some persons who also receive a residual benefit consisting of the excess of an auxiliary benefit over their retired-worker benefit. Estimates of the numbers of such residual payments were made separately for wives and widows.

TABLE A2.—OASI BENEFICIARIES WITH MONTHLY BENEFITS IN CURRENT-PAYMENT STATUS AS OF DECEMBER 31 BY ALTERNATIVE, CALENDAR YEARS 1945-2065
[In thousands]

	Retired workers and auxiliaries			Survivors				
Calendar year	Worker	Wife-husband	Child	Widow-widower	Mother-father	Child	Parent	Total
Past experience:								
1945	518	159	13	94	121	377	6	1,288
1950	1,771	508	46	314	169	653	15	3,477
1955	4,474	1,192	122	701	292	1,154	25	7,961
1960	8,061	2,269	268	1,544	401	1,577	36	14,157
1965	11,101	2,614	461	2,371	472	2,074	35	19,128
1970	13,349	2,668	546	3,227	523	2,688	29	23,030
1975	16,588	2,867	643	3,889	582	2,919	21	27,509
1980	19,562	3,016	639	4,411	562	2,610	15	30,814
1985	22,432	3,069	457	4,863	372	1,917	10	33,120
1986	22,987	3,088	450	4,931	350	1,875	9	33,690
1987	23,440	3,090	440	4,984	329	1,836	8	34,126
1988	23,858	3,086	432	5,029	318	1,810	7	34,539
Alternative I:								
1989	24,315	3,114	428	5,092	315	1,783	7	35,054
1990	24,920	3,138	427	5,149	314	1,771	6	35,724
1995	26,337	3,199	453	5,327	312	1,821	4	37,454
2000	27,323	3,179	486	5,315	281	1,898	4	38,486
2005	28,767	2,951	528	5,261	267	1,928	4	39,706
2010	31,879	2,775	586	5,299	252	1,937	4	42,733
2015	37,263	2,749	654	5,375	238	1,958	4	48,241
2020	43,731	2,857	719	5,505	228	1,992	4	55,036
2025	49,474	2,963	769	5,664	230	2,040	4	61,143
2030	53,713	2,957	810	5,738	232	2,083	4	65,536
2035	55,740	2,863	837	5,724	234	2,111	4	67,514
2040	55,950	2,697	848	5,632	235	2,135	4	67,501
2045	55,991	2,613	867	5,524	237	2,165	4	67,402
2050	56,686	2,605	897	5,408	241	2,203	4	68,045

TABLE A2.—OASI BENEFICIARIES WITH MONTHLY BENEFITS IN CURRENT-PAYMENT STATUS AS OF DECEMBER 31 BY ALTERNATIVE, CALENDAR YEARS 1945-2065 (Cont.)
[In thousands]

Calendar year	Retired workers and auxiliaries			Survivors				Total
	Worker	Wife-husband	Child	Widow-widower	Mother-father	Child	Parent	
Alternative I: (Cont.)								
2055	57,889	2,654	933	5,313	245	2,240	4	69,278
2060	59,163	2,706	963	5,273	249	2,274	4	70,633
2065	60,362	2,754	986	5,297	252	2,305	4	71,959
Alternative II-A:								
1989	24,322	3,114	428	5,093	315	1,781	7	35,059
1990	24,942	3,141	427	5,153	313	1,765	6	35,746
1995	26,558	3,221	451	5,365	307	1,788	4	37,694
2000	27,892	3,273	486	5,331	278	1,813	4	39,077
2005	29,720	3,095	527	5,289	261	1,773	4	40,670
2010	32,180	2,957	576	5,337	246	1,708	4	44,008
2015	38,929	2,956	632	5,422	236	1,664	4	49,844
2020	45,792	3,096	678	5,562	232	1,639	4	57,003
2025	51,926	3,237	707	5,741	233	1,629	4	63,476
2030	56,643	3,272	726	5,858	230	1,621	4	68,355
2035	59,136	3,214	733	5,920	225	1,608	4	70,840
2040	59,764	3,072	723	5,923	220	1,587	4	71,292
2045	60,103	3,014	720	5,911	215	1,566	4	71,532
2050	60,994	3,036	728	5,870	211	1,548	4	72,390
2055	62,204	3,106	741	5,799	208	1,529	4	73,590
2060	63,197	3,157	749	5,735	204	1,508	4	74,553
2065	63,827	3,182	749	5,703	200	1,485	4	75,149
Alternative II-B:								
1989	24,322	3,114	428	5,093	315	1,781	7	35,059
1990	24,942	3,141	427	5,153	313	1,765	6	35,746
1995	26,558	3,221	451	5,365	307	1,788	4	37,694
2000	27,890	3,273	486	5,331	278	1,813	4	39,074
2005	29,714	3,097	527	5,289	261	1,773	4	40,564
2010	33,165	2,963	576	5,338	246	1,707	4	43,999
2015	38,908	2,964	631	5,424	236	1,662	4	49,829
2020	45,761	3,106	677	5,564	232	1,637	4	56,982
2025	51,884	3,251	706	5,744	233	1,627	4	63,449
2030	56,587	3,292	726	5,863	230	1,619	4	68,321
2035	59,065	3,240	733	5,926	225	1,606	4	70,799
2040	59,677	3,105	722	5,931	219	1,585	4	71,243
2045	59,999	3,053	719	5,922	215	1,563	4	71,475
2050	60,871	3,082	727	5,885	211	1,545	4	72,325
2055	62,066	3,158	740	5,817	208	1,526	4	73,518
2060	63,047	3,213	747	5,755	204	1,505	4	74,476
2065	63,669	3,240	748	5,727	200	1,482	4	75,069
Alternative III:								
1989	24,329	3,115	428	5,095	314	1,778	7	35,065
1990	24,965	3,143	426	5,157	312	1,758	6	35,768
1995	26,771	3,242	450	5,402	300	1,750	4	37,918
2000	28,414	3,363	486	5,337	275	1,734	4	39,612
2005	30,579	3,240	522	5,307	259	1,656	4	41,566
2010	34,383	3,157	560	5,366	239	1,523	4	45,233
2015	40,565	3,202	602	5,458	220	1,406	4	51,459
2020	47,947	3,394	631	5,601	207	1,318	4	59,103
2025	54,641	3,597	641	5,778	199	1,259	4	66,118
2030	60,102	3,707	641	5,896	189	1,215	4	71,754
2035	63,425	3,722	631	5,982	177	1,176	4	75,116
2040	64,934	3,645	604	6,026	165	1,128	4	76,506
2045	66,084	3,644	585	6,055	153	1,080	4	77,606
2050	67,683	3,729	577	6,038	144	1,034	4	79,208
2055	69,357	3,849	575	5,941	135	987	4	80,848
2060	70,425	3,922	569	5,810	126	942	4	81,797
2065	70,718	3,933	556	5,688	118	896	4	81,914

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 14,116 as of December 31, 1988, and is estimated to be fewer than 200 by the turn of the century. Totals do not necessarily equal the sums of rounded components.

DISABILITY INSURANCE BENEFICIARIES

The numbers of DI beneficiaries were projected for each type of benefit separately, by the sex of the worker on whose earnings the benefits are based, and the age of the beneficiary. The numbers of disabled-worker beneficiaries were projected from the estimated numbers of such beneficiaries entitled on December 31, 1988, by adding new

entitlements and subtracting terminations. The starting numbers of entitled disabled-worker beneficiaries were estimated by age, sex, and duration of entitlement, from the tabulated number of disabled-worker beneficiaries in current-payment status on December 31, 1987. The numbers of new entitlements during each year were projected by applying assumed disability incidence rates. In the short-range period, an age-adjusted rate was applied to the total age-adjusted disability insured population for each sex. In the long-range period, incidence rates by age and sex were applied to the projected disability insured population (excluding those already entitled to disabled-worker benefits) to obtain new entitlements. The numbers of terminations were projected by applying assumed termination rates to the disabled-worker population. In the short-range period, overall termination rates for each sex were projected based on recent experience and on expected changes in the administration of the DI program. In the long-range period, the numbers of terminations were projected by applying assumed death and recovery rates, by age, sex, and duration of entitlement, to the entitled disabled-worker population, and adding the number of disabled-worker beneficiaries automatically converted to retired-worker beneficiaries at the normal retirement age (currently, age 65).

The disability incidence rates, which declined during 1975-82, increased during 1983-85, and remained steady during 1986-88, are assumed to resume the increasing trend in 1989. The rates are assumed to increase significantly faster for males than for females during the next decade as workers afflicted by AIDS become disabled-worker beneficiaries. The specific ultimate levels assumed are determined in two stages. First, under an assumption of a constant normal retirement age of 65, the incidence rates are projected to increase through 2010. These levels, for alternatives II-A and II-B, are about 17 percent for males and 20 percent for females higher than the average rates for 1984-86. This produces age-adjusted rates in 2010 of 5.2 per thousand for males and 3.6 per thousand for females, and an age-sex-adjusted rate of 4.6 per thousand. Next, because of the increase in the normal retirement age, further increases are projected in incidence rates at ages over 60. These combined projected increases cause the total gross incidence rate to increase from the current 1988 levels of 4.4 per thousand for males and 3.0 per thousand for females to 7.6 per thousand for males and 5.4 per thousand for females in the year 2026 when the normal retirement age has reached its ultimate level of 67.

For the other alternatives, the disability incidence rates are assumed to follow patterns through time similar to the one for alternatives II-A and II-B. For alternative I, the stage one levels are assumed to be higher by about one percent for both males and females than the average for 1984-86. The 2026 total gross incidence rates are assumed to be 6.5 per thousand for males and 4.4 per thousand for females. For alternative III, the stage one levels are assumed to be higher by about 38 percent for males and 43 percent for females. This level is approximately 80 percent of the rate experienced in 1974, when incidence rates attained their highest level. The 2026 total gross incidence rates are assumed to be 9.1 per thousand for males and 6.5 per thousand for females.

The overall termination rates were projected quarterly in the short-range period. For alternatives II-A and II-B, the rates were projected to increase from the relatively low levels of 1984-88, to levels comparable to the average experienced over the last decade. For alternative III, the termination rates increase more slowly and to lower levels, whereas for alternative I the termination rates increase more quickly and to higher levels.

In the long-range period, the death and recovery rates were projected by age, sex, and duration of entitlement. For all alternatives, the death rates are assumed to decline steadily throughout the 75-year projection period. For alternatives II-A and II-B, they reach levels in 2065 approximately 30 percent lower for males and approximately 20 percent lower for females than those experienced by disabled-worker beneficiaries during 1977-80, the most recent period for which detailed data exist. The recovery rates are assumed to increase from 1988 levels until 1995, when they attain ultimate levels about 15 percent higher than those experienced during the period 1977-80, thereby allowing for the estimated effect of the periodic reviews required by provisions of law first enacted in 1980, and amended in 1983 and 1984.

For alternative I, the death rates in 2065 are assumed to be roughly 20 percent lower for males and approximately 10 percent lower for females than those experienced by disabled-worker beneficiaries during 1977-80, and the recovery rates are assumed to increase to levels 30 percent higher than those of the same period. For alternative III, the death rates in 2065 are assumed to be about 45 percent lower for males and approximately 35 percent lower for females than those experienced during 1977-80, and recovery rates are assumed to be equal to those experienced during 1977-80.

In the short-range period, the projected numbers of children under age 18, students aged 18, and disabled children aged 18 and over, who are eligible for benefits as children of disabled-worker beneficiaries, were projected by applying quarterly award and termination rates. Awards to the three categories of child beneficiaries were based on the numbers of awards to disabled-worker beneficiaries.

In the long-range period, the projected numbers of minor child and student beneficiaries were based on the projected numbers of children in the population by age. To these numbers of children were applied factors representing the probability that either of their parents is insured and disabled. The numbers of disabled children aged 18 and over were projected as a function of the numbers of disabled-worker beneficiaries and the size of the adult population.

In the short-range period, the numbers of young-spouse beneficiaries were projected by applying quarterly award and termination rates, where awards were based on the numbers of awards to child beneficiaries who are either under age 16 or disabled. The numbers of aged-spouse beneficiaries were also projected by applying quarterly award and termination rates, where awards were based on the number of awards to disabled-worker beneficiaries.

In the long-range period, the numbers of young-spouse beneficiaries were projected as a proportion of the projected numbers of child

beneficiaries who are either under age 16 or disabled, taking into account projected changes in family size. The numbers of aged-spouse beneficiaries were projected as a proportion of the numbers of disabled-worker beneficiaries, based on recent experience and allowing for projected changes in marriage rates.

Table A3 shows the projected numbers of beneficiaries under the DI program.

TABLE A3.—DI BENEFICIARIES WITH MONTHLY BENEFITS IN CURRENT-PAYMENT STATUS AS OF DECEMBER 31 BY ALTERNATIVE, CALENDAR YEARS 1960-2065
[In thousands]

Calendar year	Disabled workers	Auxiliaries		Total
		Wife-husband	Child	
Past experience:				
1960	455	77	155	687
1965	988	193	558	1,739
1970	1,493	283	889	2,665
1975	2,489	453	1,411	4,352
1980	2,859	462	1,358	4,678
1985	2,656	306	945	3,907
1986	2,727	301	965	3,993
1987	2,786	291	968	4,045
1988	2,830	281	963	4,074
Alternative I:				
1989	2,867	275	958	4,100
1990	2,883	270	956	4,109
1995	3,035	260	975	4,271
2000	3,494	269	1,080	4,843
2005	4,074	283	1,133	5,490
2010	4,730	294	1,159	6,183
2015	5,118	283	1,180	6,581
2020	5,300	281	1,215	6,795
2025	5,612	305	1,270	7,187
2030	5,527	293	1,315	7,134
2035	5,474	285	1,346	7,105
2040	5,558	280	1,377	7,215
2045	5,827	295	1,416	7,537
2050	6,005	306	1,462	7,772
2055	6,127	315	1,510	7,953
2060	6,228	320	1,555	8,103
2065	6,407	327	1,598	8,333
Alternative II-A:				
1989	2,883	276	961	4,120
1990	2,924	273	967	4,164
1995	3,238	281	1,044	4,562
2000	3,835	312	1,193	5,340
2005	4,590	346	1,267	6,203
2010	5,443	377	1,286	7,106
2015	5,972	383	1,287	7,641
2020	6,217	396	1,294	7,906
2025	6,584	433	1,320	8,337
2030	6,467	420	1,338	8,225
2035	6,383	410	1,345	8,138
2040	6,449	403	1,345	8,196
2045	6,709	419	1,348	8,476
2050	6,823	430	1,356	8,609
2055	6,816	434	1,366	8,616
2060	6,746	429	1,373	8,548
2065	6,768	428	1,378	8,573
Alternative II-B:				
1989	2,883	276	961	4,120
1990	2,924	273	967	4,164
1995	3,237	281	1,043	4,561
2000	3,833	312	1,192	5,337
2005	4,585	346	1,266	6,197
2010	5,434	378	1,283	7,095
2015	5,960	382	1,283	7,626
2020	6,202	396	1,290	7,887
2025	6,565	433	1,315	8,314
2030	6,446	421	1,334	8,201
2035	6,360	411	1,340	8,112
2040	6,425	404	1,340	8,168
2045	6,683	421	1,343	8,447
2050	6,797	432	1,351	8,579
2055	6,790	436	1,361	8,587
2060	6,720	431	1,368	8,518
2065	6,742	430	1,373	8,544

TABLE A3.—DI BENEFICIARIES WITH MONTHLY BENEFITS IN CURRENT-PAYMENT STATUS AS OF DECEMBER 31 BY ALTERNATIVE, CALENDAR YEARS 1960-2065 (Cont.)
[In thousands]

Calendar year	Disabled workers	Auxiliaries		Total
		Wife-husband	Child	
Alternative III:				
1989	2,916	280	974	4,170
1990	2,998	280	990	4,269
1995	3,617	317	1,168	5,102
2000	4,295	362	1,342	5,998
2005	5,285	414	1,446	7,145
2010	6,393	461	1,447	8,300
2015	7,097	470	1,412	8,979
2020	7,418	485	1,377	9,279
2025	7,853	528	1,353	9,743
2030	7,699	508	1,348	9,555
2035	7,587	491	1,327	9,406
2040	7,641	477	1,292	9,409
2045	7,891	493	1,256	9,640
2050	7,902	500	1,225	9,627
2055	7,696	492	1,197	9,385
2060	7,368	469	1,169	9,006
2065	7,164	454	1,140	8,758

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

AVERAGE BENEFITS

Average benefits were projected by type of benefit based on recent historical averages, projected average Primary Insurance Amounts (PIAs), and projected ratios of average benefits to average PIAs. Average PIAs were calculated from projected distributions of beneficiaries by duration from year of award, average awarded PIAs, and increases thereto since the year of award, because of automatic benefit increases, recomputations to reflect additional covered earnings, and other factors. Average awarded PIAs were calculated from projected earnings histories, which were developed from the actual earnings histories associated with a sample of awards made in 1983.

For several types of benefits—retired-worker, aged-spouse, and aged-widow(er) benefits—the percentage of the PIA that is payable depends on the age at initial entitlement to benefits. Projected ratios of average benefits to average PIAs for these types of benefits were based on projections of age distributions at initial entitlement.

BENEFIT PAYMENTS

For each type of benefit, benefit payments were calculated as the product of a number of beneficiaries and a corresponding average monthly benefit. In the short-range period, benefit payments were calculated on a quarterly basis. In the long-range period, all benefit payments were calculated on an annual basis, using the number of beneficiaries on December 31. These amounts were adjusted to include retroactive payments to newly awarded beneficiaries, and other amounts not reflected in the regular monthly benefit payments.

Lump-sum death payments were calculated as the product of (1) the number of such payments, which was projected on the basis of the assumed death rates, the projected fully insured population, and the estimated percentage of the fully insured population that would qualify for benefits, and (2) the amount of the lump-sum death payment, which is $255.

ADMINISTRATIVE EXPENSES

The projection of administrative expenses through 1998 was based on assumed increases in average wages, increases in the CPI, and increases in the number of beneficiaries. For years after 1998, administrative expenses are assumed to increase with the numbers of beneficiaries and with average earnings in covered employment, taking into account assumed increases in productivity.

RAILROAD RETIREMENT FINANCIAL INTERCHANGE

The effect of the financial interchange with the Railroad Retirement program was evaluated on the basis of trends similar to those used in estimating the cost of OASDI benefits. The resulting effect was annual short-range costs of about $3-4 billion and an average annual long-range cost of 0.04 percent of taxable payroll to the OASDI program.

BENEFITS TO UNINSURED PERSONS

The law provides for special monthly cash payments to certain uninsured persons who attained age 72 before 1968 or who have 3 quarters of coverage for each year after 1966 and before the year of attainment of age 72. The numbers of such uninsured persons were projected based on an extrapolation of the historical survival rate of the members of that group. The benefit payable to these uninsured persons is a fixed amount which increases by the percentage benefit increase applicable to regular OASDI benefits. These payments are made from the OASI Trust Fund, which is then reimbursed from the general fund of the Treasury for the costs (including administrative expenses and interest) associated with providing payments to those persons with fewer than 3 quarters of coverage. The nonreimbursable payments are assumed to be insignificant after 1998. Neither the reimbursable payments nor the associated reimbursements are reflected in the cost rates or the income rates. These amounts are reflected, however, in tables which show trust fund operations.

MILITARY-SERVICE TRANSFERS

As a result of the 1983 amendments, the OASI and DI Trust Funds received lump-sum payments, in May 1983, for the cost (including administrative expenses) of providing additional benefit payments resulting from noncontributory wage credits for military service performed prior to 1957. Adjustments to the payments were made in 1985, and additional adjustments will be made in 1990 and every fifth year thereafter. The adjustments for 1990 were estimated based on the change in interest rates since the determination of the adjustments in 1985. No adjustments after 1990 would be due unless actual interest rates are different from those assumed, or changes are made in the methods used to determine the military-service transfers.

INCOME FROM TAXATION OF BENEFITS

The OASI and DI Trust Funds are credited with the additional income taxes attributable to the partial taxation of OASDI benefit payments. For the short-range period, income to the trust funds from such taxation was estimated by applying the following two factors to total OASI and DI benefit payments: (1) the percentage of benefit payments that is taxable, and (2) the average tax rate applicable to those benefits. For the long-range period, income to the trust funds from such taxation was projected by applying factors representing the ratio of such income to total OASDI benefit payments under varying levels of income thresholds. Because the thresholds are constant in the law, their values in relation to future income and benefit levels decline. These factors were projected based on the results of a model developed by the Office of Tax Analysis, Department of the Treasury, relating OASDI benefit payments to total personal income for a sample of recent tax returns.

APPENDIX B.—SENSITIVITY ANALYSIS

This appendix presents estimates which illustrate the sensitivity of the level-financing estimates to changes in selected individual assumptions. Although the estimates based on the four alternative sets of assumptions illustrate variations that result from different combinations of assumptions, they do not show variations that result from changes in any single assumption. In this sensitivity analysis, alternative II-B is used as the reference point, and one assumption at a time within that alternative is varied. Similar variations in the selected assumptions within the other alternatives would result in similar relative variations in the estimates.

Each table which follows shows the effects of changing the particular assumption under consideration on the OASDI income rates, cost rates, and actuarial balances. Because the income rate varies only slightly with changes in assumptions, it is not considered in the discussion of the tables. The change in each of the actuarial balances is approximately equal to the change in the corresponding cost rate, but in the opposite direction.

TOTAL FERTILITY RATE

Table B1 shows the estimated OASDI income rates, cost rates, and actuarial balances, on the basis of alternative II-B with various assumptions about the ultimate total fertility rate. These assumptions are that the ultimate total fertility rate will be 1.6 children per woman (as assumed for alternative III), 1.9 (as assumed for alternatives II-A and II-B), and 2.2 (as assumed for alternative I). The rate is assumed to change gradually from its current level and to reach the various ultimate values in 2013.

TABLE B1.—ESTIMATED OASDI INCOME RATES, COST RATES, AND ACTUARIAL BALANCES, BASED ON ALTERNATIVE II-B WITH VARIOUS FERTILITY ASSUMPTIONS
[As a percentage of taxable payroll]

Calendar years	Ultimate total fertility rate[1]		
	1.6	1.9	2.2
Income rate:			
25-year: 1989-2013	12.91	12.91	12.91
50-year: 1989-2038	12.97	12.96	12.96
75-year: 1989-2063	13.04	13.02	12.99
Cost rate:			
25-year: 1989-2013	10.49	10.52	10.55
50-year: 1989-2038	12.64	12.52	12.42
75-year: 1989-2063	14.24	13.72	13.24
Actuarial balance:			
25-year: 1989-2013	+2.42	+2.39	+2.36
50-year: 1989-2038	+.33	+.44	+.54
75-year: 1989-2063	−1.20	−.70	−.24

[1]The total fertility rate for any year is the average number of children who would be born to a woman in her lifetime if she were to experience the birthrates by age observed in, or assumed for, the selected year, and if she were to survive the entire child-bearing period. The ultimate total fertility rate is assumed to be reached in 2013.

For the 25-year period, the cost rate for the three fertility assumptions varies by only 0.06 percent of taxable payroll. In contrast, the 75-year cost rate varies over a wide range, decreasing from 14.24 to 13.24 percent, as the assumed ultimate total fertility rate increases from 1.6 to 2.2. Similarly, while the 25-year actuarial balance varies by only 0.06 percent of taxable payroll, the 75-year actuarial balance varies over a much wider range—from −1.20 to −0.24 percent.

During the 25-year period, changes in fertility affect the working population only slightly and result in relatively minor changes in the number of child beneficiaries. Hence, the program cost is affected only slightly. For the 75-year long-range period, however, changes in fertility have a relatively greater impact on the labor force than on the beneficiary population. As a result, an increase in fertility significantly reduces the cost rate. Each increase of 0.1 in the ultimate total fertility rate increases the long-range actuarial balance by about 0.16 percent of taxable payroll.

DEATH RATES

Table B2 shows the estimated OASDI income rates, cost rates, and actuarial balances, on the basis of alternative II-B with various assumptions about future reductions in death rates. The analysis was developed by varying the percentage decrease assumed to occur during 1989-2063 in the age-sex-adjusted death rate. The decreases assumed for this period are about 18 percent (as assumed for alternative I), 34 percent (as assumed for alternatives II-A and II-B), and 51 percent (as assumed for alternative III).

TABLE B2.—ESTIMATED OASDI INCOME RATES, COST RATES, AND ACTUARIAL BALANCES, BASED ON ALTERNATIVE II-B WITH VARIOUS DEATH-RATE ASSUMPTIONS
[As a percentage of taxable payroll]

Calendar years	Reduction in death rates[1]		
	18 percent	34 percent	51 percent
Income rate:			
25-year: 1989-2013	12.91	12.91	12.92
50-year: 1989-2038	12.95	12.96	12.98
75-year: 1989-2063	12.99	13.02	13.05
Cost rate:			
25-year: 1989-2013	10.39	10.52	10.66
50-year: 1989-2038	12.14	12.52	12.96
75-year: 1989-2063	13.09	13.72	14.54
Actuarial balance:			
25-year: 1989-2013	+2.52	+2.39	+2.26
50-year: 1989-2038	+.81	+.44	+.02
75-year: 1989-2063	-.10	-.70	-1.49

[1]The measure of the reduction in death rates is the decrease in the age-sex-adjusted death rate during 1989-2063.

The variation in cost for the 25-year period is less pronounced than the variation for the 75-year period because the decreases in death rates are assumed to occur gradually and because of the specific changes in the age composition of the population that are projected to occur. The 25-year cost rate increases from 10.39 percent (for 18-percent lower ultimate death rates) to 10.66 percent (for 51-percent lower ultimate rates). The long-range cost rate increases from 13.09 to 14.54 percent. The actuarial balance decreases from +2.52 to +2.26 percent for the 25-year period, and from -0.10 to -1.49 percent for the 75-year period.

Lower death rates cause both the income (as well as taxable payroll) and the outgo of the OASDI program to be higher than they would otherwise be. The relative increase in outgo, however, exceeds the relative increase in taxable payroll. For any given year, reductions in the death rates for people who have attained the normal retirement age (people whose death rates are the highest) increase the number of retired-worker beneficiaries (and, therefore, the amount of retirement benefits paid) without adding significantly to the number of covered

workers (and, therefore, to the taxable payroll). Although reductions for people aged 50 to normal retirement age do result in significant increases to the taxable payroll, those increases are not large enough to offset the sum of the additional retirement benefits mentioned above and the disability benefits paid to additional beneficiaries in this pre-retirement age group. At ages under 50, death rates are so low that even substantial reductions would not result in significant increases in the numbers of covered workers or beneficiaries. Consequently, if death rates for all ages are lowered by about the same relative amount, outgo increases at a rate greater than the rate of growth in payroll, thereby resulting in higher cost rates. Each additional 10-percent reduction in the age-sex-adjusted death rate assumed to occur in 1989-2063, relative to the 34-percent reduction assumed for alternative II-B, decreases the long-range actuarial balance by about 0.40 percent of taxable payroll.

NET IMMIGRATION

Table B3 shows the estimated OASDI income rates, cost rates, and actuarial balances, on the basis of alternative II-B with various assumptions about the magnitude of net immigration. These assumptions are that the annual net immigration will be 450,000 persons (as assumed for alternative III), 600,000 persons (as assumed for alternatives II-A and II-B), and 750,000 persons (as assumed for alternative I).

TABLE B3.— ESTIMATED OASDI INCOME RATES, COST RATES, AND ACTUARIAL BALANCES, BASED ON ALTERNATIVE II-B WITH VARIOUS NET-IMMIGRATION ASSUMPTIONS
[As a percentage of taxable payroll]

Calendar years	Net immigration per year		
	450,000	600,000	750,000
Income rate:			
25-year: 1989-2013	12.92	12.91	12.91
50-year: 1989-2038	12.97	12.96	12.96
75-year: 1989-2063	13.02	13.02	13.01
Cost rate:			
25-year: 1989-2013	10.59	10.52	10.46
50-year: 1989-2038	12.66	12.52	12.39
75-year: 1989-2063	13.88	13.72	13.57
Actuarial balance:			
25-year: 1989-2013	+2.33	+2.39	+2.45
50-year: 1989-2038	+.31	+.44	+.57
75-year: 1989-2063	-.86	-.70	-.56

For all three periods, the cost rate decreases with increasing rates of net immigration. For the 25-year period, the cost rate decreases from 10.59 percent of taxable payroll (for annual net immigration of 450,000 persons) to 10.46 percent (for annual net immigration of 750,000 persons). For the 50-year period, it decreases from 12.66 percent to 12.39 percent, and for the 75-year period, it decreases from 13.88 percent to 13.57 percent. The actuarial balance increases from +2.33 to +2.45 percent for the 25-year period, from +0.31 to +0.57 for the 50-year period, and from -0.86 to -0.56 percent for the 75-year period.

The cost rate decreases with increasing rates of net immigration because immigration occurs at relatively young ages, thereby increasing the numbers of covered workers earlier than the numbers of beneficiaries. Each additional group of 100,000 immigrants relative to the 600,000 net immigration assumed for alternative II-B, increases the long-range actuarial balance by about 0.10 percent of taxable payroll.

REAL-WAGE DIFFERENTIAL

Table B4 shows the estimated OASDI income rates, cost rates, and actuarial balances, on the basis of alternative II-B with various assumptions about the real-wage differential. These assumptions are that the ultimate real-wage differential will be 0.8 percentage point (as assumed for alternative III), 1.3 percentage points (as assumed for alternative II-B), 1.7 percentage points (as assumed for alternative II-A), and 2.2 percentage points (as assumed for alternative I). In each case, the ultimate annual increase in the CPI is assumed to be 4.0 percent (as assumed for alternative II-B), yielding ultimate percentage increases in average annual wages in covered employment of 4.8, 5.3, 5.7, and 6.2 percent, respectively.

TABLE B4.— ESTIMATED OASDI INCOME RATES, COST RATES, AND ACTUARIAL BALANCES, BASED ON ALTERNATIVE II-B WITH VARIOUS REAL-WAGE ASSUMPTIONS
[As a percentage of taxable payroll]

Calendar years	Ultimate percentage increase in wages-CPI[1]			
	4.8-4.0	5.3-4.0	5.7-4.0	6.2-4.0
Income rate:				
25-year: 1989-2013	12.93	12.91	12.90	12.88
50-year: 1989-2038	12.99	12.96	12.94	12.92
75-year: 1989-2063	13.05	13.02	12.99	12.96
Cost rate:				
25-year: 1989-2013	10.87	10.52	10.25	9.92
50-year: 1989-2038	13.00	12.52	12.15	11.68
75-year: 1989-2063	14.24	13.72	13.30	12.77
Actuarial balance:				
25-year: 1989-2013	+2.07	+2.39	+2.64	+2.96
50-year: 1989-2038	-.01	+.44	+.80	+1.24
75-year: 1989-2063	-1.20	-.70	-.31	+.20

[1]The first value in each pair is the assumed ultimate annual percentage increase in average wages in covered employment. The second value is the assumed ultimate annual percentage increase in the Consumer Price Index. The difference between the two values is the real-wage differential.

For the 25-year period, the cost rate decreases from 10.87 percent (for a real-wage differential of 0.8 percentage point) to 9.92 percent (for a differential of 2.2 percentage points). For the 50-year period, it decreases from 13.00 to 11.68 percent, and for the 75-year period it decreases from 14.24 to 12.77 percent. The actuarial balance increases from +2.07 to +2.96 percent for the 25-year period, from -0.01 to +1.24 for the 50-year period, and from -1.20 to +0.20 percent for the 75-year period.

The cost rate decreases with increasing real-wage differentials, because the higher real-wage levels increase the taxable payroll, while benefit increases are not affected. Although the initial benefit levels are higher because of the higher wages, these increases are more than offset by the increases in the taxable payroll of future workers. Each 0.5-percentage-point increase in the assumed real-wage differential increases the long-range actuarial balance by about 0.50 percent of taxable payroll.

CONSUMER PRICE INDEX

Table B5 shows the estimated OASDI income rates, cost rates, and actuarial balances, on the basis of alternative II-B with various assumptions about the rate of increase for the Consumer Price Index (CPI). These assumptions are that the ultimate annual increase in the CPI will be 2.0 percent (as assumed for alternative I), 3.0 percent (as assumed for alternative II-A), 4.0 percent (as assumed for alternative II-B), 5.0 percent (as assumed for alternative III), and 6.0 percent. In

each case, the ultimate real-wage differential is assumed to be 1.3 percentage points (as assumed for alternative II-B), yielding ultimate percentage increases in average annual wages in covered employment of 3.3, 4.3, 5.3, 6.3, and 7.3 percent, respectively.

TABLE B5.—ESTIMATED OASDI INCOME RATES, COST RATES, AND ACTUARIAL BALANCES, BASED ON ALTERNATIVE II-B WITH VARIOUS CPI-INCREASE ASSUMPTIONS
[As a percentage of taxable payroll]

Calendar years	Ultimate percentage increases in wages-CPI[1]				
	3.3-2.0	4.3-3.0	5.3-4.0	6.3-5.0	7.3-6.0
Income rate:					
25-year: 1989-2013	12.92	12.92	12.91	12.91	12.90
50-year: 1989-2038	12.98	12.97	12.96	12.96	12.95
75-year: 1989-2063	13.04	13.03	13.02	13.01	13.00
Cost rate:					
25-year: 1989-2013	10.75	10.63	10.52	10.41	10.31
50-year: 1989-2038	12.89	12.70	12.52	12.35	12.18
75-year: 1989-2063	14.15	13.93	13.72	13.51	13.31
Actuarial balance:					
25-year: 1989-2013	+2.18	+2.29	+2.39	+2.49	+2.59
50-year: 1989-2038	+.09	+.27	+.44	+.61	+.77
75-year: 1989-2063	-1.12	-.91	-.70	-.51	-.31

[1]The first value in each pair is the assumed ultimate annual percentage increase in average wages in covered employment. The second value is the assumed ultimate annual percentage increase in the Consumer Price Index.

For all three periods, the cost rate decreases with greater assumed rates of increase in the CPI. For the 25-year period, the cost rate decreases from 10.75 (for CPI increases of 2.0 percent) to 10.31 percent (for CPI increases of 6.0 percent). For the 50-year period, it decreases from 12.89 to 12.18 percent, and for the 75-year period, it decreases from 14.15 to 13.31 percent. The actuarial balance increases from +2.18 to +2.59 percent for the 25-year period, from +0.09 to +0.77 for the 50-year period, and from -1.12 to -0.31 percent for the 75-year period.

The patterns described above result primarily from the time lag between the effects of the CPI changes on taxable payroll and on benefit payments. When assuming a greater rate of increase in the CPI (in conjunction with a constant real-wage differential), the effect on taxable payroll of the implied greater rate of increase in average wages is experienced immediately, while the effect on benefits of the greater rate of increase in the CPI is experienced with a lag of about 1 year. In addition, the effect on benefits of the greater rate of increase in average wages is experienced no sooner than 2 years later. Thus, the higher taxable payrolls have a stronger effect than the higher benefits, thereby resulting in lower cost rates. The effect of each 1.0-percentage-point increase in the rate of change assumed for the CPI is an increase in the long-range actuarial balance of about 0.20 percent of taxable payroll.

REAL-INTEREST RATE

Table B6 shows the estimated OASDI income rates, cost rates, and actuarial balances, on the basis of alternative II-B with various assumptions about the annual real-interest rate. These assumptions are that the ultimate annual real-interest rate will be 1.0 percent, 1.5 percent (as assumed for alternative III), 2.0 percent (as assumed for alternative II-B), 2.5 percent (as assumed for alternative II-A), and 3.0 percent (as assumed for alternative I). In each case, the ultimate annual increase in the CPI is assumed to be 4.0 percent (as assumed for alternative II-B), resulting in ultimate annual yields of 5.0, 5.6, 6.1, 6.6, and 7.1 percent, respectively.

TABLE B6.—ESTIMATED OASDI INCOME RATES, COST RATES, AND ACTUARIAL BALANCES, BASED ON ALTERNATIVE II-B WITH VARIOUS REAL-INTEREST ASSUMPTIONS
[As a percentage of taxable payroll]

Calendar years	Ultimate annual real-interest rate				
	1.0 percent	1.5 percent	2.0 percent	2.5 percent	3.0 percent
Income rate:					
25-year: 1989-2013	12.90	12.90	12.91	12.92	12.93
50-year: 1989-2038	12.97	12.96	12.96	12.96	12.97
75-year: 1989-2063	13.03	13.02	13.02	13.01	13.00
Cost rate:					
25-year: 1989-2013	10.53	10.52	10.52	10.52	10.52
50-year: 1989-2038	12.84	12.68	12.52	12.37	12.23
75-year: 1989-2063	14.28	14.00	13.72	13.45	13.18
Actuarial balance:					
25-year: 1989-2013	+2.37	+2.38	+2.39	+2.40	+2.41
50-year: 1989-2038	+.12	+.28	+.44	+.59	+.74
75-year: 1989-2063	-1.24	-.97	-.70	-.44	-.18

For the 25-year period, the cost rate decreases slightly with increasing real-interest rates from 10.53 percent (for an ultimate real-interest rate of 1.0 percent) to 10.52 percent (for an ultimate real-interest rate of 3.0 percent). For the 50-year period, it decreases from 12.84 to 12.23 percent, and for the 75-year period, it decreases from 14.28 to 13.18 percent. The actuarial balance increases from +2.37 to +2.41 percent for the 25-year period, from +0.12 to +0.74 percent for the 50-year period, and from -1.24 to -0.18 percent for the 75-year period. Each 0.5-percentage-point increase in the assumed real-interest rate increases the long-range actuarial balance by about 0.26 percent of taxable payroll.

DISABILITY INCIDENCE RATES

Table B7 shows the estimated OASDI income rates, cost rates, and actuarial balances, on the basis of alternative II-B with various assumptions concerning future disability incidence rates. These assumptions provide that the ultimate annual age-sex-adjusted disability incidence rate will be about 1 percent higher for both men and women than the average of the corresponding annual rates experienced during 1984-86 (as assumed for alternative I), about 17 percent higher for men and 20 percent higher for women than such experience (as assumed for alternatives II-A and II-B), and about 38 percent higher for men and 43 percent higher for women than such experience (as assumed for alternative III). The rates are assumed to change gradually from their current levels and to reach their ultimate values in 2010.

TABLE B7.—ESTIMATED OASDI INCOME RATES, COST RATES, AND ACTUARIAL BALANCES, BASED ON ALTERNATIVE II-B WITH VARIOUS DISABILITY INCIDENCE ASSUMPTIONS
[As a percentage of taxable payroll]

Calendar years	Disability incidence rates based on alternative—		
	I	II-A and II-B	III
Income rate:			
25-year: 1989-2013	12.91	12.91	12.91
50-year: 1989-2038	12.96	12.96	12.97
75-year: 1989-2063	13.01	13.02	13.02
Cost rate:			
25-year: 1989-2013	10.44	10.52	10.63
50-year: 1989-2038	12.38	12.52	12.71
75-year: 1989-2063	13.56	13.72	13.93
Actuarial balance:			
25-year: 1989-2013	+2.47	+2.39	+2.28
50-year: 1989-2038	+.58	+.44	+.26
75-year: 1989-2063	-.54	-.70	-.91

For the 25-year period, the cost rate increases with increasing disability incidence rates from 10.44 percent (for the relatively low rates assumed for alternative I) to 10.63 percent (for the relatively high rates assumed for alternative III). For the 50-year period, it increases from 12.38 to 12.71 percent, and for the 75-year period, it increases from 13.56 to 13.93 percent. The actuarial balance decreases from +2.47 to +2.28 percent for the 25-year period, from +0.58 to +0.26 percent for the 50-year period, and from -0.54 to-0.91 percent for the 75-year period.

DISABILITY TERMINATION RATES

Table B8 shows the estimated OASDI income rates, cost rates, and actuarial balances, on the basis of alternative II-B with various assumptions about future disability termination rates.

For all four alternatives, death-termination rates by age and sex are assumed to decline throughout the 75-year period. At the end of that period, they reach levels that, in comparison to the corresponding annual rates experienced during the base period, 1977-80, are lower by about 20 percent for males and 10 percent for females for alternative I, lower by about 30 percent for males and 20 percent for females for alternatives II-A and II-B, and lower by about 45 percent for males and 35 percent for females for alternative III.

For all four alternatives, ultimate recovery-termination rates by age and sex are assumed to be attained in 1995. For alternative I, they are about 30 percent higher than the corresponding rates experienced during the base period. For alternative III, they are about the same as the base-period rates. For alternatives II-A and II-B, such rates are about 15 percent higher than those experienced in the base period, in order to reflect the effects of the additional periodic reviews that began in 1981.

TABLE B8.—ESTIMATED OASDI INCOME RATES, COST RATES, AND ACTUARIAL BALANCES, BASED ON ALTERNATIVE II-B WITH VARIOUS DISABILITY TERMINATION ASSUMPTIONS
[As a percentage of taxable payroll]

Calendar years	Disability termination rates based on alternative--		
	I	II-A and II-B	III
Income rate:			
25-year: 1989-2013	12.91	12.91	12.91
50-year: 1989-2038	12.96	12.96	12.96
75-year: 1989-2063	13.02	13.02	13.02
Cost rate:			
25-year: 1989-2013	10.50	10.52	10.56
50-year: 1989-2038	12.49	12.52	12.58
75-year: 1989-2063	13.67	13.72	13.78
Actuarial balance:			
25-year: 1989-2013	+2.42	+2.39	+2.36
50-year: 1989-2038	+.48	+.44	+.39
75-year: 1989-2063	-.66	-.70	-.77

For the 25-year period, the cost rate increases with decreasing disability termination rates from 10.50 percent (for the relatively high rates assumed for alternative I) to 10.56 percent (for the relatively low rates assumed for alternative III). For the 50-year period, it increases from 12.49 to 12.58 percent, and for the 75-year period, it increases from 13.67 to 13.78 percent. The actuarial balance decreases from +2.42 to +2.36 percent for the 25-year period, from +0.48 to +0.39 percent for the 50-year period, and from -0.66 to -0.77 percent for the 75-year period.

APPENDIX C

DEPARTMENT OF HEALTH AND HUMAN SERVICES

Office of the Secretary

1989 Cost-of-Living Increase and Other Determinations

AGENCY: Social Security Administration, HHS.

ACTION: Notice.

SUMMARY: The Secretary has determined—

(1) A 4.0 percent cost-of-living increase in benefits under title II (section 215(i)) of the Social Security Act (the Act);

(2) An increase in the Federal Supplemental Security Income (SSI) (title XVI) monthly benefit amounts for 1989 to $368 for an eligible individual, $553 for an eligible individual with an eligible spouse, and $184 for an essential person (section 1617 of the Act);

(3) The average of the total wages for 1987 to be $18,426.51;

(4) The Social Security contribution and benefit base to be $48,000 for remuneration paid in 1989 and self-employment income earned in taxable years beginning in 1989;

(5) The amount of earnings a person must have to be credited with a quarter of coverage in 1989 to be $500;

(6) The monthly exempt amount under the Social Security retirement earnings test for taxable years ending in calendar year 1989 to be $740 for beneficiaries age 65 through 69 and $540 for beneficiaries under age 65;

(7) the "old-law" contribution and benefit base to be $35,700 for 1989.

We also describe the computation of benefits for a worker and the worker's family who first become eligible for benefits in 1989, and the computation of the old-age, survivors, and disability insurance (OASDI) fund ratio used to determine whether the automatic increase in benefits under title II of the Act is affected by the "stabilizer" provision.

Finally, we are publishing a table of OASDI "special minimum" benefit amounts. This table provides the range of primary insurance amounts and the corresponding maximum family benefits under the "special minimum" benefit provision, as revised to reflect the automatic benefit increase. These benefits are payable to certain individuals with long periods of relatively low earnings.

FOR FURTHER INFORMATION CONTACT: Jeffrey L. Kunkel, Office of the Actuary, Social Security Administration, 6401 Security Boulevard, Baltimore, MD 21235, telephone (301) 965–3013.

SUPPLEMENTARY INFORMATION: The Secretary is required by the Act to publish within 45 days after the close of the third calendar quarter of 1988 the benefit increase percentage and the revised table of "special minimum" benefits (section 215(i)(2)(D)). Also, the Secretary is required to publish before November 1 the average of the total wages for 1987 (section 215(i)(2)(C)(iii)) and the OASDI fund ratio for 1988 (section 215(i)(2)(C)(iii). Finally, the Secretary is required to publish on or before November 1 the contribution and benefit base for 1989 (section 230(a)), the amount of earnings required to be credited with a quarter of coverage in 1989 (section 213(d)(2)), the monthly exempt amounts under the Social Security requirement earnings test for 1989 (section 203(f)(8)(A)), the formula for computing a primary insurance amount for workers who first become eligible for benefits or die in 1989 (section 215(a)(1)(D)), and the formula for computing the maximum amount of benefits payable to the family of a worker who first becomes eligible for old-age benefits or dies in 1989 (section 203(a)(2)(C)).

Cost-of-Living Increases

General

The cost-of-living increase is 4.0 percent for benefits under titles II and XVI of the Act.

Under title II, old-age, survivors, and disability insurance benefits will increase by 4.0 percent beginning with the December 1988 benefits, which are payable on January 3, 1989. The kinds of benefits payable to individuals entitled under this program are old-age, disability, wife's, husband's, child's, widow's, widower's, mother's, father's, and parent's insurance benefits. This increase is based on the authority contained in section 215(i) of the Act (42 U.S.C. 415(i)).

Under title XVI, Federal SSI payment levels will also increase by 4.0 percent effective for payments made for the month of January 1989 but paid on December 30, 1988. This is based on the authority contained in section 1617 of the Act (42 U.S.C. 1382f). The percentage increase effective January 1989 is the same as the title II benefit increase and the annual payment amount is rounded, when not a multiple of $12, to the next lower multiple of $12.

Automatic Benefit Increase Computation

Under section 215(i) of the Act, the third calendar quarter of 1988 is a cost-of-living computation quarter for all the purposes of the Act. The Secretary is therefore required to increase benefits, effective with December 1988, for individuals entitled under section 227 or 228 of the Act, to increase primary insurance amounts of all other individuals entitled under title II of the Act, and to increase maximum benefits payable to a family. For December 1988, the benefit increase is the percentage increase in the Consumer Price Index for Urban Wage Earners and Clerical Workers from the third quarter of 1987 through the third quarter of 1988. Automatic benefit increases may be modified by a "stabilizer" provision under certain adverse financial conditions that are described in the section on the OASDI fund ratio. The December 1988 benefit increase is not affected by this provision.

Section 215(i)(1) of the Act provides that the Consumer Price Index for a cost-of-living computation quarter shall be the arithmetical mean of this index for the 3 months in that quarter. The Department of Labor's revised Consumer Price Index for Urban Wage Earners and Clerical Workers (reference base of 100 for 1982–1984) for each month in the quarter ending September 30, 1987, was: for July 1987, 112.7; for August 1987, 113.3; and for September 1987, 113.8. The arithmetical mean for this calendar quarter is 113.3 (after rounding to the nearest 0.1). The corresponding Consumer Price Index for each month in the quarter ending September 30, 1988, was: For July 1988, 117.2; for August 1988, 117.7; and for September 1988, 118.5. The arithmetical mean for this calendar quarter is 117.8. Thus, because the Consumer Price Index for the calendar quarter ending September 30, 1988, exceeds that for the calendar quarter ending September 30, 1987 by 4.0 percent, a cost-of-living benefit increase of 4.0 percent is effective for benefits under title II of the Act beginning December 1988.

Title II Benefit Amounts

In accordance with section 215(i) of the Act, in the case of insured workers and family members for whom eligibility for benefits (i.e., the worker's attainment of age 62, or disability or death before age 62) occurred before 1989, benefits will increase by 4.0 percent beginning with benefits for December 1988 which will be received January 3, 1989. In the case of first eligibility after 1988, the 4.0 percent increase will not apply.

For eligibility after 1978, benefits are generally determined by a benefit formula provided by the Social Security Amendments of 1977 (Pub. L. 95–216), as described later in this notice.

For eligibility before 1979, benefits are determined by means of a benefit table. In accordance with section 215(i)(4) of the Act, the primary insurance amounts and the maximum family benefits shown in this table are revised by (1) increasing by 4.0 percent the corresponding amounts established by the last cost-of-living increase and the last extension of the benefit table made under section 215(i)(4) (to reflect the increase in the contribution and benefit base for 1988); and (2) by extending the table to reflect the higher monthly wage and related benefit amounts now possible under the increased contribution and benefit base

for 1989, as described later in this notice. A copy of this table may be obtained by writing to: Social Security Administration, Office of Governmental Affairs, Office of Public Inquiries, 4100 Annex, Baltimore, MD 21235.

Section 215(i)(2)(D) of the Act also requires that, when the Secretary determines an automatic increase in Social Security benefits, the Secretary shall publish in the **Federal Register** a revision of the range of the primary insurance amounts and corresponding maximum family benefits based on the dollar amount and other provisions described in section 215(a)(1)(C)(i). These benefits are referred to as "special minimum" benefits and are payable to certain individuals with long periods of relatively low earnings. In accordance with section 215(a)(1)(C)(i), the attached table shows the revised range of primary insurance amounts and corresponding maximum family benefit amounts after the 4.0 percent benefit increase.

Section 227 of the Act provides flat-rate benefits to a worker who became age 72 before 1969 and was not insured under the usual requirements, and to his or her spouse or surviving spouse. Section 228 of the Act provides similar benefits at age 72 for certain uninsured persons. The currently monthly benefit amount of $146.10 for an individual under sections 227 and 228 of the Act is increased by 4.0 percent to obtain the new amount of $151.90. The present monthly benefit amount of $73.20 for a spouse under section 227 is increased by 4.0 percent of $76.10.

Title XVI Benefit Amounts

In accordance with section 1617 of the Act, Federal SSI benefit amounts for the aged, blind, and disabled are increased by 4.0 percent effective January 1989. Therefore, the yearly Federal SSI benefit amount of $4,248 for an eligible individual, $6,384 for an eligible individual with an eligible spouse, and $2,124 for an essential person, which became effective January 1988, are increased, effective January 1989, to $4,416, $6,636, and $2,208 respectively after rounding. The corresponding monthly amounts for 1989 are determined by dividing the yearly amounts by 12, giving $368, $553, and $184, respectively. The monthly amount is reduced by subtracting monthly countable income. In the case of an eligible individual with an eligible spouse, the amount payable is further divided equally between the two spouses.

Average of the Total Wages for 1987

The determination of the average wage figure for 1987 is based on the 1986 average wage figure of $17,321.82 announced in the **Federal Register** on October 29, 1987 (52 FR 41672), along with the percentage increase in average wages from 1986 to 1987 measured by annual wage data tabulated by the Social Security Administration (SSA). The average amounts of wages calculated directly from this data were $16,372.45 and $17,416.59 for 1986 and 1987, respectively. To determine an average wage figure for 1987 at a level that is consistent with the series of average wages for 1951 through 1977 (published December 29, 1978, at 43 FR 61016), we multiplied the 1986 average wage figure of $17,321.82 by the percentage increase in average wages from 1986 to 1987 (based on SSA-tabulated wage data) as follows (with the result rounded to the nearest cent):

Average wage for 1987
$= \$17,321.82 \times \$17,416.59 \div \$16,372.45$
$= \$18,426.51.$

Therefore, the average wage for 1987 is determined to be $18,426.51.

Contribution and Benefit Base

General

The contribution and benefit base is $48,000 for remuneration paid in 1989 and self-employment income earned in taxable years beginning in 1989.

The contribution and benefit base serves two purposes:

(1) It is the maximum annual amount of earnings on which Social Security taxes are paid.

(2) It is the maximum annual amount used in determining a person's Social Security benefits.

Computation

Section 230(c) of the Act provides a table with the contribution and benefit base for each year 1978, 1979, 1980, and 1981. For years after 1981, section 230(b) of the Act contains a formula for determining the contribution and benefit base. Under the prescribed formula, the contribution and benefit base for 1989 shall be equal to the 1988 base of $45,000 multiplied by the ratio of (1) the average amount, per employee, of total wages for the calendar year 1987 to (2) the average amount of those wages for the calendar year 1986. Section 230(b) further provides that if the amount so determined is not a multiple of $300, it shall be rounded to the nearest multiple of $300.

Average Wages

The average wage for calendar year 1986 was previously determined to be $17,321.82. The average wage for calendar year 1987 has been determined to be $18,426.51 as stated herein.

Amount

The ratio of the average wage for 1987, $18,426.51, compared to that for 1986, $17,321.82, is 1.0637745. Multiplying the 1987 contribution and benefit base of $45,000 by the ratio 1.0637745 produces the amount of $47,869.85 which must then be rounded to $48,000. Accordingly, the contribution and benefit base is determined to be $48,000 for 1989.

Quarter of Coverage Amount

General

The 1989 amount of earnings required for a quarter of coverage is $500. A quarter of coverage is the basic unit for determining whether a worker is insured under the Social Security program. For years before 1978, an individual generally was credited with a quarter of coverage for each quarter in which wages of $50 or more were paid, or an individual was credited with 4 quarters of coverage for every taxable year in which $400 or more of self-employment income was earned. Beginning in 1978, wages generally are no longer reported on a quarterly basis; instead, annual reports are made. With the change to annual reporting, section 352(b) of the Social Security Amendments of 1977 (Pub. L. 95–216) amended section 213(d) of the Act to provide that a quarter of coverage would be credited for each $250 of an individual's total wages and self-employment income for calendar year 1978 (up to a maximum of 4 quarters of coverage for the year). Individuals generally must have self-employment income of at least $400 in a taxable year in order to be credited with any quarters of coverage.

Computation

Under the prescribed formula, the quarter of coverage amount for 1989 shall be equal to the 1978 amount of $250 multiplied by the ratio of (1) the average amount, per employee, of total wages for calendar year 1987 to (2) the average amount of those wages reported for calendar year 1976. The section further provides that if the amount so determined is not a multiple of $10, it shall be rounded to the nearest multiple of $10.

Average Wages

The average wage for calendar year 1976 was previously determined to be $9,226.48. This was published in the **Federal Register** on December 29, 1978, at 43 FR 61016. The average wage for calendar year 1987 has been determined to be $18,426.51 as stated herein.

Quarter of Coverage Amount

The ratio of the average wage for 1987, $18,426.51, compared to that for 1976, $9,226.48, is 1.99713. Multiplying the 1978 quarter of coverage amount of $250 by the ratio of 1.99713 produces the amount of $449.28 which must then be rounded to $500. Accordingly, the quarter of coverage amount is determined to be $500 for 1989.

Retirement Earnings Test Exempt Amounts

(a) Beneficiaries Aged 70 or Over

Beginning with months after December 1982, there is no limit on the amount an individual aged 70 or over may earn and still receive Social Security benefits.

(b)—Beneficiaries Aged 65 Through 69

The retirement earnings test monthly exempt amount for beneficiaries aged 65 through 69 is stated in the Act at section 203(f)(8)(D) for years 1978 through 1982. A formula is provided in section 203(f)(8)(B) for computing the exempt amount applicable for years after 1982. The monthly exempt amount for 1988 was determined by this formula to be $700. Under the formula, the exempt amount for 1989 shall be the 1988 exempt amount multiplied by the ratio of (1) the average amount, per employee, of the total wages for calendar year 1987 to (2) the average amount of those wages for calendar year 1986. The section further provides that if the amount so determined is not a multiple if $10, it shall be rounded to the nearest multiple of $10.

Average Wages

Average wages for this purpose are determined in the same way for the contribution and benefit base. Therefore, the ratio of the average wages for 1987, $18,426.51, compared to that for 1986, $17,321.82, is 1.0637745.

Exempt Amount for Beneficiaries Aged 65 through 69

Multiplying the 1988 retirement earnings test monthly exempt amount of $700 by the ratio of 1.0637745 produces the amount of $744.64. This must then be rounded to $740. The retirement earnings test monthly exempt amount for beneficiaries aged 65 through 69 is determined to be $740 for 1989. The corresponding retirement earnings test annual exempt amount for these beneficiaries is $8,880.

(c) Beneficiaries Under Age 65

Section 203 of the Act provides that beneficiaries under age 65 have a lower retirement earnings test monthly exempt amount than those beneficiaries aged 65 through 69. The exempt amount for beneficiaries under age 65 is determined by a formula provided in section 203(f)(8)(B) of the Act. Under the formula, the monthly exempt amount for beneficiaries under age 65 is $510 for 1988. The formula provides that the exempt amount for 1989 shall be the 1988 exempt amount for beneficiaries under age 65 multiplied by the ratio of (1) the average amount, per employee, of the total wages for calendar year 1987 to (2), the average amount of those wages for calendar year 1986. The section further provides that if the amount so determined is not a multiple of $10, it shall be rounded to the nearest multiple of $10.

Average Wages

Average wages for this purpose are determined in the same was for the contribution and benefit base. Therefore, the ratio of the average wages for 1987, $18,426.51, compared to that of 1986, $17,321.82, is 1.0637745.

Exempt Amount for Beneficiaries Under Age 65

Multiplying the 1988 retirement earnings test monthly exempt amount of $510 by the ratio 1.0637745 produces the amount of $542.52. This must then be rounded to $540. The retirement earnings test monthly exempt amount for beneficiaries under age 65 is thus determined to be $540 for 1989. The corresponding retirement earnings test annual exempt amount for these beneficiaries in $6,480.

Computing Benefits After 1978

General

The Social Security Amendments of 1977 provided a new method for determining an individual's primary insurance amount. This method uses a formula based on "wage indexing" and was fully explained with interim regulations and final regulations published in the **Federal Register** on December 29, 1978, at 43 FR 60877 and July 15, 1982, at 47 FR 30731 respectively. It generally applies when a worker after 1978 attains age 62, becomes disabled, or dies before age 62. The formula uses the worker's earnings after they have been adjusted, or "indexed," in proportion to the increase in average wages of all workers. Using this method, we determine the worker's "average indexed monthly earnings." We then compute the primary insurance amount,

using the worker's average indexed monthly earnings. The computation formula is adjusted automatically each year to reflect changes in general wage levels.

Average Indexed Monthly Earnings

To assure that a worker's future benefits reflect the general rise in the standard of living that occurs during his or her working lifetime, we adjust or "index" the worker's past earnings to take into account the change in general wage levels that has occurred during the worker's years of employment. These adjusted earnings are then used to compute the worker's primary insurance amount.

For example, to compute the average indexed monthly earnings for a worker attaining age 62, becoming disabled, or dying before attaining age 62, in 1989, we divide the average of the total wages for 1987, $18,426.51, by the average of the total wages for each year prior to 1987 in which the worker had earnings. We then multiply the actual wages and self-employment income as defined in section 211(b) of the Act credited for each year by the corresponding ratio to obtain the worker's adjusted earnings for each year. After determining the number of years we must use to compute the primary insurance amount, we pick those years with highest indexed earnings, total those indexed earnings and divide by the total number of months in those years. This figure is rounded down to the next lower dollar amount, and becomes the average indexed monthly earnings figure to be used in computing the worker's primary insurance amount for 1989.

Computing the Primary Insurance Amount

The primary insurance amount is the sum of three separate percentages of portions of the average indexed monthly earnings. In 1979 (the first year the formula was in effect), these portions were the first $180, the amount between $180 and $1,085, and the amount over $1,085. The amounts for 1989 are obtained by multiplying the 1979 amounts by the ratio between the average of the total wages for 1987, $18,426.51, and for 1977, $9,779.44. These results are then rounded to the nearest dollar. For 1989, the ratio is 1.88421. Multiplying the 1979 amounts of $180 and $1,085 by 1.88421 produces the amounts of $339.16 and $2,044.37. These must then be rounded to $339 and $2,044. Accordingly, the portions of the average indexed monthly earnings to be used in 1989 are determined to be the first $339, the amount between $339 and $2,044, and the amount over $2,044.

Consequently, for individuals who first become eligible for old-age insurance benefits or disability insurance benefits in 1989, or who die in 1989 before becoming eligible for benefits, we will compute their primary insurance amount by adding the following:

(a) 90 percent of the first $339 of their average indexed monthly earnings, plus

(b) 32 percent of the average indexed monthly earnings over $339 and through $2,044, plus

(c) 15 percent of the average indexed monthly earnings over $2,044.

This amount is then rounded to the next lower multiple of $.10 if it is not already a multiple of $.10. This formula and the adjustments we have described are contained in section 215(a) of the Act (42 U.S.C. 415(a)).

Maximum Benefits Payable to a Family

General

The 1977 Amendments continued the long established policy of limiting the total monthly benfits which a worker's family may receive based on his or her primary insurance amount. Those amendments also continued the then existing relationship between maximum family benefits and primary insurance amounts but did change the method of computing the maximum amount of benefits which may be paid to a worker's family. The Social Security Disability Amendments of 1980 (Pub. L. 96-265) established a new formula for computing the maximum benefits payable to the family of a disabled worker. This new formula is applied to the family benefits of workers who first

become entitled to disability insurance benefits after June 30, 1980, and who first become eligible for these benefits after 1978. The new formula was explained in a final rule published in the **Federal Register** on May 8, 1981, at 46 FR 25601. For disabled workers initially entitled to disability benefits before July 1980, or whose disability began before 1979, the family maximum payable is computed the same as the old-age and survivor family maximum.

Computing the Old-Age and Survivor Family Maximum

The formula used to compute the family maximum is similar to that used to compute the primary insurance amount. It involves computing the sum of four separate percentages of portions of the worker's primary insurance amount. In 1979, these portions were the first $230, the amount between $230 and $332, the amount between $332 and $433, and the amount over $433. The amounts for 1989 are obtained by multiplying the 1979 amounts by the ratio between the average of the total wages for 1987, $18,426.51, and the average for 1977, $9,779.44. This amount is then rounded to the nearest dollar. For 1989, the ratio is 1.88421. Multiplying the amounts of $230, $332, and $433 by 1.88421 produces the amounts of $433.37, $625.56, and $815.86. These amounts are then rounded to $433, $626, and $816. Accordingly, the portions of the primary insurance amounts to be used in 1989 are determined to be the first $433, the amount between $433 and $626, the amount between $626 and $816, and the amount over $816.

Consequently, for the family of a worker who becomes age 62 or dies in 1989, the total amount of benefits payable to them will be computed so that it does not exceed:

(a) 150 percent of the first $433 of the worker's primary insurance amount, plus

(b) 272 percent of the worker's primary insurance amount over $433 through $626, plus

(c) 134 percent of the worker's primary insurance amount over $626 through $816, plus

(d) 175 percent of the worker's primary insurance amount over $816.

This amount is then rounded to the next lower multiple of $0.10 if it is not already a multiple of $.10. This formula and the adjustments we have described are contained in section 203(a) of the Act (42 U.S.C. 403(a)).

"Old-Law" Contribution and Benefit Base

General

The 1989 "old-law" contribution and benefit base is $35,700. This is the base that would have been effective under the Act without the enactment of the 1977 amendments. The base is computed under section 230(b) of the Act as it read prior to the 1977 amendments.

The "old-law" contributions and benefit base is used by:

(1) The Railroad Retirement program to determine certain tax liabilities and tier II benefits payable under that program to supplement the tier I payments which correspond to basic Social Security benefits,

(2) The Pension Benefit Guaranty Corporation to determine the maximum amount of pension guaranteed under the Employee Retirement Income Security Act (as stated in section 230(d) of the Act), and

(3) Social Security to determine a "year of coverage" in computing the "special minimum" benefit and in computing benefit for persons who are also eligible to receive pensions based on employment not covered under section 210 of the Act.

Computation

The base is computed using the automatic adjustment formula in section 230(b) of the Act as it read prior to the enactment of the 1977 amendments. Under the formula, the "old-law" contribution and benefit base shall be the "old-law" 1988 base multiplied by the ratio of (1) the average amount, per employee, of total wages for the calendar year of 1987 to (2) the average amount of those wages for the calendar year of 1986. If the amount so determind is not a multiple of $300, it shall be rounded to the nearest multiple of $300.

Average Wages

The average wage for calendar year 1986 was previously determined to be $17,321.82. The average wage for calendar year 1987 has been determined to be $18,426.51, as stated herein.

Amount

The ratio of the average wage for 1987, $18,426.51, compared to that for 1986, $17,321.82, is 1.0637745. Multiplying the 1988 "old-law" contribution and benefit base amount of $33,600 by the ratio of 1.0637745 produces the amount of $35,742.82 which must then be rounded to $35,700. Accordingly, the "old-law" contribution and benefit base is determined to be $35,700 for 1989.

OASDI Fund Ratio

General

Section 215(i) of the Act was amended by section 112 of Pub. L. 98–21, the Social Security Amendments of 1983, to include a "stabilizer" provision that can limit the automatic OASDI benefit increase under certain circumstances. If the combined assest of the OASI and DI Trust Funds, as a percentage of annual expenditures, are below a specified level, the automatic benefit increase is equal to the lesser of (1) the increse in average wages or (2) the increase in prices. The threshold level specified for the OASDI fund ratio is 15.0 percent for benefit increases for December of 1984 through December 1988, and 20.0 percent thereafter. The amendments also provide for subsequent "catch-up" benefit increases for beneficiaries whose previous benefit increases were affected by this provision. "Catch-up" benefit increases occur only when trust fund assets exceed 32.0 percent of annual expenditures.

Computation

Section 215(i) specifies the computation and application of the OASDI fund ratio. The OASDI fund ratio for 1988 is the ratio of (1) the combined assets of the OASI and DI Trust Funds at the beginning of 1988, including advance tax transfers for January 1988, to (2) the estimated expenditures of the OASI and DI Trust Funds during 1988, excluding transfer payments between the OASI and DI Trust Funds, and reducing any transfers to the Railroad Retirement Account by any transfers from that account into either trust fund.

Ratio

The combined assets of the OASI and DI Trust Funds at the beginning of 1988 (including advance tax transfers for January 1988) equaled $90,492 million, and the expenditures are estimated to be $222,471 million. Thus, the OASDI fund ratio for 1988 is 40.7 percent, which exceeds the applicable threshold of 15.0 percent. As a result, the "stabilizer" provision does not affect the benefit increase for December 1988.

(Catalog of Federal Domestic Assistance Programs Nos. 13.802–13.805, and 13.807 Social Security Programs)

Dated: October 27, 1988.

Otis R. Bowen,

Secretary of Health and Human Services.

SPECIAL MINIMUM PRIMARY INSURANCE AMOUNTS AND MAXIMUM FAMILY BENEFITS

Special minimum primary amount payable for Dec. 1987	No. of years required at minimum earnings level	Special minimum primary amount payable for Dec. 1988	Special minimum maximum family benefit payable for Dec. 1988
$20.20	11	$21.00	$31.60
40.10	12	41.70	62.80
60.30	13	62.70	94.30
80.30	14	83.50	125.50
100.40	15	104.40	156.70
120.60	16	125.40	188.40
140.70	17	146.30	219.60
160.80	18	167.20	251.00
180.90	19	188.10	282.30
200.80	20	208.80	313.50
221.20	21	230.00	345.10
241.20	22	250.80	376.40
261.50	23	271.90	408.20
281.50	24	292.70	439.40
301.50	25	313.50	470.40
321.80	26	334.60	502.30
341.90	27	355.50	533.60
361.90	28	376.30	564.70
381.90	29	397.10	596.20
402.00	30	418.00	627.40

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APPENDIX D.—AUTOMATIC ADJUSTMENTS UNDER OLD-AGE, SURVIVORS, AND DISABILITY INSURANCE

The Social Security Act specifies that certain program amounts affecting the determination of OASDI benefits are to be adjusted annually, in general, to reflect changes in the economy. The law prescribes specific formulas which, when applied to reported statistics, produce "automatic" revisions in these program amounts and hence in the benefit-computation procedures.

In this appendix, values are shown for the program amounts which are subject to automatic adjustment, from the time that such adjustments became effective through 1989. Projected values for future years through 1994, based on the two intermediate sets of assumptions (alternatives II-A and II-B), are also shown. Many of these assumptions are described in the subsection of this report entitled "Economic and Demographic Assumptions" and are shown in tables 10 and 11. The subsection entitled "Automatic Adjustments," and Appendix C, provide a more complete description of the program amounts affected by the automatic-adjustment procedures.

Under section 215(b)(3) of the Social Security Act, the average amount of total wages for each year after 1950 is used to index the earnings of most workers first becoming eligible for benefits in 1979 or later. This procedure converts a worker's past earnings to approximately their equivalent values near the time of the worker's retirement or other eligibility, and these values are used to calculate the worker's Average Indexed Monthly Earnings (AIME). The average amount of total wages for each year is also used to adjust most of the program amounts that are subject to the automatic-adjustment provisions. A copy of the notice announcing the average wage for 1987, including a brief description of its derivation, is shown in Appendix C, which also describes the determinations of other program amounts that are in effect for 1989. Table D1 shows the average amount of total wages as announced for each year 1951 through 1987.

TABLE D1.—AVERAGE AMOUNT OF TOTAL WAGES, CALENDAR YEARS 1951-87

Year	Amount	Year	Amount	Year	Amount
1951	$2,799.16	1966	$4,938.36	1981	$13,773.10
1952	2,973.32	1967	5,213.44	1982	14,531.34
1953	3,139.44	1968	5,571.76	1983	15,239.24
1954	3,155.64	1969	5,893.76	1984	16,135.07
1955	3,301.44	1970	6,186.24	1985	16,822.51
1956	3,532.36	1971	6,497.08	1986	17,321.82
1957	3,641.72	1972	7,133.80	1987	18,426.51
1958	3,673.80	1973	7,580.16		
1959	3,855.80	1974	8,030.76		
1960	4,007.12	1975	8,630.92		
1961	4,086.76	1976	9,226.48		
1962	4,291.40	1977	9,779.44		
1963	4,396.64	1978	10,556.03		
1964	4,576.32	1979	11,479.46		
1965	4,658.72	1980	12,513.46		

Table D2 shows the estimated average amount of total wages for each year 1988 through 1994, based on the four alternative sets of assumptions.

TABLE D2.—ESTIMATED AVERAGE AMOUNT OF TOTAL WAGES BY ALTERNATIVE, CALENDAR YEARS 1988-94

Calendar year	I	II-A	II-B	III
1988	$19,511.72	$19,375.14	$19,375.14	$19,173.80
1989	20,703.42	20,479.75	20,521.68	20,028.18
1990	21,806.91	21,584.85	21,582.83	21,072.77
1991	22,932.97	22,650.43	22,717.36	22,355.49
1992	24,030.01	23,738.51	23,933.40	23,614.83
1993	25,124.51	24,887.74	25,275.46	24,685.20
1994	26,174.06	26,057.35	26,645.42	26,280.66

The provisions for automatic cost-of-living increases in OASDI benefits were originally enacted in 1972 and first became effective with the benefit increase effective for June 1975. The determination of the benefit increase effective for December 1988 is shown in Appendix C. Table D3 shows the automatic benefit increases determined for each year 1975-88, and the benefit increases for each year 1989-94, on the basis of the two intermediate sets of assumptions.

The law provides for an automatic increase in the contribution and benefit base for the year following a year in which an automatic benefit increase became effective. The base for 1975 was the first one determined on this basis. (Amendments enacted in December 1973 provided that the 11-percent general benefit increase that became effective in 1974 would be considered an automatic cost-of-living benefit increase for purposes of the automatic-adjustment provisions.) The bases for 1979-81 were specified by the 1977 amendments at levels above those which were expected to occur under the automatic-adjustment provisions (and which, in fact, as the experience developed, were above such levels). Starting again in 1982, the bases have been determined automatically on the basis of increases in average wages. Table D3 shows actual past and projected future amounts for the contribution and benefit base.

The law provides for the determination of the contribution and benefit bases that would have been in effect in each year after 1978 under the automatic-adjustment provisions as in effect before the enactment of the 1977 amendments. This "old-law" base is used in determining special-minimum benefits for certain workers who have many years of low earnings in covered employment. Beginning in 1986, the old-law base is also used in the calculation of OASDI benefits for certain workers who are eligible to receive pensions based on noncovered employment. In addition, it is used for certain purposes under the Railroad Retirement program and the Employee Retirement Income Security Act of 1974. Table D3 shows the old-law bases for 1979-89, together with estimated amounts for 1990-94 on the basis of the two intermediate sets of assumptions.

The 1972 amendments specified that the amount of earnings exempted from the withholding of benefits under the retirement earnings test would increase automatically in the year following a year in which an automatic cost-of-living benefit increase became effective. The 1977 amendments modified this procedure by establishing two different exempt amounts—one for those under age 65 and another for those aged 65 and over. The former amounts continued to increase automatically, while the latter amounts were specified for 1978-82, after which they again increase automatically. The exempt amounts are shown in table D3 for 1975-94.

The 1977 amendments specified the amount of earnings required in 1978 to be credited with a "quarter of coverage" and provided for automatic adjustment of this amount for future years. Table D3 shows the amounts for 1978-94.

The 1977 amendments substantially revised the method of computing benefits for most workers first becoming eligible for benefits in 1979 and later. The formula used to compute the Primary Insurance Amount (PIA) for workers who first become eligible for benefits, or who died before becoming eligible, in 1979 is:

90 percent of the first $180 of AIME, plus
32 percent of AIME in excess of $180
but not in excess of $1,085, plus
15 percent of AIME in excess of $1,085.

The amounts separating the individual's AIME into intervals—the "bend points"—are adjusted automatically by the changes in average wages as specified in section 215(a)(1)(B) of the Social Security Act. (A regular-minimum benefit of $122 and a special-minimum benefit varying by "years of coverage" are also provided, although for most workers first becoming eligible for benefits in 1982 and later, the regular-minimum benefit of $122 has been eliminated.) The bend points for 1979-89, and the values projected for 1990-94, are shown in table D3.

A similar formula is used to compute the maximum total amount of monthly benefits payable on the basis of the earnings of a retired or deceased individual. This formula is a function of the individual's PIA, and is shown below for workers who first became eligible for benefits, or who died before becoming eligible, in 1979:

150 percent of the first $230 of PIA, plus
272 percent of the PIA in excess of $230
but not in excess of $332, plus
134 percent of the PIA in excess of $332
but not in excess of $433, plus
175 percent of the PIA in excess of $433.

These PIA-interval bend points are adjusted automatically in accordance with section 203(a)(2) of the Act. The maximum-family-benefit bend points for 1979-94 are shown in table D3.

TABLE D3.—OASDI PROGRAM AMOUNTS DETERMINED UNDER THE AUTOMATIC-ADJUSTMENT PROVISIONS, CALENDAR YEARS 1975-89, AND PROJECTED FUTURE AMOUNTS, CALENDAR YEARS 1990-94, ON THE BASIS OF THE INTERMEDIATE SETS OF ASSUMPTIONS

Calendar year	Benefit increase[1] (percent)	Contribution and benefit base	"Old-law" contribution and benefit base[2]	Retirement earnings test exempt amounts		Amount of earnings required for quarter of coverage[4]	AIME "bend points" in PIA formula		PIA "bend points" in maximum-family-benefit formula		
				Under age 65	Ages 65 and over[3]		First	Second	First	Second	Third
Actual experience:											
1975	8.0	$14,100	([5])	$2,520	$2,520	([5])	([5])	([5])	([5])	([5])	([5])
1976	6.4	15,300	([5])	2,760	2,760	([5])	([5])	([5])	([5])	([5])	([5])
1977	5.9	16,500	([5])	3,000	3,000	([5])	([5])	([5])	([5])	([5])	([5])
1978	6.5	17,700	([5])	3,240	[7]4,000	[6]$250	([5])	([5])	([5])	([5])	([5])
1979	9.9	[7]22,900	$18,900	3,480	[7]4,500	260	[6]$180	[6]$1,085	[6]$230	[6]$332	[6]$433
1980	14.3	[7]25,900	20,400	3,720	[7]5,000	290	194	1,171	248	358	467
1981	11.2	[7]29,700	22,200	4,080	[7]5,500	310	211	1,274	270	390	508
1982	7.4	32,400	24,300	4,440	[7]6,000	340	230	1,388	294	425	554
1983	3.5	35,700	26,700	4,920	6,600	370	254	1,528	324	468	610
1984	3.5	37,800	28,200	5,160	6,960	390	267	1,612	342	493	643
1985	3.1	39,600	29,700	5,400	7,320	410	280	1,691	358	517	675
1986	1.3	42,000	31,500	5,760	7,800	440	297	1,790	379	548	714
1987	4.2	43,800	32,700	6,000	8,160	460	310	1,866	396	571	745
1988	4.0	45,000	33,600	6,120	8,400	470	319	1,922	407	588	767
1989	([8])	48,000	35,700	8,480	8,880	500	339	2,044	433	826	818
Alternative II-A:											
1990	3.9	50,400	37,500	6,840	9,360	520	357	2,150	456	858	858
1991	3.2	53,400	39,600	7,200	9,840	550	377	2,272	482	895	907
1992	3.0	56,400	41,700	7,560	10,320	580	397	2,395	508	733	956
1993	3.0	59,100	43,800	7,920	10,800	610	417	2,513	533	769	1,003
1994	3.0	61,800	45,900	8,280	11,280	640	437	2,634	558	806	1,051
Alternative II-B:											
1990	4.5	50,400	37,500	6,840	9,360	520	357	2,150	456	658	858
1991	4.4	53,400	39,600	7,200	9,960	560	378	2,277	483	897	909
1992	4.4	56,100	41,700	7,560	10,440	580	397	2,395	508	733	956
1993	4.1	59,100	43,800	7,920	11,040	620	418	2,520	534	771	1,006
1994	4.0	62,400	46,200	8,400	11,640	650	441	2,855	583	813	1,060

[1]Effective with benefits payable for June in each year 1975-82, and for December in each year after 1982.

[2]Contribution and benefit base that would have been determined automatically under the law in effect prior to enactment of the Social Security Amendments of 1977.

[3]In 1955-82, retirement earnings test did not apply at ages 72 and over; beginning in 1983, it does not apply at ages 70 and over.

[4]See Appendix C for a description of quarter-of-coverage requirements prior to 1978.

[5]No provision in law for this amount in this year.

[6]Amount not subject to automatic-adjustment provisions in this year.

[7]Amount specified by Social Security Amendments of 1977.

[8]Amount specified for first year by Social Security Amendments of 1977; amounts for subsequent years subject to automatic-adjustment provisions.

[9]Actual benefit increase for December 1989 has not been determined. Estimates of that increase, based on alternatives II-A and II-B, are 3.6 percent and 4.8 percent, respectively.

APPENDIX E.—ACTUARIAL ESTIMATES FOR THE OASDI AND HI PROGRAMS, COMBINED

In this appendix, long-range actuarial estimates for the OASDI and HI (Hospital Insurance) programs are combined to facilitate analysis of the adequacy of the combined income and assets of these three trust funds relative to their combined expenditures. The estimates for HI do not reflect the effects of the Medicare Catastrophic Coverage Act of 1988, because estimates of the revenues resulting from the supplemental premiums provided under this act are not yet available. Long-range estimates are subject to much uncertainty and should not be considered precise forecasts. Instead they should be considered as indicative of the general trend and range of costs that could reasonably be expected to occur.

As with the OASI and DI Trust Funds, income to the HI Trust Fund comes primarily from contributions paid by employees, employers, and self-employed persons. Contribution rates for the OASDI and HI programs are summarized in table E1 for 1966 and later. The combined OASDI and HI contribution rate for employees and their employers is often referred to as the FICA tax, because it is authorized by the Federal Insurance Contributions Act.

TABLE E1.— CONTRIBUTION RATES FOR THE OASDI AND HI PROGRAMS
(In percent)

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

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

The Social Security Act authorized borrowing among the OASI, DI, and HI Trust Funds through the end of 1987. Loans could not be made from a trust fund if its assets were below specified levels, with minimum standards specified for the repayment of interfund loans (including a requirement for the complete repayment of all such loans before 1990). Estimates shown in this appendix for the combined trust funds are theoretical because, under present law, no authority exists for transferring assets from one trust fund to another. The emphasis in this appendix on combined operations should not obscure the financial status of the individual trust funds.

Table E2 shows estimated income rates and cost rates for the OASDI program, the HI program, and the combined OASDI and HI programs for the long-range projection period, based on the four set of assump-

tions I, II-A, II-B, and III described earlier in this report. Income rates exclude interest earned on trust-fund assets. Cost rates shown for HI exclude the cost of maintaining the trust fund at a level suitable for a contingency reserve. Table E2 also shows the excess of income rates over cost rates, called balances. Effects of the Medicare Catastrophic Coverage Act of 1988 are not reflected in any of the figures.

Under all four sets of assumptions, combined OASDI and HI cost rates are projected to rise above current levels, with the sharpest increase occurring during the period 2010-2030. Under the pessimistic set of assumptions, annual deficits are projected to occur shortly before the turn of the century, and to continue throughout the 75-year projection period. Cost rates are projected to rise to roughly three times their current level by the year 2060. Under intermediate assumptions, annual deficits begin to occur in the second decade of the next century, with cost rates nearly doubling by the year 2060. Under optimistic assumptions, cost rates are projected to increase by about one-quarter, with annual deficits occurring only during the period 2030-2040.

TABLE E2.—COMPARISON OF ESTIMATED INCOME RATES AND COST RATES[1] FOR OASDI AND HI BY ALTERNATIVE, CALENDAR YEARS 1989-2060
[As a percentage of taxable payroll[2]]

	OASDI			HI[3]			TOTAL[3]		
Calendar year	Income rate	Cost rate	Balance	Income rate	Cost rate	Balance	Income rate	Cost rate	Balance
Alternative I:									
1989	12.30	10.29	2.00	2.90	2.51	0.39	15.20	12.80	2.40
1990	12.59	10.26	2.33	2.90	2.59	.31	15.49	12.85	2.64
1991	12.59	10.12	2.48	2.90	2.62	.28	15.49	12.74	2.75
1992	12.60	9.99	2.61	2.90	2.67	.23	15.50	12.66	2.84
1993	12.60	9.86	2.73	2.90	2.71	.19	15.50	12.57	2.93
1994	12.60	9.74	2.86	2.90	2.74	.16	15.50	12.48	3.02
1995	12.60	9.60	2.99	2.90	2.77	.13	15.50	12.37	3.12
1996	12.60	9.50	3.10	2.90	2.80	.10	15.50	12.30	3.20
1997	12.59	9.40	3.19	2.90	2.82	.08	15.49	12.23	3.27
1998	12.59	9.32	3.27	2.90	2.84	.06	15.49	12.17	3.33
2000	12.62	9.17	3.45	2.90	2.88	.02	15.52	12.06	3.47
2005	12.68	8.93	3.76	2.90	2.89	.01	15.58	11.82	3.76
2010	12.73	9.25	3.48	2.90	2.92	-.02	15.63	12.17	3.47
2015	12.79	10.24	2.55	2.90	2.92	-.02	15.69	13.16	2.53
2020	12.86	11.53	1.34	2.90	3.02	-.11	15.76	14.54	1.22
2025	12.92	12.56	.36	2.90	3.19	-.29	15.82	15.75	.07
2030	12.96	13.05	-.09	2.90	3.35	-.45	15.86	16.40	-.54
2035	12.97	12.98	-.01	2.90	3.47	-.57	15.87	16.44	-.58
2040	12.96	12.57	.38	2.90	3.55	-.65	15.86	16.13	-.27
2045	12.95	12.24	.71	2.90	3.60	-.70	15.85	15.84	.01
2050	12.94	12.09	.86	2.90	3.64	-.74	15.84	15.72	.12
2055	12.95	12.03	.92	2.90	3.67	-.77	15.85	15.70	.14
2060	12.94	11.95	.99	2.90	3.72	-.82	15.84	15.68	.17
Alternative II-A:									
1989	12.30	10.36	1.94	2.90	2.52	.38	15.20	12.89	2.31
1990	12.61	10.36	2.25	2.90	2.64	.26	15.51	13.00	2.51
1991	12.60	10.34	2.25	2.90	2.71	.19	15.50	13.05	2.44
1992	12.60	10.28	2.32	2.90	2.79	.11	15.50	13.07	2.43
1993	12.60	10.22	2.38	2.90	2.87	.03	15.50	13.10	2.41
1994	12.61	10.16	2.45	2.90	2.96	-.06	15.51	13.12	2.39
1995	12.60	10.10	2.51	2.90	3.04	-.14	15.50	13.14	2.37
1996	12.61	10.04	2.57	2.90	3.12	-.22	15.51	13.16	2.34
1997	12.61	10.01	2.60	2.90	3.20	-.30	15.51	13.20	2.30
1998	12.61	9.97	2.64	2.90	3.27	-.37	15.51	13.24	2.26
2000	12.64	9.89	2.75	2.90	3.42	-.52	15.54	13.31	2.23
2005	12.71	9.82	2.90	2.90	3.70	-.80	15.61	13.52	2.10
2010	12.78	10.30	2.48	2.90	4.05	-1.15	15.68	14.35	1.33
2015	12.85	11.52	1.33	2.90	4.42	-1.52	15.75	15.94	-.19
2020	12.94	13.13	-.19	2.90	4.96	-2.06	15.84	18.09	-2.26
2025	13.01	14.56	-1.55	2.90	5.60	-2.70	15.91	20.16	-4.25
2030	13.07	15.48	-2.41	2.90	6.15	-3.25	15.97	21.64	-5.67
2035	13.10	15.80	-2.71	2.90	6.52	-3.62	16.00	22.32	-6.33
2040	13.10	15.75	-2.64	2.90	6.71	-3.81	16.00	22.45	-6.45
2045	13.11	15.73	-2.62	2.90	6.80	-3.90	16.01	22.53	-6.52
2050	13.12	15.90	-2.78	2.90	6.87	-3.97	16.02	22.78	-6.76
2055	13.14	16.17	-3.03	2.90	6.95	-4.05	16.04	23.12	-7.08
2060	13.15	16.35	-3.20	2.90	7.04	-4.14	16.05	23.38	-7.33

TABLE E2.—COMPARISON OF ESTIMATED INCOME RATES AND COST RATES[1] FOR OASDI AND HI BY ALTERNATIVE, CALENDAR YEARS 1989-2060 (Cont.)
[As a percentage of taxable payroll[2]]

Calendar year	OASDI			HI[3]			TOTAL[3]		
	Income rate	Cost rate	Balance	Income rate	Cost rate	Balance	Income rate	Cost rate	Balance
Alternative II-B:									
1989	12.30	10.36	1.94	2.90	2.53	.37	15.20	12.89	2.31
1990	12.63	10.52	2.11	2.90	2.66	.24	15.53	13.19	2.35
1991	12.60	10.55	2.05	2.90	2.74	.16	15.50	13.29	2.21
1992	12.61	10.57	2.04	2.90	2.84	.06	15.51	13.41	2.10
1993	12.61	10.56	2.05	2.90	2.93	-.03	15.51	13.49	2.02
1994	12.61	10.50	2.11	2.90	3.02	-.12	15.51	13.52	1.99
1995	12.61	10.44	2.17	2.90	3.11	-.21	15.51	13.55	1.97
1996	12.61	10.39	2.22	2.90	3.20	-.30	15.51	13.59	1.92
1997	12.61	10.35	2.27	2.90	3.28	-.38	15.51	13.63	1.88
1998	12.61	10.31	2.30	2.90	3.36	-.46	15.51	13.67	1.84
2000	12.65	10.27	2.38	2.90	3.54	-.64	15.55	13.81	1.74
2005	12.74	10.25	2.49	2.90	3.87	-.97	15.64	14.12	1.52
2010	12.81	10.76	2.05	2.90	4.27	-1.37	15.71	15.03	.68
2015	12.88	12.03	.86	2.90	4.69	-1.76	15.78	16.71	-.93
2020	12.97	13.70	-.73	2.90	5.26	-2.36	15.87	18.96	-3.09
2025	13.06	15.23	-2.17	2.90	5.93	-3.03	15.96	21.16	-5.20
2030	13.11	16.23	-3.11	2.90	6.50	-3.60	16.01	22.73	-6.72
2035	13.14	16.61	-3.47	2.90	6.87	-3.97	16.04	23.48	-7.44
2040	13.15	16.58	-3.43	2.90	7.06	-4.16	16.05	23.64	-7.59
2045	13.15	16.56	-3.41	2.90	7.15	-4.25	16.05	23.72	-7.66
2050	13.16	16.74	-3.58	2.90	7.22	-4.32	16.06	23.96	-7.90
2055	13.18	17.00	-3.82	2.90	7.30	-4.40	16.08	24.31	-8.23
2060	13.19	17.19	-4.00	2.90	7.40	-4.50	16.09	24.59	-8.50
Alternative III:									
1989	12.30	10.65	1.65	2.90	2.59	.31	15.20	13.24	1.97
1990	12.65	11.09	1.56	2.90	2.79	.11	15.55	13.88	1.67
1991	12.61	11.20	1.41	2.90	2.91	-.01	15.51	14.11	1.40
1992	12.62	11.37	1.26	2.90	3.05	-.15	15.52	14.42	1.11
1993	12.64	11.81	.83	2.90	3.24	-.34	15.54	15.05	.49
1994	12.64	11.78	.86	2.90	3.38	-.48	15.54	15.16	.38
1995	12.64	11.79	.85	2.90	3.55	-.65	15.54	15.34	.20
1996	12.64	11.79	.86	2.90	3.71	-.81	15.54	15.50	.05
1997	12.64	11.80	.85	2.90	3.87	-.97	15.54	15.67	-.13
1998	12.64	11.83	.82	2.90	4.04	-1.14	15.54	15.87	-.32
2000	12.69	11.81	.88	2.90	4.40	-1.50	15.59	16.21	-.62
2005	12.79	11.82	.97	2.90	5.29	-2.39	15.89	17.11	-1.41
2010	12.87	12.41	.46	2.90	6.40	-3.50	15.77	18.81	-3.03
2015	12.96	13.93	-.97	2.90	7.72	-4.82	15.86	21.64	-5.78
2020	13.07	16.02	-2.94	2.90	9.42	-6.52	15.97	25.44	-9.47
2025	13.18	18.12	-4.94	2.90	11.30	-8.40	16.08	29.42	-13.34
2030	13.28	19.83	-6.55	2.90	12.92	-10.02	16.18	32.75	-16.57
2035	13.34	20.96	-7.62	2.90	13.95	-11.05	16.24	34.91	-18.67
2040	13.38	21.69	-8.31	2.90	14.37	-11.47	16.28	36.06	-19.78
2045	13.42	22.47	-9.05	2.90	14.56	-11.66	16.32	37.02	-20.70
2050	13.47	23.49	-10.02	2.90	14.70	-11.80	16.37	38.19	-21.82
2055	13.53	24.63	-11.10	2.90	14.86	-11.96	16.43	39.49	-23.06
2060	13.58	25.57	-11.99	2.90	15.05	-12.15	16.48	40.62	-24.14

[1]Cost rates for HI exclude amounts required for trust fund maintenance.

[2]The taxable payroll for HI is somewhat larger than the taxable payroll for OASDI, because HI covers all Federal civilian employees, including those hired before 1984, all State and local government employees hired after April 1, 1986, and railroad employees. This difference is relatively small and does not significantly affect the comparisons.

[3] Effects of the Medicare Catastrophic Coverage Act of 1988 are not reflected.

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

Table E3 summarizes the estimates of OASDI and HI income rates, cost rates, and balances for various time periods, based on all four sets of assumptions. Income rates exclude interest earned on trust-fund assets. Cost rates shown for HI exclude the cost of maintaining the trust fund at a level suitable for a contingency reserve. Effects of the Medicare Catastrophic Coverage Act of 1988 are not reflected in any of the figures.

Under the pessimistic set of assumptions, the combined OASDI and HI system is projected to show deficits during the next 25, 50, and 75-

year periods (including beginning trust fund balances). Deficits are projected to occur during each 25-year subperiod of the 75-year projection period (excluding beginning trust fund balances). Under intermediate assumptions, positive balances are projected to occur during the next 25-year period whether or not beginning trust fund balances are included. Deficits are projected to occur during the 50 and 75-year projection periods (including beginning trust fund balances), and during the last two 25-year subperiods (excluding beginning trust fund balances). Under optimistic assumptions, the combined OASDI and HI system is projected to show positive balances during the 25, 50, and 75-year periods and during each of the 25-year subperiods.

TABLE E3.—COMPARISON OF SUMMARIZED INCOME RATES AND COST RATES[1] FOR OASDI AND HI BY ALTERNATIVE, CALENDAR YEARS 1989-2063
[As a percentage of taxable payroll[2]]

	OASDI			HI[3]			TOTAL[3]		
Calendar year	Income rate	Cost rate	Balance	Income rate	Cost rate	Balance	Income rate	Cost rate	Balance
Alternative I:									
25-year subperiods[4]:									
1989-2013	12.63	9.47	3.17	2.90	2.82	0.09	15.54	12.28	3.25
2014-2038	12.90	12.17	.73	2.90	3.21	-.30	15.80	15.38	.43
2039-2063	12.94	12.17	.76	2.90	3.64	-.74	15.84	15.82	.02
Valuation ranges[5]:									
25 years: 1989-2013	12.87	9.47	3.40	3.05	2.82	.23	15.92	12.28	3.63
50 years: 1989-2038	12.88	10.73	2.15	2.98	3.00	-.02	15.86	13.73	2.13
75 years: 1989-2063	12.90	11.16	1.74	2.96	3.19	-.23	15.86	14.35	1.51
Alternative II-A:									
25-year subperiods[4]:									
1989-2013	12.65	10.16	2.50	2.90	3.40	-.50	15.56	13.56	2.00
2014-2038	12.99	14.23	-1.24	2.90	5.58	-2.68	15.89	19.80	-3.91
2039-2063	13.11	16.03	-2.91	2.90	6.88	-3.98	16.02	22.91	-6.89
Valuation ranges[5]:									
25 years: 1989-2013	12.90	10.16	2.74	3.05	3.40	-.35	15.95	13.56	2.39
50 years: 1989-2038	12.94	12.00	.94	2.99	4.39	-1.41	15.92	16.39	-.47
75 years: 1989-2063	12.98	13.08	-.10	2.96	5.06	-2.10	15.95	18.14	-2.20
Alternative II-B:									
25-year subperiods[4]:									
1989-2013	12.67	10.52	2.14	2.91	3.53	-.62	15.57	14.05	1.52
2014-2038	13.03	14.91	-1.88	2.90	5.91	-3.00	15.93	20.81	-4.88
2039-2063	13.15	16.87	-3.72	2.90	7.24	-4.33	16.06	24.11	-8.05
Valuation ranges[5]:									
25 years: 1989-2013	12.91	10.52	2.39	3.06	3.53	-.47	15.97	14.05	1.92
50 years: 1989-2038	12.98	12.52	.44	2.99	4.61	-1.63	15.95	17.14	-1.19
75 years: 1989-2063	13.02	13.72	-.70	2.96	5.34	-2.37	15.98	19.06	-3.08
Alternative III:									
25-year subperiods[4]:									
1989-2013	12.70	11.87	.83	2.91	4.54	-1.63	15.61	16.41	-.80
2014-2038	13.15	17.95	-4.79	2.90	11.16	-8.26	16.06	29.11	-13.05
2039-2063	13.46	23.68	-10.22	2.90	14.72	-11.82	16.37	38.40	-22.03
Valuation ranges[5]:									
25 years: 1989-2013	12.97	11.87	1.10	3.07	4.54	-1.47	16.04	16.41	-.36
50 years: 1989-2038	13.05	14.54	-1.48	3.00	7.44	-4.45	16.05	21.98	-5.93
75 years: 1989-2063	13.15	16.78	-3.63	2.98	9.23	-6.26	16.13	26.01	-9.89

[1]Cost rates for HI exclude amounts required for trust fund maintenace.

[2]The taxable payroll for HI is somewhat larger than the taxable payroll for OASDI, because HI covers all Federal civilian employees, including those hired before 1984, all State and local government employees hired after April 1, 1986, and railroad employees. This difference is relatively small and does not significantly affect the comparisons.

[3] Effects of the Medicare Catastrophic Coverage Act of 1988 are not reflected.

[4]Income rates do not include beginning trust fund balances.

[5]Income rates include beginning trust fund balances.

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

APPENDIX F.—LONG-RANGE ESTIMATES OF SOCIAL SECURITY TRUST FUND OPERATIONS IN DOLLARS

This appendix presents long-range projections 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, as well as the potential budgetary impact of the funds' operations. Several economic series, or "indices," are provided to allow current dollars to be adjusted for variations caused by changes in prices, wages, and certain other aspects of economic growth during the projection period.

The selection of a particular index for adjustment reflects the analyst's decision of which aspect of the economy to use as a standard. Table F1 presents five such indices for adjustment, which consider the problem of standardization from different points of view.

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 2.0, 3.0, 4.0, and 5.0 percent for alternatives I, II-A, II-B, and III, respectively. Constant-dollar values (adjusted by the CPI-W) are provided in table F2.

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 4.2, 4.7, 5.3, and 5.8 percent under alternatives I, II-A, II-B, and III, respectively.

The payroll index adjusts for the effect of changes in the number of workers 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 national product index adjusts for the same effects as the taxable payroll index, plus the effect of other changes in the national economy. No explicit assumptions are made about growth in taxable payroll or GNP. These series are derived from the mathematical interactions of other more basic economic and demographic assumptions, as discussed in Appendix A.

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. Ultimate nominal interest rates compounded semiannually, are assumed to be approximately 5.0, 5.5, 6.0, and 6.5 percent for alternatives I, II-A, II-B, and III, respectively.

TABLE F1.—SELECTED ECONOMIC VARIABLES BY ALTERNATIVE, CALENDAR YEARS 1989-2065
[GNP and taxable payroll in billions]

Calendar year	Adjusted CPI[1]	SSA average wage index[2]	Taxable payroll[3]	Gross national product	Compound interest-rate factor[4]
Alternative I:					
1989	100.00	$20,703	$2,284	$5,234	1.0000
1990	103.04	21,807	2,431	5,584	1.0885
1991	105.94	22,933	2,593	5,946	1.1752
1992	108.60	24,030	2,752	6,301	1.2582
1993	111.07	25,125	2,911	6,657	1.3373
1994	113.37	26,174	3,072	7,015	1.4120
1995	115.64	27,207	3,236	7,384	1.4816
1996	117.95	28,246	3,400	7,758	1.5527
1997	120.31	29,342	3,569	8,146	1.6291
1998	122.71	30,475	3,746	8,548	1.7114
2000	127.67	33,088	4,148	9,445	1.8890
2005	140.96	40,646	5,341	12,114	2.4178
2010	155.63	49,929	6,759	15,298	3.0946
2015	171.83	61,332	8,431	19,059	3.9609
2020	189.71	75,341	10,449	23,621	5.0697
2025	209.46	92,548	12,961	29,302	6.4889
2030	231.26	113,686	16,182	36,587	8.3053
2035	255.33	139,651	20,319	45,943	10.6302
2040	281.90	171,547	25,531	57,729	13.6060
2045	311.25	210,728	32,063	72,501	17.4147
2050	343.64	258,858	40,284	91,093	22.2897
2055	379.41	317,980	50,707	114,663	28.5293
2060	418.90	390,605	63,918	144,539	36.5156
2065	462.49	479,818	80,562	182,179	46.7375
Alternative II-A:					
1989	100.00	20,480	2,275	5,204	1.0000
1990	103.72	21,585	2,417	5,555	1.0916
1991	107.03	22,650	2,571	5,894	1.1831
1992	110.25	23,739	2,724	6,238	1.2730
1993	113.56	24,888	2,881	6,601	1.3594
1994	116.96	26,057	3,046	6,982	1.4455
1995	120.47	27,242	3,219	7,378	1.5304
1996	124.08	28,460	3,398	7,793	1.6177
1997	127.81	29,756	3,585	8,232	1.7100
1998	131.64	31,080	3,784	8,689	1.8076
2000	139.66	34,070	4,222	9,687	2.0147
2005	161.90	42,866	5,535	12,711	2.6425
2010	187.69	53,932	7,139	16,435	3.4660
2015	217.58	67,854	9,046	20,900	4.5460
2020	252.23	85,371	11,351	26,353	5.9626
2025	292.41	107,410	14,212	33,155	7.8206
2030	338.98	135,138	17,858	41,865	10.2576
2035	392.97	170,024	22,524	53,060	13.4541
2040	455.56	213,916	28,389	67,197	17.6465
2045	528.12	269,139	35,697	84,905	23.1454
2050	612.24	338,618	44,830	107,143	30.3577
2055	709.75	426,033	56,342	135,306	39.8176
2060	822.80	536,015	70,910	171,113	52.2252
2065	953.85	674,389	89,272	216,458	68.4992
Alternative II-B:					
1989	100.00	20,522	2,274	5,200	1.0000
1990	104.48	21,583	2,405	5,530	1.0965
1991	109.16	22,717	2,563	5,884	1.1989
1992	113.89	23,933	2,724	6,264	1.3037
1993	118.65	25,275	2,903	6,684	1.4102
1994	123.43	26,645	3,093	7,123	1.5167
1995	128.37	28,066	3,294	7,581	1.6225
1996	133.50	29,554	3,502	8,066	1.7305
1997	138.84	31,144	3,723	8,581	1.8424
1998	144.39	32,777	3,957	9,124	1.9582
2000	156.17	36,343	4,455	10,291	2.2035
2005	190.01	47,051	6,000	13,936	2.9600
2010	231.18	60,913	7,965	18,640	3.9761
2015	281.26	78,859	10,389	24,515	5.3410
2020	342.20	102,092	13,419	31,971	7.1744
2025	416.34	132,170	17,291	41,596	9.6373
2030	506.54	171,110	22,362	54,316	12.9456

TABLE F1.—SELECTED ECONOMIC VARIABLES BY ALTERNATIVE, CALENDAR YEARS 1989-2065 (Cont.)
[GNP and taxable payroll in billions]

Calendar year	Adjusted CPI[1]	SSA average wage index[2]	Taxable payroll[3]	Gross national product	Compound interest-rate factor[4]
Alternative II-B: (Cont.)					
2035	616.28	$221,522	$29,026	$71,185	17.3896
2040	749.80	286,787	37,653	93,233	23.3592
2045	912.24	371,280	48,732	121,832	31.3780
2050	1,109.89	480,665	62,985	158,985	42.1496
2055	1,350.34	622,278	81,474	207,639	56.6188
2060	1,642.90	805,613	105,533	271,546	76.0551
2065	1,998.84	1,042,962	136,739	355,237	102.1635
Alternative III:					
1989	100.00	20,028	2,220	5,066	1.0000
1990	105.84	21,073	2,307	5,358	1.1030
1991	112.65	22,355	2,476	5,779	1.2217
1992	119.73	23,615	2,653	6,178	1.3513
1993	125.68	24,685	2,768	6,435	1.4842
1994	132.31	26,281	2,970	6,954	1.6172
1995	138.92	27,762	3,176	7,444	1.7473
1996	145.87	29,339	3,401	7,960	1.8813
1997	153.16	31,022	3,633	8,494	2.0186
1998	160.82	32,760	3,877	9,057	2.1584
2000	177.30	36,670	4,395	10,295	2.4516
2005	226.29	48,611	6,013	14,229	3.3708
2010	288.81	64,442	8,124	19,456	4.6345
2015	368.60	85,427	10,761	26,108	6.3721
2020	470.44	113,246	14,068	34,628	8.7611
2025	600.41	150,125	18,293	45,680	12.0458
2030	766.29	199,012	23,785	60,256	16.5619
2035	978.01	263,820	30,965	79,579	22.7713
2040	1,248.21	349,733	40,189	104,781	31.3087
2045	1,593.07	463,623	51,914	137,306	43.0468
2050	2,033.21	614,601	66,780	179,180	59.1858
2055	2,594.94	814,745	85,804	233,552	81.3757
2060	3,311.88	1,080,066	110,415	304,882	111.8848
2065	4,226.89	1,431,787	142,168	398,234	153.8324

[1]The CPI used to adjust OASDI benefits is the Consumer Price Index for Urban Wage Earners and Clerical Workers (CPI-W), as defined by the Bureau of Labor Statistics, Department of Labor. The values shown are adjusted by dividing the average of the 12 monthly values of the CPI by the analogous value for 1989, and multiplying the result by 100, thereby initializing the CPI at 100 for 1989.

[2]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.

[3]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."

[4]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 F2 shows estimated operations of the combined OASI and DI Trust Funds in constant dollars adjusted by the CPI indexing series 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 four sets of assumptions I, II-A, II-B, and III described earlier in this report.

TABLE F2.—ESTIMATED OPERATIONS OF THE COMBINED OASI AND DI TRUST FUNDS IN CONSTANT DOLLARS[1] BY ALTERNATIVE, CALENDAR YEARS 1989-2065

[In billions]

Calendar year	Income excluding interest	Interest income	Total income	Outgo	Assets at end of year
Alternative I:					
1989	$282.3	$13.0	$295.3	$235.2	$169.9
1990	296.6	18.3	314.8	242.1	237.6
1991	307.2	23.7	330.9	247.6	314.4
1992	318.1	29.0	347.1	253.1	400.7
1993	329.2	34.1	363.3	258.5	496.6
1994	340.6	38.9	379.5	263.9	602.2
1995	351.6	43.2	394.9	268.7	716.5
1996	362.5	47.5	410.0	273.7	838.7
1997	372.8	52.3	425.1	279.0	968.4
1998	383.7	57.8	441.6	284.6	1,106.4
2000	409.2	70.6	479.8	298.0	1,410.9
2005	479.5	109.7	589.2	338.1	2,350.3
2010	551.9	166.6	718.5	401.7	3,536.4
2015	626.5	230.2	856.7	502.5	4,846.7
2020	707.2	293.1	1,000.3	634.9	6,131.4
2025	798.2	351.9	1,150.1	777.5	7,329.0
2030	905.1	408.6	1,313.7	913.0	8,496.7
2035	1,030.0	471.3	1,501.3	1,032.6	9,802.6
2040	1,171.3	549.8	1,721.0	1,138.8	11,450.4
2045	1,331.2	650.9	1,982.1	1,260.5	13,570.6
2050	1,514.5	776.9	2,291.4	1,416.8	16,201.9
2055	1,726.8	929.1	2,655.9	1,607.3	19,376.7
2060	1,971.4	1,112.0	3,083.5	1,824.1	23,191.2
2065	2,250.2	1,332.6	3,582.8	2,066.2	27,793.2
Alternative II-A:					
1989	281.1	13.0	294.1	235.7	168.1
1990	293.3	18.1	311.3	241.4	232.1
1991	301.6	23.4	325.0	248.4	301.4
1992	310.3	28.4	338.7	254.1	377.2
1993	318.9	33.2	352.0	259.4	458.9
1994	327.5	37.7	365.2	264.6	546.2
1995	335.9	41.9	377.8	269.8	638.2
1996	344.5	46.1	390.5	274.9	735.3
1997	352.8	50.5	403.3	280.7	836.4
1998	361.5	55.3	416.8	286.6	942.2
2000	381.2	65.2	446.4	299.0	1,170.1
2005	433.6	93.9	527.5	335.6	1,830.1
2010	484.9	134.5	619.4	391.8	2,598.6
2015	533.0	174.1	707.1	479.0	3,330.6
2020	580.9	203.5	784.4	590.7	3,859.3
2025	631.2	217.5	848.6	707.8	4,094.0
2030	687.1	215.6	902.7	815.7	4,036.3
2035	749.1	201.9	951.1	905.9	3,765.5
2040	814.8	181.4	996.2	981.2	3,372.7
2045	884.1	155.3	1,039.4	1,063.2	2,874.6
2050	958.7	120.2	1,078.9	1,164.6	2,199.4
2055	1,040.6	71.0	1,111.6	1,283.5	1,250.9
2060	[2]	[2]	[2]	[2]	[2]
Alternative II-B:					
1989	281.2	13.1	294.2	235.7	168.3
1990	290.3	18.1	308.4	242.3	227.2
1991	294.8	23.3	318.1	247.7	287.9
1992	300.5	28.2	328.7	252.8	351.8
1993	307.5	33.1	340.6	258.3	420.0
1994	315.1	37.8	352.9	263.2	493.5
1995	322.6	42.2	364.8	267.8	571.5
1996	330.1	46.4	376.5	272.6	653.4
1997	337.2	50.6	387.8	277.5	738.6
1998	344.7	54.9	399.5	282.6	827.1

TABLE F2.—ESTIMATED OPERATIONS OF THE COMBINED OASI AND DI TRUST FUNDS IN CONSTANT DOLLARS[1] BY ALTERNATIVE, CALENDAR YEARS 1989-2065 (Cont.)
[In billions]

Calendar year	Income excluding interest	Interest income	Total income	Outgo	Assets at end of year
Alternative II-B: (Cont.)					
2000	$359.9	$62.9	$422.9	$293.1	$1,012.9
2005	401.1	84.8	485.9	323.6	1,522.3
2010	440.1	117.1	557.2	370.7	2,083.1
2015	474.6	145.4	620.0	444.2	2,558.5
2020	507.4	160.7	668.1	537.2	2,798.3
2025	540.9	158.2	699.0	632.3	2,727.5
2030	577.5	138.0	715.6	716.4	2,355.2
2035	617.5	104.4	721.9	782.3	1,757.7
2040	658.7	62.3	721.0	832.4	1,019.2
2045	700.8	13.2	714.0	884.8	158.5
2046	[2]	[2]	[2]	[2]	[2]
Alternative III:					
1989	274.8	12.8	287.7	236.5	161.0
1990	275.5	16.8	292.3	241.8	202.5
1991	276.0	20.8	296.8	246.2	240.8
1992	278.7	24.7	303.4	251.9	278.1
1993	277.5	28.0	305.4	260.0	310.3
1994	282.5	30.6	313.1	264.4	343.5
1995	288.0	32.8	320.7	269.6	378.3
1996	293.8	34.6	328.3	274.8	413.8
1997	298.9	36.1	335.0	279.8	449.3
1998	303.8	37.5	341.3	285.1	484.0
2000	313.5	39.7	353.2	292.7	554.9
2005	338.8	44.0	382.7	314.0	729.9
2010	361.0	54.1	415.1	349.1	889.3
2015	377.2	55.9	433.1	406.6	898.7
2020	389.8	40.5	430.3	479.0	623.3
2025	[2]	[2]	[2]	[2]	[2]

[1]The adjustment from current to constant dollars is by the CPI indexing series shown in table F1.

[2]The combined OASI and DI Trust Funds are estimated to become exhausted during this year.

Table F3 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 four sets of economic and demographic assumptions I, II-A, II-B, and III described earlier in this report, are presented to facilitate independent analysis.

TABLE F3.—ESTIMATED OPERATIONS OF THE COMBINED OASI AND DI TRUST FUNDS IN CURRENT DOLLARS BY ALTERNATIVE, CALENDAR YEARS 1989-2065
[In billions]

Calendar year	Income excluding interest	Interest income	Total income	Outgo	Assets at end of year
Alternative I:					
1989	$282.3	$13.0	$295.3	$235.2	$169.9
1990	305.6	18.8	324.4	249.5	244.8
1991	325.5	25.1	350.6	262.3	333.1
1992	345.5	31.5	376.9	274.9	435.1
1993	365.7	37.9	403.5	287.1	551.6
1994	386.1	44.1	430.2	299.1	682.7
1995	406.6	50.0	456.6	310.7	828.6
1996	427.6	56.0	483.5	322.9	989.3
1997	448.5	62.9	511.5	335.6	1,165.1
1998	470.9	71.0	541.9	349.3	1,357.7

TABLE F3.—ESTIMATED OPERATIONS OF THE COMBINED OASI AND DI TRUST FUNDS IN CURRENT DOLLARS BY ALTERNATIVE, CALENDAR YEARS 1989-2065 (Cont.)
[In billions]

Calendar year	Income excluding interest	Interest income	Total income	Outgo	Assets at end of year
Alternative I: (Cont.)					
2000	$522.4	$90.1	$612.6	$380.4	$1,801.3
2005	675.9	154.6	830.5	476.7	3,313.0
2010	858.9	259.2	1,118.1	625.2	5,503.8
2015	1,076.5	395.5	1,472.0	863.4	8,328.0
2020	1,341.6	556.1	1,897.7	1,204.4	11,632.1
2025	1,671.9	737.0	2,408.9	1,628.5	15,351.3
2030	2,093.1	945.0	3,038.2	2,111.5	19,649.5
2035	2,629.9	1,203.4	3,833.3	2,636.5	25,028.9
2040	3,301.9	1,549.8	4,851.7	3,210.3	32,279.1
2045	4,143.3	2,025.9	6,169.3	3,923.3	42,237.7
2050	5,204.6	2,669.7	7,874.3	4,868.7	55,676.4
2055	6,551.5	3,525.2	10,076.8	6,098.1	73,516.6
2060	8,258.3	4,658.3	12,916.5	7,641.0	97,146.9
2065	10,407.0	6,163.4	16,570.3	9,556.2	128,541.9
Alternative II-A:					
1989	281.1	13.0	294.1	235.7	168.1
1990	304.2	18.7	322.9	250.4	240.7
1991	322.8	25.0	347.8	265.9	322.6
1992	342.1	31.3	373.4	280.1	415.9
1993	362.1	37.6	399.8	294.6	521.1
1994	383.1	44.1	427.1	309.5	638.8
1995	404.6	50.5	455.1	325.0	768.9
1996	427.4	57.2	484.6	341.1	912.3
1997	450.9	64.6	515.4	358.8	1,069.0
1998	475.9	72.7	548.7	377.3	1,240.3
2000	532.4	91.1	623.4	417.6	1,634.1
2005	702.1	152.0	854.1	543.3	2,963.0
2010	910.1	252.5	1,162.5	735.4	4,877.2
2015	1,159.7	378.8	1,538.5	1,042.3	7,246.8
2020	1,465.2	513.3	1,978.5	1,490.1	9,734.4
2025	1,845.6	635.9	2,481.5	2,069.7	11,971.2
2030	2,329.2	730.9	3,060.1	2,765.0	13,682.3
2035	2,943.9	793.5	3,737.4	3,560.0	14,797.2
2040	3,711.9	826.2	4,538.1	4,470.1	15,364.9
2045	4,669.1	820.2	5,489.2	5,615.1	15,181.4
2050	5,869.3	736.1	6,605.3	7,129.9	13,465.8
2055	7,385.7	503.6	7,889.3	9,109.4	8,878.6
2060	(1)	(1)	(1)	(1)	(1)
Alternative II-B:					
1989	281.2	13.1	294.2	235.7	168.3
1990	303.3	18.9	322.2	253.2	237.3
1991	321.8	25.4	347.2	270.3	314.2
1992	342.2	32.2	374.4	287.9	400.7
1993	364.8	39.2	404.1	306.4	498.4
1994	389.0	46.7	435.6	324.8	609.1
1995	414.1	54.2	468.3	343.8	733.6
1996	440.7	62.0	502.6	363.9	872.3
1997	468.2	70.2	538.4	385.2	1,025.5
1998	497.7	79.2	576.9	408.1	1,194.3
2000	562.1	98.3	660.4	457.7	1,581.8
2005	762.0	161.2	923.2	614.9	2,892.5
2010	1,017.4	270.8	1,288.2	857.0	4,815.6
2015	1,334.8	408.9	1,743.7	1,249.4	7,196.1
2020	1,736.4	549.8	2,286.2	1,838.4	9,575.6
2025	2,251.8	658.6	2,910.3	2,632.6	11,355.6
2030	2,925.4	699.3	3,624.7	3,629.0	11,929.8
2035	3,805.5	643.7	4,449.1	4,821.1	10,832.4
2040	4,938.5	467.2	5,405.7	6,241.6	7,641.8
2045	6,393.3	120.4	6,513.7	8,071.6	1,446.1
2046	(1)	(1)	(1)	(1)	(1)
Alternative III:					
1989	274.8	12.8	287.7	236.5	161.0
1990	291.6	17.8	309.3	256.0	214.3
1991	310.9	23.4	334.3	277.4	271.3
1992	333.7	29.5	363.2	301.6	332.9
1993	348.8	35.1	383.9	326.8	390.0

TABLE F3.—ESTIMATED OPERATIONS OF THE COMBINED OASI AND DI TRUST FUNDS IN CURRENT DOLLARS BY ALTERNATIVE, CALENDAR YEARS 1989-2065 (Cont.)
[In billions]

Calendar year	Income excluding interest	Interest income	Total income	Outgo	Assets at end of year
Alternative III: (Cont.)					
1994	$373.8	$40.4	$414.3	$349.9	$454.4
1995	400.1	45.5	445.6	374.5	525.5
1996	428.6	50.4	479.0	400.9	603.6
1997	457.7	55.4	513.1	428.6	688.1
1998	488.5	60.3	548.8	458.6	778.4
2000	555.9	70.3	626.2	519.0	983.8
2005	766.6	99.5	866.1	710.6	1,651.7
2010	1,042.5	156.4	1,198.9	1,008.2	2,568.5
2015	1,390.4	205.9	1,596.4	1,498.8	3,312.5
2020	1,833.6	190.8	2,024.4	2,253.3	2,932.1
2025	(1)	(1)	(1)	(1)	(1)

[1]The combined OASI and DI Trust Funds are estimated to become exhausted during this year.

Table F4 shows estimated income excluding interest and 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 four sets of assumptions I, II-A, II-B, and III described earlier in this report. For OASDI, income excluding interest consists of payroll-tax contributions, proceeds 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 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. Also, neither income nor outgo for the HI program reflect the effects of the Medicare Catastrophic Coverage Act of 1988.

Table F4 also shows the excess of income excluding interest over outgo, called the balance. The balance approximately reflects the potential impact of trust-fund operations on the Federal budget. Interest income is excluded because it is an intragovernmental transfer within the Federal budget, and therefore does not directly affect the total Federal budget balance. Other types of income, because they are components of total government receipts, have a direct effect on the total budget balance.

TABLE F4.—ESTIMATED OASDI AND HI INCOME EXCLUDING INTEREST, OUTGO, AND BALANCE IN CURRENT DOLLARS BY ALTERNATIVE, CALENDAR YEARS 1989-2060
[In billions]

Calendar year	OASDI			HI[1]			TOTAL[1]		
	Income excluding interest	Outgo	Balance	Income excluding interest	Outgo	Balance	income excluding interest	Outgo	Balance
Alternative I:									
1989	$282.3	$235.2	$47.1	$69.1	$59.7	$9.3	$351.3	$294.9	$56.4
1990	305.5	249.5	56.1	73.5	65.7	7.8	379.1	315.1	63.9
1991	325.5	262.3	63.1	78.4	71.0	7.5	403.9	333.3	70.6
1992	345.4	274.9	70.6	83.2	76.5	6.7	428.7	351.4	77.3
1993	365.7	287.1	78.6	88.0	82.2	5.9	453.7	369.3	84.4

TABLE F4.—ESTIMATED OASDI AND HI INCOME EXCLUDING INTEREST, OUTGO, AND BALANCE IN CURRENT DOLLARS BY ALTERNATIVE, CALENDAR YEARS 1989-2060 (Cont.)

[In billions]

Calendar year	OASDI			HI[1]			TOTAL[1]		
	Income excluding interest	Outgo	Balance	Income excluding interest	Outgo	Balance	Income excluding interest	Outgo	Balance
Alternative I: (Cont.)									
1994	$386.1	$299.1	$87.0	$92.9	$87.8	$5.1	$479.0	$387.0	$92.0
1995	406.6	310.7	95.9	97.8	93.5	4.4	504.4	404.2	100.3
1996	427.6	322.9	104.7	102.8	99.3	3.5	530.4	422.2	108.2
1997	448.5	335.6	112.9	107.9	105.1	2.8	556.5	440.7	115.7
1998	470.9	349.3	121.6	113.3	111.1	2.2	584.2	460.4	123.8
2000	522.4	380.4	142.0	125.5	124.9	.6	647.9	505.3	142.7
2005	675.9	476.7	199.2	161.9	161.5	.4	837.8	638.1	199.7
2010	858.9	625.2	233.7	205.3	206.4	-1.0	1,064.2	831.6	232.6
2015	1,076.5	863.4	213.1	255.7	257.4	-1.7	1,332.2	1,120.8	211.4
2020	1,341.6	1,204.4	137.2	316.8	329.4	-12.5	1,658.4	1,533.8	124.6
2025	1,671.9	1,628.5	43.4	393.0	432.0	-38.9	2,064.9	2,060.5	4.4
2030	2,093.1	2,111.5	-18.2	490.6	566.9	-76.2	2,583.8	2,678.4	-94.5
2035	2,629.9	2,636.5	-6.5	616.1	737.0	-120.8	3,246.0	3,373.5	-127.4
2040	3,301.9	3,210.3	91.6	774.1	948.2	-173.9	4,076.0	4,158.1	-82.3
2045	4,143.3	3,923.3	220.0	972.2	1,206.6	-234.2	5,115.5	5,129.9	-14.2
2050	5,204.6	4,868.7	335.9	1,221.6	1,531.2	-309.5	6,426.1	6,399.8	26.3
2055	6,551.5	6,098.1	453.4	1,537.7	1,948.6	-410.8	8,089.2	8,046.7	42.5
2060	8,258.3	7,641.0	617.2	1,938.3	2,487.1	-548.6	10,196.6	10,128.1	68.5
Alternative II-A:									
1989	281.1	235.7	45.4	68.8	59.9	8.9	349.9	295.6	54.3
1990	304.2	250.4	53.8	73.1	66.5	6.6	377.3	316.9	60.4
1991	322.8	265.9	56.9	77.7	72.7	5.1	400.5	338.6	62.0
1992	342.1	280.1	61.9	82.4	79.2	3.2	424.5	359.4	65.1
1993	362.1	294.6	67.6	87.1	86.3	.8	449.3	380.9	68.3
1994	383.1	309.5	73.6	92.1	93.9	-1.7	475.1	403.4	71.7
1995	404.6	325.0	79.6	97.3	102.0	-4.6	501.9	427.0	74.9
1996	427.4	341.1	86.3	102.7	110.6	-7.8	530.1	451.7	78.4
1997	450.9	358.8	92.1	108.4	119.5	-11.0	559.2	478.2	81.0
1998	475.9	377.3	98.6	114.4	129.1	-14.6	590.3	506.4	83.9
2000	532.4	417.6	114.8	127.6	150.5	-22.8	660.0	568.1	91.9
2005	702.1	543.3	158.7	167.6	214.0	-46.3	869.7	757.4	112.3
2010	910.1	735.4	174.7	216.5	302.1	-85.5	1,126.6	1,037.5	89.1
2015	1,159.7	1,042.3	117.4	274.0	417.3	-143.2	1,433.7	1,459.6	-25.8
2020	1,465.2	1,490.1	-24.8	343.7	588.5	-244.7	1,809.0	2,078.6	-269.5
2025	1,845.6	2,069.7	-224.0	430.4	831.0	-400.6	2,276.0	2,900.7	-624.6
2030	2,329.2	2,765.0	-435.7	540.8	1,147.6	-606.7	2,870.0	3,912.5	-1,042.5
2035	2,943.9	3,560.0	-616.0	682.1	1,533.3	-851.1	3,626.0	5,093.3	-1,467.2
2040	3,711.9	4,470.1	-758.1	859.7	1,988.3	-1,128.5	4,571.6	6,458.4	-1,886.7
2045	4,669.1	5,615.1	-945.9	1,081.0	2,535.6	-1,454.4	5,750.1	8,150.6	-2,400.5
2050	5,869.3	7,129.9	-1,260.5	1,357.6	3,216.6	-1,858.9	7,226.9	10,346.5	-3,119.5
2055	7,385.7	9,109.4	-1,723.7	1,706.3	4,087.4	-2,381.0	9,091.9	13,196.8	-4,104.8
2060	9,303.9	11,590.6	-2,286.6	2,147.5	5,210.2	-3,062.6	11,451.4	16,800.8	-5,349.3
Alternative II-B:									
1989	281.1	235.7	45.4	68.8	59.9	8.9	349.9	295.6	54.3
1990	303.3	253.2	50.1	72.8	66.8	6.0	376.1	319.9	56.1
1991	321.8	270.3	51.5	77.5	73.3	4.2	399.3	343.7	55.7
1992	342.2	287.9	54.3	82.4	80.7	1.7	424.6	368.6	56.0
1993	364.8	306.4	58.4	87.8	88.8	-.9	452.6	395.2	57.4
1994	389.0	324.8	64.1	93.5	97.4	-3.8	482.5	422.3	60.2
1995	414.1	343.8	70.3	99.5	106.7	-7.0	513.6	450.5	63.1
1996	440.7	363.9	76.7	105.9	116.7	-10.8	546.5	480.7	65.8
1997	468.2	385.2	82.9	112.5	127.3	-14.7	580.7	512.5	68.2
1998	497.7	408.1	89.6	119.6	138.6	-18.9	617.3	546.7	70.6
2000	562.1	457.7	104.4	134.7	164.2	-29.4	696.8	622.0	74.8
2005	762.0	614.9	147.2	181.6	242.6	-60.8	943.7	857.5	86.2
2010	1,017.4	857.0	160.4	241.6	355.5	-113.8	1,259.0	1,212.5	46.5
2015	1,334.8	1,249.4	85.5	314.6	508.3	-193.6	1,649.5	1,757.6	-108.1
2020	1,736.4	1,838.4	-101.9	406.3	737.5	-331.1	2,142.7	2,575.9	-433.1
2025	2,251.8	2,632.6	-380.7	523.5	1,070.5	-546.9	2,775.3	3,703.1	-927.7
2030	2,925.4	3,629.0	-703.5	677.0	1,518.2	-841.1	3,602.4	5,147.2	-1,544.7
2035	3,805.5	4,821.1	-1,015.5	878.8	2,083.0	-1,204.1	4,684.3	6,904.1	-2,219.8
2040	4,938.5	6,241.6	-1,303.0	1,140.0	2,775.2	-1,635.1	6,078.5	9,016.8	-2,938.2
2045	6,393.3	8,071.6	-1,678.2	1,475.4	3,639.0	-2,163.6	7,868.6	11,710.6	-3,841.9
2050	8,270.4	10,542.8	-2,272.3	1,906.8	4,750.0	-2,843.0	10,177.2	15,292.8	-5,115.4
2055	10,711.0	13,853.5	-3,142.4	2,466.5	6,212.3	-3,745.6	13,177.5	20,065.7	-6,888.1
2060	13,886.3	18,144.5	-4,258.1	3,194.8	8,149.0	-4,954.1	17,081.1	26,293.4	-9,212.3

TABLE F4.—ESTIMATED OASDI AND HI INCOME EXCLUDING INTEREST, OUTGO, AND BALANCE IN CURRENT DOLLARS BY ALTERNATIVE, CALENDAR YEARS 1989-2060 (Cont.)
[In billions]

Calendar year	OASDI			HI[1]			TOTAL[1]		
	Income excluding interest	Outgo	Balance	Income excluding interest	Outgo	Balance	Income excluding interest	Outgo	Balance
Alternative III:									
1989	$274.8	$236.5	$38.3	$67.2	$59.9	$7.3	$342.0	$296.4	$45.6
1990	291.5	256.0	35.6	69.9	67.1	2.7	361.4	323.1	38.3
1991	310.9	277.4	33.6	74.9	75.2	-.2	385.8	352.6	33.3
1992	333.7	301.6	32.1	80.2	84.4	-4.1	413.9	386.0	27.9
1993	348.7	326.8	21.9	83.8	93.6	-9.7	432.5	420.4	12.1
1994	373.8	349.9	24.0	89.8	104.8	-14.9	463.6	454.6	9.0
1995	400.1	374.5	25.6	96.0	117.4	-21.3	496.0	491.9	4.2
1996	428.6	400.9	27.7	102.7	131.4	-28.6	531.3	532.3	-.9
1997	457.7	428.6	29.1	109.7	146.6	-36.7	567.5	575.2	-7.6
1998	488.5	458.6	29.9	117.1	163.0	-45.8	605.5	621.6	-15.9
2000	555.9	519.0	36.9	132.8	201.6	-68.7	688.6	720.6	-31.8
2005	766.6	710.6	55.9	181.9	331.6	-149.6	948.5	1,042.3	-93.7
2010	1,042.5	1,008.2	34.3	246.3	543.3	-296.9	1,288.9	1,551.5	-262.5
2015	1,390.4	1,498.8	-108.3	325.7	866.5	-540.7	1,716.2	2,365.4	-649.1
2020	1,833.6	2,253.3	-419.5	425.8	1,383.3	-957.4	2,259.4	3,636.5	-1,377.0
2025	2,404.5	3,315.5	-910.9	553.5	2,156.7	-1,603.0	2,958.0	5,472.1	-2,514.0
2030	3,148.6	4,716.8	-1,568.1	719.7	3,206.2	-2,486.4	3,868.3	7,923.0	-4,054.6
2035	4,118.9	6,491.1	-2,372.1	936.8	4,505.1	-3,568.1	5,055.7	10,996.1	-5,940.3
2040	5,362.6	8,717.0	-3,354.2	1,215.8	6,023.3	-4,807.4	6,578.4	14,740.3	-8,161.8
2045	6,947.9	11,663.0	-4,715.0	1,570.5	7,882.7	-6,312.1	8,518.4	19,545.7	-11,027.2
2050	8,972.4	15,687.3	-6,714.9	2,020.2	10,241.0	-8,220.7	10,992.5	25,928.3	-14,935.7
2055	11,578.2	21,130.3	-9,552.0	2,595.6	13,304.0	-10,708.3	14,173.8	34,434.3	-20,260.4
2060	14,953.6	28,233.0	-13,279.3	3,340.1	17,336.0	-13,995.9	18,293.6	45,569.0	-27,275.3

[1]Effects of the Medicare Catastrophic Coverage Act of 1988 are not reflected.

Table F5 shows estimated income excluding interest, total outgo, and the excess of income excluding interest over total outgo (balance) of the combined OASI and DI Trust Funds, of the HI Trust Fund, and of the combined OASI, DI, and HI Trust Funds, annually for alternatives II-A and II-B.

TABLE F5.—ESTIMATED OASDI AND HI INCOME EXCLUDING INTEREST, OUTGO, AND BALANCE IN CURRENT DOLLARS FOR ALTERNATIVES II-A AND II-B, CALENDAR YEARS 1989-2063
[In billions]

Calendar year	OASDI			HI[1]			TOTAL[1]		
	Income excluding interest	Outgo	Balance	Income excluding interest	Outgo	Balance	Income excluding interest	Outgo	Balance
Alternative II-A:									
1989	$281.1	$235.7	$45.4	$68.8	$59.9	$8.9	$349.9	$295.6	$54.3
1990	304.2	250.4	53.8	73.1	66.5	6.6	377.3	316.9	60.4
1991	322.8	265.9	56.9	77.7	72.7	5.1	400.5	338.6	62.0
1992	342.1	280.1	61.9	82.4	79.2	3.2	424.5	359.4	65.1
1993	362.1	294.6	67.6	87.1	86.3	.8	449.3	380.9	68.3
1994	383.1	309.5	73.6	92.1	93.9	-1.7	475.1	403.4	71.7
1995	404.6	325.0	79.6	97.3	102.0	-4.6	501.9	427.0	74.9
1996	427.4	341.1	86.3	102.7	110.6	-7.8	530.1	451.7	78.4
1997	450.9	358.8	92.1	108.4	119.5	-11.0	559.2	478.2	81.0
1998	475.9	377.3	98.6	114.4	129.1	-14.6	590.3	506.4	83.9
1999	503.2	397.0	106.3	120.8	139.6	-18.7	624.0	536.5	87.5
2000	532.4	417.6	114.8	127.6	150.5	-22.8	660.0	568.1	91.9
2001	563.3	439.4	123.9	134.9	161.7	-26.7	698.2	601.1	97.1
2002	595.6	462.4	133.2	142.5	173.7	-31.1	738.1	636.2	102.0
2003	629.5	487.2	142.2	150.5	186.3	-35.8	779.9	673.6	106.4
2004	664.9	514.2	150.6	158.8	199.9	-41.0	823.7	714.2	109.5
2005	702.1	543.3	158.7	167.6	214.0	-46.3	869.7	757.4	112.3
2006	740.8	574.8	166.1	176.8	229.5	-52.6	917.6	804.3	113.3
2007	780.9	608.7	172.1	186.3	246.4	-60.0	967.1	855.1	112.1
2008	822.5	646.4	176.0	196.2	265.3	-69.0	1,018.6	911.7	106.9
2009	865.3	688.8	176.6	206.2	284.5	-78.2	1,071.5	973.2	98.3

TABLE F5.—ESTIMATED OASDI AND HI INCOME EXCLUDING INTEREST, OUTGO, AND BALANCE IN CURRENT DOLLARS FOR ALTERNATIVES II-A AND II-B, CALENDAR YEARS 1989-2063 (Cont.)

[In billions]

Calendar year	OASDI			HI[1]			TOTAL[1]		
	Income excluding interest	Outgo	Balance	Income excluding interest	Outgo	Balance	Income excluding interest	Outgo	Balance
Alternative II-A: (Cont.)									
2010	$910.1	$735.4	$174.7	$216.5	$302.1	-$85.5	$1,126.6	$1,037.5	$89.1
2011	956.3	786.0	170.3	227.2	320.4	-93.1	1,183.6	1,106.4	77.1
2012	1,004.0	842.1	161.9	238.2	341.6	-103.4	1,242.1	1,183.7	58.4
2013	1,054.1	903.6	150.5	249.7	365.0	-115.3	1,303.7	1,268.6	35.1
2014	1,105.8	970.2	135.5	261.6	390.4	-128.7	1,367.3	1,360.6	6.7
2015	1,159.7	1,042.3	117.4	274.0	417.3	-143.2	1,433.7	1,459.6	-25.8
2016	1,215.6	1,120.4	95.2	286.8	446.4	-159.5	1,502.4	1,566.8	-64.3
2017	1,274.0	1,204.7	69.3	300.1	478.3	-178.0	1,574.2	1,683.0	-108.7
2018	1,334.9	1,294.4	40.5	314.0	512.8	-198.6	1,648.9	1,807.1	-158.1
2019	1,398.6	1,389.5	9.1	328.6	549.5	-220.8	1,727.2	1,939.0	-211.7
2020	1,465.2	1,490.1	-24.8	343.7	588.5	-244.7	1,809.0	2,078.6	-269.5
2021	1,534.6	1,595.9	-61.3	359.5	630.7	-271.0	1,894.1	2,226.6	-332.4
2022	1,607.1	1,706.6	-99.4	376.1	676.5	-300.4	1,983.2	2,383.1	-399.8
2023	1,683.0	1,822.6	-139.5	393.3	725.5	-332.1	2,076.3	2,548.1	-471.7
2024	1,762.4	1,943.6	-181.1	411.4	777.0	-365.5	2,173.8	2,720.6	-546.7
2025	1,845.6	2,069.7	-224.0	430.4	831.0	-400.6	2,276.0	2,900.7	-624.6
2026	1,932.6	2,201.3	-268.6	450.2	888.5	-438.3	2,382.8	3,089.8	-706.9
2027	2,024.7	2,336.4	-311.6	471.2	949.3	-478.1	2,495.9	3,285.8	-789.8
2028	2,121.4	2,475.6	-354.2	493.2	1,013.2	-519.8	2,614.6	3,488.8	-874.1
2029	2,222.8	2,618.5	-395.5	516.4	1,079.4	-562.8	2,739.3	3,697.8	-958.4
2030	2,329.2	2,765.0	-435.7	540.8	1,147.6	-606.7	2,870.0	3,912.5	-1,042.5
2031	2,440.9	2,916.0	-475.0	566.4	1,218.3	-651.8	3,007.3	4,134.3	-1,126.9
2032	2,558.4	3,071.9	-513.4	593.4	1,292.3	-698.8	3,151.8	4,364.3	-1,212.4
2033	2,681.5	3,232.3	-550.6	621.7	1,369.1	-747.4	3,303.2	4,601.4	-1,298.1
2034	2,810.0	3,395.0	-584.8	651.2	1,449.3	-798.0	3,461.3	4,844.3	-1,382.9
2035	2,943.9	3,560.0	-616.0	682.1	1,533.3	-851.1	3,626.0	5,093.3	-1,467.2
2036	3,083.6	3,729.7	-646.0	714.3	1,620.1	-905.6	3,797.9	5,349.7	-1,551.7
2037	3,230.0	3,904.5	-674.4	748.2	1,708.2	-959.9	3,978.2	5,612.7	-1,634.4
2038	3,383.8	4,085.6	-701.7	783.8	1,798.3	-1,014.5	4,167.5	5,883.9	-1,716.3
2039	3,544.6	4,273.7	-729.0	821.0	1,891.4	-1,070.3	4,365.6	6,165.1	-1,799.4
2040	3,711.9	4,470.1	-758.1	859.7	1,988.3	-1,128.5	4,571.6	6,458.4	-1,886.7
2041	3,886.6	4,676.0	-789.2	900.1	2,088.9	-1,188.7	4,786.7	6,764.9	-1,978.0
2042	4,069.2	4,891.5	-822.2	942.4	2,193.4	-1,251.0	5,011.6	7,084.9	-2,073.3
2043	4,260.3	5,119.6	-859.3	986.6	2,302.1	-1,315.4	5,246.8	7,421.7	-2,174.8
2044	4,460.2	5,360.7	-900.3	1,032.8	2,416.0	-1,383.1	5,493.0	7,776.7	-2,283.6
2045	4,669.1	5,615.1	-945.9	1,081.0	2,535.6	-1,454.4	5,750.1	8,150.6	-2,400.5
2046	4,887.6	5,884.1	-996.4	1,131.5	2,660.9	-1,529.3	6,019.1	8,545.0	-2,525.8
2047	5,116.4	6,168.8	-1,052.3	1,184.3	2,791.2	-1,606.8	6,300.7	8,960.0	-2,659.2
2048	5,355.8	6,470.4	-1,114.4	1,239.4	2,926.3	-1,686.8	6,595.2	9,396.7	-2,801.3
2049	5,606.7	6,790.1	-1,183.2	1,297.2	3,067.7	-1,770.4	6,904.0	9,857.8	-2,953.7
2050	5,869.3	7,129.9	-1,260.5	1,357.6	3,216.6	-1,858.9	7,226.9	10,346.5	-3,119.5
2051	6,144.0	7,488.2	-1,344.1	1,420.8	3,373.6	-1,952.7	7,564.7	10,861.8	-3,296.9
2052	6,432.7	7,864.6	-1,431.8	1,487.2	3,538.4	-2,051.2	7,919.8	11,403.0	-3,483.1
2053	6,735.3	8,259.7	-1,524.2	1,556.8	3,711.5	-2,154.7	8,292.1	11,971.2	-3,679.0
2054	7,052.8	8,674.2	-1,621.3	1,629.7	3,894.5	-2,264.7	8,682.5	12,568.7	-3,886.1
2055	7,385.7	9,109.4	-1,723.7	1,706.3	4,087.4	-2,381.0	9,091.9	13,196.8	-4,104.8
2056	7,734.7	9,563.7	-1,828.9	1,786.5	4,291.3	-2,504.7	9,521.2	13,855.0	-4,333.7
2057	8,100.1	10,038.6	-1,938.4	1,870.5	4,504.7	-2,634.1	9,970.6	14,543.4	-4,572.6
2058	8,483.1	10,534.4	-2,051.2	1,958.6	4,728.3	-2,769.6	10,441.7	15,262.7	-4,821.0
2059	8,883.6	11,051.2	-2,167.4	2,050.7	4,962.8	-2,912.0	10,934.4	16,014.0	-5,079.5
2060	9,303.9	11,590.6	-2,286.6	2,147.5	5,210.2	-3,062.6	11,451.4	16,800.8	-5,349.3
2061	9,743.6	12,153.5	-2,409.8	2,248.7	5,470.5	-3,221.7	11,992.2	17,624.0	-5,631.6
2062	10,204.0	12,742.3	-2,538.2	2,354.7	5,743.8	-3,389.0	12,558.6	18,486.0	-5,927.3
2063	10,686.1	13,356.7	-2,670.5	2,465.7	6,032.4	-3,566.6	13,151.8	19,389.1	-6,237.2
Alternative II-B:									
1989	281.1	235.7	45.4	68.8	59.9	8.9	349.9	295.6	54.3
1990	303.3	253.2	50.1	72.8	66.8	6.0	376.1	319.9	56.1
1991	321.8	270.3	51.5	77.5	73.3	4.2	399.3	343.7	55.7
1992	342.2	287.9	54.3	82.4	80.7	1.7	424.6	368.6	56.0
1993	364.8	306.4	58.4	87.8	88.8	-.9	452.6	395.2	57.4
1994	389.0	324.8	64.1	93.5	97.4	-3.8	482.5	422.3	60.2
1995	414.1	343.8	70.3	99.5	106.7	-7.0	513.6	450.5	63.1
1996	440.7	363.9	76.7	105.9	116.7	-10.8	546.5	480.7	65.8
1997	468.2	385.2	82.9	112.5	127.3	-14.7	580.7	512.5	68.2
1998	497.7	408.1	89.6	119.6	138.6	-18.9	617.3	546.7	70.6
1999	528.5	432.2	96.2	126.8	151.1	-24.2	655.2	583.3	71.9

TABLE F5.—ESTIMATED OASDI AND HI INCOME EXCLUDING INTEREST, OUTGO, AND BALANCE IN CURRENT DOLLARS FOR ALTERNATIVES II-A AND II-B, CALENDAR YEARS 1989-2063 (Cont.)

[In billions]

Calendar year	OASDI			HI[1]			TOTAL[1]		
	Income excluding interest	Outgo	Balance	Income excluding interest	Outgo	Balance	Income excluding interest	Outgo	Balance
Alternative II-B: (Cont.)									
2000	$562.1	$457.7	$104.4	$134.7	$164.2	-$29.4	$696.8	$622.0	$74.8
2001	597.9	484.8	113.1	143.1	177.9	-34.7	740.9	662.7	78.3
2002	635.5	513.5	122.0	151.9	192.6	-40.6	787.4	706.1	81.3
2003	675.2	544.6	130.6	161.2	208.2	-46.9	836.4	752.7	83.6
2004	717.4	578.4	139.0	171.1	224.9	-53.7	888.5	803.3	85.1
2005	762.0	614.9	147.2	181.6	242.6	-60.8	943.7	857.5	86.2
2006	808.9	654.5	154.5	192.7	262.1	-69.3	1,001.6	916.5	85.1
2007	857.7	697.3	160.4	204.2	283.4	-79.1	1,062.0	980.7	81.3
2008	908.9	744.9	164.0	216.3	307.4	-91.0	1,125.2	1,052.3	72.9
2009	961.8	798.1	163.7	228.7	332.1	-103.3	1,190.6	1,130.3	60.3
2010	1,017.4	857.0	160.4	241.6	355.5	-113.8	1,259.0	1,212.5	46.5
2011	1,075.4	921.3	154.1	255.0	379.9	-124.8	1,330.4	1,301.2	29.2
2012	1,135.7	992.6	143.1	268.8	408.3	-139.3	1,404.5	1,400.8	3.7
2013	1,199.2	1,071.0	128.2	283.4	439.5	-156.0	1,482.6	1,510.5	-27.8
2014	1,265.3	1,156.5	108.8	298.6	472.8	-174.0	1,564.0	1,629.3	-65.2
2015	1,334.8	1,249.4	85.5	314.6	508.3	-193.6	1,649.5	1,757.6	-108.1
2016	1,407.4	1,350.6	56.8	331.3	546.8	-215.4	1,738.7	1,897.4	-158.6
2017	1,483.6	1,460.5	23.1	348.7	589.3	-240.5	1,832.3	2,049.7	-217.3
2018	1,563.6	1,578.3	-14.6	366.9	635.4	-268.4	1,930.5	2,213.8	-283.1
2019	1,647.8	1,704.3	-56.4	386.1	684.8	-298.6	2,034.0	2,389.1	-355.0
2020	1,736.4	1,838.4	-101.9	406.3	737.5	-331.1	2,142.7	2,575.9	-433.1
2021	1,829.2	1,980.5	-151.2	427.4	794.9	-367.3	2,256.6	2,775.3	-518.6
2022	1,926.9	2,130.9	-203.9	449.6	857.3	-407.5	2,376.5	2,988.2	-611.5
2023	2,029.6	2,289.9	-260.2	473.0	924.3	-451.2	2,502.6	3,214.2	-711.5
2024	2,137.7	2,456.8	-319.0	497.6	995.4	-497.7	2,635.3	3,452.2	-816.7
2025	2,251.8	2,632.6	-380.7	523.5	1,070.5	-546.9	2,775.3	3,703.1	-927.7
2026	2,371.8	2,817.5	-445.6	550.8	1,150.6	-599.7	2,922.7	3,968.2	-1,045.4
2027	2,499.1	3,009.2	-510.0	579.8	1,236.0	-656.1	3,078.9	4,245.2	-1,166.2
2028	2,633.6	3,208.7	-575.0	610.4	1,326.1	-715.6	3,244.1	4,534.9	-1,290.7
2029	2,775.6	3,415.2	-639.5	642.8	1,420.2	-777.3	3,418.5	4,835.5	-1,416.9
2030	2,925.4	3,629.0	-703.5	677.0	1,518.2	-841.1	3,602.4	5,147.2	-1,544.7
2031	3,083.3	3,851.4	-768.0	713.1	1,620.3	-907.1	3,796.5	5,471.7	-1,675.2
2032	3,250.5	4,083.1	-832.5	751.4	1,727.7	-976.2	4,001.9	5,810.9	-1,808.8
2033	3,426.6	4,323.3	-896.6	791.8	1,840.2	-1,048.3	4,218.4	6,163.5	-1,945.0
2034	3,611.7	4,569.2	-957.5	834.2	1,958.4	-1,124.1	4,445.9	6,527.7	-2,081.7
2035	3,805.5	4,821.1	-1,015.5	878.8	2,083.0	-1,204.1	4,684.3	6,904.1	-2,219.8
2036	4,009.1	5,082.3	-1,073.0	925.7	2,212.6	-1,286.9	4,934.8	7,294.9	-2,360.0
2037	4,223.7	5,353.2	-1,129.4	975.1	2,345.6	-1,370.4	5,198.8	7,698.8	-2,499.9
2038	4,450.3	5,635.8	-1,185.4	1,027.3	2,482.6	-1,455.2	5,477.7	8,118.4	-2,640.6
2039	4,688.8	5,931.7	-1,242.8	1,082.4	2,625.7	-1,543.2	5,771.2	8,557.3	-2,786.1
2040	4,938.5	6,241.6	-1,303.0	1,140.0	2,775.2	-1,635.1	6,078.5	9,016.8	-2,938.2
2041	5,200.8	6,567.6	-1,366.7	1,200.5	2,932.0	-1,731.5	6,401.3	9,499.7	-3,098.3
2042	5,476.6	6,911.0	-1,434.3	1,264.1	3,095.7	-1,831.5	6,740.7	10,006.7	-3,265.9
2043	5,766.7	7,274.7	-1,507.9	1,331.0	3,266.9	-1,935.8	7,097.7	10,541.6	-3,443.8
2044	6,072.3	7,661.2	-1,588.8	1,401.4	3,447.5	-2,046.0	7,473.7	11,108.7	-3,634.9
2045	6,393.3	8,071.6	-1,678.2	1,475.4	3,639.0	-2,163.6	7,868.6	11,710.6	-3,841.9
2046	6,731.1	8,506.7	-1,775.5	1,553.1	3,840.0	-2,286.8	8,284.2	12,346.6	-4,062.3
2047	7,086.9	8,969.4	-1,882.4	1,635.0	4,051.4	-2,416.3	8,721.9	13,020.8	-4,298.8
2048	7,461.1	9,461.4	-2,000.3	1,721.0	4,271.6	-2,550.5	9,182.1	13,733.0	-4,550.9
2049	7,855.2	9,984.3	-2,128.9	1,811.6	4,503.9	-2,692.2	9,666.8	14,488.2	-4,821.3
2050	8,270.4	10,542.8	-2,272.3	1,906.8	4,750.0	-2,843.0	10,177.2	15,292.8	-5,115.4
2051	8,707.6	11,133.9	-2,426.2	2,007.1	5,010.2	-3,003.0	10,714.7	16,144.1	-5,429.2
2052	9,169.3	11,757.3	-2,587.9	2,113.1	5,285.5	-3,172.4	11,282.4	17,042.8	-5,760.4
2053	9,656.1	12,418.4	-2,762.2	2,224.7	5,576.3	-3,351.5	11,880.7	17,994.6	-6,113.8
2054	10,169.4	13,116.3	-2,946.8	2,342.4	5,885.0	-3,542.5	12,511.8	19,001.3	-6,489.4
2055	10,711.0	13,853.5	-3,142.4	2,466.5	6,212.3	-3,745.6	13,177.5	20,065.7	-6,888.1
2056	11,281.5	14,628.2	-3,346.6	2,597.4	6,558.8	-3,961.3	13,878.9	21,187.0	-7,308.0
2057	11,882.7	15,442.6	-3,559.8	2,735.2	6,924.8	-4,189.5	14,617.9	22,367.4	-7,749.4
2058	12,516.4	16,300.7	-3,784.3	2,880.5	7,310.5	-4,429.9	15,396.9	23,611.2	-8,214.3
2059	13,182.9	17,199.3	-4,016.3	3,033.4	7,717.4	-4,683.9	16,216.3	24,916.8	-8,700.3
2060	13,886.3	18,144.5	-4,258.1	3,194.8	8,149.0	-4,954.1	17,081.1	26,293.4	-9,212.3
2061	14,626.4	19,137.3	-4,510.8	3,364.7	8,604.2	-5,239.5	17,991.0	27,741.5	-9,750.4
2062	15,405.8	20,179.4	-4,773.5	3,543.6	9,086.2	-5,542.5	18,949.4	29,265.6	-10,316.1
2063	16,226.8	21,275.6	-5,048.6	3,732.0	9,596.5	-5,864.4	19,958.9	30,872.1	-10,913.1

[1]Effects of the Medicare Catastrophic Coverage Act of 1988 are not reflected.

Table F6 shows estimated future benefit amounts payable to persons retiring at the normal retirement age and to persons retiring at age 65 for various pre-retirement earnings levels, based on Alternative II-B assumptions. The benefit amount is shown in current dollars, constant dollars (adjusted by the CPI indexing series shown in table F1), and as a percentage of earnings in the year before retirement. The normal retirement age is currently 65, and is scheduled to increase to age 66 during the period 2000-2005 (at a rate of 2 months per year as workers attain age 62), and to age 67 during the period 2017-2022 (also by 2 months per year as workers attain age 62). The pre-retirement earnings levels shown are: low (earnings at 45 percent of the projected SSA average wage index), average (earnings at the amount of the projected SSA average wage index), and maximum (earnings at the amount of the projected SSA contribution and benefit base).

TABLE F6.—ESTIMATED BENEFIT AMOUNT PAYABLE TO RETIRED WORKERS WITH VARIOUS PRE-RETIREMENT EARNINGS LEVELS BASED ON ALTERNATIVE II-B ASSUMPTIONS, CALENDAR YEARS 1989-2065

Calendar year	CURRENT DOLLARS			CONSTANT DOLLARS[1]			PERCENT OF EARNINGS		
	Low[2]	Average	Maximum[3]	Low[2]	Average	Maximum[3]	Low[2]	Average	Maximum[3]
Normal retirement:									
1989	$5,016	$8,022	$10,795	$5,016	$8,022	$10,795	57.5	41.4	24.0
1990	5,256	8,657	11,712	5,031	8,286	11,210	56.9	42.2	24.4
1995	6,690	11,051	15,352	5,212	8,609	11,959	55.8	41.5	24.6
2000	8,663	14,309	20,628	5,547	9,162	13,208	55.8	41.5	25.4
2005	11,119	18,402	27,454	5,852	9,685	14,448	55.3	41.2	26.1
2010	14,398	23,824	36,594	6,228	10,305	15,829	55.3	41.2	26.8
2015	18,649	30,851	48,302	6,631	10,969	17,173	55.3	41.2	27.3
2020	24,136	39,930	62,792	7,053	11,669	18,350	55.3	41.2	27.4
2025	31,037	51,439	80,760	7,455	12,355	19,398	54.9	41.0	27.2
2030	40,183	66,593	104,592	7,933	13,147	20,648	55.0	41.0	27.3
2035	52,021	86,210	135,356	8,441	13,989	21,963	55.0	41.0	27.3
2040	67,350	111,617	175,260	8,982	14,886	23,374	55.0	41.0	27.3
2045	87,200	144,506	226,914	9,559	15,841	24,874	55.0	41.0	27.3
2050	112,888	187,076	293,772	10,171	16,855	26,469	55.0	41.0	27.3
2055	146,149	242,198	380,310	10,823	17,936	28,164	55.0	41.0	27.3
2060	189,210	313,556	492,313	11,517	19,086	29,966	55.0	41.0	27.3
2065	244,952	405,937	637,297	12,255	20,309	31,883	55.0	41.0	27.3
Age-65 retirement:									
1989	5,016	8,022	10,795	5,016	8,022	10,795	57.5	41.4	24.0
1990	5,256	8,657	11,712	5,031	8,286	11,210	56.9	42.2	24.4
1995	6,690	11,051	15,352	5,212	8,609	11,959	55.8	41.5	24.6
2000	8,663	14,309	20,628	5,547	9,162	13,208	55.8	41.5	25.4
2005	10,840	17,903	26,758	5,705	9,422	14,082	53.9	40.1	25.4
2010	13,550	22,382	34,440	5,861	9,682	14,898	52.1	38.7	25.2
2015	17,542	28,980	45,450	6,237	10,304	16,159	52.1	38.7	25.7
2020	22,439	37,068	58,388	6,557	10,832	17,063	51.4	38.2	25.5
2025	27,306	45,102	71,089	6,559	10,833	17,075	48.3	35.9	24.0
2030	35,354	58,396	92,070	6,980	11,528	18,176	48.3	35.9	24.0
2035	45,769	75,593	119,149	7,427	12,266	19,334	48.3	35.9	24.0
2040	59,254	97,867	154,279	7,903	13,052	20,576	48.3	35.9	24.0
2045	76,720	126,710	199,748	8,410	13,890	21,896	48.4	35.9	24.0
2050	99,320	164,038	258,601	8,949	14,780	23,300	48.4	35.9	24.0
2055	128,578	212,365	334,760	9,522	15,727	24,791	48.4	35.9	24.0
2060	166,466	274,938	433,358	10,132	16,735	26,378	48.4	35.9	24.0
2065	215,504	355,940	560,974	10,781	17,807	28,065	48.4	35.9	24.0

[1]The adjustment from current to constant dollars is by the CPI indexing series shown in table F1.

[2]Earnings equal to 45 percent of average.

[3]Earnings equal to the SSA contribution and benefit base.

APPENDIX G.—LONG-RANGE ESTIMATES OF SOCIAL SECURITY TRUST FUND OPERATIONS AS A PERCENTAGE OF THE GROSS NATIONAL 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 national product (GNP). 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 26 and Appendix E), analyzing them as a percentage of GNP provides an additional perspective on these fund operations in relation to the total value of goods and services produced by the U.S. economy.

Table G1 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 GNP on the basis of each of the four alternative sets of assumptions. The estimated GNP on which these percentages are based is also shown in Table G1. 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. Also, neither income nor outgo for the HI program reflect the effects of the Medicare Catastrophic Coverage Act of 1988.

For the next 15 years, the OASDI balance (income excluding interest less outgo) as a percentage of GNP is projected to increase on the basis of alternatives I, II-A, and II-B, and to decline and then stabilize on the basis of alternative III. The projected HI balance as a percentage of GNP, however, decreases through 2005 under all four alternatives. The combined OASDI and HI balance as a percentage of GNP is projected, for the next 15 years, to increase under alternative I, to decline slightly under alternative II-A, to decline under alternative II-B, and to decline substantially under alternative III. Between 2005 and about 2035, under all four alternatives, both the OASDI and HI balances as percentages of GNP are projected to decline substantially because of the baby-boom generation reaching retirement age. By 2035, balances are projected to become permanently negative in each case except for the OASDI program under alternative I. After 2035, both the HI and OASDI balances as percentages of GNP are projected to change slightly or to stabilize, except for OASDI under alternative III, for which the balance as a percentage of GNP is projected to continue decreasing.

The combined OASDI and HI balances as percentages of GNP, based on the four alternatives, differ by a relatively large amount around the

end of the long-range period (about 9.0 percentage points between alternatives I and III in 2060), while differing by a much smaller amount at the end of the medium-range period (3.6 percentage points in 2015). In addition, the long-range balance as a percentage of GNP varies by a relatively large amount (from 0.66 percent, based on alternative I, to -4.09 percent, based on alternative III), while the medium-range balance varies by a smaller amount (from 1.60 to -0.18 percent). Summarized rates are calculated on the level-financing basis including the trust fund balances on January 1, 1989. (See section 5 for explanation.)

TABLE G1.—ESTIMATED OASDI AND HI INCOME EXCLUDING INTEREST, OUTGO, AND BALANCE AS A PERCENTAGE OF GNP BY ALTERNATIVE, CALENDAR YEARS 1989-2063

	Percentage of GNP									
	OASDI			HI[1]			TOTAL[1]			
Calendar year	Income excluding interest	Outgo	Balance	Income excluding interest	Outgo	Balance	Income excluding interest	Outgo	Balance	GNP in dollars
Alternative I:										
1989	5.39	4.49	0.90	1.32	1.14	0.18	6.71	5.63	1.08	$5,234
1990	5.47	4.47	1.00	1.32	1.18	.14	6.79	5.64	1.14	5,584
1991	5.47	4.41	1.06	1.32	1.19	.13	6.79	5.61	1.19	5,946
1992	5.48	4.36	1.12	1.32	1.21	.11	6.80	5.58	1.23	6,301
1993	5.49	4.31	1.18	1.32	1.23	.09	6.82	5.55	1.27	6,657
1994	5.50	4.26	1.24	1.32	1.25	.07	6.83	5.52	1.31	7,015
1995	5.51	4.21	1.30	1.33	1.27	.06	6.83	5.47	1.36	7,384
1996	5.51	4.16	1.35	1.33	1.28	.05	6.84	5.44	1.39	7,758
1997	5.51	4.12	1.39	1.33	1.29	.03	6.83	5.41	1.42	8,146
1998	5.51	4.09	1.42	1.33	1.30	.03	6.83	5.39	1.45	8,548
2000	5.53	4.03	1.50	1.33	1.32	.01	6.86	5.35	1.51	9,445
2005	5.58	3.93	1.64	1.34	1.33	.00	6.92	5.27	1.65	12,114
2010	5.61	4.09	1.53	1.34	1.35	-.01	6.96	5.44	1.52	15,298
2015	5.65	4.53	1.12	1.34	1.35	-.01	6.99	5.88	1.11	19,059
2020	5.68	5.10	.58	1.34	1.39	-.05	7.02	6.49	.53	23,621
2025	5.71	5.56	.15	1.34	1.47	-.13	7.05	7.03	.02	29,302
2030	5.72	5.77	-.05	1.34	1.55	-.21	7.06	7.32	-.26	36,587
2035	5.72	5.74	-.01	1.34	1.60	-.26	7.07	7.34	-.28	45,943
2040	5.72	5.56	.16	1.34	1.64	-.30	7.06	7.20	-.14	57,729
2045	5.71	5.41	.30	1.34	1.66	-.32	7.06	7.08	-.02	72,501
2050	5.71	5.34	.37	1.34	1.68	-.34	7.05	7.03	.03	91,093
2055	5.71	5.32	.40	1.34	1.70	-.36	7.05	7.02	.04	114,663
2060	5.71	5.29	.43	1.34	1.72	-.38	7.05	7.01	.05	144,539
Summarized rates:[2]										
25-year: 1989-2013	5.65	4.16	1.49	1.40	1.29	.11	7.05	5.45	1.60	---
50-year: 1989-2038	5.68	4.73	.95	1.37	1.38	-.01	7.05	6.11	.94	---
75-year: 1989-2063	5.69	4.92	.77	1.36	1.47	-.11	7.05	6.39	.66	---
Alternative II-A:										
1989	5.40	4.53	.87	1.32	1.15	.17	6.72	5.68	1.04	5,204
1990	5.48	4.51	.97	1.32	1.20	.12	6.79	5.71	1.09	5,555
1991	5.48	4.51	.97	1.32	1.23	.09	6.80	5.74	1.05	5,894
1992	5.48	4.49	.99	1.32	1.27	.05	6.80	5.76	1.04	6,238
1993	5.49	4.46	1.02	1.32	1.31	.01	6.81	5.77	1.04	6,601
1994	5.49	4.43	1.05	1.32	1.35	-.03	6.81	5.78	1.03	6,982
1995	5.48	4.41	1.08	1.32	1.38	-.06	6.80	5.79	1.02	7,378
1996	5.49	4.38	1.11	1.32	1.42	-.10	6.80	5.80	1.01	7,793
1997	5.48	4.36	1.12	1.32	1.45	-.13	6.79	5.81	.98	8,232
1998	5.48	4.34	1.13	1.32	1.49	-.17	6.79	5.83	.97	8,689
2000	5.50	4.31	1.18	1.32	1.55	-.24	6.81	5.86	.95	9,687
2005	5.52	4.27	1.25	1.32	1.68	-.37	6.84	5.96	.88	12,711
2010	5.54	4.47	1.06	1.32	1.84	-.52	6.85	6.31	.54	16,435
2015	5.55	4.99	.56	1.31	2.00	-.69	6.86	6.98	-.12	20,900
2020	5.56	5.65	-.09	1.30	2.23	-.93	6.86	7.89	-1.02	26,353
2025	5.57	6.24	-.68	1.30	2.51	-1.21	6.86	8.75	-1.88	33,155
2030	5.56	6.80	-1.04	1.29	2.74	-1.45	6.86	9.35	-2.49	41,865
2035	5.55	6.71	-1.16	1.29	2.89	-1.60	6.83	9.60	-2.77	53,060
2040	5.52	6.65	-1.13	1.28	2.96	-1.68	6.80	9.61	-2.81	67,197
2045	5.50	6.61	-1.11	1.27	2.99	-1.71	6.77	9.60	-2.83	84,905
2050	5.48	6.65	-1.18	1.27	3.00	-1.74	6.75	9.66	-2.91	107,143
2055	5.46	6.73	-1.27	1.26	3.02	-1.76	6.72	9.75	-3.03	135,306
2060	5.44	6.77	-1.34	1.26	3.04	-1.79	6.69	9.82	-3.13	171,113
Summarized rates:[2]										
25-year: 1989-2013	5.62	4.42	1.19	1.39	1.55	-.16	7.00	5.97	1.03	---
50-year: 1989-2038	5.59	5.19	.40	1.35	1.98	-.63	6.94	7.17	-.23	---
75-year: 1989-2063	5.56	5.60	-.04	1.33	2.26	-.94	6.89	7.87	-.98	---

TABLE G1.—ESTIMATED OASDI AND HI INCOME EXCLUDING INTEREST, OUTGO, AND BALANCE AS A PERCENTAGE OF GNP BY ALTERNATIVE, CALENDAR YEARS 1989-2063 (Cont.)

	Percentage of GNP									
	OASDI			HI[1]			TOTAL[1]			
Calendar year	Income excluding interest	Outgo	Balance	Income excluding interest	Outgo	Balance	Income excluding interest	Outgo	Balance	GNP in dollars
Alternative II-B:										
1989	5.41	4.53	0.87	1.32	1.15	0.17	6.73	5.69	1.04	$5,200
1990	5.49	4.58	.91	1.32	1.21	.11	6.80	5.79	1.02	5,530
1991	5.47	4.59	.88	1.32	1.25	.07	6.79	5.84	.95	5,884
1992	5.46	4.60	.87	1.32	1.29	.03	6.78	5.88	.89	6,264
1993	5.46	4.58	.87	1.31	1.33	-.01	6.77	5.91	.86	6,684
1994	5.46	4.56	.90	1.31	1.37	-.06	6.77	5.93	.85	7,123
1995	5.46	4.53	.93	1.31	1.41	-.09	6.77	5.94	.83	7,581
1996	5.46	4.51	.95	1.31	1.45	-.13	6.78	5.96	.82	8,066
1997	5.46	4.49	.97	1.31	1.48	-.17	6.77	5.97	.79	8,581
1998	5.45	4.47	.98	1.31	1.52	-.21	6.77	5.99	.77	9,124
2000	5.46	4.45	1.01	1.31	1.60	-.29	6.77	6.04	.73	10,291
2005	5.47	4.41	1.06	1.30	1.74	-.44	6.77	6.15	.62	13,936
2010	5.46	4.60	.86	1.30	1.91	-.61	6.75	6.50	.25	18,640
2015	5.45	5.10	.35	1.28	2.07	-.79	6.73	7.17	-.44	24,515
2020	5.43	5.75	-.32	1.27	2.31	-1.04	6.70	8.06	-1.35	31,971
2025	5.41	6.33	-.92	1.26	2.57	-1.32	6.67	8.90	-2.23	41,596
2030	5.39	6.68	-1.30	1.25	2.80	-1.55	6.63	9.48	-2.84	54,316
2035	5.35	6.77	-1.43	1.23	2.93	-1.69	6.58	9.70	-3.12	71,185
2040	5.30	6.69	-1.40	1.22	2.98	-1.75	6.52	9.67	-3.15	93,233
2045	5.25	6.63	-1.38	1.21	2.99	-1.78	6.46	9.61	-3.15	121,832
2050	5.20	6.63	-1.43	1.20	2.99	-1.79	6.40	9.62	-3.22	158,985
2055	5.16	6.67	-1.51	1.19	2.99	-1.80	6.35	9.66	-3.32	207,639
2060	5.11	6.68	-1.57	1.18	3.00	-1.82	6.29	9.68	-3.39	271,546
Summarized rates:[2]										
25-year: 1989-2013	5.58	4.54	1.03	1.38	1.59	-.21	6.95	6.13	.82	---
50-year: 1989-2038	5.50	5.31	.19	1.32	2.04	-.72	6.82	7.35	-.53	---
75-year: 1989-2063	5.41	5.71	-.29	1.29	2.32	-1.03	6.70	8.02	-1.32	---
Alternative III:										
1989	5.43	4.67	.76	1.33	1.18	.14	6.75	5.85	.90	5,066
1990	5.44	4.78	.66	1.30	1.25	.05	6.75	6.03	.72	5,358
1991	5.38	4.80	.58	1.30	1.30	-.01	6.68	6.10	.58	5,779
1992	5.40	4.88	.52	1.30	1.37	-.07	6.70	6.25	.45	6,178
1993	5.42	5.08	.34	1.30	1.45	-.15	6.72	6.53	.19	6,435
1994	5.38	5.03	.34	1.29	1.51	-.22	6.67	6.54	.13	6,954
1995	5.37	5.03	.34	1.29	1.58	-.29	6.66	6.61	.06	7,444
1996	5.38	5.04	.35	1.29	1.65	-.36	6.67	6.69	-.01	7,960
1997	5.39	5.05	.34	1.29	1.73	-.43	6.68	6.77	-.09	8,494
1998	5.39	5.06	.33	1.29	1.80	-.51	6.69	6.86	-.18	9,057
2000	5.40	5.04	.36	1.29	1.96	-.67	6.69	7.00	-.31	10,295
2005	5.39	4.99	.39	1.28	2.33	-1.05	6.67	7.33	-.66	14,229
2010	5.36	5.16	.18	1.27	2.79	-1.53	6.62	7.97	-1.35	19,456
2015	5.33	5.74	-.42	1.25	3.32	-2.07	6.57	9.06	-2.49	26,108
2020	5.30	6.51	-1.21	1.23	3.99	-2.77	6.52	10.50	-3.98	34,628
2025	5.26	7.26	-1.99	1.21	4.72	-3.51	6.48	11.98	-5.50	45,680
2030	5.23	7.83	-2.60	1.19	5.32	-4.13	6.42	13.15	-6.73	80,256
2035	5.18	8.16	-2.98	1.18	5.66	-4.48	6.35	13.82	-7.46	79,579
2040	5.12	8.32	-3.20	1.16	5.75	-4.59	6.28	14.07	-7.79	104,781
2045	5.06	8.49	-3.43	1.14	5.74	-4.60	6.20	14.24	-8.03	137,306
2050	5.01	8.76	-3.75	1.13	5.72	-4.59	6.13	14.47	-8.34	179,180
2055	4.96	9.05	-4.09	1.11	5.70	-4.59	8.07	14.74	-8.67	233,552
2060	4.90	9.26	-4.36	1.10	5.69	-4.59	6.00	14.95	-8.95	304,882
Summarized rates:[2]										
25-year: 1989-2013	5.51	5.04	.47	1.36	2.01	-.65	6.88	7.06	-.18	---
50-year: 1989-2038	5.40	6.01	-.61	1.29	3.21	-1.92	6.69	9.23	-2.53	---
75-year: 1989-2063	5.30	6.76	-1.46	1.25	3.88	-2.63	6.55	10.64	-4.09	---

[1]Effects of the Medicare Catastrophic Coverage Act of 1988 are not reflected in this table.

[2]Summarized rates are calculated on the level-financing basis including the value of the trust funds on January 1, 1989. (See section 5 for explanation.)

The difference between trust fund operations expressed as percentages of taxable payroll and those expressed as percentages of GNP can be seen by analyzing the estimated ratios of taxable payroll to GNP, which are presented in table G2. The cost as a percentage of GNP is approximately equal to the cost as a percentage of taxable payroll multiplied by the ratio of taxable payroll to GNP.

Projections of GNP for the first several years were based on assumed quarterly changes in real GNP and the GNP price deflator. Thereafter, projections of GNP were based on the projected increases in U.S. employment and labor productivity. 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 GNP, and average hours worked per year (see Appendix A).

Projections of taxable payroll, which are described in detail in Appendix A, 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 GNP primarily to the extent that average taxable earnings are assumed to increase more slowly than is productivity and to the extent that coverage of U.S. employment changes.

TABLE G2.—RATIO OF TAXABLE PAYROLL TO GNP BY ALTERNATIVE, CALENDAR YEARS 1989-2060

Calendar year	I	II-A	II-B	III
1989	0.436	0.437	0.437	0.438
1990	.435	.435	.435	.431
1991	.436	.436	.436	.429
1992	.437	.437	.435	.429
1993	.437	.437	.434	.430
1994	.438	.436	.434	.427
1995	.438	.436	.434	.427
1996	.438	.436	.434	.427
1997	.438	.436	.434	.428
1998	.438	.436	.434	.428
2000	.439	.436	.433	.427
2005	.441	.436	.431	.423
2010	.442	.434	.427	.418
2015	.442	.433	.424	.412
2020	.442	.431	.420	.406
2025	.442	.429	.416	.400
2030	.442	.427	.412	.395
2035	.442	.425	.408	.389
2040	.442	.422	.404	.384
2045	.442	.420	.400	.378
2050	.442	.418	.396	.373
2055	.442	.416	.392	.367
2060	.442	.414	.389	.362

The long-range trend in the ratio of taxable payroll to GNP reflects the assumed trend in the ratio of wages to total employee compensation—i.e., wages plus fringe benefits. The ratio of wages to total employee compensation declined at average annual rates of 0.34 percent for the 30 years 1958-87, and 0.29, 0.65, and 0.08 percent for the 10-year periods 1958-67, 1968-77, and 1978-87, respectively. This ratio is assumed to stop its historical decline for alternative I, but to continue to decline ultimately by about 0.1, 0.2, and 0.3 percent per year for alternatives II-A, II-B, and III, respectively.

Through 2015, however, the tendency toward decreases in the ratio of taxable payroll to GNP, discussed above, is at least partially offset by the gradually expanding OASDI coverage of Federal civilian employment resulting from the 1983 amendments. The ratio is projected to decrease slightly in 1990 for each alternative. For alternative I, the ratio of taxable payroll to GNP is projected to rise slightly between 1990 and 2010, thereafter remaining about the same. For alternative II-A, the ratio is projected to stay about the same from 1990 through 2005 before

beginning to decrease. For alternatives II-B and III, the ratio of taxable payroll to GNP is projected to remain about the same until the year 2000, and then to decrease for the remainder of the long-range period.

Table G3 presents estimates of income excluding interest, outgo, and balance expressed as a percentage of GNP for the OASI and DI Trust Funds, the HI Trust Fund, and the combined OASI, DI, and HI Trust Funds, as well as the actual dollar amount of GNP, for single calendar years based on assumption sets II-A and II-B.

TABLE G3.—ESTIMATED OASDI AND HI INCOME EXCLUDING INTEREST, OUTGO, AND BALANCE AS A PERCENTAGE OF GNP FOR ALTERNATIVES II-A AND II-B, CALENDAR YEARS 1989-2063

	Percentage of GNP									
	OASDI			HI[1]			TOTAL[1]			
Calendar year	Income excluding interest	Outgo	Balance	Income excluding interest	Outgo	Balance	Income excluding interest	Outgo	Balance	GNP in dollars
Alternative II-A:										
1989	5.40	4.53	0.87	1.32	1.15	0.17	6.72	5.68	1.04	$5,204
1990	5.48	4.51	.97	1.32	1.20	.12	6.79	5.71	1.09	5,555
1991	5.48	4.51	.97	1.32	1.23	.09	6.80	5.74	1.05	5,894
1992	5.48	4.49	.99	1.32	1.27	.05	6.80	5.76	1.04	6,238
1993	5.49	4.46	1.02	1.32	1.31	.01	6.81	5.77	1.04	6,601
1994	5.49	4.43	1.05	1.32	1.35	-.03	6.81	5.78	1.03	6,982
1995	5.48	4.41	1.08	1.32	1.38	-.06	6.80	5.79	1.02	7,378
1996	5.48	4.38	1.11	1.32	1.42	-.10	6.80	5.80	1.01	7,793
1997	5.48	4.36	1.12	1.32	1.45	-.13	6.79	5.81	.98	8,232
1998	5.48	4.34	1.13	1.32	1.49	-.17	6.79	5.83	.97	8,689
1999	5.49	4.33	1.16	1.32	1.52	-.20	6.81	5.85	.95	9,167
2000	5.50	4.31	1.18	1.32	1.55	-.24	6.81	5.86	.95	9,687
2001	5.50	4.29	1.21	1.32	1.58	-.26	6.82	5.87	.95	10,236
2002	5.51	4.28	1.23	1.32	1.61	-.29	6.83	5.88	.94	10,812
2003	5.51	4.27	1.25	1.32	1.63	-.31	6.83	5.90	.93	11,415
2004	5.52	4.27	1.25	1.32	1.66	-.34	6.84	5.93	.91	12,046
2005	5.52	4.27	1.25	1.32	1.68	-.37	6.84	5.96	.88	12,711
2006	5.53	4.29	1.24	1.32	1.71	-.39	6.85	6.00	.85	13,403
2007	5.53	4.31	1.22	1.32	1.74	-.43	6.85	6.06	.79	14,120
2008	5.53	4.35	1.18	1.32	1.78	-.47	6.85	6.13	.72	14,864
2009	5.54	4.41	1.13	1.32	1.82	-.50	6.85	6.23	.63	15,633
2010	5.54	4.47	1.06	1.32	1.84	-.52	6.85	6.31	.54	16,435
2011	5.54	4.55	.99	1.32	1.86	-.54	6.86	6.41	.45	17,263
2012	5.54	4.65	.89	1.31	1.89	-.57	6.86	6.54	.32	18,113
2013	5.55	4.75	.79	1.31	1.92	-.61	6.86	6.67	.18	19,006
2014	5.55	4.87	.68	1.31	1.96	-.65	6.86	6.83	.03	19,933
2015	5.55	4.99	.56	1.31	2.00	-.69	6.86	6.98	-.12	20,900
2016	5.55	5.12	.43	1.31	2.04	-.73	6.86	7.15	-.29	21,899
2017	5.55	5.25	.30	1.31	2.08	-.78	6.86	7.34	-.47	22,942
2018	5.56	5.39	.17	1.31	2.13	-.83	6.86	7.52	-.66	24,028
2019	5.56	5.52	.04	1.31	2.18	-.88	6.86	7.71	-.84	25,165
2020	5.56	5.65	-.09	1.30	2.23	-.93	6.86	7.89	-1.02	26,353
2021	5.56	5.78	-.22	1.30	2.29	-.98	6.87	8.07	-1.21	27,591
2022	5.56	5.91	-.34	1.30	2.34	-1.04	6.87	8.25	-1.38	28,887
2023	5.56	6.03	-.46	1.30	2.40	-1.10	6.87	8.43	-1.56	30,243
2024	5.57	6.14	-.57	1.30	2.45	-1.15	6.87	8.59	-1.73	31,664
2025	5.57	6.24	-.68	1.30	2.51	-1.21	6.86	8.75	-1.88	33,155
2026	5.57	6.34	-.77	1.30	2.56	-1.26	6.86	8.90	-2.04	34,715
2027	5.57	6.42	-.86	1.30	2.61	-1.31	6.86	9.03	-2.17	36,371
2028	5.57	6.50	-.93	1.29	2.66	-1.36	6.86	9.15	-2.29	38,110
2029	5.57	6.56	-.99	1.29	2.70	-1.41	6.86	9.26	-2.40	39,942
2030	5.56	6.60	-1.04	1.29	2.74	-1.45	6.86	9.35	-2.49	41,865
2031	5.56	6.64	-1.08	1.29	2.78	-1.49	6.85	9.42	-2.57	43,889
2032	5.56	6.67	-1.12	1.29	2.81	-1.52	6.85	9.48	-2.63	46,024
2033	5.56	6.70	-1.14	1.29	2.84	-1.55	6.84	9.53	-2.69	48,265
2034	5.55	6.71	-1.16	1.29	2.86	-1.58	6.84	9.57	-2.73	50,611
2035	5.55	6.71	-1.16	1.29	2.89	-1.60	6.83	9.60	-2.77	53,060
2036	5.54	6.71	-1.16	1.28	2.91	-1.63	6.83	9.62	-2.79	55,622
2037	5.54	6.70	-1.16	1.28	2.93	-1.65	6.82	9.63	-2.80	58,313
2038	5.53	6.68	-1.15	1.28	2.94	-1.66	6.82	9.62	-2.81	61,144
2039	5.53	6.67	-1.14	1.28	2.95	-1.67	6.81	9.62	-2.81	64,110

TABLE G3.—ESTIMATED OASDI AND HI INCOME EXCLUDING INTEREST, OUTGO, AND BALANCE AS A PERCENTAGE OF GNP FOR ALTERNATIVES II-A AND II-B, CALENDAR YEARS 1989-2063 (Cont.)

	Percentage of GNP									
	OASDI			HI[1]			TOTAL[1]			
Calendar year	Income excluding interest	Outgo	Balance	Income excluding interest	Outgo	Balance	Income excluding interest	Outgo	Balance	GNP in dollars
Alternative II-A: (Cont.)										
2040	5.52	6.65	-1.13	1.28	2.96	-1.68	6.80	9.61	-2.81	$67,197
2041	5.52	6.64	-1.12	1.28	2.97	-1.69	6.80	9.61	-2.81	70,425
2042	5.51	6.63	-1.11	1.28	2.97	-1.70	6.79	9.60	-2.81	73,801
2043	5.51	6.62	-1.11	1.28	2.98	-1.70	6.78	9.60	-2.81	77,337
2044	5.50	6.61	-1.11	1.27	2.98	-1.71	6.78	9.60	-2.82	81,038
2045	5.50	6.61	-1.11	1.27	2.99	-1.71	6.77	9.60	-2.83	84,905
2046	5.49	6.61	-1.12	1.27	2.99	-1.72	6.77	9.61	-2.84	88,953
2047	5.49	6.62	-1.13	1.27	3.00	-1.72	6.76	9.61	-2.85	93,192
2048	5.49	6.63	-1.14	1.27	3.00	-1.73	6.76	9.63	-2.87	97,627
2049	5.48	6.64	-1.16	1.27	3.00	-1.73	6.75	9.64	-2.89	102,279
2050	5.48	6.65	-1.18	1.27	3.00	-1.74	6.75	9.66	-2.91	107,143
2051	5.47	6.67	-1.20	1.27	3.01	-1.74	6.74	9.68	-2.94	112,234
2052	5.47	6.69	-1.22	1.26	3.01	-1.74	6.74	9.70	-2.96	117,592
2053	5.47	6.70	-1.24	1.26	3.01	-1.75	6.73	9.72	-2.99	123,214
2054	5.46	6.72	-1.26	1.26	3.02	-1.75	6.72	9.73	-3.01	129,113
2055	5.46	6.73	-1.27	1.26	3.02	-1.76	6.72	9.75	-3.03	135,306
2056	5.45	6.74	-1.29	1.26	3.03	-1.77	6.71	9.77	-3.06	141,806
2057	5.45	6.75	-1.30	1.26	3.03	-1.77	6.71	9.79	-3.08	148,617
2058	5.45	6.76	-1.32	1.26	3.04	-1.78	6.70	9.80	-3.10	155,763
2059	5.44	6.77	-1.33	1.26	3.04	-1.78	6.70	9.81	-3.11	163,249
2060	5.44	6.77	-1.34	1.26	3.04	-1.79	6.69	9.82	-3.13	171,113
2061	5.43	6.78	-1.34	1.25	3.05	-1.80	6.69	9.83	-3.14	179,348
2062	5.43	6.78	-1.35	1.25	3.06	-1.80	6.68	9.83	-3.15	187,982
2063	5.42	6.78	-1.36	1.25	3.06	-1.81	6.67	9.84	-3.17	197,033
Alternative II-B:										
1989	5.41	4.53	.87	1.32	1.15	.17	6.73	5.69	1.04	5,200
1990	5.48	4.58	.91	1.32	1.21	.11	6.80	5.79	1.02	5,530
1991	5.47	4.59	.87	1.32	1.25	.07	6.79	5.84	.95	5,884
1992	5.46	4.60	.87	1.32	1.29	.03	6.78	5.88	.89	6,264
1993	5.46	4.58	.87	1.31	1.33	-.01	6.77	5.91	.86	6,684
1994	5.46	4.56	.90	1.31	1.37	-.06	6.77	5.93	.84	7,123
1995	5.46	4.53	.93	1.31	1.41	-.09	6.77	5.94	.83	7,581
1996	5.46	4.51	.95	1.31	1.45	-.13	6.78	5.96	.82	8,066
1997	5.46	4.49	.97	1.31	1.48	-.17	6.77	5.97	.79	8,581
1998	5.45	4.47	.98	1.31	1.52	-.21	6.77	5.99	.77	9,124
1999	5.46	4.47	.99	1.31	1.56	-.25	6.77	6.03	.74	9,679
2000	5.46	4.45	1.01	1.31	1.60	-.29	6.77	6.04	.73	10,291
2001	5.46	4.43	1.03	1.31	1.63	-.32	6.77	6.06	.72	10,941
2002	5.47	4.42	1.05	1.31	1.66	-.35	6.77	6.07	.70	11,625
2003	5.47	4.41	1.06	1.31	1.69	-.38	6.77	6.10	.68	12,348
2004	5.47	4.41	1.06	1.30	1.71	-.41	6.77	6.12	.65	13,118
2005	5.47	4.41	1.06	1.30	1.74	-.44	6.77	6.15	.62	13,936
2006	5.47	4.42	1.04	1.30	1.77	-.47	6.77	6.19	.57	14,796
2007	5.47	4.44	1.02	1.30	1.81	-.50	6.77	6.25	.52	15,693
2008	5.46	4.48	.99	1.30	1.85	-.55	6.76	6.33	.44	16,633
2009	5.46	4.53	.93	1.30	1.89	-.59	6.76	6.42	.34	17,612
2010	5.46	4.60	.86	1.30	1.91	-.61	6.75	6.50	.25	18,640
2011	5.46	4.67	.78	1.29	1.93	-.63	6.75	6.60	.15	19,712
2012	5.45	4.77	.69	1.29	1.96	-.67	6.74	6.73	.02	20,824
2013	5.45	4.87	.58	1.29	2.00	-.71	6.74	6.87	-.13	21,996
2014	5.45	4.98	.47	1.29	2.04	-.75	6.73	7.02	-.28	23,224
2015	5.45	5.10	.35	1.28	2.07	-.79	6.73	7.17	-.44	24,515
2016	5.44	5.22	.22	1.28	2.11	-.83	6.72	7.34	-.61	25,862
2017	5.44	5.35	.08	1.28	2.16	-.88	6.72	7.51	-.80	27,276
2018	5.44	5.49	-.05	1.28	2.21	-.93	6.71	7.70	-.98	28,760
2019	5.43	5.62	-.19	1.27	2.26	-.98	6.71	7.88	-1.17	30,325
2020	5.43	5.75	-.32	1.27	2.31	-1.04	6.70	8.06	-1.35	31,971
2021	5.43	5.88	-.45	1.27	2.36	-1.09	6.70	8.24	-1.54	33,698
2022	5.42	6.00	-.57	1.27	2.41	-1.15	6.69	8.41	-1.72	35,519
2023	5.42	6.12	-.70	1.26	2.47	-1.21	6.68	8.59	-1.90	37,437
2024	5.42	6.23	-.81	1.26	2.52	-1.26	6.68	8.75	-2.07	39,459
2025	5.41	6.33	-.92	1.26	2.57	-1.32	6.67	8.90	-2.23	41,596
2026	5.41	6.43	-1.02	1.26	2.62	-1.37	6.67	9.05	-2.38	43,850
2027	5.40	6.51	-1.10	1.25	2.67	-1.42	6.66	9.18	-2.52	46,247
2028	5.40	6.58	-1.18	1.25	2.72	-1.47	6.65	9.30	-2.65	48,785
2029	5.39	6.64	-1.24	1.25	2.76	-1.51	6.64	9.39	-2.75	51,472

TABLE G3.—ESTIMATED OASDI AND HI INCOME EXCLUDING INTEREST, OUTGO, AND BALANCE AS A PERCENTAGE OF GNP FOR ALTERNATIVES II-A AND II-B, CALENDAR YEARS 1989-2063 (Cont.)

Calendar year	Percentage of GNP									GNP in dollars
	OASDI			HI[1]			TOTAL[1]			
	Income excluding interest	Outgo	Balance	Income excluding interest	Outgo	Balance	Income excluding interest	Outgo	Balance	
Alternative II-B: (Cont.)										
2030	5.39	6.68	-1.30	1.25	2.80	-1.55	6.63	9.48	-2.84	$54,316
2031	5.38	6.72	-1.34	1.24	2.83	-1.58	6.62	9.55	-2.92	57,323
2032	5.37	6.75	-1.38	1.24	2.86	-1.61	6.61	9.60	-2.99	60,516
2033	5.36	6.77	-1.40	1.24	2.88	-1.64	6.60	9.65	-3.04	63,889
2034	5.35	6.77	-1.42	1.24	2.90	-1.67	6.59	9.68	-3.09	67,446
2035	5.35	6.77	-1.43	1.23	2.93	-1.69	6.58	9.70	-3.12	71,185
2036	5.34	6.77	-1.43	1.23	2.95	-1.71	6.57	9.71	-3.14	75,126
2037	5.33	6.75	-1.42	1.23	2.96	-1.73	6.56	9.71	-3.15	79,291
2038	5.32	6.73	-1.42	1.23	2.97	-1.74	6.54	9.70	-3.15	83,701
2039	5.31	6.71	-1.41	1.23	2.97	-1.75	6.53	9.69	-3.15	88,352
2040	5.30	6.69	-1.40	1.22	2.98	-1.75	6.52	9.67	-3.15	93,233
2041	5.29	6.68	-1.39	1.22	2.98	-1.76	6.51	9.66	-3.15	98,371
2042	5.28	6.66	-1.38	1.22	2.98	-1.76	6.49	9.64	-3.15	103,784
2043	5.27	6.64	-1.38	1.22	2.98	-1.77	6.48	9.63	-3.15	109,488
2044	5.26	6.63	-1.38	1.21	2.98	-1.77	6.47	9.62	-3.15	115,505
2045	5.25	6.63	-1.38	1.21	2.99	-1.78	6.46	9.61	-3.15	121,832
2046	5.24	6.62	-1.38	1.21	2.99	-1.78	6.45	9.61	-3.16	128,502
2047	5.23	6.62	-1.39	1.21	2.99	-1.78	6.44	9.61	-3.17	135,535
2048	5.22	6.62	-1.40	1.20	2.99	-1.78	6.42	9.61	-3.18	142,939
2049	5.21	6.62	-1.41	1.20	2.99	-1.79	6.41	9.61	-3.20	150,751
2050	5.20	6.63	-1.43	1.20	2.99	-1.79	6.40	9.62	-3.22	158,985
2051	5.19	6.64	-1.45	1.20	2.99	-1.79	6.39	9.63	-3.24	167,670
2052	5.18	6.65	-1.46	1.19	2.99	-1.79	6.38	9.64	-3.26	176,858
2053	5.18	6.66	-1.48	1.19	2.99	-1.80	6.37	9.65	-3.28	186,561
2054	5.17	6.66	-1.50	1.19	2.99	-1.80	6.36	9.65	-3.30	196,808
2055	5.16	6.67	-1.51	1.19	2.99	-1.80	6.35	9.66	-3.32	207,639
2056	5.15	6.68	-1.53	1.19	2.99	-1.81	6.34	9.67	-3.34	219,075
2057	5.14	6.68	-1.54	1.18	3.00	-1.81	6.32	9.68	-3.35	231,145
2058	5.13	6.68	-1.55	1.18	3.00	-1.82	6.31	9.68	-3.37	243,891
2059	5.12	6.68	-1.56	1.18	3.00	-1.82	6.30	9.68	-3.38	257,332
2060	5.11	6.68	-1.57	1.18	3.00	-1.82	6.29	9.68	-3.39	271,546
2061	5.10	6.68	-1.57	1.17	3.00	-1.83	6.28	9.68	-3.40	286,532
2062	5.10	6.67	-1.58	1.17	3.01	-1.83	6.27	9.68	-3.41	302,349
2063	5.09	6.67	-1.58	1.17	3.01	-1.84	6.26	9.68	-3.42	319,044

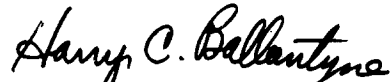
[1]Effects of the Medicare Catastrophic Coverage Act of 1988 are not reflected in this table.

APPENDIX H.—STATEMENT OF ACTUARIAL OPINION

It is my opinion that (1) subject to the qualification described below, the underlying techniques and methodology used herein to evaluate the financial and actuarial status of the Federal Old-Age and Survivors Insurance and Disability Insurance Trust Funds are generally accepted within the actuarial profession; and (2) the assumptions used and the resulting actuarial estimates are, in the aggregate, reasonable for the purpose of evaluating the financial and actuarial status of the trust funds, taking into consideration the experience and expectations of the program.

The decision of the Board of Trustees, as stated herein, to eliminate the explicit test of "close actuarial balance" should, in my opinion, be reconsidered. A specific criterion for assessing the adequacy of long-range program financing is desirable in order to satisfy the "statement of the actuarial status of the Trust Funds" that is required by law. The test of close actuarial balance is one such criterion and, in fact, has been included in each annual report since the late 1950's. This test has had a positive influence in maintaining the actuarial balance of the OASDI program, or restoring actuarial balance when required. In addition, this test is generally accepted within the actuarial profession as a valid criterion for use in evaluating the actuarial status of the OASDI program. Although "close actuarial balance" cannot characterize all aspects of the actuarial status of the program, in my professional opinion, it should continue to be used as the primary test of the long-range actuarial soundness of the program. For these reasons, I am qualifying my certification statement for this annual report.

It is important to note that the above qualification refers only to the elimination from this report of "close actuarial balance" as a summmarizing concept of the long-range financial status of the program. The projections of annual income and expenditures and all other tests presented in this report are, in my opinion, reasonable for the purpose stated.



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Member of the American Academy of Actuaries,
Chief Actuary, Social Security Administration

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