

1986 ANNUAL REPORT OF THE BOARD OF TRUSTEES  
OF THE FEDERAL OLD-AGE AND SURVIVORS IN-  
SURANCE AND DISABILITY INSURANCE TRUST  
FUNDS

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COMMUNICATION

FROM

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

TRANSMITTING

THE 1986 ANNUAL REPORT OF THE BOARD OF TRUSTEES OF THE  
FEDERAL OLD-AGE AND SURVIVORS INSURANCE AND THE FED-  
ERAL DISABILITY INSURANCE TRUST FUNDS, PURSUANT TO 42  
U.S.C. 401(c)(2), 1395i(b)(2), 1395t(b)(2)



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## LETTER OF TRANSMITTAL

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BOARD OF TRUSTEES OF THE  
FEDERAL OLD-AGE AND SURVIVORS INSURANCE  
AND DISABILITY INSURANCE TRUST FUNDS,  
Washington, D.C., March 31, 1986

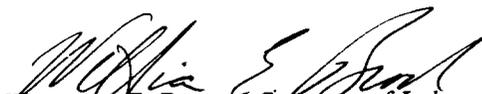
HONORABLE THOMAS P. O'NEILL, JR.  
Speaker of the House of Representatives  
Washington, D.C.

HONORABLE GEORGE BUSH  
President of the Senate  
Washington, D.C.

GENTLEMEN: We have the honor of transmitting to you the 1986 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 46th such report), in compliance with section 201(c)(2) of the Social Security Act.

Respectfully,

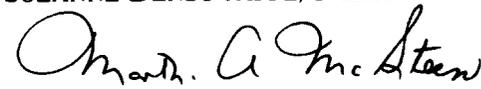
  
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SUZANNE DENBO JAFFE, *Trustee.*

  
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Commissioner of Social Security, and  
Secretary, Board of Trustees.*



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# 1986 ANNUAL REPORT OF THE BOARD OF TRUSTEES OF THE FEDERAL OLD-AGE AND SURVIVORS INSURANCE AND DISABILITY INSURANCE TRUST FUNDS

## SUMMARY

### *Highlights*

The actuarial estimates shown in the 1986 Annual Report indicate that the assets of the Old-Age and Survivors Insurance (OASI) and Disability Insurance (DI) Trust Funds will be sufficient to permit the timely payment of OASDI benefits for many years into the future. The long-range 75-year estimates indicate that, under the intermediate assumptions, the OASDI program will experience about three decades of actuarial surpluses, with continuing actuarial deficits thereafter. The surpluses in the first part of the 75-year projection period approximately offset the later deficits, so that the program, as a whole, is said to be in close actuarial balance.

Trust fund assets grew more rapidly in 1985 than was estimated in the 1985 Annual Report, reflecting both continued growth in the economy and a \$3.2-billion transfer from the general fund of the Treasury for the costs of pre-1957 military-service wage credits. As a result, the trust fund levels are higher than had been expected, and the ability of the OASDI program to withstand temporary economic downturns has improved significantly. The estimates for each trust fund, separately, indicate that both the OASI and the DI programs can operate satisfactorily for many years. During the next several years, however, the assets of the DI Trust Fund could decline to a relatively low level, if experience is very adverse.

For the long-range 75-year projection period, the OASDI program has an average annual deficit of 0.44 percent of taxable payroll, based on the intermediate II-B assumptions. (The long-range deficit under alternative II-B in the 1985 report was about the same—0.41 percent of payroll.) The long-range deficit represents about 3 percent of the average annual cost rate. The program is therefore in "close actuarial balance," although imbalances occur in the 25-year subperiods.

For OASI and DI, separately, the average long-range deficits, based on the II-B assumptions, are 0.29 percent and 0.15 percent of taxable payroll, respectively. The deficit for DI represents about 10 percent of the average annual cost rate; thus, the DI program is not in close actuarial balance. The DI program could be brought into close actuarial balance by a small reallocation of the contribution rate from OASI to DI, in such a way that the OASI program would remain in close actuarial balance. While such a reallocation is not recommended at this time, the financial condition of the DI program will need to be carefully monitored for the next several years.

### 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 includes two members of the public, Mary Falvey Fuller and Suzanne Denbo Jaffe, who are serving 4-year terms which began on September 28, 1984.

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 except in the context of interfund borrowing.) The contribution rates are established by law. Contributions are paid on earnings not exceeding the earnings base—\$42,000 in 1986. 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
1986-87.....	5.20	0.50	5.70
1988-89.....	5.53	.53	6.06
1990-99.....	5.60	.60	6.20
2000 & later.....	5.49	.71	6.20

Since 1984, a portion (not more than one-half) of OASDI benefits may be subject to Federal income taxation under certain circumstances. The revenues collected as a result of this provision are transferred from the general fund of the Treasury to the trust funds, in advance of their actual collection.

The outgo of the OASDI 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 1985, about 122 million workers made contributions to the OASDI program. At the end of September 1985, 36.9 million persons were receiving monthly OASDI benefit payments. Administrative expenses represented about 1.2 percent of benefit payments in fiscal 1985.

Income to the OASDI trust funds in fiscal 1985 was \$197.9 billion, while outgo was \$188.5 billion. In addition, \$1.8 billion was transferred from the OASI fund to the Hospital Insurance (HI) fund, as partial repayment of interfund loans made in 1982. Thus, the assets of the OASDI funds increased by \$7.5 billion during the fiscal year. A summary of the OASDI financial operations in fiscal 1985 is shown below (in billions):

Trust fund assets at end of fiscal 1984.....	\$32.2
Income during year:	192.2
Contributions.....	3.4
Revenue from taxation of benefits.....	.1
Payments from general fund.....	2.2
Net interest.....	197.9
Total income.....	
Outgo during year:	184.0
Benefit payments.....	2.2
Administrative expenses.....	2.4
Transfer to Railroad Retirement program.....	188.5
Total outgo.....	
Loan repayment to HI fund.....	1.8
Net increase in assets during year.....	7.5
Trust fund assets at end of fiscal 1985.....	39.7

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

The growth of the trust funds in calendar year 1985 was such that the entire \$10.6 billion in interfund loans owed from the OASI Trust Fund to the HI Trust Fund in January 1986 was repaid then—a year sooner than had been expected. The \$2.5 billion currently owed from the OASI fund to the DI fund is scheduled to be repaid in April 1986.

While some decline in the *invested* assets of the trust funds occurred late in 1985 because of debt-limit problems, the assets are now fully invested. Legislative action by the Congress, with the support of the Administration, restored the long-term bonds that had been redeemed and prevented any losses of interest earnings to the funds.

### 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. Economic factors affect the levels of workers' earnings and OASDI benefits, while demographic factors affect the numbers of people making contributions and receiving benefits.

This year's estimates were prepared using four alternative sets of assumptions. Two sets—alternatives II-A and II-B—are designated "intermediate." These 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 instead on the balance between income and outgo during the projection period.

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 25 percent, the amount in the fund represents about 3 months’ outgo. At the beginning of 1986, the fund ratio for OASDI was about 29 percent. A ratio of 8-9 percent is required to pay benefits at the beginning of each month.

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. Average income and cost rates can be compared directly to measure the adequacy of the program’s financing.

For the 75-year long-range projection period, the *actuarial balance* is the difference between the estimated average income rate and the estimated average cost rate. If this actuarial balance is positive, the program is said to have an actuarial surplus, and if negative, 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. The program is in “*close actuarial balance*” for the long-range period if the average income rate is between 95 and 105 percent of the average cost rate.

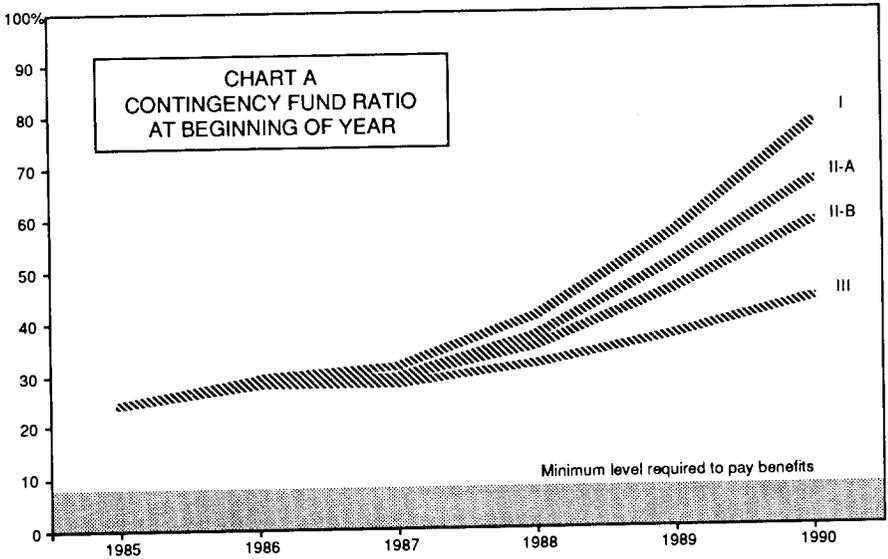
#### 4. Short-Range Financing (1986-90)

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 1986 report indicate that the 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 indicate that the OASI and DI programs, separately, can operate satisfactorily for many years. During the next several years, however, the DI contingency fund ratio could decline to a relatively low level, as shown by the pessimistic estimates.

Chart A shows the OASDI contingency fund ratio for 1985, 24 percent, and the projected OASDI ratios for 1986-90, on the basis of all

four sets of assumptions. The fund ratios are generally estimated to increase each year.



### 5. Long-Range Financing (1986-2060)

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 on future birth rates, which are subject to more variability.

Several important demographic trends are anticipated to 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 for each OASDI beneficiary. ("Beneficiaries" includes not only retired workers, but also disabled workers, spouses, children, and survivor beneficiaries.) This ratio declined from 5.1 in 1960 to 3.3 in 1985. It is estimated to reach about 2 by the middle of the next century, based on

the intermediate assumptions, as the number of beneficiaries increases more rapidly than the number of covered workers.

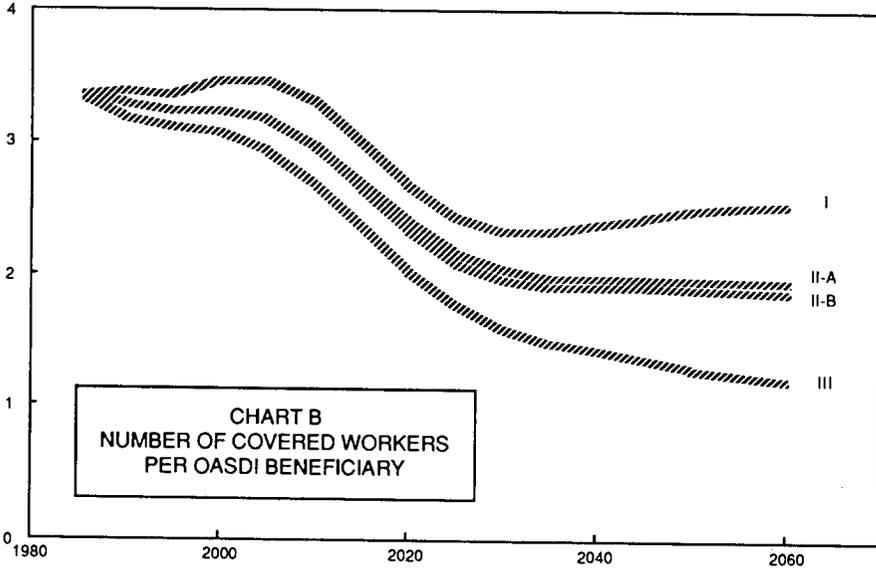
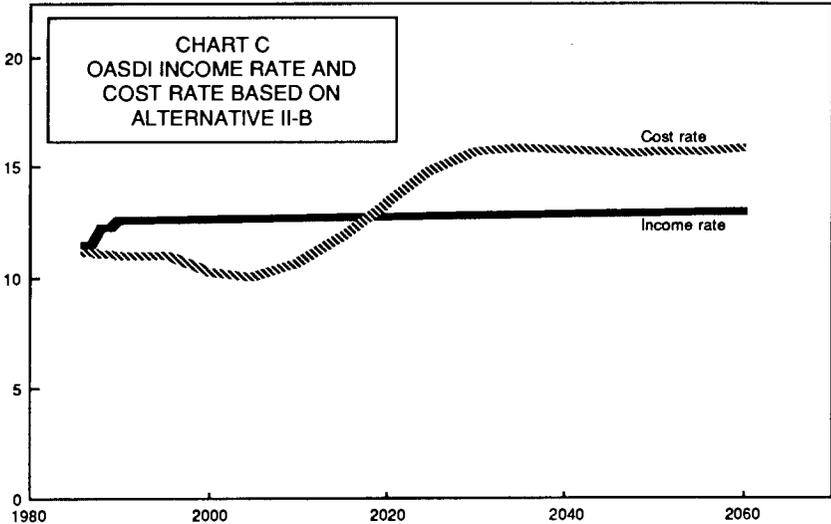


Chart C shows the estimated OASDI income and cost rates for the long-range projection period, based on the intermediate II-B assumptions. During the first three decades of this period, the estimates indicate that the income rate will generally exceed the cost rate, resulting in substantial actuarial surpluses each year. Beginning about 2020, the reverse is true, with the cost rate exceeding the income rate, thus resulting in substantial deficits. These actuarial surpluses and deficits do not reflect interest earnings, which result in trust fund growth continuing for about 15 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.

The long-range OASDI actuarial deficit of 0.44 percent of taxable payroll, based on the intermediate II-B assumptions, consists of an average annual surplus of 2.12 percent of taxable payroll for the first 25-year subperiod, and average annual deficits of 0.89 and 2.56 percent for the second and third 25-year subperiods, respectively. Thus, in the absence of other changes, the long-range actuarial balance will tend to decline slowly in future annual reports, as the valuation period moves forward and near-term years of surplus are replaced by distant years of deficit. The actuarial deficits in the later years of the 75-year projection period are caused primarily by the demographic trends described above.



The table below presents a comparison of the average 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. Based on the intermediate II-B assumptions, the OASDI program is in "close actuarial balance," because the estimated average income rate is between 95 and 105 percent of the average cost rate. The 0.44-percent deficit represents about 3 percent of the average cost rate.

Assumptions	Income rate	Cost rate	Actuarial balance
Optimistic.....	12.82	10.52	2.31
Intermediate II-A.....	12.92	12.64	.28
Intermediate II-B.....	12.96	13.40	-.44
Pessimistic.....	13.16	17.64	-4.49

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



### **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 serving 4-year terms which began on September 28, 1984.

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 1986, is the 46th such report.

## **II. SOCIAL SECURITY AMENDMENTS SINCE THE 1985 REPORT**

Since the 1985 Annual Report was transmitted to the Congress on March 28, 1985, several laws affecting the OASDI program have been enacted. The legislative changes having a significant effect on the financial status of the program are described below.

Two laws (Public Law 99-155, enacted into law on November 14, 1985, and the Balanced Budget and Emergency Deficit Control Act of 1985, Public Law 99-177, enacted into law on December 12, 1985) included provisions which were designed to remedy certain problems in 1984 and 1985 involving the statutory limit on public debt. When the applicable public-debt limit was reached in each of those years, the Department of the Treasury was unable to follow the normal investment practices with respect to the assets of the trust funds. The specific provisions required (1) transfers amounting to \$382 million to be made from the general fund of the Treasury to the trust funds, on December 31, 1985, to replace the past and future interest income lost primarily because of the replacement of certain bonds with lower-yielding securities in some months of 1984, and (2) the restoration of the portfolio of long-term bonds that would have been held if the debt-limit problems in 1985 had not caused the premature redemption of some bonds.

The Balanced Budget and Emergency Deficit Control Act of 1985 also changed the accounting procedures of the Federal Government with respect to the Social Security trust funds. Effective with fiscal 1986, the financial operations of the OASI and DI Trust Funds are removed from the Federal Budget for most purposes. In calculating whether the Budget meets the deficit targets specified in the law, however, the operations of the trust funds are included. The financial effects of this accounting change are uncertain.

Detailed information regarding these laws can be found in documents prepared by and for the Congress. The actuarial estimates shown in this report reflect the effects of these amendments.

### III. NATURE OF THE TRUST FUNDS

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 major sources of receipts of these two funds are (1) amounts appropriated to each of them under permanent authority on the basis of contributions paid by workers, their employers, and individuals with self-employment income, in work covered by the OASDI program, and (2) amounts deposited in each of them representing contributions paid by or on behalf of workers employed by State and local governments and by such employers with respect to wages covered by the program. All employees, and their employers, in covered employment are required to pay contributions with respect to their wages. Employees are required to pay contributions with respect to all cash tips, but employers are 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 earnings 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 1987 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 1982-86 were again determined under the automatic-adjustment provisions, as will be the bases in 1987 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 <sup>1</sup> .....	37,800	5.700	5.200	.500	11.4000	10.4000	1.0000
1985 <sup>1</sup> .....	39,600	5.700	5.200	.500	11.4000	10.4000	1.0000
1986 <sup>1</sup> .....	42,000	5.700	5.200	.500	11.4000	10.4000	1.0000
Rates scheduled in present law:							
1987 <sup>1</sup> .....	( <sup>2</sup> )	5.700	5.200	.500	11.4000	10.4000	1.0000
1988-89 <sup>1</sup> .....	( <sup>2</sup> )	6.060	5.530	.530	12.1200	11.0600	1.0600
1990-99.....	( <sup>2</sup> )	6.200	5.600	.600	12.4000	11.2000	1.2000
2000 and later.....	( <sup>2</sup> )	6.200	5.490	.710	12.4000	10.9800	1.4200

<sup>1</sup>See text for description of tax credits.

<sup>2</sup>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, 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 a 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 Federal income taxes, equal to half of the combined OASDI and HI contributions payable, but this will not affect appropriations to the trust funds.

All contributions, except for amounts received under State agreements for coverage under the program, 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.

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 programs. 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.

The Social Security Act authorizes 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. The timing and amounts of the loans are largely at the discretion of the Managing Trustee, although no loans can be made after 1987. Loans may not be made from a trust fund if its assets (excluding any amounts borrowed) represent less than 10 percent of its current annual rate of expenditures. The law also specifies that interest on borrowed amounts will be paid monthly at a rate “equal to the rate which the lending Trust Fund would earn on the amount involved if the loan were an investment” and provides certain criteria for repaying outstanding amounts owed.

In this report, the assets of a trust fund include any amounts owed to other trust funds. The assets of a trust fund to which amounts are owed do not include such amounts. This procedure is followed because borrowed amounts are available for the payment of benefits or other obligations of the borrowing fund, while such amounts are not readily available to the lending fund.

**IV. SUMMARY OF THE OPERATIONS OF THE OLD-AGE AND  
SURVIVORS INSURANCE AND DISABILITY INSURANCE TRUST  
FUNDS, FISCAL YEAR 1985**

*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 1985 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 1985  
[In thousands]

Total assets, September 30, 1984.....		\$27,569,589
<b>Receipts:</b>		
Contributions:		
Appropriations:		
Employment taxes.....	\$154,931,435	
Tax credits.....	2,846,564	
Total appropriations.....	157,777,999	
Deposits arising from State agreements.....	17,650,892	
Payments from general fund of the Treasury representing employee- employer contributions on deemed wage credits for military service in 1985.....	326,000	
Gross contributions.....	175,754,890	
Less payment to the general fund of the Treasury for contributions subject to refund.....	450,157	
Net contributions.....		175,304,734
Income from taxation of benefit payments:		
Withheld from benefit payments to non-resident aliens.....	73,680	
All other, not subject to withholding.....	3,077,000	
Total income from taxation of benefits.....		3,150,680
Reimbursement from general fund of the Treasury for costs of payments to uninsured persons who attained age 72 before 1968:		
Benefit payments.....	85,666	
Administrative expenses.....	739	
Interest.....	18,573	
Total reimbursement.....		104,978
Investment income and interest adjustments:		
Interest on investments.....	3,535,333	
Interest on transfers from the general fund account for the Supplemental Security Income program due to adjustment in allocation of administra- tive expenses.....	2,288	
Interest on reimbursement from general fund for unnegotiated checks.....	76,500	
Gross investment income and interest adjustments.....	3,614,120	
Less interest on interfund loans from DI and HI Trust Funds.....	1,571,324	
Less interest on general fund advance tax transfers.....	721,743	
Less interest on interfund transfers due to adjustment in allocation of administrative expenses.....	237	
Net investment income and interest adjustments.....		1,320,816
Gifts.....		125
<b>Total receipts.....</b>		<b>179,881,333</b>

TABLE 2.—STATEMENT OF OPERATIONS OF THE OASI TRUST FUND  
DURING FISCAL YEAR 1985 (Cont.)  
[In thousands]

<b>Disbursements:</b>		
Benefit payments:		
Gross benefit payments.....	\$166,211,625	
Less collected overpayments.....	789,845	
Less reimbursement for unnegotiated checks.....	111,800	
Net benefit payments.....		\$165,309,981
Transfer to the Railroad Retirement "Social Security Equivalent Benefit Account".....		2,310,169
Payment for costs of vocational rehabilitation services for disabled beneficiaries.....		426
Administrative expenses:		
Department of Health and Human Services.....	1,430,426	
Department of the Treasury.....	154,507	
Construction of facilities for Social Security Administration.....	4,693	
Gross administrative expenses.....	1,589,627	
Less reimbursements from general fund of the Treasury for costs of furnishing information on deferred vested pension benefits.....	481	
Less receipts from sales of supplies, materials, etc.....	98	
Net administrative expenses.....		1,589,047
Total disbursements.....		169,209,622
Partial repayment of interfund loans:		
To DI Trust Fund.....		2,540,000
To HI Trust Fund.....		1,824,000
Total repayment.....		4,364,000
Net increase in assets <sup>1</sup> .....		6,307,711
Total assets <sup>2</sup> , September 30, 1985.....		33,877,300

<sup>1</sup>Equals total receipts, less total expenditures, less interfund loan repayments.

<sup>2</sup>Assets include amounts, totaling \$13,154,523,025.38, lent to the OASI Trust Fund from the DI and HI Trust Funds.

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

The total assets of the OASI Trust Fund amounted to \$27,570 million on September 30, 1984. During fiscal year 1985, total receipts amounted to \$179,881 million, and total disbursements were \$169,210 million. In addition, amounts totaling \$4,364 million were transferred to the DI and HI Trust Funds as partial repayments on interfund loans. The assets of the OASI Trust Fund thus increased by \$6,308 million during the year, to a total of \$33,877 million on September 30, 1985.

Included in total receipts during fiscal year 1985 were \$157,778 million representing contributions appropriated to the fund (including transfers of \$2,847 million from the general fund of the Treasury to offset the tax credits allowed against contributions due on earnings of employees and self-employed persons). Also included in total receipts were \$17,651 million representing amounts received by the Secretary of the Treasury in accordance with State agreements for coverage of State and local government employees and deposited in the trust fund. Another \$326 million was received from the general fund of the Treasury representing payment for the contributions that would have been paid on estimated deemed wage credits for military service in 1985 if such credits had been considered to be covered wages. As an offset, \$450 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 tax credits and deemed military-service wage credits) amounted to \$175,305 million, an increase of 12.0 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 contribution rates for employees, employers, and self-employed persons that became effective on January 1 of 1984; and (3) the increases in the contribution and benefit base that became effective on January 1 of each year 1984 and 1985. (Table 1 in the preceding section shows the contribution rates and the contribution and benefit bases that became effective for 1984 and 1985.)

Income from the taxation of benefits amounted to \$3,151 million, of which almost 98 percent represented amounts credited to the OASI Trust Fund in advance, on an estimated basis, at the beginning of each calendar quarter. 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 \$105 million was transferred to the OASI Trust Fund in fiscal year 1985, as required by section 228 of the Social Security Act. The reimbursement reflected the costs of payments made in fiscal year 1983 and adjustments in the costs of payments made in prior fiscal years.

Receipts totaling \$1,321 million consisted of (1) interest earned on the investments of the trust fund; (2) net interest arising from the revised allocation of administrative expenses among the trust funds and the general fund account for the Supplemental Security Income program; (3) interest on reimbursement to the trust funds for unnegotiated checks (see below); less (4) interest paid on outstanding amounts owed to the DI and HI Trust Funds as a result of interfund borrowing; less (5) reimbursement to the general fund for interest costs resulting from the advance transfer of contributions.

The remaining \$124,727 of receipts consisted of gifts received under the provisions authorizing the deposit of money gifts or bequests in the trust funds.

Of the \$169,210 million in total disbursements, \$165,310 million was for net benefit payments, excluding collected overpayments of \$790 million and the reimbursement of \$112 million for unnegotiated benefit checks. (This reimbursement represented the estimated value of all OASI benefit checks issued prior to April 1985 which had not been negotiated within 6 months of issuance, less the reimbursements received in fiscal years 1983 and 1984. An additional amount of \$76.5 million representing interest on this reimbursement was also transferred, as noted previously.) The amount of net benefit payments in fiscal year 1985 represents an increase of 6.1 percent over the corresponding amount in fiscal year 1984. This increase was due primarily to (1) the automatic cost-of-living

benefit increase of 3.5 percent which became effective for December 1984 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 OASI programs and govern the financial interchanges arising from the allocation of costs between the two programs. Prior to fiscal year 1985, transfers were made between the trust funds and the Railroad Retirement Account. Public Law 98-76 established the Social Security Equivalent Benefit Account (SSEBA) and specified that financial-interchange transfers in fiscal years after 1984 are to be made to or from this account. In accordance with those provisions of the Railroad Retirement Act governing financial interchanges, the Railroad Retirement Board and the Secretary of Health and Human Services determined that a transfer of \$2,154 million to the SSEBA from the OASI Trust Fund would place this trust fund in the same position as of September 30, 1984, in which it would have been if railroad employment had always been covered under the Social Security Act. A total amount of \$2,310 million was transferred to the SSEBA in June 1985, including interest to the date of transfer amounting to \$156 million.

Expenditures of the OASI program for the costs of vocational rehabilitation services amounted to \$425,553. Rehabilitation services were furnished to disabled adults (children of old-age beneficiaries and survivors of deceased insured workers) who were receiving monthly benefits from the OASI Trust Fund because of their disabilities. Reimbursement by the trust funds for such services is limited to certain cases where a return to substantial gainful activity results (at least in part) from the rehabilitation services.

The remaining \$1,589 million of disbursements from the OASI Trust Fund represents net administrative expenses. The expenses of administering the programs financed through the four trust funds (the OASI, DI, HI, and Supplementary Medical Insurance Trust Funds) are allocated and charged directly to each trust fund 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 1985 amounted to \$481,266.

Net administrative expenses charged to the OASI and DI Trust Funds in fiscal year 1985 totaled \$2,192 million. (The operations of the DI Trust Fund are presented in detail in the next subsection.) This amount represented 1.1 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 1981-85

Fiscal year	OASI Trust Fund		DI Trust Fund		Total	
	Contribution income	Benefit payments	Contribution income	Benefit payments	Contribution income	Benefit payments
1981.....	1.1	1.1	3.2	2.4	1.3	1.2
1982.....	1.2	1.1	2.7	3.3	1.4	1.3
1983.....	1.1	1.0	3.5	3.8	1.4	1.3
1984.....	1.0	1.0	3.6	3.3	1.3	1.3
1985.....	.9	1.0	3.6	3.2	1.1	1.2

Reference has been made in an earlier section to provisions of the Social Security Act authorizing interfund borrowing among the OASI, DI, and HI Trust Funds. In fiscal year 1983, \$17,519 million was lent to the OASI Trust Fund under these provisions—\$12,437 million from the HI Trust Fund and \$5,081 million from the DI Trust Fund. Under the automatic-repayment provisions of the law, \$1,824 million was repaid from the OASI Trust Fund to the HI Trust Fund in January 1985. In addition, \$2,540 million (or roughly one-half of the amount owed) was repaid to the DI Trust Fund at that time, although not required by law. Thus, the amounts still owed to the HI and DI Trust Funds at the end of the year were \$10,613 million and \$2,541 million, respectively.

In table 4, the actual amounts of contributions and benefit payments in fiscal year 1985 are compared to the corresponding estimated amounts which appeared in the 1984 and 1985 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 were reasonably close, relatively, to the estimates shown in both the 1984 and 1985 Annual Reports. Actual DI benefit payments in fiscal year 1985 were significantly above the 1984 estimate but somewhat below the 1985 estimate. This variation resulted primarily from an unusual pattern of retroactive DI benefit payments in 1984 and 1985, and the consequent difficulties in projecting future levels of such 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 1985 reflects the aforementioned adjustments to contributions for prior fiscal years. The "estimated" contributions in fiscal year 1985 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 1985  
[Amounts in millions]

	OASI Trust Fund		DI Trust Fund	
	Net contributions	Benefit payments <sup>1</sup>	Net contributions	Benefit payments <sup>1</sup>
Actual amount .....	\$175,305	\$165,310	\$16,876	\$18,648
Estimated amount published in 1984 report .....	\$177,131	\$168,048	\$17,012	\$18,017
Actual as percentage of estimate.....	99.0	98.4	99.2	103.5
Estimated amount published in 1985 report .....	\$175,100	\$166,835	\$16,773	\$19,122
Actual as percentage of estimate.....	100.1	99.1	100.6	97.5

<sup>1</sup>Includes payments for vocational rehabilitation services furnished to disabled persons receiving benefits because of their disabilities.

At the end of fiscal year 1985, about 36.9 million persons were receiving monthly benefits under the OASDI program. About 33.0 million of these persons were receiving monthly benefits from the OASI Trust Fund. The distribution of benefit payments (before reflecting the reimbursement for unnegotiated checks) in fiscal years 1984 and 1985, by type of beneficiary, is shown in table 5. Approximately 77 percent of the total benefit payments from the OASI Trust Fund in fiscal year 1985 represented monthly benefits to retired workers and their spouses and children, and about 17 percent represented monthly benefits to aged survivors and disabled widows and widowers of deceased workers. Approximately 6 percent of the benefit payments represented monthly benefits on behalf of children of deceased workers and monthly benefits to widowed mothers and fathers who had such children in their care.

TABLE 5.—ESTIMATED DISTRIBUTION OF BENEFIT PAYMENTS FROM THE OASI TRUST FUND, BY TYPE OF BENEFICIARY OR PAYMENT, FISCAL YEARS 1984 AND 1985  
[Amounts in millions]

	Fiscal year 1984		Fiscal year 1985	
	Amount	Percentage of total	Amount	Percentage of total
Total.....	\$155,846	100.0	\$165,422	100.0
Monthly benefits .....	155,632	99.9	165,215	99.9
Retired workers and auxiliaries .....	119,366	76.6	127,062	76.8
Retired workers .....	108,495	69.6	115,524	69.8
Wives and husbands.....	9,731	6.2	10,400	6.3
Children .....	1,141	.7	1,138	.7
Survivors of deceased workers .....	36,192	23.2	38,093	23.0
Aged widows and widowers .....	26,475	17.0	28,402	17.2
Disabled widows and widowers .....	380	.2	418	.3
Parents .....	54	( <sup>1</sup> )	51	( <sup>1</sup> )
Children .....	7,803	5.0	7,750	4.7
Widowed mothers and fathers caring for child beneficiaries .....	1,478	.9	1,472	.9
Uninsured persons generally aged 72 before 1968 .....	74	( <sup>1</sup> )	60	( <sup>1</sup> )
Lump-sum death payments .....	214	.1	207	.1

<sup>1</sup>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 1985 totaled \$33,877 million, consisting of \$30,968 million in U.S. Government obligations and an undisbursed balance of \$2,910 million. Table 6 shows the total assets of the fund and their distribution at the end of each fiscal year 1984 and 1985.

TABLE 6.—ASSETS OF THE OASI TRUST FUND, BY TYPE, AT END OF FISCAL YEAR, 1984 AND 1985

	September 30, 1984	September 30, 1985
Obligations sold only to the trust funds (special issues):		
Certificates of indebtedness:		
10.375 percent, 1986 .....	—	\$8,209,540,000.00
12.75 percent, 1985 .....	\$6,671,094,000.00	—
Bonds:		
10.375 percent, 1989 .....	—	129,852,000.00
10.375 percent, 1990 .....	—	2,057,101,000.00
10.375 percent, 1991 .....	—	1,865,345,000.00
10.375 percent, 1992 .....	—	565,186,000.00
10.375 percent, 1993 .....	—	565,186,000.00
10.375 percent, 1994 .....	—	565,186,000.00
10.375 percent, 1995 .....	—	565,186,000.00
10.375 percent, 1996 .....	—	565,186,000.00
10.375 percent, 1997 .....	—	565,186,000.00
10.375 percent, 1998 .....	—	565,186,000.00
10.375 percent, 1999 .....	—	565,186,000.00
10.375 percent, 2000 .....	—	2,057,101,000.00
10.75 percent, 1989 .....	154,934,000.00	—
10.75 percent, 1990 .....	1,022,231,000.00	—
10.75 percent, 1991 .....	1,022,231,000.00	—
10.75 percent, 1992 .....	1,022,231,000.00	1,022,231,000.00
10.75 percent, 1993 .....	1,022,231,000.00	1,022,231,000.00
10.75 percent, 1994 .....	1,022,231,000.00	1,022,231,000.00
10.75 percent, 1995 .....	1,022,231,000.00	1,022,231,000.00
10.75 percent, 1996 .....	1,022,231,000.00	1,022,231,000.00
10.75 percent, 1997 .....	1,022,230,000.00	1,022,230,000.00
10.75 percent, 1998 .....	1,022,230,000.00	1,022,230,000.00
13.75 percent, 1985 .....	3,770,272,000.00	—
13.75 percent, 1988 .....	371,341,000.00	—
13.75 percent, 1989 .....	1,336,981,000.00	—
13.75 percent, 1990 .....	469,684,000.00	—
13.75 percent, 1991 .....	469,684,000.00	191,756,000.00
13.75 percent, 1992 .....	469,684,000.00	469,684,000.00
13.75 percent, 1993 .....	469,684,000.00	469,684,000.00
13.75 percent, 1994 .....	469,684,000.00	469,684,000.00
13.75 percent, 1995 .....	469,684,000.00	469,684,000.00
13.75 percent, 1996 .....	469,684,000.00	469,684,000.00
13.75 percent, 1997 .....	469,685,000.00	469,685,000.00
13.75 percent, 1998 .....	469,685,000.00	469,685,000.00
13.75 percent, 1999 .....	1,491,915,000.00	1,491,915,000.00
Total investments .....	27,223,772,000.00	30,967,503,000.00
Undisbursed balances .....	345,816,750.91	2,909,796,915.90
<b>Total assets .....</b>	<b>27,569,588,750.91</b>	<b>33,877,299,915.90</b>

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.

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 mature on June 30. The amount of bonds acquired on June 30 is equal to the amount of certificates of indebtedness maturing, less amounts required to meet expenditures on that day.

The amount of securities acquired during fiscal year 1985 exceeded the amount redeemed by \$3,744 million. New securities with a total par value of \$204,910 million were acquired during the fiscal year. The par value of securities redeemed during the fiscal year was \$201,166 million.

Included in these amounts are \$186,181 million in certificates of indebtedness that were acquired, and \$184,642 million in certificates of indebtedness that were redeemed.

The securities held by the OASI and DI Trust Funds are included in the Federal debt that is subject to a statutory limit on the total amount outstanding. In September 1985, the amount of outstanding Federal debt reached the applicable limit before legislation to raise the limit was enacted into law. Normal investment procedures therefore could not be followed in that month. As a result, \$6,041 million in 10.375-percent bonds were redeemed in September so that benefits could be paid on time. Legislation enacted after September 1985 permitted the restoration of these bonds, as well as bonds redeemed after September due to continuation of the debt-limit problem.

As another result of the debt-limit problem, \$2,143 million in tax receipts could not be invested in September. (This amount of receipts is included in the undisbursed balance of \$2,910 million shown in table 6.) The legislation mentioned above permitted the delayed investment of these (and subsequent) tax receipts at the appropriate interest rates. An adjustment to account for lost interest earnings was made through normal administrative procedures. As a result of the actions described in this and the previous paragraph, the portfolio of long-term bonds held by the OASI Trust Fund as of December 31, 1985, was the same as it would have been if the debt limit had been raised before September.<sup>1</sup>

The effective annual rate of interest earned by the assets of the OASI Trust Fund during the 12 months ending on June 30, 1985, was 12.4 percent. (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 1985 was 10.375 percent, payable semiannually. Special-issue bonds with a total par value of \$18,729 million were purchased in June 1985.

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, 1985, were selected in such a way that the total holdings of special issues were spread evenly over the 15-year period 1986-2000.

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<sup>1</sup>Because of a similar debt-limit problem in 1984, approximately \$5,078 million in bonds was redeemed in September and October of that year in order to pay benefits on time. This disinvestment of bonds resulted in a potential long-term loss of interest when the funds were later reinvested at a lower interest rate. As a result of the legislation mentioned above, the OASI Trust Fund received \$372 million in December 1985 to compensate for that loss. The payment is subject to adjustment in June 1986.

**B. DISABILITY INSURANCE TRUST FUND**

A statement of the income and disbursements of the Federal Disability Insurance Trust Fund during fiscal year 1985 and of the assets of the fund at the beginning and end of the fiscal year is presented in table 7.

**TABLE 7.—STATEMENT OF OPERATIONS OF THE DI TRUST FUND DURING FISCAL YEAR 1985**  
(In thousands)

Total assets, September 30, 1984.....		\$4,642,587
<b>Receipts:</b>		
<b>Contributions:</b>		
<b>Appropriations:</b>		
Employment taxes.....	\$15,031,258	
Tax credits.....	273,191	
Total appropriations.....	15,304,449	
Deposits arising from State agreements.....	1,586,988	
Payments from general fund of the Treasury representing employee-employer contributions on deemed wage credits for military service in 1985.....	31,000	
Gross contributions.....	16,922,437	
Less payment to the general fund of the Treasury for contributions subject to refund.....	48,643	
Net contributions.....		18,875,794
Income from taxation of benefit payments:		
Withheld from benefit payments to non-resident aliens.....	3,801	
All other, not subject to withholding.....	214,000	
Total income from taxation of benefits.....		217,801
Investment income and interest adjustments:		
Interest on investments.....	579,681	
Interest on interfund transfers due to adjustment in allocation of administrative expenses.....	836	
Interest on reimbursement from general fund for unnegotiated checks.....	14,800	
Interest on loan to OASI Trust Fund.....	364,586	
Gross investment income and interest adjustments.....	959,903	
Less interest on general fund advance tax transfers.....	69,414	
Net investment income and interest adjustments.....		890,488
Total receipts <sup>1</sup> .....		17,984,084
<b>Disbursements:</b>		
<b>Benefit payments:</b>		
Gross benefit payments.....	18,745,475	
Less collected overpayments.....	91,016	
Less reimbursement for unnegotiated checks.....	8,900	
Net benefit payments.....		18,645,659
Transfer to the Railroad Retirement "Social Security Equivalent Benefit Account".....		42,684
Payment for costs of vocational rehabilitation services for disabled beneficiaries.....		2,618
<b>Administrative expenses:</b>		
Department of Health and Human Services.....	588,087	
Department of the Treasury.....	14,063	
Construction of facilities for Social Security Administration.....	938	
Gross administrative expenses.....	603,088	
Less receipts from sales of supplies, materials, etc.....	28	
Net administrative expenses.....		603,060
Total disbursements.....		19,294,020
Partial repayment, from OASI Trust Fund, of interfund loans.....		2,540,000
Net increase in assets <sup>2</sup> .....		1,230,063
Total assets <sup>3</sup> , September 30, 1985.....		5,872,650

<sup>1</sup>Includes gifts in the amount of \$300.

<sup>2</sup>Equals total receipts, less total expenditures, plus interfund loan repayment.

<sup>3</sup>Assets exclude amounts, totaling \$2,541,252,899.48, lent to the OASI Trust Fund.

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

The total assets of the DI Trust Fund amounted to \$4,643 million on September 30, 1984. During fiscal year 1985, total receipts amounted to \$17,984 million, and total disbursements were \$19,294 million. In addition, \$2,540 million was transferred from the OASI Trust Fund to the DI Trust Fund as a partial repayment of interfund loans. The assets of the trust fund thus increased by \$1,230 million during the year, to a total of \$5,873 million on September 30, 1985.

Included in total receipts were \$15,304 million representing contributions appropriated to the fund (including transfers of \$273 million from the general fund of the Treasury to offset the tax credits allowed against contributions due on earnings of employees and self-employed persons), \$1,587 million representing amounts received by the Secretary of the Treasury in accordance with State coverage agreements and deposited in the fund, and \$31 million in payments from the general fund of the Treasury representing the contributions that would have been paid on estimated deemed wage credits for military service in 1985 if such credits had been considered to be covered wages. As an offset, \$47 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 \$16,876 million, an increase of 2.9 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). An important factor accounting for the lower increase in contribution income to the DI Trust Fund, relative to the OASI Trust Fund, is the decrease in the DI contribution rate that became effective January 1, 1984. (As mentioned in the preceding subsection, the OASI contribution rate increased on that date.)

Income from the taxation of benefit payments amounted to \$218 million. The remaining \$890 million of receipts consisted of interest on the investments of the fund, plus net interest on amounts of interfund and general-fund transfers (see preceding subsection).

Of the \$19,294 million in total disbursements, \$18,646 million was for net benefit payments, excluding collected overpayments of \$91 million and the reimbursement of \$9 million for unnegotiated benefit checks. This represents an increase of 5.2 percent over the corresponding amount of benefit payments in fiscal year 1984. 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 program and the DI Trust Fund are similar to those described in the preceding subsection relating to the OASI Trust Fund. The determination made as of September 30, 1984, required that a transfer of \$39,800,000 be made from the DI Trust Fund to the Social Security Equivalent Benefit Account. A total amount of \$42,684,000 was transferred to the SSEBA in June 1985, including interest to the date of transfer amounting to \$2,884,000.

The remaining disbursements amounted to \$603 million for net administrative expenses and \$3 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.

At the end of fiscal year 1985, about 3.9 million persons were receiving monthly benefits from the DI Trust Fund. The distribution of benefit payments in fiscal years 1984 and 1985, by type of beneficiary, is shown in table 8.

TABLE 8.—ESTIMATED DISTRIBUTION OF BENEFIT PAYMENTS FROM THE DI TRUST FUND, BY TYPE OF BENEFICIARY, FISCAL YEARS 1984 AND 1985  
[Amounts in millions]

	Fiscal year 1984		Fiscal year 1985	
	Amount	Percentage of total	Amount	Percentage of total
Total.....	\$17,735	100.0	\$18,654	100.0
Disabled workers.....	15,461	87.2	16,322	87.5
Wives and husbands.....	537	3.0	543	2.9
Children.....	1,737	9.8	1,789	9.6

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

The assets of the DI Trust Fund at the end of fiscal year 1985 totaled \$5,873 million, consisting of \$5,703 million in U.S. Government obligations and an undisbursed balance of \$170 million. Table 9 shows the total assets of the fund and their distribution at the end of each fiscal year 1984 and 1985.

TABLE 9.—ASSETS OF THE DI TRUST FUND, BY TYPE, AT END OF FISCAL YEAR, 1984 AND 1985

	September 30, 1984	September 30, 1985
<b>Investments in public-debt obligations:</b>		
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, 1975-85 .....	20,795,000.00	—
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 .....	281,995,000.00	261,200,000.00
Unamortized premium or discount, net .....	-1,156,051.22	-1,045,050.44
Total investments in public issues at book value .....	280,838,948.78	260,154,949.56
<b>Obligations sold only to the trust funds (special issues):</b>		
Certificates of indebtedness:		
10.375 percent, 1986 .....	—	665,468,000.00
12.75 percent, 1985 .....	394,612,000.00	—
Bonds:		
8.75 percent, 1993 .....	47,479,000.00	47,479,000.00
8.75 percent, 1994 .....	339,277,000.00	339,277,000.00
9.75 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, 1989 .....	—	308,802,000.00
10.375 percent, 1990 .....	—	177,111,000.00
10.375 percent, 1991 .....	—	101,503,000.00
10.375 percent, 1992 .....	—	101,503,000.00
10.375 percent, 1993 .....	—	101,503,000.00
10.375 percent, 1996 .....	—	101,504,000.00
10.375 percent, 1997 .....	—	101,504,000.00
10.375 percent, 1998 .....	—	101,504,000.00
10.375 percent, 1999 .....	—	152,904,000.00
10.375 percent, 2000 .....	—	389,459,000.00
10.75 percent, 1987 .....	187,593,000.00	—
10.75 percent, 1988 .....	287,956,000.00	—
10.75 percent, 1989 .....	287,956,000.00	—
10.75 percent, 1990 .....	287,956,000.00	212,348,000.00
10.75 percent, 1991 .....	287,956,000.00	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 .....	287,955,000.00	287,955,000.00
10.75 percent, 1997 .....	287,955,000.00	287,955,000.00
10.75 percent, 1998 .....	287,955,000.00	287,955,000.00
13.75 percent, 1999 .....	236,555,000.00	236,555,000.00
Total obligations sold only to the trust funds (special issues) .....	4,373,587,000.00	5,442,627,000.00
<b>Total investments in public-debt obligations (book value<sup>1</sup>) .....</b>	<b>4,654,425,948.78</b>	<b>5,702,781,949.56</b>
Undisbursed balances <sup>2</sup> .....	-11,839,211.06	169,868,150.98
<b>Total assets (book value<sup>1</sup>) .....</b>	<b>4,642,586,737.72</b>	<b>5,872,650,100.54</b>

<sup>1</sup>Par value, plus unamortized premium or less discount outstanding.

<sup>2</sup>Negative figure represented an extension 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.

The amount of securities acquired during fiscal year 1985 exceeded the amount redeemed by \$1,048 million. New securities with a total par value of \$22,873 million were acquired during the fiscal year through the investment of receipts and the reinvestment of funds made available from the redemption of securities. The par value of securities redeemed during the fiscal year was \$21,825 million. Included in these amounts are \$19,986 million in certificates of indebtedness that were acquired, and \$19,716 million in certificates of indebtedness that were redeemed.

As described in the previous subsection, a delay in increasing the Federal debt limit in 1985 resulted in the redemption of bonds, in order to pay benefits on time, and a delay in the investment of tax receipts. The effects on the DI Trust Fund in September 1985 were a redemption of \$860 million in 10.375-percent bonds and a delay in investing \$205 million in tax receipts until after September. As in the case of the OASI Trust Fund, the adverse consequences of these effects have since been corrected.<sup>1</sup>

The effective annual rate of interest earned by the assets of the DI Trust Fund during the 12 months ending on June 30, 1985, was 10.9 percent. The interest rate on public-debt obligations issued for purchase by the trust fund in June 1985 was 10.375 percent, payable semiannually.

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.

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<sup>1</sup>Only \$226 million of the \$860 million in bonds redeemed was restored by subsequent legislation; \$634 million would have been redeemed under normal procedures by the time that the bonds were restored, even in the absence of debt-limit problems.

## 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, 1985, is presented in the preceding section of this report. Estimates of the operations and status of the trust funds during fiscal years 1986-90 are presented in this section. Similar estimates for calendar years 1986-90 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 and amounts owed to other trust funds, expressed as a percentage of the outgo during the year. 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 period (25 years) and the long-range 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 tips and to multiple-employer "excess wages," and which did apply, before 1984, to net earnings from self-employment. 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 actuarial status of the trust funds is often summarized by the actuarial balance, which is the difference between the appropriate estimated average income rate and the estimated average cost rate (or, equivalently, the average of the appropriate annual balances). If the actuarial balance is positive, the program is said to have an actuarial surplus, and if negative, an actuarial deficit. Such a deficit, if it exists, is a warning that, unless the projected trends turn out to be too pessimistic, changes in the program's financing or benefit provisions will be needed in the future.

The concept of actuarial balance must be used with caution. The use of a single measure to describe the status of the program over a period of many years may mask adverse patterns within that period or problems which emerge soon thereafter. The addition or deletion of a few years to the time period could change a surplus into a deficit, or vice versa. In addition, while early deficits followed by later surpluses could result in a positive actuarial balance, the trust fund could be depleted before the annual surpluses occur. Conversely, while early surpluses followed by later deficits could result in a positive actuarial balance, the trust fund that would accumulate in the early years could eventually be depleted at some point beyond the end of the projection period, leaving the program unable to pay benefits at that time. Thus, it is also important to note the year-by-year patterns of income and outgo.

Related to the concept of actuarial balance is that of "close actuarial balance." The program is said to be in close actuarial balance for the long-range period if the estimated average income rate is between 95 percent and 105 percent of the estimated average cost rate.

Estimates of income, outgo, income rates, cost rates, actuarial balances, and trust fund ratios are presented later in this section.

### 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  
1960-2060

Calendar year	Average annual percentage increase in—				Average annual interest rate* (percent)	Average annual unemployment rate* (percent)
	Real GNP <sup>1</sup>	Average wages in covered employment	Consumer Price Index <sup>2</sup>	Real-wage differential <sup>3</sup> (percent)		
Past experience:						
1960-64.....	4.0	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.....	2.8	6.3	6.1	.2	6.7	5.4
1975.....	-1.2	6.7	9.1	-2.5	7.4	8.5
1976.....	5.4	8.5	5.7	2.8	7.1	7.7
1977.....	5.5	7.2	6.5	.7	7.1	7.1
1978.....	5.0	9.6	7.6	2.0	8.2	6.1
1979.....	2.8	9.2	11.4	-2.2	9.1	5.8
1980.....	-.3	*9.1	13.5	*-4.4	11.0	7.1
1981.....	2.5	*9.3	10.3	*-1.0	13.3	7.6
1982.....	-2.1	*6.5	6.0	*.5	12.8	9.7
1983.....	3.7	*4.9	3.0	*1.9	11.0	9.6
1984.....	6.8	*5.1	3.4	*1.7	12.4	7.5

TABLE 10.—SELECTED ECONOMIC ASSUMPTIONS BY ALTERNATIVE, CALENDAR YEARS 1960-2060 (Cont.)

Calendar year	Average annual percentage increase in—			Real-wage differential <sup>b</sup> (percent)	Average annual interest rate <sup>c</sup> (percent)	Average annual unemployment rate <sup>d</sup> (percent)
	Real GNP <sup>a</sup>	Average wages in covered employment	Consumer Price Index <sup>e</sup>			
<b>Alternative I:</b>						
1985 .....	2.6	4.2	3.5	0.7	10.8	7.2
1986 .....	4.2	4.9	2.4	2.5	8.1	6.6
1987 .....	4.2	5.5	3.2	2.3	7.5	6.4
1988 .....	3.9	5.3	3.2	2.1	7.1	6.1
1989 .....	4.0	5.5	2.8	2.7	6.9	5.8
1990 .....	4.0	5.1	2.5	2.6	6.3	5.4
1991 .....	3.6	4.7	2.1	2.6	5.6	5.1
1992 .....	3.1	4.5	2.0	2.5	5.0	5.0
1993 .....	3.1	4.3	2.0	2.3	4.8	4.9
1994 .....	3.1	4.4	2.0	2.4	4.9	4.9
1995 .....	3.1	4.3	2.0	2.3	5.0	4.9
2000 .....	3.7	4.6	2.0	2.6	5.0	5.0
2010 & later..	*3.0	4.5	2.0	2.5	5.0	5.0
<b>Alternative II-A:</b>						
1985 .....	2.5	4.0	3.5	.5	10.8	7.2
1986 .....	3.7	4.9	2.9	2.0	8.1	6.7
1987 .....	3.6	5.7	3.9	1.8	7.8	6.6
1988 .....	3.4	5.3	3.7	1.6	7.8	6.3
1989 .....	3.5	5.5	3.3	2.2	7.4	6.0
1990 .....	3.5	5.2	3.0	2.1	6.8	5.7
1991 .....	3.1	5.1	3.0	2.1	6.2	5.5
1992 .....	2.8	5.1	3.0	2.1	5.8	5.5
1993 .....	2.7	4.8	3.0	1.8	5.6	5.4
1994 .....	2.7	4.8	3.0	1.8	5.6	5.4
1995 .....	2.7	4.9	3.0	1.9	5.6	5.4
2000 .....	2.9	5.1	3.0	2.1	5.5	5.5
2010 & later..	*2.4	5.0	3.0	2.0	5.5	5.5
<b>Alternative II-B:</b>						
1985 .....	2.5	3.9	3.5	.3	10.8	7.2
1986 .....	2.9	4.7	3.2	1.5	8.2	6.9
1987 .....	2.8	5.7	4.4	1.3	8.0	7.0
1988 .....	2.6	5.4	4.4	1.0	8.0	7.1
1989 .....	3.1	6.6	4.9	1.9	8.3	6.6
1990 .....	3.0	6.3	4.6	1.6	8.1	6.5
1991 .....	2.9	5.8	4.1	1.6	7.6	6.3
1992 .....	2.7	5.7	4.0	1.7	7.0	6.1
1993 .....	2.5	5.5	4.0	1.5	6.8	5.9
1994 .....	2.4	5.5	4.0	1.5	6.4	5.9
1995 .....	2.3	5.4	4.0	1.4	6.2	5.8
2000 .....	2.4	5.6	4.0	1.6	6.0	6.0
2010 & later..	*2.0	5.5	4.0	1.5	6.0	6.0
<b>Alternative III:</b>						
1985 .....	2.4	3.7	3.5	.2	10.8	7.2
1986 .....	2.5	4.9	4.2	.7	8.2	7.0
1987 .....	.8	6.0	5.8	.2	8.6	7.4
1988 .....	.1	4.0	5.1	-1.1	8.8	8.5
1989 .....	3.5	7.8	5.3	2.5	8.9	7.8
1990 .....	-8	4.2	5.7	-1.6	8.6	8.7
1991 .....	3.4	7.2	4.7	2.5	8.2	8.2
1992 .....	2.2	5.9	5.0	.9	7.9	7.7
1993 .....	2.2	5.7	5.0	.7	7.4	7.4
1994 .....	2.2	5.9	5.0	.9	7.1	7.1
1995 .....	2.1	5.9	5.0	.9	6.8	6.8
2000 .....	1.7	6.1	5.0	1.1	6.5	7.0
2010 & later..	*1.4	6.0	5.0	1.0	6.5	7.0

<sup>a</sup>The real GNP (gross national product) is the total output of goods and services, expressed in 1972 dollars.

<sup>b</sup>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).

<sup>c</sup>The real-wage differential is the difference between the percentage increases, before rounding, in (1) average annual wages in covered employment, and (2) the average annual Consumer Price Index.

<sup>d</sup>The average annual interest rate is the average of the nominal interest rates, compounded semiannually, for special public-debt obligations issuable to the trust funds in each of the 12 months of the year.

<sup>e</sup>Through 1995, the rates shown are crude civilian unemployment rates. After 1995, the rates are total rates (including military personnel), adjusted by age and sex based on the estimated total labor force on July 1, 1985.

\*Preliminary.

<sup>f</sup>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 2060 are 3.2, 2.3, 1.9, and 0.7 percent for alternatives I, II-A, II-B, and III, respectively.

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. 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 depths of 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 of business cycles and generally weak economic growth on the OASDI program.

For alternatives I, II-A, and II-B, the economic recovery that started in the first quarter of 1983 is assumed to continue through the second quarter of 1987. The strength of the recovery, as measured by growth in 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. For alternative III, the recovery is assumed to fade during the first quarter of 1987; a recession is assumed to occur during the remainder of the year and the first quarter of 1988.

After 1986, and continuing through the end of the decade, steady growth in real GNP is assumed to continue, for alternatives I and II-A. For alternative II-B, the economy is assumed to experience a growth recession during the second half of 1987, with a recovery and steady growth thereafter. For alternative III, after 5 quarters of recovery, a second recession is assumed to begin in the third quarter of 1989, lasting through the second quarter of 1990. For alternatives I, II-A, and II-B, the unemployment rate is assumed to decline gradually toward its ultimate level. For alternative III, the unemployment rate is assumed to reach its ultimate level after the recovery which is assumed to follow the second recession. 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 from 7.2 percent in 1985 to its ultimate level of 5.5 percent (age-sex adjusted to the 1985 labor force) by 2000. The annual rate of increase in average wages in covered employment is assumed to rise from the assumed 4.0-percent increase in 1985 to a 5.7-percent increase in 1987, and thereafter to decline gradually to its ultimate rate of 5.0 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 rise from 2.9 percent in 1986 to 3.9 percent in 1987, and then to decline to an ultimate rate of 3.0 percent in 1990. 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 average wages in covered employment and in the CPI) is assumed to remain between 1.6 and 2.2 percentage points after 1985, reaching its ultimate value of 2.0 percentage points by 2010. The annual interest rate is assumed to reach its ultimate value of 5.5 percent by 1996.

For alternative II-B, the average annual unemployment rate declines generally to its ultimate level of 6.0 percent by 2000. The annual rate of increase in average wages in covered employment is assumed to rise from the assumed 3.9-percent increase in 1985 to 6.8 percent in 1989, and then to decline generally to its ultimate rate of 5.5 percent by 2010. The annual rate of increase in the CPI is assumed to rise from 3.2 percent in 1986 to 4.9 percent in 1989, and then to decline to an ultimate rate of 4.0 percent in 1992. The real-wage differential is assumed to remain between 1.0 and 1.9 percentage points after 1985, reaching its ultimate value of 1.5 percentage points by 2010. The annual interest rate is assumed to decline to its ultimate value of 6.0 percent by 1996.

#### *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 2.0 children per woman is attained in 2010, after a gradual increase from the 1984 level of 1.83 children per woman. The age-sex-adjusted death rate is assumed to decrease gradually during the entire projection period, with a reduction of 39 percent from the 1984 level by 2060. The resulting life expectancies at birth in 2060 are 77.1 years for men and 84.6 years for women, compared to 71.0 and 78.2 years, respectively, in 1984. Life expectancies at age 65 in 2060 are projected to be 17.8 years for men and 23.2 years for women, compared to 14.4 and 18.6 years, respectively, in 1984. Net immigration is assumed to be 500,000 per year.

For alternative I, the total fertility rate is assumed to reach an ultimate level of 2.3 children per woman in 2010. 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 1984 level being 23 percent by 2060. The resulting life expectancies at birth in 2060 are 74.4 years for men and 81.4 years for women, while at age 65 they are 16.0 and 20.9 years, respectively. Net immigration is assumed to be 700,000 per year.

For alternative III, the total fertility rate is assumed to decrease from the estimated 1984 level to an ultimate level of 1.6 in 2010. 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 1984 level being 60 percent by 2060. The resulting life expectancies at birth in 2060 are 82.1 years for men and 89.5 years for women, while at age 65 they are 21.4 and 27.0 years, respectively. Net immigration is assumed to be 300,000 per year.

TABLE 11.—SELECTED DEMOGRAPHIC ASSUMPTIONS BY ALTERNATIVE, CALENDAR YEARS 1940-2060

Calendar year	Total fertility rate <sup>1</sup>	Age-sex-adjusted death rate <sup>2</sup> (per 100,000)	Life expectancy <sup>3</sup>			
			At birth		At age 65	
			Male	Female	Male	Female
<b>Past experience:</b>						
1940.....	2.23	1,403.5	61.4	65.7	11.9	13.4
1945.....	2.42	1,248.1	62.9	68.4	12.6	14.4
1950.....	3.03	1,116.4	65.6	71.1	12.8	15.1
1955.....	3.50	1,030.3	66.7	72.8	13.1	15.6
1960.....	3.61	1,024.8	66.7	73.2	12.9	15.9
1965.....	2.88	1,001.6	66.8	73.8	12.9	16.3
1970.....	2.43	948.6	67.1	74.9	13.1	17.1
1975.....	1.77	848.8	68.7	76.6	13.7	18.0
1976.....	1.74	838.0	69.1	76.8	13.7	18.1
1977.....	1.80	815.5	69.4	77.2	13.9	18.3
1978.....	1.76	809.7	69.6	77.3	13.9	18.3
1979.....	1.82	784.2	70.0	77.7	14.2	18.6
1980.....	1.85	795.4	69.9	77.5	14.0	18.4
1981.....	1.83	773.1	70.4	77.9	14.2	18.6
1982.....	1.83	750.0	70.8	78.2	14.5	18.8
1983.....	1.81	754.2	70.9	78.2	14.3	18.7
1984.....	1.83	752.0	71.0	78.2	14.4	18.6
1985.....	1.86	739.7	71.3	78.4	14.4	18.8
<b>Alternative I:</b>						
1986.....	1.88	734.7	71.4	78.5	14.5	18.8
1990.....	1.95	715.2	71.8	78.9	14.6	19.0
1995.....	2.04	694.0	72.2	79.2	14.7	19.2
2000.....	2.13	677.0	72.5	79.6	14.8	19.4
2010.....	2.30	656.0	72.9	79.9	15.0	19.6
2020.....	2.30	638.9	73.2	80.2	15.2	19.9
2030.....	2.30	622.7	73.5	80.6	15.4	20.1
2040.....	2.30	607.4	73.8	80.9	15.6	20.4
2050.....	2.30	592.9	74.1	81.2	15.8	20.6
2060.....	2.30	579.1	74.4	81.4	16.0	20.9
<b>Alternatives II-A and II-B:</b>						
1986.....	1.86	727.4	71.5	78.6	14.5	18.9
1990.....	1.89	682.1	72.4	79.5	14.9	19.4
1995.....	1.92	635.5	73.3	80.4	15.3	19.9
2000.....	1.95	604.2	73.9	81.0	15.6	20.3
2010.....	2.00	572.7	74.6	81.6	16.0	20.8
2020.....	2.00	547.0	75.1	82.2	16.3	21.3
2030.....	2.00	522.8	75.6	82.8	16.7	21.8
2040.....	2.00	500.2	76.1	83.4	17.1	22.2
2050.....	2.00	478.9	76.6	84.0	17.4	22.7
2060.....	2.00	458.9	77.1	84.6	17.8	23.2
<b>Alternative III:</b>						
1986.....	1.84	720.1	71.6	78.8	14.6	19.0
1990.....	1.79	650.9	73.0	80.1	15.2	19.8
1995.....	1.74	584.4	74.3	81.4	15.9	20.7
2000.....	1.69	541.0	75.3	82.3	16.4	21.3
2010.....	1.60	486.6	76.5	83.6	17.2	22.3
2020.....	1.60	440.4	77.6	84.9	18.0	23.2
2030.....	1.60	399.3	78.8	86.1	18.9	24.2
2040.....	1.60	362.5	79.9	87.2	19.7	25.1
2050.....	1.60	329.7	81.0	88.4	20.6	26.0
2060.....	1.60	300.2	82.1	89.5	21.4	27.0

<sup>1</sup>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 birth rates 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 2010.

<sup>2</sup>The age-sex-adjusted death rate is the crude rate that would occur in the enumerated total population as of April 1, 1970, if that population were to experience the death rates by age and sex observed in, or assumed for, the selected year.

<sup>3</sup>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.

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.

### 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 3.1 percent, effective for December 1985, was announced in October 1985, as described in Appendix C.

The automatic cost-of-living benefit increase for any year is based on the change in the CPI from the third quarter of the previous year through the third quarter of the current year. If the increase in the CPI is less than 3.0 percent, no automatic benefit increase is effective for that year, but the change in the CPI is accumulated and reflected in the benefit increase for the next year. 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 into law in 1983, and it would not affect any future increases shown in this report under any of the four sets of assumptions.

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 1986, the contribution and benefit base was automatically increased to \$42,000.

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 \$7,320 in 1985 to \$7,800 in 1986—was announced in October 1985. Similarly, an automatic increase was announced in the exempt amount for beneficiaries under age 65—from \$5,400 in 1985 to \$5,760 in 1986. 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 1986 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 1986; and

3. The average of total wages reported for calendar year 1984, to be used for indexing earnings of workers who first become eligible for benefits, or who die before such eligibility, in 1986 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 1991 are also shown in Appendix D.

The four alternative sets of economic assumptions described previously result in the general benefit increases and contribution and benefit bases shown in table 12 for each year through 1991. (The actual benefit increase for 1985 and the actual contribution and benefit bases for 1985 and 1986 are also shown as a basis for comparison.)

TABLE 12.—GENERAL BENEFIT INCREASES AND CONTRIBUTION AND BENEFIT BASES, BY ALTERNATIVE, CALENDAR YEARS 1985-91

Calendar year	General benefit increase <sup>1</sup> (percent) based on alternative—				Contribution and benefit base <sup>2</sup> based on alternative—			
	I	II-A	II-B	III	I	II-A	II-B	III
1985.....	3.1	3.1	3.1	3.1	\$39,600	\$39,600	\$39,600	\$39,600
1986.....	(*)	3.0	3.4	4.5	42,000	42,000	42,000	42,000
1987.....	5.9	4.1	4.5	6.0	42,000	43,800	43,500	43,500
1988.....	3.1	3.6	4.3	4.9	45,600	45,900	45,300	45,600
1989.....	(*)	3.2	5.1	5.5	48,000	48,300	47,700	48,300
1990.....	5.3	3.0	4.5	5.7	48,000	50,700	50,100	50,400
1991.....	(*)	3.0	4.1	4.6	53,100	53,400	53,400	54,300

<sup>1</sup>Effective with benefits for December of the year shown.

<sup>2</sup>Effective on January 1 of the stated year.

<sup>3</sup>An automatic benefit increase is determined by the percentage increase in the CPI from the third quarter of the year in which a benefit increase last became effective through the third quarter of the current year, provided that such increase is at least 3.0 percent. Based on the alternative I assumptions, benefit increases would not occur for December of 1986, 1989, or 1991 because the assumed applicable increase in the CPI for each year is less than 3.0 percent. The benefit increases for December of 1987, 1990, and 1992 would be based on 2-year increases in the CPI. The absence of automatic benefit increases for December of 1986, 1989, and 1991 would prevent corresponding automatic increases in the contribution and benefit bases, and in the exempt amounts under the retirement earnings test, for 1987, 1990, and 1992, respectively.

The assumption underlying the figures in table 12 were developed before the CPI for February 1986 was released. The actual automatic benefit increase for December 1986 will depend largely on subsequent increases in the CPI from February 1986 through September 1986.

*C. ESTIMATED OPERATIONS AND STATUS OF THE TRUST FUNDS DURING THE PERIOD OCTOBER 1, 1985, TO DECEMBER 31, 1990*

This subsection presents estimates of the operations and status of the OASI and DI Trust Funds during the period October 1, 1985, to December 31, 1990, 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.

These estimates indicate that the assets of the OASI and DI Trust Funds will be sufficient to permit the timely payment of OASDI benefits throughout the short-range period (and for many years thereafter), under all four sets of assumptions shown. The trust fund levels are estimated to remain relatively low, however, through about 1987. In the event of very adverse conditions, it is conceivable that the trust funds could experience financing problems within the short-range projection period; this possibility, however, is not considered likely.

The estimated operations of the OASI Trust Fund shown in this report are very similar to the corresponding estimates in the 1985 Annual Report for alternatives I, II-A, and II-B. The outlook based on the pessimistic alternative III assumptions is significantly improved relative to last year's estimates. This improvement is attributable partly to actual experience in 1985, which was better than assumed, and partly to the assumption of later onsets for the two economic recessions in this year's pessimistic assumptions compared to last year's. For the DI Trust Fund, the estimated operations in this report are significantly improved relative to past estimates under each of the four alternative sets of assumptions. For DI, the improvement is primarily attributable to the relatively large adjustment to prior payments from the general fund of the Treasury for the cost of noncontributory wage credits for military service prior to 1957. The DI estimates based on alternative III also reflect the improved economic conditions described above.

The Social Security Act requires the automatic repayment, based on asset levels, of amounts owed from the OASI Trust Fund to the Hospital Insurance (HI) Trust Fund as a result of interfund borrowing which occurred in 1982. This requirement resulted in the repayment in January 1986 of the remaining \$10.6 billion owed to the HI Trust Fund. The remaining \$2.5 billion owed to the DI Trust Fund is not subject to any automatic-repayment provision (except that the amount must be repaid before 1990); the estimates in this report, under all four alternatives, assume that the balance is repaid in April 1986.

As in past reports, 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. The benefit checks for December 1987 would normally be delivered on January 3, 1988; however, because that day is a Sunday, and the two preceding days are a Saturday and a holiday, the checks will be delivered on December 31, 1987. The estimates are prepared as if those benefit checks were delivered on the usual date.

### *OASI Trust Fund operations*

Estimates of the operations and status of the OASI Trust Fund during calendar years 1986-90 are shown in table 13 based on each of the four alternative sets of assumptions, which are described in a preceding subsection. Actual operations for calendar year 1985 are also shown in the table. For each alternative, employment and earnings are assumed to increase in every year through 1990. 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 122 million during calendar year 1985 to about 133 million, 132 million, 131 million, and 127 million, respectively, by 1990. The total annual amount of taxable earnings is expected to increase from about \$1,710 billion in 1985 to \$2,389 billion, \$2,397 billion, \$2,401 billion, and \$2,293 billion, in 1990, on the basis of alternatives I, II-A, II-B, and III, respectively. (In 1985 dollars—taking account of assumed increases in the CPI from 1985 to 1990 based on each alternative—the estimated amounts of taxable earnings in 1990 are \$2,079 billion, \$2,032 billion, \$1,945 billion, and \$1,778 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 1986-90 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 and 1984, including the extension of coverage to all newly hired Federal civilian employees.

TABLE 13.—ESTIMATED OPERATIONS OF THE OASI TRUST FUND BY ALTERNATIVE, CALENDAR YEARS 1985-90  
(Amounts in billions)

Calendar year	Income	Disbursements	Interfund borrowing transfers <sup>1</sup>	Net increase in fund	Fund at end of year	Contingency fund ratio <sup>2</sup>
1985 <sup>3</sup> .....	\$184.2	\$171.2	-\$4.4	\$8.7	\$35.8	24
Alternative I:						
1986.....	197.3	181.8	-13.2	2.4	38.2	28
1987.....	211.4	186.9	—	24.5	62.7	29
1988.....	242.2	202.7	—	39.5	102.3	40
1989.....	263.7	214.0	—	49.7	152.0	57
1990.....	286.3	220.2	—	66.2	218.2	79
Alternative II-A:						
1986.....	196.9	181.8	-13.2	1.9	37.7	28
1987.....	211.9	192.4	—	19.5	57.2	28
1988.....	241.4	205.4	—	36.0	93.2	37
1989.....	262.4	217.9	—	44.5	137.7	52
1990.....	287.2	231.1	—	56.1	193.8	69
Alternative II-B:						
1986.....	196.1	181.8	-13.2	1.1	37.0	28
1987.....	209.6	193.1	—	16.5	53.4	27
1988.....	237.5	206.9	—	30.6	84.1	35
1989.....	260.2	220.9	—	39.3	123.3	47
1990.....	287.9	238.3	—	49.6	172.9	61
Alternative III:						
1986.....	196.0	181.9	-13.2	1.0	36.8	28
1987.....	209.1	195.2	—	13.8	50.6	27
1988.....	230.9	212.2	—	18.7	69.3	32
1989.....	254.3	227.9	—	26.4	95.7	39
1990.....	274.8	246.8	—	28.1	123.7	47

<sup>1</sup>Negative figures represent interfund loan repayments from the OASI Trust Fund to the DI and HI Trust Funds.

<sup>2</sup>Represents assets at beginning of the year, including advance tax transfers for January, as a percentage of disbursements during the year. See text concerning interpretation of these ratios.

<sup>3</sup>Figures for 1985 represent actual experience.

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

The increases in estimated income shown in table 13 on the basis of each set of assumptions reflect the increases in estimated taxable earnings, as described above. In addition, the estimated income to the fund is affected by the scheduled changes in contribution rates.

Rising disbursements during calendar years 1986-90 reflect the effects of the assumed future 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 under 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 the amendments enacted after 1950, which modified the 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, 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 1985, including advance tax transfers for January and amounts owed to the DI and HI Trust Funds, were equal to about 24 percent of the fund's disbursements in 1985. 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 1985, income exceeded disbursements and loan repayments by \$8.7 billion. At the beginning of 1986, the contingency fund ratio had increased to 28 percent.

Assets declined in January 1986, as a result of the \$10.6-billion interfund loan repayment to the HI Trust Fund. The loan repayment is reflected in a small decline in the contingency fund ratio from 1986 to 1987. Assets are estimated to increase steadily after the loan repayment, with growth being particularly rapid following the tax-rate increases scheduled for 1988 and 1990 under present law. The OASI assets would reach levels generally considered to be adequate for contingency reserve purposes sometime in 1990-91 under alternatives I, II-A, II-B, and within a few years thereafter based on 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, generally on the third day 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 1986-90 on the basis of the four sets of assumptions are shown in table 14, together with figures on actual experience in 1985. On the basis of each alternative, income is estimated to increase gradually during 1986-90. 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 1985-90  
[Amounts in billions]

Calendar year	Income	Disbursements	Interfund borrowing transfers <sup>1</sup>	Net increase in fund	Fund at end of year	Contingency fund ratio <sup>2</sup>
1985 <sup>3</sup> .....	\$19.3	\$19.5	\$2.5	\$2.4	\$6.9	27
Alternative I:						
1986.....	19.3	20.1	2.5	1.7	8.0	38
1987.....	20.5	20.0	—	.5	8.5	48
1988.....	23.2	21.1	—	2.1	10.6	49
1989.....	25.2	21.6	—	3.4	14.0	58
1990.....	30.3	22.0	—	8.2	22.2	74
Alternative II-A:						
1986.....	19.3	20.6	2.5	1.2	7.5	38
1987.....	20.5	21.0	—	-6	7.0	43
1988.....	23.0	22.1	—	1.0	7.9	40
1989.....	24.8	23.1	—	1.7	9.7	43
1990.....	30.0	24.2	—	5.8	15.5	50
Alternative II-B:						
1986.....	19.2	20.6	2.5	1.1	7.5	38
1987.....	20.2	21.1	—	-9	6.6	43
1988.....	22.6	22.2	—	.5	7.0	38
1989.....	24.6	23.4	—	1.2	8.3	38
1990.....	30.1	24.8	—	5.2	13.5	43
Alternative III:						
1986.....	19.2	21.0	2.5	.7	7.1	37
1987.....	20.1	21.9	—	-1.8	5.3	39
1988.....	21.9	23.5	—	-1.7	3.6	30
1989.....	23.7	25.1	—	-1.4	2.2	22
1990.....	28.2	26.9	—	1.3	3.5	17

<sup>1</sup>Positive figures represent repayments of amounts lent to the OASI Trust Fund in 1982.

<sup>2</sup>See footnote 2 of table 13.

<sup>3</sup>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 but alternative I, the number of DI beneficiaries is projected to continue increasing throughout the short-range projection period. Based on alternative I, the number of DI beneficiaries is projected to stabilize at roughly its current level.

During 1979-83, the number of terminations of disability benefits exceeded the number of disability awards, and, consequently, the number of persons receiving benefits under the DI program declined. This decline resulted from (1) disability incidence rates that were significantly lower than those experienced prior to 1978, and (2) benefit termination rates that were somewhat higher, partly because of the increased reviews of the continuing eligibility of disabled beneficiaries required by legislation enacted in 1980, and amended in 1983 and 1984. This experience was not expected to continue indefinitely (see discussion in 1983 and

1984 Annual Reports, for example), and beginning in 1984, the number of disability awards has exceeded the number of disability terminations. While the greater number of awards has been consistent with the estimates in prior annual reports, terminations have been substantially fewer than anticipated, as a result of certain court orders, State-ordered moratoria, and the national moratorium announced in April 1984, which suspended the processing of continuing disability reviews. The actual number of terminations in the next several years will depend on the results obtained from the procedures followed in resuming these reviews; if actual processing differs from that assumed, actual DI costs could vary from the estimates shown in table 14. Based on the updated incidence and termination assumptions prepared for this report, the number of disability awards is projected to exceed the number of terminations each year on the basis of alternatives II-A, II-B, and III. Under alternative I, disability awards and terminations would be roughly equal.

At the beginning of 1985, the assets of the DI Trust Fund (including advance tax transfers for January) represented about 27 percent of annual expenditures. During 1985, DI expenditures exceeded normal DI income by about \$1.2 billion, but this was more than offset by an interfund loan repayment from the OASI Trust Fund of \$2.5 billion and the adjustment of \$1.0 billion for military-service credits, described previously. Thus, DI assets increased by \$2.4 billion during the year. The contingency fund ratio at the beginning of 1986 was about 38 percent. Based on the two intermediate sets of assumptions, the fund ratios are projected to remain in the vicinity of 40 percent during 1986-90. Using alternative I assumptions, the ratio would increase to 74 percent at the beginning of 1990.

Under the conditions assumed for alternative III, DI assets would decline to about 17 percent of outgo at the beginning of 1990. This level represents only a narrow margin above the 8-9 percent that is required just to meet benefit payments at the beginning of each month. In the event of somewhat more adverse experience than assumed in alternative III, either for the economy or for disability incidence and termination rates, DI assets could become insufficient to allow the timely payment of DI benefits.

As indicated in table 14, the balance of the loans made in 1982 from the DI Trust Fund to the OASI Trust Fund is assumed to be repaid in 1986 on the basis of each alternative set of assumptions. (The law provides that repayment of amounts owed to the DI Trust Fund must be completed before 1990; the schedule of repayments is otherwise at the discretion of the Managing Trustee.) Financial problems would not result on the basis of any of the alternatives if the repayment did not occur until late in 1989.

#### *Combined OASI and DI Trust Fund operations*

The estimated operations and status of the OASI and DI Trust Funds, combined, during calendar years 1986-90 on the basis of the four alternatives, are shown in table 15, together with figures on actual experience in 1985. 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 1985-90  
[Amounts in billions]

Calendar year	Income	Disbursements	Interfund borrowing transfers <sup>1</sup>	Net increase in funds	Funds at end of year	Contingency fund ratio <sup>2</sup>
1985 <sup>3</sup> .....	\$203.5	\$190.7	-\$1.8	\$11.1	\$42.2	24
<b>Alternative I:</b>						
1986.....	216.6	201.9	-10.6	4.1	46.3	29
1987.....	231.9	206.9	—	25.0	71.2	31
1988.....	265.5	223.8	—	41.7	112.9	41
1989.....	288.9	235.8	—	53.1	166.0	57
1990.....	316.6	242.2	—	74.4	240.4	78
<b>Alternative II-A:</b>						
1986.....	216.1	202.4	-10.6	3.1	45.3	29
1987.....	232.3	213.4	—	18.9	64.1	29
1988.....	264.4	227.5	—	37.0	101.1	37
1989.....	287.3	241.0	—	46.2	147.4	51
1990.....	317.2	255.3	—	61.9	209.3	67
<b>Alternative II-B:</b>						
1986.....	215.3	202.4	-10.6	2.3	44.4	29
1987.....	229.8	214.2	—	15.6	60.0	29
1988.....	260.2	229.1	—	31.1	91.1	35
1989.....	284.8	244.3	—	40.5	131.6	46
1990.....	318.0	263.2	—	54.8	186.4	59
<b>Alternative III:</b>						
1986.....	215.2	202.8	-10.6	1.7	43.9	28
1987.....	229.2	217.2	—	12.0	55.9	28
1988.....	252.7	235.7	—	17.0	72.9	32
1989.....	278.0	253.0	—	25.0	97.9	37
1990.....	303.1	273.7	—	29.4	127.2	44

<sup>1</sup>Negative figures represent interfund loan repayments from the OASI Trust Fund to the HI Trust Fund.

<sup>2</sup>See footnote 2 of table 13.

<sup>3</sup>See footnote 3 of table 13.

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

At the beginning of 1985, the contingency fund ratio for the OASI and DI Trust Funds combined was 24 percent, as shown in table 15. During 1985, total income to the two trust funds was \$11.1 billion higher than total expenditures and loan repayments, resulting in combined OASDI assets at the beginning of 1986 which represented about 29 percent of estimated combined expenditures for the year. Based on alternatives II-A and II-B, the contingency fund ratio for the combined funds is projected to increase gradually to roughly 60 percent at the beginning of 1990. Somewhat faster growth would occur on the basis of alternative I, with combined assets reaching 78 percent of annual outgo at the beginning of 1990. Based on the alternative III assumptions, assets would grow more slowly, reaching 44 percent at the beginning of 1990. The estimates in table 15 indicate that, if necessary, a reallocation of tax rates between OASI and DI would prevent the assets of the DI Trust Fund from declining on the basis of the alternative III assumptions. On the basis of alternatives I, II-A, and II-B, combined assets would increase substantially in 1988 and later, primarily because of scheduled increases in the OASDI tax rates. Assets would increase at a more gradual rate, based on alternative III.

The Social Security Act contains several provisions requiring automatic actions if certain "trust fund ratios" are above or below specified levels. Each of these provisions has a unique definition of the ratio to be used, and none of these definitions coincides with the one that is generally used to evaluate the financial status of the Social Security program. Table 16 presents detailed information on the calculation of the usual contingency fund ratio and two other ratios used for specified

purposes under the law.

TABLE 16.—ESTIMATED OASDI "TRUST FUND RATIOS" BASED ON VARIOUS DEFINITIONS, BY ALTERNATIVE, CALENDAR YEARS 1986-90  
[Amounts in millions, ratios in percent]

Calendar year	Cash and invested assets of OASI and DI Trust Funds on January 1 <sup>1</sup>	Advance tax transfers for January	Amounts owed to HI Trust Fund on January 1	OASDI outgo during year	Contingency fund ratio <sup>2</sup>	"Fund ratio" for December benefit increase <sup>3</sup>	"Trust fund ratio" for HI loan repayment in January <sup>4</sup>
<b>Alternative I:</b>							
1986.....	\$42,163	\$15,591	\$10,613	\$201,913	28.6	23.3	20.9
1987.....	46,253	17,670	—	206,873	30.9	30.9	( <sup>5</sup> )
1988.....	71,240	20,096	—	223,836	40.8	40.8	( <sup>5</sup> )
1989.....	112,898	21,916	—	235,815	57.2	57.2	( <sup>5</sup> )
1990.....	165,997	23,886	—	242,154	78.4	78.4	( <sup>5</sup> )
<b>Alternative II-A:</b>							
1986.....	42,163	15,591	10,613	202,426	28.5	23.3	20.8
1987.....	45,256	17,623	—	213,437	29.5	29.5	( <sup>5</sup> )
1988.....	64,150	20,047	—	227,451	37.0	37.0	( <sup>5</sup> )
1989.....	101,147	21,808	—	241,008	51.0	51.0	( <sup>5</sup> )
1990.....	147,394	23,762	—	255,319	67.0	67.0	( <sup>5</sup> )
<b>Alternative II-B:</b>							
1986.....	42,163	15,591	10,613	202,426	28.5	23.3	20.8
1987.....	44,420	17,478	—	214,220	28.9	28.9	( <sup>5</sup> )
1988.....	60,033	19,730	—	229,088	34.8	34.8	( <sup>5</sup> )
1989.....	91,122	21,565	—	244,256	46.1	46.1	( <sup>5</sup> )
1990.....	131,619	23,784	—	263,174	59.0	59.0	( <sup>5</sup> )
<b>Alternative III:</b>							
1986.....	42,163	15,591	10,613	202,847	28.5	23.2	20.8
1987.....	43,876	17,558	—	217,182	28.3	28.3	( <sup>5</sup> )
1988.....	55,888	19,132	—	235,735	31.8	31.8	( <sup>5</sup> )
1989.....	72,887	21,017	—	253,020	37.1	37.1	( <sup>5</sup> )
1990.....	97,888	22,902	—	273,727	44.1	44.1	( <sup>5</sup> )

<sup>1</sup>Before appropriation of advance tax transfers for January. Includes amounts owed to the HI Trust Fund.

<sup>2</sup>Combined assets of OASI and DI Trust Funds, plus advance tax transfers for January, as a percentage of OASDI outgo during year. This is the ratio normally used to evaluate the financial status of the trust funds. See estimates in tables 13-15, for example.

<sup>3</sup>For 1985 and later, combined assets of OASI and DI Trust Funds, plus advance tax transfers for January, minus amounts owed to the HI Trust Fund, as a percentage of OASDI outgo during year. See section 215(i) of the Social Security Act.

<sup>4</sup>Combined assets of OASI and DI Trust Funds, as a percentage of OASDI outgo during year. See section 201(l) of the Social Security Act.

<sup>5</sup>Remaining amounts owed to the HI Trust Fund were repaid in January 1986.

Note: Outgo figures for 1987 and 1988 are adjusted to reflect 12 months of benefit payments in each year; this adjustment also affects assets at the beginning of 1988. See text for details.

The usual definition of the ratio of assets to expenditures, denoted in table 16 as the "contingency fund ratio," has already been described. Its purpose is to measure the amount of assets that is readily available for the payment of monthly benefits.

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. The estimates in table 16 indicate that under all four alternatives, the ratio would not be lower than the 15.0-percent threshold applicable in 1986-88 or 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.

Table 16 also presents OASDI trust fund ratios as used for determining the minimum schedule of repayments on amounts owed from the

OASI Trust Fund to the HI Trust Fund. If the combined assets of the OASI and DI Trust Funds exceed 15 percent of the annual expenditures (as defined by section 201(l) of the Social Security Act), the excess must be used to repay any outstanding amount owed. On this basis, \$10,613 million was transferred from the OASI Trust Fund to the HI Trust Fund as of January 31, 1986. This transfer completed the repayment of the amount borrowed from the HI Trust Fund in 1982.

As in prior years' reports, for purposes of evaluating the financial status of the program, the amounts lent to the OASI Trust Fund from the DI and HI Trust Funds are included in the invested assets of the OASI Trust Fund. This procedure is followed because such amounts are readily available for the payment of benefits and thus should be considered when determining the ability of the OASI program to meet its benefit-payment obligations. Similarly, the amounts owed to the DI and HI Trust Funds are not included in the assets of those funds, because these amounts are not readily available for the payment of DI or HI benefits.

It can be argued that a more proper accounting treatment would be to exclude interfund loans from the borrowing fund's assets and to include them in the assets of the lending funds. This "net-value" basis would recognize the obligation of the OASI Trust Fund to repay the amounts owed and would reflect the fact that, to the lending funds, such amounts are investments for which interest is received and return of principal is promised. While these are sound arguments, the existing treatment has been used to facilitate the evaluation of the trust funds' actual cash operations—in particular, whether sufficient invested assets (borrowed or otherwise) are available at the beginning of any given month to pay the benefits for that month. This issue has become less relevant in view of the final repayment of all amounts owed to the HI Trust Fund, and the imminent final repayment of the outstanding amount owed to the DI Trust Fund.

For informational purposes, table 17 presents (1) the assets of the OASI and DI Trust Funds at the end of each calendar year 1981-85, (2) the amounts owed to or owing from other trust funds, and (3) the "net value" of trust fund assets. For the OASI Trust Fund, this last figure represents invested assets, plus cash balances, less amounts owed to the DI and HI Trust Funds. For the DI Trust Fund, the net value represents invested assets, plus cash balances, plus amounts owing from the OASI Trust Fund. As indicated, the net value of the OASI Trust Fund was very low for much of this period. The low net values alone do not imply an inability to pay benefits on time, however, for the reasons described above. Thus, the net value is not particularly useful as an indicator of a trust fund's ability to operate satisfactorily, although it may be of interest as an additional indicator of the trust fund's underlying financial status.

TABLE 17.—ASSETS, INTERFUND LOANS OUTSTANDING, AND "NET VALUES" OF THE OASI AND DI TRUST FUNDS AT END OF CALENDAR YEAR, 1981-85  
(In billions)

Calendar year	OASI Trust Fund			DI Trust Fund		
	Assets <sup>1</sup>	Outstanding amounts borrowed <sup>2</sup>	"Net value" <sup>3</sup>	Assets <sup>1</sup>	Outstanding amounts lent <sup>4</sup>	"Net value" <sup>5</sup>
1981.....	\$21.5	—	\$21.5	\$3.0	—	\$3.0
1982.....	22.1	\$17.5	4.6	2.7	\$5.1	7.8
1983.....	19.7	17.5	2.2	5.2	5.1	10.3
1984.....	27.1	17.5	9.6	4.0	5.1	9.0
1985.....	35.8	*13.2	22.7	6.3	*2.5	8.9

<sup>1</sup>Represents invested assets, plus cash balance at end of year.

<sup>2</sup>Represents total amounts owed to the DI and HI Trust Funds at end of year.

<sup>3</sup>See text for description of net value. "Net value" is expected to equal assets for the end of 1986 and later.

<sup>4</sup>Represents total amounts lent to OASI Trust Fund, less repayments made by end of year.

<sup>5</sup>Of the \$13.2 billion outstanding at the end of 1985, the balance owed to the HI Trust Fund—\$10.6 billion—was repaid on January 31, 1986. The remaining balance of \$2.5 billion owed to the DI Trust Fund is scheduled to be repaid in April 1986.

\*The remaining balance of \$2.5 billion owed to the DI Trust Fund is scheduled to be repaid in April 1986.

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

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 1986, and estimates for 1986-90 under the four alternatives, are shown in table 18 for OASI, DI, and both funds combined. In evaluating the ratios shown in figure 1 and table 18, it should be recalled that a minimum of 8-9 percent is required 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 1985-90

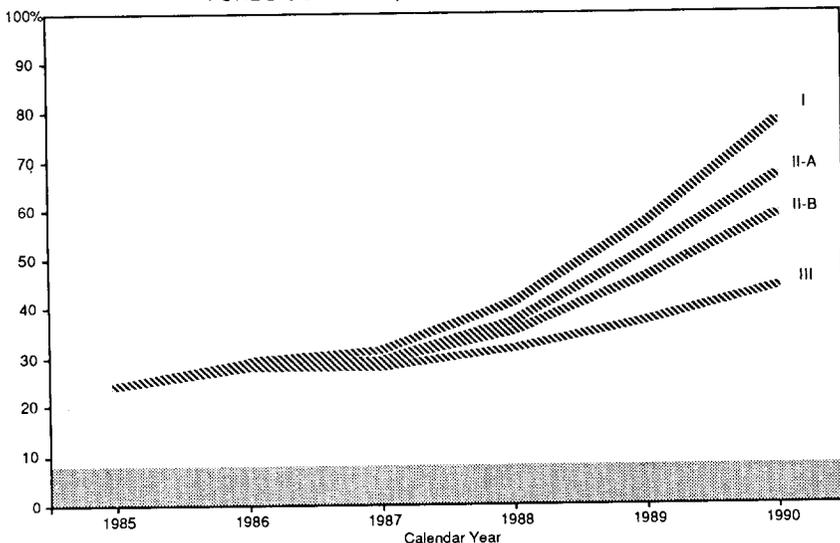


TABLE 18.—CONTINGENCY FUND RATIOS<sup>1</sup> BY TRUST FUND, SELECTED CALENDAR YEARS 1950-85, AND ESTIMATED FUTURE RATIOS BY ALTERNATIVE, CALENDAR YEARS 1986-90  
[In percent]

Calendar year	OASI Trust Fund	DI Trust Fund	OASI and DI Trust Funds, combined
<b>Past experience:</b>			
1950 .....	1,156	—	1,156
1955 .....	405	—	405
1960 .....	180	304	186
1965 .....	109	121	110
1970 .....	101	126	103
1975 .....	63	92	66
1976 .....	54	71	57
1977 .....	47	48	47
1978 .....	39	26	37
1979 .....	30	30	30
1980 .....	23	35	25
1981 .....	18	21	18
1982 .....	15	17	15
1983 .....	15	14	14
1984 .....	20	35	21
1985 .....	24	27	24
<b>Alternative I:</b>			
1986 .....	28	36	29
1987 .....	29	48	31
1988 .....	40	49	41
1989 .....	57	58	57
1990 .....	79	74	78
<b>Alternative II-A:</b>			
1988 .....	28	38	29
1987 .....	28	43	29
1988 .....	37	40	37
1989 .....	52	43	51
1990 .....	69	50	67
<b>Alternative II-B:</b>			
1986 .....	28	38	29
1987 .....	27	43	29
1988 .....	35	36	35
1989 .....	47	36	46
1990 .....	61	43	59
<b>Alternative III:</b>			
1986 .....	28	37	28
1987 .....	27	39	28
1988 .....	32	30	32
1989 .....	39	22	37
1990 .....	47	17	44

<sup>1</sup>See footnote 2 of table 13 for definition of contingency fund ratio.

Expenditures in calendar year 1985 from both trust funds, combined, were about 11.2 percent of taxable payroll for the year—0.6 percentage point less than the income rate of 11.8 percent. Based on alternatives I, II-A, and II-B, the cost rate is estimated to decline slowly during most or all of the short-range projection period, reaching 10.17, 10.68, and 11.00 percent, respectively, in 1990. Based on alternative III, the cost rate would increase somewhat, to 11.97 percent in 1990. These percentages are shown in table 19 for both trust funds, separately and combined. Table 19 also shows cost rates for years prior to 1985 and 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.

TABLE 19.—COMPARISON OF INCOME RATES AND COST RATES, BY TRUST FUND, SELECTED CALENDAR YEARS 1950-84, AND ESTIMATED RATES BY ALTERNATIVE, CALENDAR YEARS 1985-90  
[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
<b>Past experience:</b>									
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	5.99	.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
1976.....	8.75	9.42	-.67	1.15	1.44	-.29	9.90	10.86	-.96
1977.....	8.75	9.46	-.71	1.15	1.50	-.35	9.90	10.97	-1.07
1978.....	8.55	9.29	-.74	1.55	1.45	.10	10.10	10.74	-.64
1979.....	8.66	8.88	-.22	1.50	1.35	.15	10.16	10.23	-.07
1980.....	9.04	9.36	-.32	1.12	1.38	-.26	10.16	10.74	-.58
1981 <sup>1</sup> .....	9.40	9.97	-.57	1.30	1.39	-.09	10.70	11.36	-.66
1982 <sup>1</sup> .....	9.15	10.60	-1.45	1.65	1.34	.31	11.80	11.94	-1.14
1983 <sup>1</sup> .....	*9.91	10.28	-.36	*1.33	1.22	.10	*11.24	11.50	-.26
1984 <sup>1</sup> .....	10.58	10.10	.47	1.01	1.16	-.15	11.59	11.26	.33
<b>Alternative I:</b>									
1985.....	*10.72	10.02	.69	*1.07	1.15	-.07	*11.79	11.17	.62
1986.....	10.59	9.89	.70	1.01	1.10	-.08	11.60	10.99	.62
1987.....	10.60	9.54	1.06	1.01	1.02	-.01	11.61	10.57	1.05
1988.....	11.28	9.61	1.67	1.07	1.00	.07	12.35	10.62	1.74
1989.....	11.29	9.48	1.81	1.07	.97	.11	12.37	10.45	1.92
1990.....	11.44	9.25	2.19	1.22	.92	.29	12.66	10.17	2.49
<b>Alternative II-A:</b>									
1985.....	*10.72	10.04	.68	*1.07	1.15	-.08	*11.79	11.18	.61
1986.....	10.59	9.93	.67	1.01	1.12	-.11	11.60	11.05	.55
1987.....	10.61	9.79	.82	1.01	1.07	-.06	11.62	10.86	.76
1988.....	11.28	9.77	1.51	1.07	1.05	.03	12.36	10.82	1.54
1989.....	11.30	9.69	1.61	1.08	1.03	.05	12.38	10.72	1.66
1990.....	11.48	9.67	1.81	1.22	1.01	.21	12.70	10.68	2.02
<b>Alternative II-B:</b>									
1985.....	*10.72	10.05	.67	*1.07	1.15	-.08	*11.79	11.20	.60
1986.....	10.59	9.98	.61	1.01	1.13	-.12	11.61	11.11	.50
1987.....	10.61	9.93	.68	1.01	1.09	-.07	11.62	11.02	.60
1988.....	11.29	9.99	1.29	1.07	1.07	(9)	12.36	11.07	1.30
1989.....	11.30	9.89	1.42	1.08	1.05	.03	12.38	10.94	1.45
1990.....	11.51	9.96	1.55	1.22	1.04	.19	12.74	11.00	1.74
<b>Alternative III:</b>									
1985.....	*10.72	10.06	.66	*1.07	1.15	-.08	*11.79	11.21	.58
1986.....	10.59	9.99	.60	1.01	1.15	-.14	11.61	11.14	.46
1987.....	10.61	10.08	.53	1.01	1.13	-.12	11.63	11.21	.41
1988.....	11.30	10.54	.76	1.08	1.17	-.09	12.38	11.71	.67
1989.....	11.32	10.38	.93	1.08	1.14	-.07	12.39	11.53	.87
1990.....	11.56	10.79	.77	1.23	1.18	.05	12.78	11.97	.82

<sup>1</sup>Cost rates for 1981-84 are preliminary.

\*Income rates for 1983 and 1985 are adjusted to include the lump-sum payments from the general fund of the Treasury for the cost of noncontributory wage credits for military service in 1940-56.

<sup>1</sup>Income rate exceeds cost rate by less than 0.005.

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 1986-90 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 1986-90 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 1986-90.

Data on the actual operations of the OASI Trust Fund for selected years during 1940-85, and estimates of the expected operations of the trust fund during 1986-90 on the basis of the intermediate sets of assumptions, are shown in tables 20 and 21 on a fiscal- and calendar-year basis, respectively. Corresponding figures on the operations of the DI Trust Fund are shown in tables 22 and 23. Operations of both trust funds combined are shown in tables 24 and 25. (Data relating to the operations of the two trust funds for years not shown in tables 20-25 are contained in past annual reports.) The figures shown in tables 21, 23, and 25 for 1981 and 1982 are adjusted to reflect 12 months of benefit payments in each year. As stated previously, the estimated figures for 1987 and 1988 are also so adjusted.

TABLE 20.—OPERATIONS OF THE OASI TRUST FUND DURING SELECTED FISCAL YEARS 1940-85 AND ESTIMATED FUTURE OPERATIONS DURING FISCAL YEARS 1986-90 ON THE BASIS OF THE INTERMEDIATE SETS OF ASSUMPTIONS

[In millions]

Fiscal year <sup>1</sup>	Income					Disbursements						Fund at end of period
	Total	Net contributions <sup>2</sup>	Income from taxation of benefits	Payments from the general fund of the Treasury <sup>3</sup>	Net interest <sup>4</sup>	Total	Benefit payments <sup>5</sup>	Administrative expenses	Transfers to Railroad Retirement program	Interfund borrowing transfers <sup>6</sup>	Net increase in fund	
<b>Past experience:</b>												
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	32,816
1975 .....	58,757	56,017	—	447	2,292	56,676	54,847	848	982	—	2,081	39,948
1976 .....	62,327	59,555	—	425	2,347	64,295	62,148	935	1,212	—	-1,968	37,980
July-Sept. 1976 ..	16,186	16,106	—	—	80	17,111	16,877	234	—	—	-925	37,055
1977 .....	71,796	68,895	—	614	2,287	73,479	71,278	993	1,208	—	-1,683	35,372
1978 .....	76,811	74,047	—	613	2,152	81,205	78,531	1,086	1,589	—	-4,394	30,978
1979 .....	86,893	84,358	—	615	1,920	90,128	87,609	1,072	1,448	—	-3,235	27,743
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	137,928	134,661	1,474	1,793	—	-11,299	12,535
1983 .....	148,434	136,127	—	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 .....	179,881	175,305	3,151	105	1,321	169,210	165,310	1,589	2,310	-4,364	6,308	33,877
<b>Alternative II-A:</b>												
1986 .....	195,229	186,897	3,385	2,293	2,654	179,263	174,910	1,728	2,626	-13,155	2,811	36,689
1987 .....	207,471	199,863	3,902	69	3,636	189,804	185,250	1,795	2,760	—	17,666	54,355
1988 .....	235,220	225,444	4,514	55	5,208	202,175	197,410	1,911	2,855	—	33,045	87,400
1989 .....	256,474	243,423	5,208	44	7,799	214,786	209,876	2,036	2,874	—	41,688	129,088
1990 .....	279,530	262,575	5,997	35	10,923	227,718	222,603	2,162	2,954	—	51,812	180,900
<b>Alternative II-B:</b>												
1986 .....	194,723	186,394	3,385	2,293	2,650	179,263	174,910	1,728	2,626	-13,155	2,305	36,182
1987 .....	205,743	198,197	3,913	69	3,564	190,341	185,784	1,795	2,762	—	15,402	51,584
1988 .....	231,614	222,047	4,543	55	4,969	203,483	198,698	1,912	2,873	—	28,131	79,715
1989 .....	253,765	241,119	5,272	44	7,329	217,412	212,435	2,062	2,916	—	36,352	116,068
1990 .....	279,414	262,708	6,162	36	10,509	233,887	228,652	2,211	3,023	—	45,528	181,595

See following page for footnotes.

<sup>1</sup>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.

<sup>2</sup>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.

<sup>3</sup>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. The amount shown for 1978 also includes \$2,724,000 as a single reimbursement for the estimated total costs of granting noncontributory wage credits to individuals who were interned during World War II at places within the United States operated by the Federal Government for the internment of persons of Japanese ancestry.

<sup>4</sup>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.

<sup>5</sup>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.

<sup>6</sup>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 21.—OPERATIONS OF THE OASI TRUST FUND DURING SELECTED CALENDAR YEARS 1940-85 AND ESTIMATED FUTURE OPERATIONS DURING CALENDAR YEARS 1986-90 ON THE BASIS OF THE INTERMEDIATE SETS OF ASSUMPTIONS  
(In millions)

Calendar year	Income					Disbursements						Fund at end of period
	Total	Net contributions <sup>1</sup>	Income from taxation of benefits	Payments from the general fund of the Treasury <sup>2</sup>	Net interest <sup>3</sup>	Total	Benefit payments <sup>4</sup>	Administrative expenses	Transfers to Railroad Retirement program	Interfund borrowing transfers <sup>5</sup>	Net increase in fund	
<b>Past experience:</b>												
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	81	—	—	1,905	13,721
1955 .....	6,167	5,713	—	—	454	5,079	4,968	119	—	—	1,087	21,663
1960 .....	11,382	10,866	—	—	516	11,198	10,677	203	318	—	184	20,324
1965 .....	18,610	16,017	—	—	593	17,501	16,737	328	436	—	-890	18,235
1970 .....	32,220	30,256	—	449	1,515	29,648	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
1976 .....	66,276	63,362	—	614	2,301	67,876	65,705	959	1,212	—	-1,600	35,388
1977 .....	72,412	69,572	—	613	2,227	75,309	73,121	981	1,208	—	-2,897	32,491
1978 .....	78,094	75,471	—	615	2,008	83,064	80,361	1,115	1,589	—	-4,971	27,520
1979 .....	90,274	87,919	—	557	1,797	93,133	90,573	1,113	1,448	—	-2,860	24,660
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	645	142,119	138,806	1,519	1,793	\$17,519	598	22,088
1983 .....	150,584	138,337	—	5,541	6,706	152,999	149,215	1,534	2,251	—	-2,416	19,672
1984 .....	169,328	164,121	\$2,835	105	2,267	161,883	157,847	1,632	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
<b>Alternative II-A:</b>												
1986 .....	196,881	190,215	3,508	160	2,998	181,836	177,468	1,742	2,626	-13,155	1,890	37,732
1987 .....	211,862	203,465	4,032	55	4,311	192,399	187,818	1,822	2,760	—	19,463	57,196
1988 .....	241,410	230,318	4,674	44	6,374	205,394	200,599	1,940	2,855	—	36,017	93,212
1989 .....	262,407	247,672	5,387	35	9,313	217,906	212,967	2,065	2,874	—	44,501	137,713
1990 .....	267,175	267,788	6,205	544	12,638	231,115	225,969	2,192	2,954	—	56,060	193,773
<b>Alternative II-B:</b>												
1986 .....	196,116	189,474	3,508	160	2,974	181,836	177,468	1,742	2,626	-13,155	1,125	36,967
1987 .....	209,589	201,323	4,048	55	4,164	193,113	188,528	1,822	2,762	—	16,476	53,443
1988 .....	237,528	226,770	4,709	44	6,005	206,897	202,078	1,947	2,873	—	30,631	84,075
1989 .....	260,162	245,837	5,461	36	8,829	220,894	215,883	2,096	2,916	—	39,267	123,342
1990 .....	267,926	268,097	6,400	1,109	12,320	238,330	233,060	2,246	3,023	—	49,597	172,939

See following page for footnotes.

<sup>1</sup>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.

<sup>2</sup>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. The amount shown for 1977 also includes \$2,724,000 as a single reimbursement for the estimated total costs of granting noncontributory wage credits to individuals who were interned during World War II at places within the United States operated by the Federal Government for the internment of persons of Japanese ancestry.

<sup>3</sup>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.

<sup>4</sup>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.

<sup>5</sup>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 22.—OPERATIONS OF THE DI TRUST FUND DURING SELECTED FISCAL YEARS 1960-85 AND ESTIMATED FUTURE OPERATIONS DURING FISCAL YEARS 1986-90 ON THE BASIS OF THE INTERMEDIATE SETS OF ASSUMPTIONS  
[In millions]

Fiscal year <sup>1</sup>	Income					Disbursements						
	Total	Net contributions <sup>2</sup>	Income from taxation of benefits	Payments from the general fund of the Treasury <sup>3</sup>	Net interest <sup>4</sup>	Total	Benefit payments <sup>5</sup>	Administrative expenses	Transfers to Railroad Retirement program	Interfund borrowing transfers <sup>6</sup>	Net increase in fund	Fund at end of period
<b>Past experience:</b>												
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
1976 .....	8,355	7,797	—	90	468	9,606	9,314	266	26	—	-1,251	6,939
July-Sept. 1976 .....	2,172	2,159	—	—	13	2,653	2,582	71	—	—	-481	6,459
1977 .....	9,374	8,900	—	103	372	11,590	11,212	378	( <sup>7</sup> )	—	-2,215	4,243
1978 .....	12,784	12,404	—	128	251	12,655	12,298	327	30	—	129	4,372
1979 .....	15,196	14,750	—	142	305	13,944	13,507	407	30	—	1,252	5,624
1980 .....	17,376	16,805	—	118	453	15,320	14,998	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
<b>Alternative II-A:</b>												
1986 .....	19,947	17,971	230	1,017	729	20,299	19,495	745	59	2,541	2,189	8,062
1987 .....	20,149	19,208	261	—	680	20,914	20,067	797	50	—	-766	7,296
1988 .....	22,557	21,629	298	—	630	21,786	20,909	829	49	—	771	8,067
1989 .....	24,368	23,325	343	—	700	22,831	21,910	879	42	—	1,537	9,604
1990 .....	28,571	27,324	394	—	853	23,920	22,938	937	45	—	4,652	14,255
<b>Alternative II-B:</b>												
1986 .....	19,901	17,925	230	1,017	729	20,299	19,496	745	59	2,541	2,142	8,015
1987 .....	19,983	19,049	261	—	673	20,968	20,121	797	50	—	-985	7,030
1988 .....	22,199	21,303	300	—	596	21,904	21,026	829	50	—	295	7,325
1989 .....	24,082	23,105	346	—	631	23,062	22,128	889	45	—	1,021	8,345
1990 .....	28,510	27,343	403	—	763	24,468	23,463	957	48	—	4,042	12,387

See following page for footnotes.

<sup>1</sup>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.

<sup>2</sup>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.

<sup>3</sup>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. The amount shown for 1978 also includes \$3,000 as a single reimbursement for the estimated total costs of granting noncontributory wage credits to individuals who were interned during World War II at places within the United States operated by the Federal Government for the internment of persons of Japanese ancestry.

<sup>4</sup>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.

<sup>5</sup>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.

<sup>6</sup>Negative figure represents amounts lent by the DI Trust Fund to the OASI Trust Fund. Positive figures represent repayment of these amounts.

<sup>7</sup>Less than \$500,000 was transferred from the Railroad Retirement program to the DI Trust Fund.

TABLE 23.—OPERATIONS OF THE DI TRUST FUND DURING SELECTED CALENDAR YEARS 1960-85 AND ESTIMATED FUTURE OPERATIONS DURING CALENDAR YEARS 1986-90 ON THE BASIS OF THE INTERMEDIATE SETS OF ASSUMPTIONS  
(In millions)

Calendar year	Income					Disbursements						Fund at end of period
	Total	Net contributions <sup>1</sup>	Income from taxation of benefits	Payments from the general fund of the Treasury <sup>2</sup>	Net interest <sup>3</sup>	Total	Benefit payments <sup>4</sup>	Administrative expenses	Transfers to Railroad Retirement program	Intertfund borrowing transfers <sup>5</sup>	Net increase in fund	
<b>Past experience:</b>												
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	1,806
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
1976	8,757	8,233	—	—	103	422	10,366	10,055	285	26	-1,609	5,745
1977	9,570	9,138	—	—	128	304	11,945	11,547	399	(*)	-2,375	3,370
1978	13,810	13,413	—	—	142	256	12,954	12,599	325	30	856	4,226
1979	15,590	15,114	—	—	118	358	14,186	13,786	371	30	1,404	5,630
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	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	871	19,478	18,827	608	43	2,540	2,363	6,321
<b>Alternative II-A:</b>												
1986	19,251	18,247	239	—	765	20,590	19,760	771	59	2,541	1,202	7,523
1987	20,469	19,556	268	—	645	21,038	20,183	805	50	—	-569	6,954
1988	23,038	22,076	309	—	653	22,057	21,168	841	49	—	981	7,935
1989	24,849	23,735	355	—	759	23,102	22,168	892	42	—	1,746	9,681
1990	30,049	28,514	408	117	1,010	24,204	23,208	951	45	—	5,845	15,526
<b>Alternative II-B:</b>												
1986	19,180	18,179	239	—	763	20,589	19,760	771	59	2,541	1,132	7,453
1987	20,245	19,349	269	—	627	21,108	20,253	804	50	—	-863	6,590
1988	22,649	21,737	310	—	601	22,191	21,299	842	50	—	458	7,048
1989	24,591	23,559	359	—	674	23,362	22,413	904	45	—	1,230	8,278
1990	30,053	28,549	418	161	924	24,844	23,822	973	48	—	5,209	13,486

See following page for footnotes.

<sup>1</sup>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.

<sup>2</sup>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. The amount shown for 1977 also includes \$3,000 as a single reimbursement for the estimated total costs of granting noncontributory wage credits to individuals who were interned during World War II at places within the United States operated by the Federal Government for the internment of persons of Japanese ancestry.

<sup>3</sup>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.

<sup>4</sup>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.

<sup>5</sup>Negative figure represents amounts lent by the DI Trust Fund to the OASI Trust Fund. Positive figures represent repayment of these amounts.

<sup>6</sup>Less than \$500,000 was transferred from the Railroad Retirement program to the DI Trust Fund.

TABLE 24.—OPERATIONS OF THE OASI AND DI TRUST FUNDS, COMBINED, DURING SELECTED FISCAL YEARS 1960-85 AND ESTIMATED FUTURE OPERATIONS DURING FISCAL YEARS 1986-90 ON THE BASIS OF THE INTERMEDIATE SETS OF ASSUMPTIONS  
(In millions)

Fiscal year <sup>1</sup>	Income					Disbursements					Funds at end of period	
	Total	Net contributions <sup>2</sup>	Income from taxation of benefits	Payments from the general fund of the Treasury <sup>3</sup>	Net interest <sup>4</sup>	Total	Benefit payments <sup>5</sup>	Administrative expenses	Transfers to Railroad Retirement program	Interfund borrowing transfers <sup>6</sup>		Net increase in funds
<b>Past experience:</b>												
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
1976 .....	70,682	67,352	—	515	2,815	73,901	71,462	1,200	1,239	—	-3,219	44,919
July-Sept. 1976 .....	18,359	18,265	—	—	94	19,764	19,460	304	—	—	-1,405	43,514
1977 .....	81,170	77,794	—	717	2,659	85,068	82,490	1,370	1,208	—	-3,898	39,615
1978 .....	89,595	86,451	—	741	2,403	93,861	90,829	1,413	1,618	—	-4,265	35,350
1979 .....	102,089	99,108	—	757	2,225	104,072	101,116	1,479	1,477	—	-1,983	33,367
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	3,115	178,199	173,603	2,171	2,426	—	262	32,212
1985 .....	197,865	192,181	3,368	105	2,212	188,504	183,959	2,192	2,353	-1,824	7,538	39,750
<b>Alternative II-A:</b>												
1986 .....	215,176	204,868	3,615	3,310	3,383	199,562	194,405	2,473	2,685	-10,613	5,000	44,750
1987 .....	227,619	219,071	4,163	69	4,316	210,719	205,317	2,592	2,810	—	16,901	61,651
1988 .....	257,778	247,073	4,812	55	5,838	223,962	218,318	2,740	2,903	—	33,816	95,467
1989 .....	280,842	266,748	5,551	44	8,499	237,617	231,786	2,915	2,916	—	43,225	138,692
1990 .....	308,101	289,899	6,391	35	11,776	251,638	245,541	3,098	2,999	—	56,463	195,155
<b>Alternative II-B:</b>												
1986 .....	214,623	204,319	3,615	3,310	3,379	199,563	194,405	2,473	2,685	-10,613	4,447	44,197
1987 .....	225,727	217,246	4,175	69	4,237	211,309	205,905	2,592	2,813	—	14,417	58,614
1988 .....	253,813	243,350	4,843	55	5,565	225,387	219,724	2,741	2,923	—	28,426	87,040
1989 .....	277,847	264,224	5,619	44	7,960	240,474	234,563	2,950	2,960	—	37,373	124,413
1990 .....	307,924	290,051	6,565	36	11,273	258,354	252,114	3,168	3,072	—	49,569	173,983

See following page for footnotes.

<sup>1</sup>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.

<sup>2</sup>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.

<sup>3</sup>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. The amount shown for 1978 also includes \$2,727,000 as a single reimbursement for the estimated total costs of granting noncontributory wage credits to individuals who were interned during World War II at places within the United States operated by the Federal Government for the internment of persons of Japanese ancestry.

<sup>4</sup>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.

<sup>5</sup>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.

<sup>6</sup>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 25.—OPERATIONS OF THE OASI AND DI TRUST FUNDS, COMBINED, DURING SELECTED CALENDAR YEARS 1960-85 AND ESTIMATED FUTURE OPERATIONS DURING CALENDAR YEARS 1986-90 ON THE BASIS OF THE INTERMEDIATE SETS OF ASSUMPTIONS  
[In millions]

Calendar year	Income					Disbursements						Funds at end of period
	Total	Net contributions <sup>1</sup>	Income from taxation of benefits	Payments from the general fund of the Treasury <sup>2</sup>	Net interest <sup>3</sup>	Total	Benefit payments <sup>4</sup>	Administrative expenses	Transfers to Railroad Retirement program	Interfund borrowing transfers <sup>5</sup>	Net increase in funds	
<b>Past experience:</b>												
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 .....	67,540	64,259	—	515	2,866	69,184	67,022	1,152	1,010	—	-1,544	44,342
1976 .....	75,034	71,595	—	717	2,722	78,242	75,759	1,244	1,239	—	-3,209	41,133
1977 .....	81,982	78,710	—	741	2,531	87,254	84,667	1,379	1,208	—	-5,272	35,861
1978 .....	91,903	88,883	—	757	2,264	96,018	92,960	1,440	1,618	—	-4,115	31,746
1979 .....	105,864	103,034	—	675	2,155	107,320	104,359	1,483	1,477	—	-1,456	30,291
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	166,739	2,159	2,279	—	89	24,867
1984 .....	186,637	180,066	\$3,025	1,105	3,441	180,429	175,746	2,258	2,426	—	6,208	31,075
1985 .....	203,540	194,149	3,429	3,220	2,742	190,628	186,075	2,200	2,353	-1,824	11,088	42,163
<b>Alternative II-A:</b>												
1986 .....	216,131	208,462	3,746	160	3,764	202,426	197,228	2,513	2,685	-10,613	3,092	45,256
1987 .....	232,331	223,021	4,300	55	4,955	213,437	208,001	2,626	2,810	—	18,894	64,150
1988 .....	264,448	252,394	4,983	44	7,028	227,451	221,767	2,780	2,903	—	36,997	101,147
1989 .....	287,255	271,407	5,741	35	10,072	241,008	235,135	2,957	2,916	—	46,247	147,394
1990 .....	317,224	296,302	6,613	661	13,649	255,319	249,177	3,143	2,999	—	61,905	209,300
<b>Alternative II-B:</b>												
1986 .....	215,296	207,653	3,746	160	3,737	202,426	197,228	2,513	2,685	-10,613	2,257	44,420
1987 .....	229,833	220,672	4,317	55	4,791	214,220	208,781	2,826	2,813	—	15,613	60,033
1988 .....	260,177	248,507	5,019	44	6,697	229,088	223,376	2,789	2,923	—	31,089	91,122
1989 .....	284,753	269,396	5,819	36	9,502	244,256	238,295	3,000	2,960	—	40,497	131,619
1990 .....	317,979	296,646	6,818	1,270	13,245	263,174	256,883	3,219	3,072	—	54,805	186,425

See following page for footnotes.

\*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.

\*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. The amount shown for 1977 also includes \$2,727,000 as a single reimbursement for the estimated total costs of granting noncontributory wage credits to individuals who were interned during World War II at places within the United States operated by the Federal Government for the internment of persons of Japanese ancestry.

\*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.

\*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.

\*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, 1985, about 594,000 persons were receiving monthly benefits from the OASI Trust Fund because of their disabilities or the disabilities of children. This total includes 54,000 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 \$2,043 million in calendar year 1985. Table 26 shows these and similar figures for selected calendar years during 1960-85, and estimated experience for 1986-90.

TABLE 26.—BENEFITS PAYABLE FROM THE OASI TRUST FUND WITH RESPECT TO DISABLED BENEFICIARIES, SELECTED CALENDAR YEARS 1960-90  
[Beneficiaries in thousands; benefit payments in millions]

Calendar year	Disabled beneficiaries, end of year			Amount of benefit payments <sup>1</sup>		
	Total	Children <sup>2</sup>	Widows-widowers	Total	Children <sup>2</sup>	Widows-widowers <sup>3</sup>
<b>Past experience:</b>						
1960.....	117	117	—	\$59	\$59	—
1965.....	214	214	—	134	134	—
1970.....	316	281	36	301	280	\$41
1975.....	435	376	59	664	580	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
<b>Alternative II-A:</b>						
1986.....	608	563	45	2,188	2,004	184
1987.....	623	579	44	2,334	2,150	184
1988.....	638	596	42	2,519	2,333	186
1989.....	653	613	40	2,707	2,517	190
1990.....	667	629	38	2,895	2,702	193
<b>Alternative II-B:</b>						
1986.....	608	563	45	2,188	2,004	184
1987.....	623	579	44	2,342	2,158	184
1988.....	638	596	42	2,538	2,350	188
1989.....	653	613	40	2,744	2,552	192
1990.....	667	629	38	2,986	2,786	200

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

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

<sup>3</sup>In 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 \$2,188 million in calendar year 1986 to \$2,895 million in calendar year 1990, based on alternative II-A, and to \$2,986 million in calendar year 1990, based on alternative II-B.

In calendar year 1985, 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 \$20,879 million, of which \$2,043 million, or 9.8 percent, represented payments from the OASI Trust Fund. These and similar figures for selected calendar years during 1960-85 and estimates for calendar years 1986-90 are presented in table 27.

TABLE 27.—BENEFIT PAYMENTS UNDER THE OASDI PROGRAM WITH RESPECT TO DISABLED BENEFICIARIES, BY TRUST FUND, SELECTED CALENDAR YEARS 1960-90  
[Amounts in millions]

Calendar year	Benefit payments <sup>1</sup> from—			
	Total <sup>1</sup>	DI Trust Fund <sup>2</sup>	OASI Trust Fund	
			Amount <sup>3</sup>	As a percentage of total benefit payments with respect to disabled beneficiaries
<b>Past experience:</b>				
1960 .....	\$627	\$568	\$59	9.4
1965 .....	1,707	1,573	134	7.9
1970 .....	3,386	3,085	301	8.9
1975 .....	9,169	8,505	664	7.2
1976 .....	10,803	10,055	748	6.9
1977 .....	12,415	11,547	868	7.0
1978 .....	13,549	12,599	950	7.0
1979 .....	14,857	13,786	1,071	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
<b>Alternative II-A:</b>				
1986 .....	21,952	19,764	2,188	10.0
1987 .....	22,522	20,183	2,334	10.4
1988 .....	23,692	21,173	2,519	10.6
1989 .....	24,880	22,173	2,707	10.9
1990 .....	26,107	23,212	2,895	11.1
<b>Alternative II-B:</b>				
1986 .....	21,952	19,764	2,188	10.0
1987 .....	22,600	20,258	2,342	10.4
1988 .....	23,842	21,304	2,538	10.6
1989 .....	25,162	22,418	2,744	10.9
1990 .....	26,813	23,827	2,986	11.1

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

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

<sup>3</sup>Benefit payments to disabled children aged 18 and over, to certain mothers and fathers (see text), and to disabled widows and widowers (see footnote 3, table 26).

### *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 periods beginning with the calendar year of issuance of the report. Accordingly, the medium-range and long-range actuarial balances shown in this report pertain to the periods 1986-2010 and 1986-2060, respectively. Also presented are actuarial balances for the second and third 25-year subperiods of the 75-year projection period.

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

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

Table 28 presents a comparison of the estimated income and cost rates by trust fund and alternative. A few of the most significant figures shown in this table are the 75-year average income rates, average cost rates, and actuarial balances of the OASDI program, as well as the corresponding figures for the three 25-year subperiods, as estimated under the intermediate alternatives, II-A and II-B.

Under alternative II-A, the long-range 75-year actuarial balance of the OASDI program is a surplus of 0.28 percent of taxable payroll, consisting of a surplus of 2.53 percent of payroll for the first 25-year subperiod, followed by deficits of 0.12 and 1.58 percent of payroll for the second and third subperiods, respectively. The 75-year actuarial balance results from estimated average annual income and cost rates of 12.92 and 12.64 percent of taxable payroll, respectively. Under alternative II-A, the long-range average income rate is about 102.2 percent of the average cost rate.

Under alternative II-B, the 75-year actuarial balance of the OASDI program is a deficit of 0.44 percent of taxable payroll, consisting of a surplus of 2.12 percent of payroll for the first 25-year subperiod,

followed by deficits of 0.89 and 2.56 percent of payroll for the second and third subperiods, respectively. The 75-year actuarial balance results from estimated average annual income and cost rates of 12.96 and 13.40 percent of taxable payroll, respectively. Under alternative II-B, the long-range average income rate is about 96.7 percent of the average cost rate.

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

TABLE 28.—COMPARISON OF ESTIMATED INCOME RATES AND COST RATES BY TRUST FUND AND ALTERNATIVE, CALENDAR YEARS 1986-2060  
[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
<b>Alternative I:</b>									
1986	10.59	9.89	0.70	1.01	1.10	-0.08	11.60	10.99	0.62
1987	10.60	9.54	1.06	1.01	1.02	-.01	11.61	10.57	1.05
1988	11.28	9.61	1.67	1.07	1.00	.07	12.35	10.62	1.74
1989	11.29	9.48	1.81	1.07	.97	.11	12.37	10.45	1.92
1990	11.44	9.25	2.19	1.22	.92	.29	12.66	10.17	2.49
1991	11.47	9.32	2.16	1.22	.92	.30	12.69	10.23	2.45
1992	11.49	9.13	2.36	1.22	.89	.32	12.71	10.03	2.68
1993	11.52	9.19	2.33	1.22	.90	.32	12.74	10.08	2.65
1994	11.54	9.03	2.51	1.22	.88	.34	12.76	9.91	2.84
1995	11.57	9.10	2.47	1.22	.89	.33	12.79	9.99	2.80
2000	11.30	8.03	3.27	1.45	.92	.53	12.75	8.95	3.80
2005	11.27	7.38	3.89	1.46	1.02	.44	12.73	8.41	4.32
2010	11.29	7.59	3.71	1.47	1.16	.30	12.76	8.75	4.01
2015	11.34	8.46	2.88	1.47	1.24	.23	12.81	9.70	3.11
2020	11.40	9.61	1.79	1.47	1.28	.20	12.88	10.89	1.98
2025	11.45	10.47	.98	1.48	1.33	.15	12.93	11.80	1.13
2030	11.48	10.85	.64	1.48	1.28	.19	12.96	12.13	.83
2035	11.49	10.73	.76	1.48	1.22	.26	12.97	11.95	1.02
2040	11.49	10.28	1.21	1.48	1.20	.28	12.96	11.48	1.49
2045	11.48	9.88	1.60	1.48	1.22	.26	12.96	11.10	1.86
2050	11.47	9.66	1.80	1.48	1.23	.26	12.95	10.89	2.06
2055	11.46	9.56	1.91	1.48	1.22	.27	12.94	10.77	2.17
2060	11.46	9.46	2.00	1.48	1.20	.28	12.94	10.66	2.28
25-year averages:									
1986-2010	11.32	8.44	2.89	1.30	.98	.32	12.62	9.41	3.21
2011-2035	11.42	9.79	1.63	1.48	1.27	.21	12.89	11.06	1.84
2036-2060	11.47	9.86	1.61	1.48	1.21	.27	12.95	11.08	1.88
75-year average:									
1986-2060	11.41	9.36	2.04	1.42	1.15	.26	12.82	10.52	2.31
<b>Alternative II-A:</b>									
1986	10.59	9.93	.67	1.01	1.12	-.11	11.60	11.05	.55
1987	10.61	9.79	.82	1.01	1.07	-.06	11.62	10.86	.76
1988	11.28	9.77	1.51	1.07	1.05	.03	12.36	10.82	1.54
1989	11.30	9.69	1.61	1.08	1.03	.05	12.38	10.72	1.66
1990	11.48	9.67	1.81	1.22	1.01	.21	12.70	10.68	2.02
1991	11.48	9.60	1.88	1.22	1.00	.22	12.70	10.60	2.10
1992	11.50	9.57	1.94	1.22	.99	.23	12.72	10.56	2.16
1993	11.53	9.55	1.98	1.22	.99	.23	12.75	10.55	2.21
1994	11.56	9.54	2.01	1.22	1.00	.23	12.78	10.54	2.24
1995	11.59	9.53	2.06	1.23	1.00	.22	12.81	10.54	2.28
2000	11.33	8.66	2.67	1.46	1.09	.37	12.79	9.75	3.03
2005	11.30	8.13	3.17	1.47	1.26	.21	12.77	9.39	3.38
2010	11.33	8.44	2.89	1.48	1.48	.00	12.80	9.92	2.89
2015	11.38	9.50	1.88	1.49	1.62	-.13	12.87	11.12	1.75
2020	11.46	10.96	.50	1.49	1.69	-.20	12.95	12.66	.30
2025	11.53	12.20	-.67	1.50	1.79	-.29	13.03	13.99	-.96
2030	11.58	12.99	-1.40	1.50	1.76	-.26	13.08	14.75	-1.66
2035	11.61	13.22	-1.61	1.50	1.70	-.20	13.11	14.92	-1.81
2040	11.62	13.05	-1.42	1.50	1.69	-.19	13.12	14.73	-1.61
2045	11.63	12.87	-1.24	1.51	1.75	-.24	13.14	14.61	-1.48
2050	11.63	12.88	-1.25	1.51	1.78	-.27	13.14	14.66	-1.52
2055	11.64	12.98	-1.34	1.51	1.76	-.26	13.14	14.74	-1.60
2060	11.64	13.01	-1.37	1.51	1.74	-.24	13.14	14.75	-1.60
25-year averages:									
1986-2010	11.35	8.98	2.37	1.30	1.14	.17	12.65	10.12	2.53
2011-2035	11.49	11.40	.09	1.49	1.70	-.21	12.99	13.10	-.12
2036-2060	11.63	12.97	-1.34	1.51	1.74	-.24	13.13	14.71	-1.58
75-year average:									
1986-2060	11.49	11.12	.37	1.43	1.53	-.09	12.92	12.64	.28

TABLE 28.—COMPARISON OF ESTIMATED INCOME RATES AND COST RATES BY TRUST FUND AND ALTERNATIVE, CALENDAR YEARS 1986-2060 (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
<b>Alternative II-B:</b>									
1986	10.59	9.98	0.61	1.01	1.13	-0.12	11.61	11.11	0.50
1987	10.61	9.93	.68	1.01	1.09	-.07	11.62	11.02	.60
1988	11.29	9.99	1.29	1.07	1.07	.00	12.36	11.07	1.30
1989	11.30	9.89	1.42	1.08	1.05	.03	12.38	10.94	1.45
1990	11.51	9.96	1.55	1.22	1.04	.19	12.74	11.00	1.74
1991	11.49	9.94	1.55	1.22	1.03	.19	12.71	10.96	1.75
1992	11.51	9.90	1.61	1.22	1.02	.20	12.73	10.92	1.82
1993	11.54	9.88	1.66	1.22	1.01	.21	12.76	10.89	1.87
1994	11.57	9.88	1.69	1.22	1.02	.21	12.79	10.90	1.89
1995	11.60	9.90	1.71	1.23	1.03	.20	12.83	10.92	1.91
2000	11.35	9.13	2.22	1.46	1.12	.33	12.81	10.25	2.55
2005	11.32	8.64	2.68	1.47	1.31	.16	12.79	9.95	2.84
2010	11.35	8.96	2.38	1.48	1.55	-.07	12.83	10.51	2.32
2015	11.41	10.08	1.33	1.49	1.69	-.20	12.90	11.77	1.13
2020	11.49	11.62	-.14	1.50	1.77	-.28	12.98	13.40	-.41
2025	11.56	12.96	-1.40	1.50	1.88	-.37	13.07	14.84	-1.77
2030	11.62	13.85	-2.23	1.50	1.84	-.34	13.13	15.70	-2.57
2035	11.66	14.15	-2.50	1.50	1.78	-.28	13.16	15.93	-2.78
2040	11.67	14.00	-2.34	1.51	1.77	-.26	13.17	15.77	-2.60
2045	11.68	13.82	-2.14	1.51	1.83	-.32	13.19	15.65	-2.46
2050	11.68	13.83	-2.15	1.51	1.86	-.35	13.19	15.69	-2.50
2055	11.68	13.92	-2.24	1.51	1.85	-.34	13.19	15.77	-2.57
2060	11.68	13.95	-2.27	1.51	1.82	-.31	13.19	15.77	-2.58
25-year averages:									
1986-2010	11.36	9.37	1.99	1.30	1.17	.13	12.67	10.54	2.12
2011-2035	11.52	12.13	-.61	1.50	1.78	-.28	13.02	13.91	-.89
2036-2060	11.68	13.92	-2.24	1.51	1.82	-.31	13.18	15.74	-2.56
75-year average:									
1986-2060	11.52	11.81	-.29	1.44	1.59	-.15	12.96	13.40	-.44
<b>Alternative III:</b>									
1986	10.59	9.99	.60	1.01	1.15	-.14	11.61	11.14	.46
1987	10.61	10.08	.53	1.01	1.13	-.12	11.63	11.21	.41
1988	11.30	10.54	.76	1.08	1.17	-.09	12.38	11.71	.67
1989	11.32	10.38	.93	1.08	1.14	-.07	12.39	11.53	.87
1990	11.56	10.79	.77	1.23	1.18	.05	12.78	11.97	.82
1991	11.52	10.80	.72	1.22	1.17	.05	12.74	11.97	.77
1992	11.54	10.77	.77	1.22	1.17	.06	12.77	11.94	.83
1993	11.57	10.76	.81	1.23	1.17	.06	12.80	11.92	.87
1994	11.60	10.76	.84	1.23	1.17	.05	12.83	11.93	.90
1995	11.64	10.78	.86	1.23	1.19	.05	12.87	11.96	.91
2000	11.39	10.21	1.18	1.46	1.35	.11	12.86	11.56	1.29
2005	11.37	9.79	1.58	1.48	1.63	-.15	12.85	11.42	1.43
2010	11.40	10.25	1.15	1.50	1.99	-.49	12.90	12.23	.67
2015	11.47	11.67	-.20	1.51	2.23	-.72	12.99	13.90	-.91
2020	11.58	13.77	-2.19	1.52	2.38	-.86	13.10	16.15	-3.05
2025	11.69	15.86	-4.17	1.53	2.58	-1.05	13.23	18.44	-5.22
2030	11.80	17.69	-5.89	1.54	2.60	-1.06	13.34	20.29	-6.95
2035	11.88	18.96	-7.08	1.54	2.57	-1.03	13.42	21.54	-8.11
2040	11.95	19.73	-7.79	1.55	2.62	-1.07	13.49	22.35	-8.86
2045	12.01	20.46	-8.45	1.56	2.78	-1.22	13.57	23.23	-9.67
2050	12.06	21.45	-9.39	1.56	2.87	-1.31	13.62	24.32	-10.70
2055	12.11	22.50	-10.38	1.56	2.86	-1.30	13.67	25.36	-11.68
2060	12.15	23.26	-11.11	1.56	2.82	-1.26	13.71	26.08	-12.37
25-year averages:									
1986-2010	11.40	10.30	1.10	1.31	1.39	-.08	12.71	11.70	1.01
2011-2035	11.65	14.89	-3.25	1.53	2.43	-.91	13.17	17.33	-4.15
2036-2060	12.03	21.14	-9.10	1.56	2.77	-1.22	13.59	23.91	-10.32
75-year average:									
1986-2060	11.69	15.44	-3.75	1.46	2.20	-.73	13.16	17.64	-4.49

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

Also significant are the long-range actuarial balances of the separate OASI and DI programs, as estimated under the intermediate alternatives. The long-range actuarial balances of the OASI program under alternatives II-A and II-B are a surplus of 0.37 percent of taxable payroll and a deficit of 0.29 percent, respectively. The surplus under alternative II-A results from long-range average income and cost rates of 11.49 and 11.12

percent of taxable payroll, respectively; the deficit under alternative II-B results from corresponding income and cost rates of 11.52 and 11.81 percent, respectively. Because the long-range average income rates are about 103.3 and 97.6 percent, of the corresponding cost rates under alternatives II-A and II-B, respectively, the OASI program is in close actuarial balance under each of these alternatives, although imbalances exist in the subperiods.

As in the case of the OASDI program as a whole, the long-range actuarial balance for the OASI program consists of surpluses during the early years, followed by deficits in the later years. Under alternative II-A, the actuarial balances for the three subperiods are 2.37, 0.09, and -1.34 percent of payroll, respectively. Under alternative II-B, the pattern is 1.99, -0.61, and -2.24 percent.

The long-range actuarial balances of the DI program under alternatives II-A and II-B are deficits of 0.09 percent and of 0.15 percent of taxable payroll, respectively. Under alternative II-A, this deficit results from long-range average income and cost rates of 1.43 and 1.53 percent of taxable payroll, respectively; under alternative II-B, it results from corresponding income and cost rates of 1.44 and 1.59 percent, respectively. Because the long-range average income rates are less than 95 percent of the corresponding cost rates—94.0 and 90.3 percent under alternatives II-A and II-B, respectively—the DI program is not in close actuarial balance under either alternative. The DI program could be brought into close actuarial balance by a small reallocation of the tax rate from the OASI program to the DI program, in such a way that the OASI program would remain in close actuarial balance.

Under alternative II-A, the long-range actuarial balance of the DI program consists of an average surplus of 0.17 percent of payroll for the first 25-year subperiod, followed by average deficits of 0.21 and 0.24 percent for the second and third subperiods, respectively. Under alternative II-B, the pattern is similar, with the actuarial balances for the three 25-year subperiods being 0.13, -0.28, and -0.31 percent of payroll.

Table 28 also illustrates the spread of the long-range actuarial balances among the four alternatives. For the OASI program, long-range actuarial surpluses are estimated based on alternatives I and II-A, and deficits are estimated based on alternatives II-B and III. For the DI program, a surplus is estimated based on alternative I, and deficits are estimated based on the other three alternatives. The combined OASDI long-range actuarial balance varies from a surplus of 2.31 percent of taxable payroll based on alternative I, to a deficit of 4.49 percent based on alternative III.

In addition, table 28 shows the ranges of the actuarial balances for the 25-year subperiods. For example, for the OASI program, actuarial surpluses are estimated for the first 25-year subperiod on the basis of all four alternatives. For the DI program, surpluses are estimated for the first subperiod on the basis of all alternatives except alternative III. The combined OASDI actuarial surplus for the first subperiod varies from 3.21 percent of taxable payroll based on alternative I, to 1.01 percent based on alternative III.

Table 28 also shows the OASDI annual balances. On the basis of alternative II-A, OASDI annual surpluses are estimated until about 2020, after which annual deficits are estimated. These deficits are estimated to increase steadily to a peak around 2035, when the magnitude is 1.81 percent of taxable payroll; thereafter they decrease somewhat to about 1.6 percent by the end of the long-range projection period. On the basis of alternative II-B, OASDI annual surpluses are estimated until about 2015, after which annual deficits are estimated. These estimated deficits increase more rapidly than those based on alternative II-A and also peak around 2035, when the magnitude is 2.78 percent of taxable payroll. Although the annual deficits thereafter are significantly larger than those based on alternative II-A, they follow a similar pattern, decreasing by approximately 0.2 percent of taxable payroll to about 2.6 percent by the end of the long-range projection period.

The OASDI cost rates based on alternatives I and III differ by about 15 percentage points at the end of the long-range period, although the difference is only about 3.5 percentage points at the end of the medium-range period. The long-range average cost rate for the OASDI program varies from 10.52 percent on the basis of alternative I, to 17.64 percent on the basis of alternative III, while the medium-range average cost rate varies much less—from 9.41 to 11.70 percent.

Figure 2 shows in graphical form the patterns of the OASDI annual income and cost rates. In figure 2, the income rates for alternative II-B represent those for all of the alternatives in order to simplify the graphical presentation. Such representation is satisfactory because, as shown in table 29, the variation in the income rates by alternative is very small. The OASDI long-range average income rates for alternatives I and III differ by only 0.33 percent of taxable payroll. At the end of the long-range projection period, the annual income rates for alternatives I and III differ by only 0.77 percent of taxable payroll. The income rates in figure 2 and table 29 show two distinct increases in 1988 and 1990, when the payroll-tax rate is scheduled to rise under present law. Thereafter, only small fluctuations are noticeable, as the rate of income from taxation of benefits varies slightly, by alternative, with changes in the cost rate.

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

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

FIGURE 2.—ESTIMATED OASDI INCOME RATES AND COST RATES BY ALTERNATIVE, CALENDAR YEARS 1986-2060

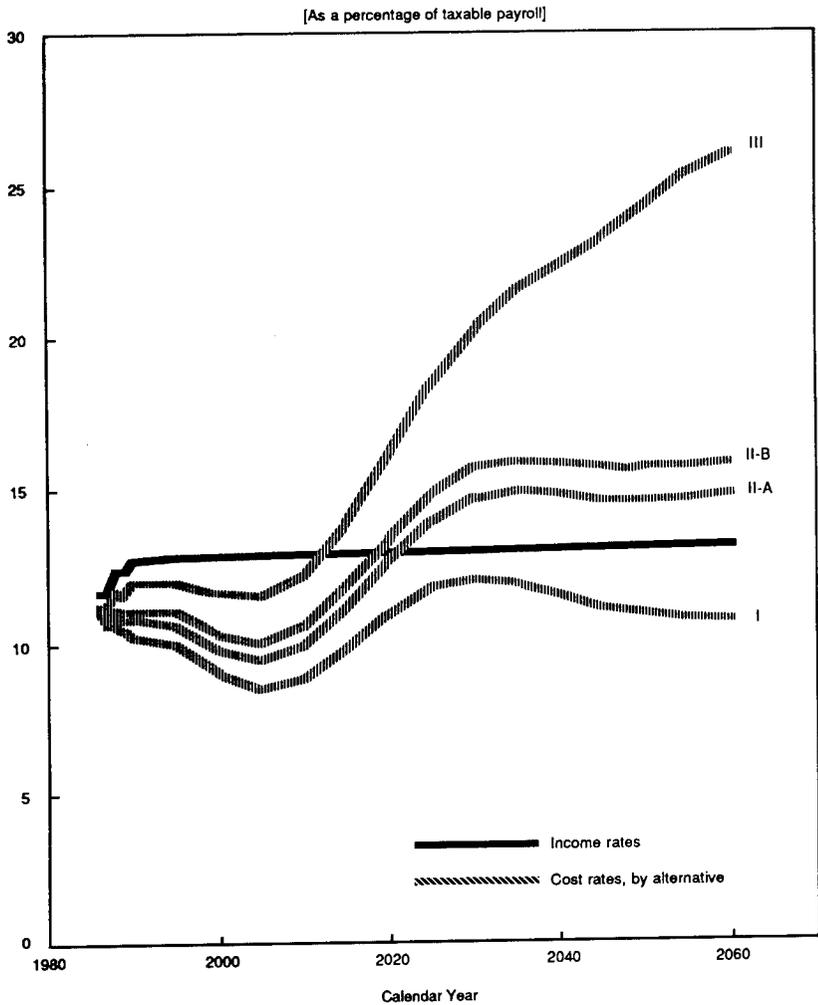


TABLE 29.—ESTIMATED INCOME RATES BY TRUST FUND AND ALTERNATIVE, CALENDAR YEARS 1986-2060  
[As a percentage of taxable payroll]

Calendar year	OASI			DI			Total		
	Payroll tax	Taxation of benefits	Total	Payroll tax	Taxation of benefits	Total	Payroll tax	Taxation of benefits	Total
<b>Alternative I:</b>									
1986	10.40	0.19	10.59	1.00	0.01	1.01	11.40	0.20	11.60
1987	10.40	.20	10.60	1.00	.01	1.01	11.40	.21	11.61
1988	11.06	.22	11.28	1.06	.01	1.07	12.12	.23	12.35
1989	11.06	.23	11.29	1.06	.01	1.07	12.12	.25	12.37
1990	11.20	.24	11.44	1.20	.02	1.22	12.40	.26	12.66
1991	11.20	.27	11.47	1.20	.02	1.22	12.40	.29	12.69
1992	11.20	.29	11.49	1.20	.02	1.22	12.40	.31	12.71
1993	11.20	.32	11.52	1.20	.02	1.22	12.40	.34	12.74
1994	11.20	.34	11.54	1.20	.02	1.22	12.40	.36	12.76
1995	11.20	.37	11.57	1.20	.02	1.22	12.40	.39	12.79
2000	10.98	.32	11.30	1.42	.03	1.45	12.40	.35	12.75
2005	10.98	.29	11.27	1.42	.04	1.46	12.40	.33	12.73
2010	10.98	.31	11.29	1.42	.05	1.47	12.40	.36	12.76
2015	10.98	.36	11.34	1.42	.05	1.47	12.40	.41	12.81
2020	10.98	.42	11.40	1.42	.05	1.47	12.40	.48	12.88
2025	10.98	.47	11.45	1.42	.06	1.48	12.40	.53	12.93
2030	10.98	.50	11.48	1.42	.06	1.48	12.40	.56	12.96
2035	10.98	.51	11.49	1.42	.06	1.48	12.40	.57	12.97
2040	10.98	.51	11.49	1.42	.06	1.48	12.40	.56	12.96
2045	10.98	.50	11.48	1.42	.06	1.48	12.40	.56	12.96
2050	10.98	.49	11.47	1.42	.06	1.48	12.40	.55	12.95
2055	10.98	.48	11.46	1.42	.06	1.48	12.40	.54	12.94
2060	10.98	.48	11.46	1.42	.06	1.48	12.40	.54	12.94
<b>25-year averages:</b>									
1986-2010	11.03	.30	11.32	1.27	.03	1.30	12.30	.32	12.62
2011-2035	10.98	.44	11.42	1.42	.06	1.48	12.40	.49	12.89
2036-2060	10.98	.49	11.47	1.42	.06	1.48	12.40	.55	12.95
<b>75-year average:</b>									
1986-2060	11.00	.41	11.41	1.37	.05	1.42	12.37	.46	12.82
<b>Alternative II-A:</b>									
1986	10.40	.19	10.59	1.00	.01	1.01	11.40	.20	11.60
1987	10.40	.21	10.61	1.00	.01	1.01	11.40	.22	11.62
1988	11.06	.22	11.28	1.06	.01	1.07	12.12	.24	12.36
1989	11.06	.24	11.30	1.06	.02	1.08	12.12	.26	12.38
1990	11.20	.28	11.48	1.20	.02	1.22	12.40	.30	12.70
1991	11.20	.28	11.48	1.20	.02	1.22	12.40	.30	12.70
1992	11.20	.30	11.50	1.20	.02	1.22	12.40	.32	12.72
1993	11.20	.33	11.53	1.20	.02	1.22	12.40	.35	12.75
1994	11.20	.36	11.56	1.20	.02	1.22	12.40	.38	12.78
1995	11.20	.39	11.59	1.20	.03	1.23	12.40	.41	12.81
2000	10.98	.35	11.33	1.42	.04	1.46	12.40	.39	12.79
2005	10.98	.32	11.30	1.42	.05	1.47	12.40	.37	12.77
2010	10.98	.35	11.33	1.42	.06	1.48	12.40	.40	12.80
2015	10.98	.40	11.38	1.42	.07	1.49	12.40	.47	12.87
2020	10.98	.48	11.46	1.42	.07	1.49	12.40	.55	12.95
2025	10.98	.55	11.53	1.42	.08	1.50	12.40	.63	13.03
2030	10.98	.60	11.58	1.42	.08	1.50	12.40	.68	13.08
2035	10.98	.63	11.61	1.42	.08	1.50	12.40	.71	13.11
2040	10.98	.64	11.62	1.42	.08	1.50	12.40	.72	13.12
2045	10.98	.65	11.63	1.42	.09	1.51	12.40	.74	13.14
2050	10.98	.65	11.63	1.42	.09	1.51	12.40	.74	13.14
2055	10.98	.66	11.64	1.42	.09	1.51	12.40	.74	13.14
2060	10.98	.66	11.64	1.42	.09	1.51	12.40	.74	13.14
<b>25-year averages:</b>									
1986-2010	11.03	.32	11.35	1.27	.03	1.30	12.30	.35	12.65
2011-2035	10.98	.51	11.49	1.42	.07	1.49	12.40	.59	12.99
2036-2060	10.98	.65	11.63	1.42	.09	1.51	12.40	.73	13.13
<b>75-year average:</b>									
1986-2060	11.00	.49	11.49	1.37	.06	1.43	12.37	.56	12.92

TABLE 29.—ESTIMATED INCOME RATES BY TRUST FUND AND ALTERNATIVE, CALENDAR YEARS 1986-2060 (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
<b>Alternative II-B:</b>									
1986	10.40	0.19	10.59	1.00	0.01	1.01	11.40	0.21	11.61
1987	10.40	.21	10.61	1.00	.01	1.01	11.40	.22	11.62
1988	11.06	.23	11.29	1.06	.01	1.07	12.12	.24	12.36
1989	11.06	.24	11.30	1.06	.02	1.08	12.12	.26	12.38
1990	11.20	.31	11.51	1.20	.02	1.22	12.40	.34	12.74
1991	11.20	.29	11.49	1.20	.02	1.22	12.40	.31	12.71
1992	11.20	.31	11.51	1.20	.02	1.22	12.40	.33	12.73
1993	11.20	.34	11.54	1.20	.02	1.22	12.40	.36	12.76
1994	11.20	.37	11.57	1.20	.02	1.22	12.40	.39	12.79
1995	11.20	.40	11.60	1.20	.03	1.23	12.40	.43	12.83
2000	10.98	.37	11.35	1.42	.04	1.46	12.40	.41	12.81
2005	10.98	.34	11.32	1.42	.05	1.47	12.40	.39	12.79
2010	10.98	.37	11.35	1.42	.06	1.48	12.40	.43	12.83
2015	10.98	.43	11.41	1.42	.07	1.49	12.40	.50	12.90
2020	10.98	.51	11.49	1.42	.08	1.50	12.40	.58	12.98
2025	10.98	.58	11.56	1.42	.08	1.50	12.40	.67	13.07
2030	10.98	.64	11.62	1.42	.08	1.50	12.40	.73	13.13
2035	10.98	.68	11.66	1.42	.08	1.50	12.40	.76	13.16
2040	10.98	.69	11.67	1.42	.09	1.51	12.40	.77	13.17
2045	10.98	.70	11.68	1.42	.09	1.51	12.40	.79	13.19
2050	10.98	.70	11.68	1.42	.09	1.51	12.40	.79	13.19
2055	10.98	.70	11.68	1.42	.09	1.51	12.40	.79	13.19
2060	10.98	.70	11.68	1.42	.09	1.51	12.40	.79	13.19
25-year averages:									
1986-2010	11.03	.33	11.36	1.27	.03	1.30	12.30	.37	12.67
2011-2035	10.98	.54	11.52	1.42	.08	1.50	12.40	.62	13.02
2036-2060	10.98	.70	11.68	1.42	.09	1.51	12.40	.78	13.18
75-year average: 1986-2060									
	11.00	.52	11.52	1.37	.07	1.44	12.37	.59	12.96
<b>Alternative III:</b>									
1986	10.40	.19	10.59	1.00	.01	1.01	11.40	.21	11.61
1987	10.40	.21	10.61	1.00	.01	1.01	11.40	.23	11.63
1988	11.06	.24	11.30	1.06	.02	1.08	12.12	.26	12.38
1989	11.06	.26	11.32	1.06	.02	1.08	12.12	.27	12.39
1990	11.20	.36	11.56	1.20	.03	1.23	12.40	.38	12.78
1991	11.20	.32	11.52	1.20	.02	1.22	12.40	.34	12.74
1992	11.20	.34	11.54	1.20	.02	1.22	12.40	.37	12.77
1993	11.20	.37	11.57	1.20	.03	1.23	12.40	.40	12.80
1994	11.20	.40	11.60	1.20	.03	1.23	12.40	.43	12.83
1995	11.20	.44	11.64	1.20	.03	1.23	12.40	.47	12.87
2000	10.98	.41	11.39	1.42	.04	1.46	12.40	.46	12.86
2005	10.98	.39	11.37	1.42	.06	1.48	12.40	.45	12.85
2010	10.98	.42	11.40	1.42	.08	1.50	12.40	.50	12.90
2015	10.98	.49	11.47	1.42	.09	1.51	12.40	.59	12.99
2020	10.98	.60	11.58	1.42	.10	1.52	12.40	.70	13.10
2025	10.98	.71	11.69	1.42	.11	1.53	12.40	.83	13.23
2030	10.98	.82	11.80	1.42	.12	1.54	12.40	.94	13.34
2035	10.98	.90	11.88	1.42	.12	1.54	12.40	1.02	13.42
2040	10.98	.97	11.95	1.42	.13	1.55	12.40	1.09	13.49
2045	10.98	1.03	12.01	1.42	.14	1.56	12.40	1.17	13.57
2050	10.98	1.08	12.06	1.42	.14	1.56	12.40	1.22	13.62
2055	10.98	1.13	12.11	1.42	.14	1.56	12.40	1.27	13.67
2060	10.98	1.17	12.15	1.42	.14	1.56	12.40	1.31	13.71
25-year averages:									
1986-2010	11.03	.37	11.40	1.27	.04	1.31	12.30	.41	12.71
2011-2035	10.98	.67	11.65	1.42	.11	1.53	12.40	.77	13.17
2036-2060	10.98	1.05	12.03	1.42	.14	1.56	12.40	1.19	13.59
75-year average: 1986-2060									
	11.00	.70	11.69	1.37	.09	1.46	12.37	.79	13.16

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

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

relatively small number of persons born during the subsequent period of low fertility rates will comprise the labor force. A comparison of the numbers of covered workers and beneficiaries is shown in table 30.

TABLE 30.—COMPARISON OF OASDI COVERED WORKERS AND BENEFICIARIES  
BY ALTERNATIVE, CALENDAR YEARS 1945-2060

Calendar year	Covered workers <sup>a</sup> (in thousands)	Beneficiaries <sup>a</sup> (in thousands)			Covered workers per OASDI beneficiary	Beneficiaries per 100 covered workers
		OASI	DI	Total		
<b>Past experience:</b>						
1945.....	46,390	1,106	—	1,106	41.9	2
1950.....	48,280	2,930	—	2,930	16.5	6
1955.....	65,200	7,563	—	7,563	6.6	12
1960.....	72,530	13,740	522	14,262	5.1	20
1965.....	80,680	18,509	1,648	20,157	4.0	25
1970.....	93,090	22,618	2,568	25,186	3.7	27
1975.....	100,200	26,998	4,125	31,123	3.2	31
1980.....	*113,000	30,385	4,734	35,119	*3.2	*31
1985.....	*121,600	32,776	3,874	36,650	*3.3	*30
<b>Alternative I:</b>						
1986.....	124,290	33,380	3,940	37,320	3.3	30
1990.....	133,060	35,628	3,850	39,478	3.4	30
1995.....	140,190	38,106	3,953	42,059	3.3	30
2000.....	148,990	38,586	4,625	43,211	3.4	29
2005.....	156,100	39,766	5,297	45,063	3.5	29
2010.....	160,640	42,665	6,086	48,751	3.3	30
2015.....	163,340	48,014	6,575	54,589	3.0	33
2020.....	165,160	54,828	6,838	61,666	2.7	37
2025.....	167,330	61,346	7,216	68,562	2.4	41
2030.....	171,000	66,201	7,192	73,393	2.3	43
2035.....	175,780	68,734	7,100	75,834	2.3	43
2040.....	180,880	68,964	7,184	76,148	2.4	42
2045.....	186,090	68,944	7,523	76,467	2.4	41
2050.....	191,770	69,596	7,818	77,414	2.5	40
2055.....	198,050	70,904	8,041	78,945	2.5	40
2060.....	204,780	72,468	8,240	80,708	2.5	39
<b>Alternative II-A:</b>						
1986.....	124,130	33,390	3,956	37,346	3.3	30
1990.....	132,340	35,742	4,047	39,789	3.3	30
1995.....	139,030	38,469	4,342	42,811	3.2	31
2000.....	145,670	39,276	5,113	44,389	3.3	30
2005.....	150,810	40,773	6,071	46,844	3.2	31
2010.....	153,940	43,880	7,162	51,042	3.0	33
2015.....	154,770	49,479	7,825	57,304	2.7	37
2020.....	154,250	56,587	8,160	64,747	2.4	42
2025.....	153,530	63,376	8,597	71,973	2.1	47
2030.....	153,760	68,643	8,520	77,163	2.0	50
2035.....	154,720	71,620	8,343	79,963	1.9	52
2040.....	155,610	72,213	8,355	80,568	1.9	52
2045.....	156,180	72,375	8,657	81,032	1.9	52
2050.....	156,810	73,050	8,851	81,901	1.9	52
2055.....	157,760	74,014	8,888	82,902	1.9	53
2060.....	158,970	74,809	8,878	83,687	1.9	53
<b>Alternative II-B:</b>						
1986.....	123,810	33,389	3,956	37,345	3.3	30
1990.....	130,550	35,740	4,043	39,783	3.3	30
1995.....	137,880	38,457	4,337	42,794	3.2	31
2000.....	143,500	39,262	5,105	44,367	3.2	31
2005.....	148,000	40,752	6,062	46,814	3.2	32
2010.....	151,040	43,850	7,146	50,996	3.0	34
2015.....	151,820	49,441	7,803	57,244	2.7	38
2020.....	151,280	56,539	8,131	64,670	2.3	43
2025.....	150,520	63,317	8,561	71,878	2.1	48
2030.....	150,700	68,575	8,483	77,058	2.0	51
2035.....	151,630	71,542	8,304	79,846	1.9	53
2040.....	152,510	72,124	8,315	80,439	1.9	53
2045.....	153,090	72,280	8,615	80,895	1.9	53
2050.....	153,700	72,945	8,807	81,752	1.9	53
2055.....	154,610	73,902	8,844	82,746	1.9	54
2060.....	155,790	74,691	8,834	83,525	1.9	54

TABLE 30.—COMPARISON OF OASDI COVERED WORKERS AND BENEFICIARIES  
BY ALTERNATIVE, CALENDAR YEARS 1945-2060 (Cont.)

Calendar year	Covered workers <sup>1</sup> (in thousands)	Beneficiaries* (in thousands)			Covered workers per OASDI beneficiary	Beneficiaries per 100 covered workers
		OASI	DI	Total		
<b>Alternative III:</b>						
1986.....	123,700	33,398	3,976	37,374	3.3	30
1990.....	127,250	35,845	4,242	40,087	3.2	32
1995.....	135,510	38,792	4,726	43,518	3.1	32
2000.....	139,170	39,891	5,653	45,544	3.1	33
2005.....	142,010	41,682	6,927	48,609	2.9	34
2010.....	143,500	45,110	8,338	53,448	2.7	37
2015.....	142,170	51,168	9,176	60,344	2.4	42
2020.....	138,960	58,876	9,566	68,442	2.0	49
2025.....	134,870	66,358	10,039	76,395	1.8	57
2030.....	131,140	72,571	9,870	82,441	1.6	63
2035.....	127,840	78,616	9,553	88,169	1.5	67
2040.....	124,230	78,238	9,435	87,673	1.4	71
2045.....	120,010	79,234	9,824	88,858	1.4	74
2050.....	115,630	60,534	9,592	90,126	1.3	78
2055.....	111,520	81,578	9,256	90,834	1.2	81
2060.....	107,840	81,751	8,852	90,603	1.2	84

<sup>1</sup>Workers who pay OASDI taxes at some time during the year.

\*Beneficiaries with monthly benefits in current-payment status as of June 30.

\*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 35,289 as of June 30, 1985, and is estimated to be less than 500 by the turn of the century. Totals do not necessarily equal the sums of rounded components.

Table 30 shows that the number of covered workers per beneficiary, which was about 3.3 in 1985, is estimated to decline in the future. Based on alternative I, for which high fertility rates and small reductions in death rates are assumed, the ratio declines to an ultimate level of about 2.5. Based on alternative III, for which low fertility rates and substantial reductions in death rates are assumed, the decline is much greater, reaching 1.2 workers per beneficiary. Based on alternatives II-A and II-B, the ratio declines to 1.9 workers per beneficiary.

The impact of the demographic shifts under the four alternatives on the OASDI cost rates is better understood by considering the projected number of beneficiaries per 100 workers. As compared to the current level of 30 beneficiaries per 100 covered workers, this ratio rises by the end of the long-range period to a significantly higher level, which ranges from 39 under alternative I to 84 under alternative III. The salience of these numbers can be seen by comparing figure 2 to figure 3, which is a graphical representation of the beneficiaries per 100 covered workers shown in table 30. For each alternative, the shape of the curve in figure 3 is strikingly similar to that of the corresponding cost-rate curve in figure 2, thereby emphasizing the extent to which the cost of the OASDI program is determined by the age patterns of the population. Because, conceptually, the cost rate consists of the product of the number of beneficiaries and their average benefit, divided by the product of the number of covered workers and their average earnings, it is reasonable that the pattern of the annual cost rates is similar to that of the annual ratios of beneficiaries to workers. A graphical presentation of covered workers per beneficiary is shown in the "Summary."

FIGURE 3.—RATIOS OF ESTIMATED OASDI BENEFICIARIES PER 100 COVERED WORKERS BY ALTERNATIVE, CALENDAR YEARS 1986-2060

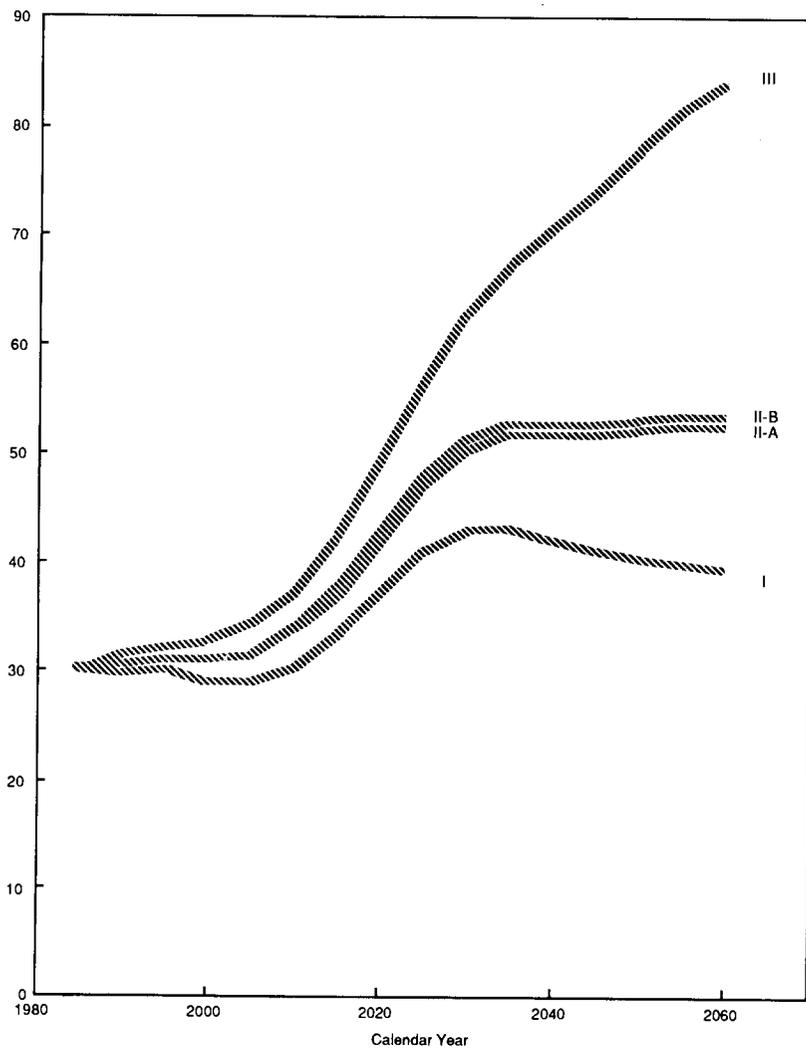


Table 31 shows, by alternative, the estimated contingency fund ratios for the OASI, DI, and combined OASDI Trust Funds. The OASI and DI ratios are estimated to be relatively low for the next several years, before generally increasing to very high levels thereafter. Based on alternatives

II-A and II-B, the OASI ratio peaks about 2015, when it is 735 and 582 percent, respectively, and the DI ratio peaks about 2005, when it is 319 and 269 percent, respectively. Thereafter, the OASI and DI ratios decline steadily. Under alternative II-A, the DI Trust Fund becomes exhausted in 2034; under alternative II-B, the OASI and DI funds become exhausted in 2054 and 2026, respectively. Based on alternative I, the ratios increase throughout the long-range projection period to extremely high levels, around 1,500-1,600 percent for both the OASI and DI programs. In contrast, under alternative III, both the OASI and the DI Trust Funds are estimated to be exhausted within the long-range projection period. Thus, because of the high costs estimated for the last third of the long-range projection period under all but the most optimistic assumptions, eventually income will need to be increased or program costs will need to be reduced in order to prevent the OASI and DI Trust Funds from becoming exhausted.

TABLE 31.—ESTIMATED CONTINGENCY FUND RATIOS BY TRUST FUND AND ALTERNATIVE, CALENDAR YEARS 1986-2060  
[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
1986.....	28	38	29	28	38	29	28	38	29	28	37	28
1987.....	29	48	31	28	43	29	27	43	29	27	39	28
1988.....	40	49	41	37	40	37	35	38	35	32	30	32
1989.....	57	58	57	52	43	51	47	38	46	39	22	37
1990.....	79	74	78	69	50	87	61	43	59	47	17	44
1991.....	101	106	102	88	71	87	77	61	75	54	20	51
1992.....	128	144	130	109	94	107	93	80	92	61	24	58
1993.....	152	178	155	129	117	128	109	100	109	68	28	64
1994.....	182	219	185	150	139	149	126	120	126	76	33	71
1995.....	207	253	211	172	160	170	144	140	143	84	37	79
2000.....	401	409	402	319	235	309	262	202	255	140	29	127
2005.....	654	590	646	505	319	480	408	269	390	211	27	184
2010.....	881	674	853	668	309	615	536	247	493	273	(*)	220
2015.....	993	740	960	735	268	667	582	191	526	274	(*)	201
2020.....	1,009	811	966	714	214	647	550	119	493	207	(*)	126
2025.....	1,004	853	987	661	141	594	481	31	424	93	(*)	8
2030.....	1,007	943	1,000	596	61	532	397	(*)	342	(*)	(*)	(*)
2035.....	1,044	1,077	1,048	536	(*)	477	311	(*)	258	(*)	(*)	(*)
2040.....	1,130	1,204	1,137	497	(*)	432	233	(*)	180	(*)	(*)	(*)
2045.....	1,239	1,268	1,244	462	(*)	392	159	(*)	103	(*)	(*)	(*)
2050.....	1,344	1,375	1,348	423	(*)	348	85	(*)	26	(*)	(*)	(*)
2055.....	1,443	1,479	1,447	377	(*)	299	(*)	(*)	(*)	(*)	(*)	(*)
2060.....	1,546	1,594	1,551	330	(*)	248	(*)	(*)	(*)	(*)	(*)	(*)
Trust fund is estimated to be exhausted in:.....	(*)	(*)	(*)	(*)	2034	(*)	2054	2026	2051	2028	2006	2025

\*The fund is estimated to be exhausted in the year shown in the last line of the table.

†The fund is not estimated to be exhausted within the projection period.

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

Table 32 itemizes the reasons for the changes in the long-range actuarial balances, based on alternative II-B, between last year's report and this report. Also shown are the estimated effects associated with

each reason for change.

TABLE 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: <sup>1</sup>			
Average income rate.....	11.51	1.43	12.94
Average cost rate.....	11.85	1.49	13.35
Actuarial balance.....	-.35	-.07	-.41
Changes in actuarial balance due to changes in:			
Valuation period.....	-.04	-.00	-.04
Economic assumptions.....	-.09	-.01	-.10
Demographic assumptions.....	+ .17	+ .02	+ .19
Disability assumptions.....	-.00	-.05	-.05
All other factors.....	+ .01	-.04	-.03
Total change in actuarial balance.....	+ .06	-.09	-.03
Shown in this report: <sup>2</sup>			
Actuarial balance.....	-.29	-.15	-.44
Average income rate.....	11.52	1.44	12.96
Average cost rate.....	11.81	1.59	13.40

<sup>1</sup>Income rates, cost rates, and taxable payroll are calculated on the basis of alternative II-B as described in the 1985 report, for which the ultimate assumptions include annual increases of 5.5 percent in average earnings in covered employment and 4.0 percent in the CPI, an annual unemployment rate of 6.0 percent, and a total fertility rate of 2.0 children per woman. The averages are computed for projection periods commencing with 1985.

<sup>2</sup>Income rates, cost rates, and taxable payroll are calculated on the basis of alternative II-B as described in a preceding subsection of this report. The averages are computed for projection periods commencing with 1986.

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

In changing from the valuation period of last year's report, which was 1985-2059, to the valuation period of this report, 1986-2060, 1985 is replaced by 2060. For the OASI program, the estimated surplus for 1985 shown in last year's report (0.49 percent of taxable payroll) is replaced by a deficit for 2060 (2.15 percent), thereby decreasing the actuarial balance. For the DI program, the estimated deficit for 1985 shown in last year's report (0.17 percent) is replaced by a deficit for 2060 (0.18 percent) which is so similar in magnitude that the resulting decrease in the actuarial balance is negligible. The net effect of these OASI and DI changes is an OASDI actuarial balance that is lower.

Various economic assumptions were revised for this report. The most significant change was that labor force participation rates are assumed to be somewhat lower. Most of the change in assumed labor force participation rates is for men, particularly at ages 25-40 and 60-70. The decline in labor force participation rates for these age groups since the 1950s is assumed to continue for about 10 years, although more slowly, before the rates generally stabilize. These changes in economic assumptions result in a net decrease in the long-range actuarial balance.

Various demographic assumptions were changed for this report. The starting population was decreased slightly, to reflect updated estimates by the Bureau of the Census. The updated estimates include the effects of death rates which are higher than those previously estimated. With respect to fertility, however, the rates for 1981-84, based on recent data, are higher than those estimated a year ago; these higher estimated rates are reflected in higher fertility rates for the first 25 years of the projection period. The ultimate total fertility rate is the same as was assumed last year. The estimated initial death rates at the older ages, which reflect new and revised data for 1982 and 1983, are slightly higher. Also, the ultimate rates of decrease in death rates are slightly

higher than in last year's report, in order to reflect the results of a more comprehensive analysis of historical rates. The net effect of all the changes in demographic assumptions is an increase in the long-range actuarial balance.

Various modifications were made to the disability assumptions for this report. The rate of decline in death rates for disabled individuals is assumed to be greater throughout the projection period; in last year's report, the assumed death rates for the disabled in 2060 were approximately 21 percent less than those experienced in 1977-80, while in this report, such death rates are approximately 30 percent less than those for 1977-80. The disability incidence rates, as compared to those for last year's report, are assumed to be higher at the younger ages and lower at the older ages, to reflect recent experience; although the ultimate age-adjusted incidence rate is the same as for last year's report, the changes by age result in higher program costs because more workers are projected to become disabled-worker beneficiaries at the younger ages. The net effect of these changes in disability assumptions is to decrease the long-range actuarial balance.

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

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

## VI. CONCLUSION

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

The economy continued to grow in 1985. Trust fund assets also grew—more rapidly than was estimated in the 1985 Annual Report, based on any of the four sets of assumptions. As a result, current trust fund levels are higher than had been expected, and the ability of the OASDI program to withstand temporary economic downturns has improved significantly. The estimates for each trust fund, separately, indicate that both the OASI and the DI programs can operate satisfactorily for many years, as shown by all four sets of estimates. During the next several years, however, the DI contingency fund ratio could decline to a relatively low level, as shown by the pessimistic alternative III estimates.

The growth of the trust funds in 1985 was such that the entire \$10.6 billion in interfund loans owed from the OASI Trust Fund to the HI Trust Fund in January 1986 was repaid then. The complete repayment of the loan owed to the HI fund therefore occurred a year sooner than was expected, based on the estimates in the 1985 report. The \$2.5 billion owed from the OASI fund to the DI fund at the end of 1985 is scheduled to be repaid in April 1986.

For the long-range 75-year projection period, the estimates based on the intermediate alternative II-B assumptions indicate that the OASDI program has an average annual deficit of 0.44 percent of taxable payroll. This deficit represents about 3 percent of the average annual cost rate. In other words, the long-range income rate represents about 97 percent of the long-range cost rate. The program is defined to be in "close actuarial balance" if the estimated average annual income rate is between 95 and 105 percent of the estimated average annual cost rate. The OASDI program as a whole is therefore estimated to be in close actuarial balance for 75 years, although deficits appear after the first three decades.

For OASI and DI, separately, the average long-range deficits, based on alternative II-B, are 0.29 percent and 0.15 percent of taxable payroll, respectively. The deficit for DI represents about 10 percent of the average annual cost rate; thus, the DI program is not in close actuarial balance. The DI program could be brought into close actuarial balance by a small reallocation of the contribution rate from OASI to DI, in such a way that the OASI program would remain in close actuarial balance. While such a reallocation is not recommended at this time, the financial condition of the DI program, in both the short range and the long range, will need to be carefully monitored for the next several years.

The long-range estimates based on alternative II-B show a pattern of recurring annual surpluses in the first three decades and recurring annual deficits thereafter. These actuarial surpluses and deficits do not reflect

interest earnings, which result in trust fund growth continuing for about 15 years after the first actuarial deficits occur. The long-range actuarial deficit of 0.44 percent of taxable payroll consists of an average annual surplus of 2.12 percent of taxable payroll for the first 25-year subperiod, and average annual deficits of 0.89 and 2.56 percent for the second and third 25-year subperiods, respectively. Thus, in the absence of other changes, the long-range actuarial balance will tend to decline slowly in future annual reports, as the valuation period moves forward and near-term years of surplus are replaced by distant years of deficit. The actuarial deficits in the later years of the 75-year projection period are caused primarily by the demographic trends, which will result in a lower ratio of workers to beneficiaries in the future.

#### 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. Estimates of the trust fund operations during the long-range period expressed in dollar amounts will be published by the Office of the Actuary, shortly after the issuance of this report.

##### *TOTAL POPULATION*

Projections were made of the population in the Social Security coverage area by age, sex, and marital status as of July 1 of each year 1985 through 2060. The projections started with the United States population, including armed forces overseas, on July 1, 1984, as estimated by the Bureau of the Census, based on the 1980 Census, and adjusted for births, deaths, and net immigration during 1980-84. This population estimate was adjusted for net census undercount and increased by the estimated populations in the geographic areas covered by the OASDI program but not included in the U.S. population. The population was then projected using assumed rates of birth and death 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 birth rates by age observed in, or assumed for, the selected year, and if she were to survive the entire childbearing period. The total fertility rate decreased from 3.3 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 been about 1.8 children per woman.

These variations in fertility rates have resulted from changes in social attitudes, economic conditions, and the use of birth-control methods. Future fertility rates may exceed the present low level, because such a low level has never been experienced in the U.S. for a long period, and because such a level is well below that needed to maintain the size of the population, in the absence of increased net immigration. The recent historical and projected trends in certain population characteristics, however, 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 2.3, 2.0, 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 2010. 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 2.3 to 1.6, with an intermediate assumption of 1.9. The ultimate assumption of the Bureau of the Census for the intermediate total fertility rate is lower than that used for this report, but such ultimate rate is not assumed to be reached until 2050. In fact, annual total fertility rates for the intermediate assumption by the Bureau of the Census are higher than those adopted for this report until well after 2000.<sup>1</sup> A rate of 2.1 would ultimately result in a nearly constant population if net immigration were zero and if death rates were constant at levels close to current U.S. experience.

Historically, death rates in the U.S. have steadily declined. The age-sex-adjusted death rate—which is the crude rate that would occur in the enumerated total population as of April 1, 1970, if that population were to experience the death rates by age and sex for the selected year—declined at an average rate of 1.3 percent per year between 1900 and 1984. These reductions in death rates have resulted from many factors, including increased medical knowledge, increased 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 sex and cause of death were selected for 2010 and later. The intermediate set, which is used for both alternatives II-A and II-B, is considered most likely to be realized. 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 1984 and 2010, these 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 1982, to the ultimate annual percentage reductions by sex and cause of death assumed for 2010 and later. Alternative I reductions are assumed to change gradually from 50 percent of the average annual reductions observed between 1968 and 1982, while alternative III reductions are assumed to change gradually from 150 percent of the average annual reductions observed between 1968 and 1982. The age-sex-adjusted death rate (for all causes combined) declined at an average rate of 2.0 percent per year between 1968 and 1982.

After adjustment for changes in the age-sex distribution of the population, death rates were projected to decline at an average annual rate of about 0.3 percent, 0.6 percent, and 1.2 percent between 1984 and 2060 for alternatives I, II-A and II-B, and III, respectively.

Net immigration is assumed to be 700,000, 500,000, and 300,000 persons per year for alternatives I, II-A and II-B, and III, respectively. The assumed net immigration is not intended to include aliens who may enter the U.S. illegally. For alternatives I, II-A, and II-B, however, numbers of refugees are assumed to be admitted periodically, over and above the annual immigration permitted by present law. Those illegal aliens who were enumerated in the 1980 Census were automatically included in the starting population.

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<sup>1</sup>U.S. Bureau of the Census, Current Population Reports, Series P-25, No. 952, "Projections of the Population of the United States By Age, Sex, and Race: 1983-2080," U.S. Government Printing Office, Washington, D.C., May 1984.

Table A1 shows the projected population by broad age group, for the four alternatives. 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 1945-2060

Calendar year	Population (in thousands)			Total	Dependency ratio	
	Under 20	20-64	65 and over		Aged <sup>1</sup>	Total <sup>2</sup>
<b>Past experience:</b>						
1945	47,265	80,416	10,698	138,379	0.133	0.721
1950	53,754	92,419	12,706	158,879	.137	.719
1955	63,636	96,805	14,954	175,395	.154	.812
1960	73,529	99,232	17,094	189,855	.172	.913
1965	80,375	104,666	19,052	204,093	.182	.950
1970	81,066	113,243	20,741	215,050	.183	.899
1975	78,753	122,903	23,241	224,898	.189	.830
1980	74,984	134,341	25,972	235,297	.193	.751
1985	73,030	145,001	28,882	246,913	.199	.703
<b>Alternative I:</b>						
1990	74,540	152,783	31,896	259,219	.209	.697
1995	77,266	159,712	33,984	270,962	.213	.697
2000	79,909	167,223	34,884	282,016	.209	.686
2005	81,673	175,447	35,940	293,060	.205	.670
2010	84,037	181,858	38,842	304,737	.214	.676
2015	87,453	185,008	44,242	316,703	.239	.712
2020	91,381	185,865	50,932	328,177	.274	.766
2025	95,035	185,799	58,092	338,926	.313	.824
2030	98,008	187,495	63,605	349,108	.339	.862
2035	100,879	192,616	65,551	359,047	.340	.864
2040	104,313	199,120	65,526	368,958	.329	.853
2045	108,169	205,844	64,999	379,012	.316	.841
2050	112,024	211,870	65,593	389,487	.310	.838
2055	115,648	218,186	66,914	400,749	.307	.837
2060	119,199	225,397	68,446	413,042	.304	.833
<b>Alternatives II-A and II-B:</b>						
1990	73,872	152,174	32,016	258,062	.210	.696
1995	75,314	158,521	34,479	268,314	.218	.693
2000	76,139	165,456	35,884	277,479	.217	.677
2005	75,530	173,084	37,424	286,039	.216	.653
2010	75,121	178,524	40,762	294,407	.228	.649
2015	75,737	180,017	46,603	302,357	.259	.680
2020	76,907	178,644	53,773	309,324	.301	.732
2025	77,783	175,802	61,467	315,052	.350	.792
2030	78,041	174,043	67,544	319,628	.388	.836
2035	78,109	175,142	70,017	323,268	.400	.846
2040	78,503	177,187	70,436	326,126	.398	.841
2045	79,211	178,937	70,219	328,367	.392	.835
2050	79,912	179,350	71,016	330,279	.396	.842
2055	80,396	179,661	72,183	332,240	.402	.849
2060	80,743	180,763	73,050	334,557	.404	.851
<b>Alternative III:</b>						
1990	73,062	151,562	32,131	256,755	.212	.694
1995	72,846	157,310	34,940	265,096	.222	.685
2000	71,314	163,632	36,809	271,755	.225	.661
2005	67,655	170,643	38,859	277,157	.228	.624
2010	63,838	174,982	42,776	281,596	.244	.609
2015	61,228	174,488	49,315	285,030	.283	.634
2020	59,429	170,405	57,333	287,167	.336	.685
2025	57,542	164,158	66,043	287,744	.402	.753
2030	55,310	158,198	73,281	286,790	.463	.813
2035	52,969	154,510	76,948	284,427	.498	.841
2040	50,855	151,377	78,517	280,748	.519	.855
2045	49,094	147,510	79,291	275,895	.538	.870
2050	47,489	141,736	80,924	270,149	.571	.906
2055	45,851	135,714	82,345	263,910	.607	.945
2060	44,181	130,778	82,613	257,572	.632	.970

<sup>1</sup>Population aged 65 and over, divided by population aged 20-64.

<sup>2</sup>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 amendments.

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, and the state of the economy. All of these factors vary by alternative. For men, the projected age-adjusted labor force participation rate for alternative I for 2060 is 1.1 percentage points higher than the 1985 level of 76.8 percent, while the rates for alternatives II-A, II-B, and III are 0.6, 1.1, and 2.8 percentage points lower, respectively. For women, the projected age-adjusted labor force participation rates increase for all of the alternatives. The projected rates for 2060 are 5.9, 4.9, 3.2, and 2.4 percentage points, respectively, above the 1985 level of 54.5 percent.

The total age-sex-adjusted unemployment rate averaged 5.8 percent for the 30 years 1956-85 and 7.2 percent for the 10 years 1976-85. 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 decline gradually, reaching its ultimate level by 2000. For alternative III, the unemployment rate is assumed to peak in 1988 and again in 1990, because of assumed recessions, and thereafter to decline gradually, reaching its ultimate level by 2000.

The projected age-adjusted coverage rate for men increases from its 1985 level of 74.2 percent to 77.4, 75.7, and 74.9 percent in 2060 on the basis of alternatives I, II-A, and II-B, respectively, while it declines to 72.7 percent on the basis of alternative III. For women, it increases from its 1985 level of 55.0 percent to 62.7, 61.5, 59.9, and 58.5 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. 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. 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. 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 real-earnings differentials are based on analysis of trends in productivity gains and the factors linking productivity gains with real-earnings differentials. For the 30 years 1955-84, annual increases in productivity for the total U.S. economy averaged 2.0 percent, the result of average annual increases of 2.7, 1.9, and 1.3 percent for the 10-year periods 1955-64, 1965-74, and 1975-84, respectively. Meanwhile, the real-earnings differential averaged 1.0 percentage point for the 30 years 1955-84, the result of average annual increases of 2.4 and 1.1 percentage points, and an average annual decrease of 0.5 percentage point, respectively, for the aforementioned 10-year periods. The change in the linkage between annual increases in productivity and the real-earnings differential averaged 1.0 percent for the 30 years 1955-84, and 1.8 percent for the 10 years 1975-84. 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 2.7, 2.4, 2.1, and 1.8 percent for alternatives I, II-A, II-B, and III, respectively. The corresponding ultimate annual declines in the linkage for wage and salary workers are assumed to be 0.2, 0.4, 0.6, and 0.8 percent. The resulting ultimate real-wage differentials are 2.5, 2.0, 1.5, and 1.0 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 1955 and 1985. 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 4.5, 5.0, 5.5, and 6.0 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 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. 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 tips and multiple-employer "excess wages," and which did apply, before 1984, to net earnings from self-employment. For 1984 and later, the amounts of earnings for employees, employers, and the self-employed were projected separately. 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, currently, and disability. Fully insured status is required of an aged worker for eligibility to a primary retirement benefit and for the eligibility of the 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 past and projected coverage rates, the requirement for fully insured status, 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 the fully insured population that is 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.

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 in the same equations that related total coverage rates to the percentage of the population that is fully insured.

#### *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.

The numbers of retired-worker beneficiaries were projected as a percentage of the aged fully insured 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), after allowing for some insured widow(er)s who are assumed to receive widow(er) benefits (see below). In the short-range period, the retired-worker beneficiaries were developed by applying award rates to the population which is insured but not yet retired, and by applying termination rates to the retired workers already receiving benefits. For 1990, the retired-worker beneficiaries as a percentage of the fully insured population for ages 65 through 69 are assumed to increase, reflecting the change 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 at a decreasing rate until 2000, thus continuing the trend toward earlier retirement. They were also adjusted, however, in the long-range period, for each year of birth, as a function of the ratio of the monthly benefit amount payable at each age of entitlement to the amount payable at entitlement age 70. 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 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 spouse is not insured, (2) the spouse is not earning enough to have his or her benefits withheld, (3) the wage earner is 62 or over, (4) the wage earner is insured, (5) the wage earner is receiving benefits, and (6) a residual factor including the probability that the spouse is not eligible to receive a significant governmental pension based on earnings in noncovered employment.

In addition, the same factors were applied to the numbers of divorced persons aged 62 and over in the population, with two differences. First, an additional factor is required to reflect the probability that the person's former wage-earner spouse is still alive (otherwise, he or she may be entitled to a divorced widow(er)'s benefit). Second, factor (5) was not applied because, effective for January 1985, divorced persons generally need not wait to receive benefits until their former wage-earner spouses are 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 then was used to project the number of children of retired-worker beneficiaries. In the long-range period, two factors were applied to the numbers of children, representing the probabilities that their mothers or fathers are both alive and that at least one parent is insured and receiving retired-worker benefits. The numbers of disabled children aged 18 and over of retired-worker beneficiaries were projected as a percentage of the adult population.

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 minor-child beneficiaries, 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. Three 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 fully insured, and (3) the widow(er)'s benefits are not withheld under the retirement earnings test or because of eligibility for a governmental 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 an additional factor representing the probability that the person's former wage-earner spouse is deceased.

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 probability that the deceased spouse was insured.

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 number of minor-child survivor beneficiaries was projected by applying one factor, representing the probability that the mother or father was insured at death. The numbers of disabled children aged 18 and over of deceased workers were projected as a percentage of the adult population.

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 minor-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, widows, husbands, and widowers. Residual payments to other beneficiaries were not taken into account, because of the negligible cost involved.

TABLE A2.—OASI BENEFICIARIES WITH MONTHLY BENEFITS IN CURRENT-PAYMENT STATUS AS OF DECEMBER 31 BY ALTERNATIVE, CALENDAR YEARS 1945-2060  
[in thousands]

Calendar year	Retired workers and auxiliaries			Survivors				Total
	Worker	Wife-husband	Child	Widow-widower	Mother-father	Child	Parent	
<b>Past experience:</b>								
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	1,530	36	14,157
1965	11,101	2,614	461	2,371	472	1,817	35	19,128
1970	13,349	2,668	546	3,227	523	2,161	29	23,564
1975	16,588	2,867	643	3,889	562	2,206	21	27,732
1980	19,562	3,016	639	4,411	562	1,883	15	30,907
1985	22,432	3,069	457	4,883	372	1,917	10	33,120
<b>Alternative I:</b>								
1986	22,982	3,088	453	4,925	367	1,905	9	33,728
1987	23,488	3,105	448	4,985	363	1,877	8	34,274
1988	23,976	3,121	442	5,046	359	1,839	7	34,790
1989	24,428	3,137	438	5,099	356	1,807	7	35,273
1990	25,021	3,166	439	5,157	358	1,800	6	35,947
1995	26,963	3,219	475	5,422	376	1,801	5	38,361
2000	27,953	3,008	471	5,040	346	1,857	4	38,679
2005	29,541	2,709	528	4,968	340	1,911	4	40,000
2010	32,880	2,470	607	4,887	333	1,949	4	43,131
2015	38,403	2,378	689	4,838	329	1,997	4	48,638
2020	45,113	2,413	756	4,875	333	2,059	3	55,552
2025	51,185	2,477	804	5,005	341	2,123	3	61,938
2030	55,572	2,468	810	5,182	349	2,172	3	66,555
2035	57,659	2,420	818	5,363	355	2,213	3	68,831
2040	57,744	2,297	815	5,472	361	2,258	4	68,850
2045	57,673	2,244	844	5,529	368	2,309	4	68,971
2050	58,306	2,256	877	5,524	377	2,366	3	69,709
2055	59,521	2,315	910	5,498	387	2,424	3	71,059
2060	60,928	2,388	934	5,504	396	2,479	3	72,633
<b>Alternative II-A:</b>								
1986	23,003	3,089	452	4,925	366	1,900	9	33,745
1987	23,538	3,108	447	4,985	361	1,867	8	34,313
1988	24,060	3,126	442	5,045	356	1,822	7	34,858
1989	24,554	3,143	437	5,098	351	1,782	7	35,372
1990	25,195	3,173	438	5,155	351	1,767	6	36,085
1995	27,477	3,236	473	5,413	357	1,805	5	38,765
2000	28,743	3,133	469	5,060	316	1,679	4	39,404
2005	30,656	2,885	516	5,012	298	1,642	4	41,013
2010	34,272	2,674	577	4,953	283	1,607	4	44,370
2015	40,123	2,593	637	4,908	276	1,591	4	50,132
2020	47,227	2,636	683	4,929	273	1,589	4	57,341
2025	53,677	2,709	711	5,034	272	1,591	4	63,997
2030	58,563	2,711	708	5,203	270	1,586	4	69,045
2035	61,144	2,670	707	5,392	266	1,574	4	71,757
2040	61,638	2,545	693	5,524	262	1,580	4	72,225
2045	61,811	2,483	705	5,604	258	1,547	4	72,413
2050	62,536	2,489	721	5,608	256	1,536	4	73,150
2055	63,506	2,532	731	5,580	254	1,524	4	74,112
2060	64,290	2,578	733	5,511	252	1,511	4	74,879
<b>Alternative II-B:</b>								
1986	23,003	3,089	452	4,925	366	1,900	9	33,745
1987	23,537	3,108	447	4,985	361	1,867	8	34,313
1988	24,059	3,126	442	5,045	356	1,822	7	34,857
1989	24,553	3,143	437	5,098	351	1,782	7	35,371
1990	25,193	3,173	438	5,155	351	1,767	6	36,083
1995	27,464	3,236	473	5,413	357	1,805	5	38,752
2000	28,706	3,151	469	5,067	316	1,677	4	39,389
2005	30,596	2,913	515	5,026	298	1,640	4	40,990
2010	34,187	2,711	577	4,972	283	1,604	4	44,338
2015	40,023	2,633	637	4,931	275	1,588	4	50,091
2020	47,110	2,680	682	4,956	272	1,586	4	57,290
2025	53,540	2,760	710	5,064	272	1,587	4	63,936
2030	58,403	2,770	707	5,235	269	1,593	4	68,972
2035	60,962	2,738	705	5,428	265	1,571	4	71,674
2040	61,434	2,621	691	5,565	261	1,556	4	72,134
2045	61,588	2,567	704	5,650	258	1,543	4	72,314
2050	62,291	2,581	719	5,660	256	1,532	4	73,043
2055	63,240	2,630	729	5,618	254	1,520	4	73,997
2060	64,009	2,681	731	5,573	251	1,507	4	74,757

TABLE A2.—OASI BENEFICIARIES WITH MONTHLY BENEFITS IN CURRENT-PAYMENT STATUS AS OF DECEMBER 31 BY ALTERNATIVE, CALENDAR YEARS 1945-2060 (Cont.)  
[In thousands]

Calendar year	Retired workers and auxiliaries			Survivors				Total
	Worker	Wife-husband	Child	Widow-widower	Mother-father	Child	Parent	
Alternative III:								
1986 .....	23,023	3,090	452	4,925	365	1,895	9	33,760
1987 .....	23,583	3,110	447	4,985	359	1,857	8	34,349
1988 .....	24,139	3,130	441	5,044	352	1,806	7	34,919
1989 .....	24,671	3,148	437	5,096	347	1,759	7	35,463
1990 .....	25,358	3,179	437	5,152	345	1,734	6	36,211
1995 .....	27,942	3,250	471	5,403	339	1,716	5	39,124
2000 .....	29,429	3,272	463	5,080	289	1,512	4	40,048
2005 .....	31,650	3,100	494	5,057	258	1,389	4	41,952
2010 .....	35,600	2,961	535	5,024	235	1,280	4	45,640
2015 .....	41,975	2,915	573	4,985	218	1,200	5	51,871
2020 .....	49,769	2,999	596	4,991	206	1,137	5	59,701
2025 .....	56,988	3,114	605	5,063	194	1,081	5	67,050
2030 .....	62,884	3,167	595	5,209	182	1,032	5	73,075
2035 .....	66,549	3,176	584	5,393	169	978	5	76,853
2040 .....	68,075	3,082	560	5,541	156	922	6	78,342
2045 .....	69,095	3,037	556	5,642	144	868	6	79,348
2050 .....	70,434	3,060	552	5,669	135	817	6	80,673
2055 .....	71,490	3,097	541	5,615	125	767	6	81,643
2060 .....	71,728	3,115	524	5,514	117	720	6	81,724

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 31,655 as of December 31, 1985, and is estimated to be less than 500 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, 1985, by adding new entitlements, and subtracting terminations. The starting number of entitled disabled-worker beneficiaries was estimated by age, sex, and duration of entitlement. The numbers of new entitlements during each year were projected by applying assumed disability incidence rates. In the short-range period, an age-sex-adjusted rate was applied to the total age-sex-adjusted disability insured population. 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). The numbers of terminations were projected by applying assumed termination rates to the disabled-worker population. In the short-range period, overall termination rates 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 and increased during 1983-85, are assumed to continue increasing from 1985 through 2005, when they reach ultimate levels which, for alternatives II-A and II-B, are about 34 percent for males and 44 percent for females higher than the corresponding average rates for 1981-84. This produces age-adjusted rates in 2005 of 5.2 per thousand for males and 3.5 per

thousand for females, and an age-sex-adjusted rate of 4.5 per thousand. These adjusted rates are approximately the same as those used in the two prior reports. 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 ultimate levels are assumed to be higher by about 12 percent for males and about 20 percent for females than the average for 1981-84. For alternative III, the ultimate levels are assumed to be higher by about 61 percent for males and 73 percent 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 1984-85, 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 2060 approximately 30 percent lower 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 1985 levels until 1990, when they attain ultimate levels about 15 percent higher than those of the same period, 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 2060 are assumed to be roughly 10 percent lower 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 2060 are assumed to be about 50 percent lower 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 and sex of each parent. To these numbers of children were applied factors representing the probability that either of their parents is 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 spouse beneficiaries were projected by applying quarterly award and termination rates. Awards to young-spouse beneficiaries were based on the numbers of awards to

child beneficiaries who are either under age 16 or disabled. Awards to aged-spouse beneficiaries 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 1960-2060  
[In thousands]

Calendar year	Disabled workers	Auxiliaries		Total
		Wife-husband	Child	
<b>Past experience:</b>				
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
<b>Alternative I:</b>				
1986	2,670	304	966	3,938
1987	2,659	302	954	3,914
1988	2,644	300	932	3,870
1989	2,637	299	917	3,853
1990	2,636	300	908	3,843
1995	2,729	318	928	3,974
2000	3,252	336	1,091	4,679
2005	3,869	357	1,154	5,380
2010	4,555	381	1,205	6,141
2015	4,964	399	1,246	6,610
2020	5,148	415	1,291	6,854
2025	5,472	432	1,347	7,251
2030	5,357	431	1,384	7,171
2035	5,257	433	1,416	7,106
2040	5,312	438	1,455	7,205
2045	5,591	458	1,509	7,558
2050	5,797	477	1,566	7,840
2055	5,945	493	1,623	8,061
2060	6,078	507	1,677	8,262
<b>Alternative II-A:</b>				
1986	2,695	309	974	3,978
1987	2,716	310	974	4,000
1988	2,733	312	962	4,006
1989	2,756	315	957	4,028
1990	2,786	319	957	4,061
1995	3,012	351	1,016	4,380
2000	3,624	374	1,194	5,192
2005	4,494	410	1,285	6,189
2010	5,450	447	1,343	7,240
2015	6,027	472	1,373	7,872
2020	6,288	491	1,399	8,178
2025	6,690	510	1,435	8,636
2030	6,534	503	1,452	8,489
2035	6,387	498	1,457	8,342
2040	6,412	495	1,464	8,372
2045	6,694	510	1,483	8,687
2050	6,833	522	1,504	8,859
2055	6,838	526	1,523	8,887
2060	6,817	527	1,537	8,881

TABLE A3.—DI BENEFICIARIES WITH MONTHLY BENEFITS IN CURRENT-PAYMENT STATUS AS OF DECEMBER 31 BY ALTERNATIVE, CALENDAR YEARS 1960-2060 (Cont.)  
(In thousands)

Calendar year	Disabled workers	Auxiliaries		Total
		Wife-husband	Child	
<b>Alternative II-B:</b>				
1986	2,695	309	974	3,978
1987	2,715	310	974	3,999
1988	2,732	312	961	4,004
1989	2,754	314	955	4,024
1990	2,783	318	956	4,057
1995	3,009	351	1,015	4,374
2000	3,618	374	1,193	5,185
2005	4,486	410	1,283	6,179
2010	5,435	447	1,341	7,223
2015	6,007	472	1,370	7,849
2020	6,263	490	1,396	8,149
2025	6,659	509	1,432	8,600
2030	6,501	502	1,448	8,451
2035	6,353	497	1,453	8,303
2040	6,377	494	1,460	8,332
2045	6,656	509	1,479	8,645
2050	6,794	520	1,500	8,814
2055	6,799	525	1,518	8,842
2060	6,778	526	1,532	8,837
<b>Alternative III:</b>				
1986	2,724	313	987	4,025
1987	2,776	318	997	4,091
1988	2,822	323	994	4,140
1989	2,875	330	998	4,202
1990	2,934	337	1,007	4,278
1995	3,294	383	1,105	4,781
2000	4,052	415	1,295	5,762
2005	5,222	465	1,394	7,080
2010	6,496	512	1,432	8,440
2015	7,270	541	1,423	9,235
2020	7,618	560	1,407	9,585
2025	8,099	577	1,403	10,080
2030	7,879	559	1,383	9,822
2035	7,654	541	1,346	9,541
2040	7,610	524	1,305	9,439
2045	7,839	529	1,273	9,640
2050	7,802	526	1,242	9,570
2055	7,495	509	1,209	9,212
2060	7,154	489	1,173	8,817

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 for the OASI program and on an annual basis for the DI program. 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 the number of such payments, which was projected on the basis of the assumed death rates, the projected fully insured population, the estimated percentage of the fully insured population that would qualify for benefits, and the amount of the lump-sum death payment, which is \$255.

#### *ADMINISTRATIVE EXPENSES*

The projection of administrative expenses through 1995 was based on assumed increases in average wages, increases in the CPI, and increases in the number of beneficiaries. For years after 1995, 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 an average annual short-range cost of about \$3 billion and an average annual long-range cost of 0.03 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 1995. 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. 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 are taxable, and (2) the average tax rate applicable to those benefits. These factors were projected based on a model relating total income to OASDI benefit payments for a sample of beneficiaries.

## APPENDIX B.—SENSITIVITY ANALYSIS

This appendix presents estimates which illustrate the sensitivity of the medium-range and long-range estimates to changes in selected individual assumptions. Although the estimates based on the four alternative sets of assumptions illustrate the variations in the estimated actuarial balances resulting from different combinations of assumptions, they do not show the variations resulting 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 actuarial balances.

Each table which follows shows the effects of changing the particular assumption under consideration on the OASDI average income rates, cost rates, and balances. Because the income rate consists mostly of the payroll-tax rate, which is specified in the law, the income rate itself varies only slightly with changes in assumptions. Consequently, it is not considered in the discussion of the tables. The change in each of the balances is approximately equal to the change in the corresponding cost rate—but in the opposite direction.

## CONSUMER PRICE INDEX

Table B1 shows the estimated OASDI average income rates, cost rates, and 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 1.5 percentage points (as assumed for alternative II-B), yielding ultimate percentage increases in average annual wages in covered employment of 3.5, 4.5, 5.5, 6.5, and 7.5 percent, respectively.

TABLE B1.—ESTIMATED OASDI AVERAGE INCOME RATES, COST RATES, AND 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 <sup>1</sup>				
	3.5-2.0	4.5-3.0	5.5-4.0	6.5-5.0	7.5-6.0
Average income rate:					
1986-2010.....	12.67	12.67	12.67	12.66	12.66
2011-2035.....	13.04	13.03	13.02	13.01	13.00
2036-2060.....	13.21	13.20	13.18	13.17	13.16
1986-2060.....	12.98	12.97	12.96	12.95	12.94
Average cost rate:					
1986-2010.....	10.77	10.66	10.54	10.43	10.32
2011-2035.....	14.39	14.15	13.91	13.68	13.45
2036-2060.....	16.29	16.01	15.74	15.48	15.22
1986-2060.....	13.82	13.61	13.40	13.20	13.00
Balance:					
1986-2010.....	+1.90	+2.01	+2.12	+2.23	+2.34
2011-2035.....	-1.35	-1.12	- .89	- .67	- .45
2036-2060.....	-3.08	-2.82	-2.56	-2.31	-2.06
1986-2060.....	-.84	-.64	-.44	-.25	-.06

<sup>1</sup>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 both the medium-range and long-range periods, the average cost rate decreases with greater assumed rates of increase in the CPI. For the

medium-range period, the average cost rate decreases from 10.77 percent (for CPI increases of 2.0 percent) to 10.32 percent (for CPI increases of 6.0 percent). For the long-range period, it decreases from 13.82 to 13.00 percent. The actuarial balance increases from +1.90 to +2.34 percent for the medium-range period, and from -0.84 to -0.06 percent for the long-range 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-WAGE DIFFERENTIAL

Table B2 shows the estimated OASDI average income rates, cost rates, and balances, on the basis of alternative II-B with various real-wage assumptions. These assumptions are that the ultimate real-wage differential will be 1.0 percentage point (as assumed for alternative III), 1.5 percentage points (as assumed for alternative II-B), 2.0 percentage points (as assumed for alternative II-A), and 2.5 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 5.0, 5.5, 6.0, and 6.5 percent, respectively.

TABLE B2.—ESTIMATED OASDI AVERAGE INCOME RATES, COST RATES, AND 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 <sup>1</sup>			
	5.0-4.0	5.5-4.0	6.0-4.0	6.5-4.0
<b>Average income rate:</b>				
1986-2010 .....	12.68	12.67	12.65	12.64
2011-2035 .....	13.06	13.02	12.98	12.95
2036-2060 .....	13.25	13.18	13.13	13.08
1986-2060 .....	13.00	12.96	12.92	12.89
<b>Average cost rate:</b>				
1986-2010 .....	10.90	10.54	10.20	9.88
2011-2035 .....	14.83	13.91	13.07	12.30
2036-2060 .....	16.95	15.74	14.65	13.66
1986-2060 .....	14.23	13.40	12.64	11.84
<b>Balance:</b>				
1986-2010 .....	+1.78	+2.12	+2.45	+2.76
2011-2035 .....	-1.77	-.89	-.09	+.65
2036-2060 .....	-3.71	-2.56	-1.52	-.58
1986-2060 .....	-1.23	-.44	+.26	+.95

<sup>1</sup>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 medium-range period, the average cost rate decreases from 10.90 percent (for a real-wage differential of 1.0 percentage point) to

9.88 percent (for a differential of 2.5 percentage points). For the long-range period, it decreases from 14.23 to 11.94 percent. The actuarial balance increases from +1.78 to +2.76 percent for the medium-range period, and from -1.23 to +0.95 percent for the long-range period.

The average 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 0.75 percent of taxable payroll.

#### TOTAL FERTILITY RATE

Table B3 shows the estimated OASDI average income rates, cost rates, and balances, on the basis of alternative II-B with various assumed ultimate total fertility rates. These assumptions are that the ultimate total fertility rate will be 1.6 children per woman (as assumed for alternative III), 2.0 (as assumed for alternatives II-A and II-B), and 2.3 (as assumed for alternative I). The rate is assumed to change gradually from its current level and to reach the various ultimate values in 2010.

TABLE B3.—ESTIMATED OASDI AVERAGE INCOME RATES, COST RATES, AND BALANCES, BASED ON ALTERNATIVE II-B WITH VARIOUS FERTILITY ASSUMPTIONS  
(As a percentage of taxable payroll)

Calendar years	Ultimate total fertility rate <sup>1</sup>		
	1.6	2.0	2.3
<b>Average income rate:</b>			
1986-2010 .....	12.67	12.67	12.67
2011-2035 .....	13.05	13.02	13.00
2036-2060 .....	13.33	13.18	13.10
1986-2060 .....	13.02	12.96	12.92
<b>Average cost rate:</b>			
1986-2010 .....	10.51	10.54	10.56
2011-2035 .....	14.51	13.91	13.52
2036-2060 .....	18.64	15.74	14.08
1986-2060 .....	14.55	13.40	12.72
<b>Balance:</b>			
1986-2010 .....	+2.15	+2.12	+2.10
2011-2035 .....	-1.46	-.89	-.52
2036-2060 .....	-5.31	-2.56	-.97
1986-2060 .....	-1.54	-.44	+2.20

<sup>1</sup>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 birth rates 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 2010.

For the first 25 years, the average cost rate for the three fertility assumptions varies by only 0.05 percent of taxable payroll. In contrast, the average long-range cost rate varies over a wide range, decreasing from 14.55 to 12.72 percent, as the assumed ultimate total fertility rate increases from 1.6 to 2.3. Similarly, while the medium-range actuarial balance varies by only 0.05 percent of taxable payroll, the long-range actuarial balance varies over a much wider range—from -1.54 to +0.20 percent.

During the medium-range 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, thereby resulting in significant changes in cost. Each increase of 0.1 in the ultimate total fertility rate increases the long-range actuarial balance by about 0.25 percent of taxable payroll.

#### DEATH RATES

Table B4 shows the estimated OASDI average income rates, cost rates, and 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 1984-2060 in the age-sex-adjusted death rate. The decreases assumed for this period are about 23 percent (as assumed for alternative I), 39 percent (as assumed for alternatives II-A and II-B), and 60 percent (as assumed for alternative III).

TABLE B4.—ESTIMATED OASDI AVERAGE INCOME RATES, COST RATES, AND BALANCES, BASED ON ALTERNATIVE II-B WITH VARIOUS DEATH-RATE ASSUMPTIONS  
(As a percentage of taxable payroll)

Calendar years	Reduction in death rates <sup>1</sup>		
	23 percent	39 percent	60 percent
<b>Average income rate:</b>			
1986-2010 .....	12.66	12.67	12.67
2011-2035 .....	12.99	13.02	13.06
2036-2060 .....	13.13	13.18	13.27
1986-2060 .....	12.93	12.96	13.00
<b>Average cost rate:</b>			
1986-2010 .....	10.38	10.54	10.70
2011-2035 .....	13.31	13.91	14.68
2036-2060 .....	14.63	15.74	17.52
1986-2060 .....	12.78	13.40	14.30
<b>Balance:</b>			
1986-2010 .....	+ 2.28	+ 2.12	+ 1.97
2011-2035 .....	- 32	- 89	-1.62
2036-2060 .....	-1.50	-2.56	-4.24
1986-2060 .....	+ .15	- .44	-1.30

<sup>1</sup>The measure of the reduction in death rates is the decrease in the age-sex-adjusted death rate during 1984-2060.

Because the decreases in death rates are assumed to occur gradually, the variation in program cost for the medium-range period is less pronounced than the variation for the long-range period. The medium-range cost rate increases from 10.38 percent (for 23-percent lower ultimate death rates) to 10.70 percent (for 60-percent lower ultimate rates). The long-range cost rate increases from 12.78 to 14.30 percent. The actuarial balance decreases from +2.28 to +1.97 percent for the medium-range period, and from +0.15 to -1.30 percent for the long-range period.

Lower death rates cause both the income and outgo of the OASDI program to be higher than they would otherwise be. The outgo, however, increases more rapidly than the income for both the medium- and long-range periods. Reductions in the death rates for people who have attained the normal retirement age (people whose death rates are the highest) extend the length of time that retirement benefits are paid. Although an increase in taxable payroll results from lower death rates at ages 50 through the normal retirement age, this is more than offset by the additional retirement and disability benefits which subsequently result. 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 by age are

lower by 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 1984-2060, relative to the 39-percent reduction assumed for alternative II-B, decreases the long-range actuarial balance by about 0.40 percent of taxable payroll.

*NET IMMIGRATION*

Table B5 shows the estimated OASDI average income rates, cost rates, and 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 300,000 persons (as assumed for alternative III), 500,000 persons (as assumed for alternatives II-A and II-B), 700,000 persons (as assumed for alternative I), and 1,000,000 persons.

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

Calendar years	Net immigration per year			
	300,000	500,000	700,000	1,000,000
<b>Average income rate:</b>				
1986-2010 .....	12.67	12.67	12.66	12.66
2011-2035 .....	13.03	13.02	13.01	12.99
2036-2060 .....	13.20	13.18	13.17	13.15
1986-2060 .....	12.97	12.96	12.95	12.94
<b>Average cost rate:</b>				
1986-2010 .....	10.59	10.54	10.50	10.44
2011-2035 .....	14.19	13.91	13.65	13.30
2036-2060 .....	16.08	15.74	15.45	15.05
1986-2060 .....	13.62	13.40	13.20	12.93
<b>Balance:</b>				
1986-2010 .....	+2.08	+2.12	+2.16	+2.22
2011-2035 .....	-1.15	-.89	-.64	-.31
2036-2060 .....	-2.88	-2.56	-2.28	-1.90
1986-2060 .....	-.65	-.44	-.25	+.01

For both the medium-range and long-range periods, the average cost rate decreases with increasing rates of net immigration. For the medium-range period, the average cost rate decreases from 10.59 percent of taxable payroll (for annual net immigration of 300,000 persons) to 10.44 percent (for annual net immigration of 1,000,000 persons). For the long-range period, it decreases from 13.62 percent to 12.93 percent. The actuarial balance increases from +2.08 to +2.22 percent for the medium-range period, and from -0.65 to +0.01 percent for the long-range period.

The average 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 100,000 immigrants assumed to enter the country annually, relative to the 500,000 net immigration assumed for alternative II-B, increases the long-range actuarial balance by about 0.10 percent of taxable payroll.

**DISABILITY INCIDENCE RATES**

Table B6 shows the estimated OASDI average income rates, cost rates, and balances, on the basis of alternative II-B with various assumptions about future disability incidence rates. These assumptions are that the ultimate annual age-sex-adjusted disability incidence rate will be about 12 percent higher for men and 20 percent higher for women than the average of the corresponding annual rates experienced during 1981-84 (as assumed for alternative I), about 34 percent higher for men and 44 percent higher for women than such experience (as assumed for alternatives II-A and II-B), and about 61 percent higher for men and 73 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 2005.

TABLE B6.—ESTIMATED OASDI AVERAGE INCOME RATES, COST RATES, AND 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
<b>Average income rate:</b>			
1986-2010 .....	12.66	12.67	12.67
2011-2035 .....	13.01	13.02	13.03
2036-2060 .....	13.17	13.18	13.20
1986-2060 .....	12.95	12.96	12.97
<b>Average cost rate:</b>			
1986-2010 .....	10.46	10.54	10.64
2011-2035 .....	13.66	13.91	14.20
2036-2060 .....	15.47	15.74	16.07
1986-2060 .....	13.20	13.40	13.64
<b>Balance:</b>			
1986-2010 .....	+2.20	+2.12	+2.03
2011-2035 .....	-65	-89	-1.17
2036-2060 .....	-2.30	-2.56	-2.87
1986-2060 .....	-25	-44	-67

For the medium-range period, the average cost rate increases with increasing disability incidence rates from 10.46 percent (for the relatively low rates assumed for alternative I) to 10.64 percent (for the relatively high rates assumed for alternative III). For the long-range period, it increases from 13.20 to 13.64 percent. The actuarial balance decreases from +2.20 to +2.03 percent for the medium-range period, and from -0.25 to -0.67 percent for the long-range period.

**DISABILITY TERMINATION RATES**

Table B7 shows the estimated OASDI average income rates, cost rates, and 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 projection 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 about 10 percent lower for alternative I, about 30 percent lower for alternatives II-A and II-B, and about 50 percent lower for alternative III.

For all four alternatives, ultimate recovery-termination rates by age and sex are assumed to be attained in 1990. 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 B7.—ESTIMATED OASDI AVERAGE INCOME RATES, COST RATES, AND 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
<b>Average income rate:</b>			
1986-2010 .....	12.67	12.67	12.67
2011-2035 .....	13.02	13.02	13.02
2036-2060 .....	13.18	13.18	13.19
1986-2060 .....	12.95	12.96	12.96
<b>Average cost rate:</b>			
1986-2010 .....	10.52	10.54	10.57
2011-2035 .....	13.85	13.91	13.98
2036-2060 .....	15.66	15.74	15.83
1986-2060 .....	13.34	13.40	13.46
<b>Balance:</b>			
1986-2010 .....	+2.15	+2.12	+2.10
2011-2035 .....	-.83	-.89	-.95
2036-2060 .....	-2.48	-2.56	-2.64
1986-2060 .....	-.39	-.44	-.50

For the medium-range period, the average cost rate increases with decreasing disability termination rates from 10.52 percent (for the relatively high rates assumed for alternative I) to 10.57 percent (for the relatively low rates assumed for alternative III). For the long-range period, it increases from 13.34 to 13.46 percent. The actuarial balance decreases from +2.15 to +2.10 percent for the medium-range period, and from -0.39 to -0.50 percent for the long-range period.

**DEPARTMENT OF HEALTH AND  
HUMAN SERVICES**

**Office of the Secretary**

**Cost-of-Living Increase in Benefits Under Titles II and XVI for 1986; Average of the Total Wages for 1984; Contribution and Benefit Base, Quarter of Coverage Amount, Retirement Earnings Test Exempt Amounts, Formulas for Computing Benefits, and "Old-Law" Contribution and Benefit Base for 1986; Old-Age, Survivors, and Disability Insurance (OASDI) Fund Ratio for 1985; and Tables of Benefit Amounts for 1986**

**AGENCY:** Social Security Administration, HHS.

**ACTION:** Notice.

**SUMMARY:** The Secretary has determined—

(1) A 3.1 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 SSI (title XVI) benefit amounts for 1986 to \$4,032 for an eligible individual, \$6,048 for an eligible individual with an eligible spouse, and \$2,016 for an essential person (section 1617 of the Act);

(3) The average of the total wages for 1984 to be \$16,135.07;

(4) The Social Security contribution and benefit base to be \$42,000 for remuneration paid in 1986 and self-employment income earned in taxable years beginning in 1986;

(5) The amount of earnings a person must have to be credited with a quarter of coverage in 1986 to be \$440;

(6) The monthly exempt amounts under the Social Security retirement earnings test for taxable years ending in calendar year 1986 to be \$650 for beneficiaries age 65 through 69 and \$480 for beneficiaries under age 65;

(7) The "old-law" contribution and benefit base to be \$31,500 for 1986.

We also describe the computation of benefits for a worker and the worker's family who first become eligible for

benefits in 1986, and the computation of the 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 two tables of OASDI benefit amounts. The first table reflects: (a) The automatic benefit increase, and (b) the new higher average monthly wage and related benefit amounts made possible by the higher contribution and benefit base. This table will be used primarily to compute the title II benefits of workers who attained age 62 or became disabled before 1979, and of the family members of insured workers who died before 1979, and to compute the related maximum family benefit. The second 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:**

Clare M. Albrecht, Office of the Actuary, Social Security Administration, 6401 Security Boulevard, Baltimore, Maryland 21235, telephone (301) 594-3882.

**SUPPLEMENTARY INFORMATION:**

The Secretary is required by the Act to publish within 45 days after the close of the third calendar quarter of 1985 the benefit increase percentage and the revised tables of benefits (section 215(i)(2)(D)). Also, the Secretary is required to publish before November 1 the average of the total wages for 1984 (section 215(i)(2)(C)(iii)) and the OASDI fund ratio for 1985 (section 215(i)(2)(C)(iii)). Finally, the Secretary is required to publish on or before November 1 the contribution and benefit base for 1986 (section 230(a)), the amount of earnings required to be credited with a quarter of coverage in 1986 (section 213(d)(2)), the monthly exempt amounts under the Social Security retirement earnings test for 1986 (section 203(f)(8)(A)), the formula

for computing a primary insurance amount for workers who first become eligible for benefits or die in 1986 (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 1988 (section 203(a)(2)(C)).

#### **Cost-of-Living Increases**

*General.* The cost-of-living increase is 3.1 percent for benefits under titles II and XVI of the Social Security Act.

Under title II, old-age, survivors, and disability insurance benefits will increase by 3.1 percent beginning with the December 1985 benefits, which are payable on January 3, 1986. 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 benefit amounts will also increase by 3.1 percent effective for payments made for the month of January 1986 but paid on December 31, 1985. This is based on the authority contained in section 1617 of the Act (42 U.S.C. 1382f). The percentage increase effective January 1986 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 1985 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 1985, 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 1985, the benefit increase is the percentage increase in the Consumer

Price Index for Urban Wage Earners and Clerical Workers from the third quarter of 1984 through the third quarter of 1985. 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 1985 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 for each month in the quarter ending September 30, 1984, was: for July 1984, 307.5; for August 1984, 310.3; and for September 1984, 312.1. The arithmetical mean for this calendar quarter is 310.0 (after rounding to the nearest 0.1). The corresponding Consumer Price Index for each month in the quarter ending September 30, 1985, was: for July 1985, 319.1; for August 1985, 319.6; and for September 1985, 320.5. The arithmetical mean for this calendar quarter is 319.7 (after rounding to the nearest 0.1). Thus, because the Consumer Price Index for the calendar quarter ending September 30, 1985, exceeds that for the calendar quarter ending September 30, 1984, by 3.1 percent, a cost-of-living benefit increase of 3.1 percent is effective for benefits under title II of the Act beginning December 1985.

*Title II Benefit Amounts.* In accordance with section 215(i)(4) of the Act, the primary insurance amounts and the maximum family benefits shown in columns IV and V of the revised benefit table (table 1) were obtained by: (1) increasing by 3.1 percent the corresponding amounts established by the last cost-of-living increase and the extension of the benefit table made under section 215(i)(4) and published on October 31, 1984, at 49 FR 43775, and (2) extending the table due to the increase in the contribution and benefit base for 1986, as described below. The table

applies only to the benefits of those persons who attained age 62 or became disabled before January 1979 and the family members of insured workers who died before 1979. The table is deemed to appear in section 215(a) of the Act. Note that this table does not apply to those individuals who become eligible (i.e., attain age 62, or become disabled) or die after 1978; their benefits will generally be determined by a benefit formula provided by the Social Security Amendments of 1977 (Pub. L. 95-216), as described below. For persons who first become eligible for benefits or who die before age 62 in the period 1979-1985, the 3.1 percent increase will apply beginning with benefits for December 1985 and will be included in checks received in January 1986; the 3.1 percent increase will not apply for persons who first become eligible for benefits or die after 1985.

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 2 shows the revised range of primary insurance amounts and corresponding maximum family benefit amounts after the 3.1 percent benefit increase.

Section 227 of the Act provides flat-rate benefits to workers who became age 72 before 1969 and are not insured under the usual requirements, and to their spouses or surviving spouses. Section 228 of the Act provides similar benefits for certain uninsured persons who became age 72 before 1972. The current monthly benefit amount of \$134.40 for an individual under sections 227 and 228 of the Act is increased by

3.1 percent to obtain the new amount of \$138.50. The present monthly benefit amount of \$67.40 for a spouse under section 227 is increased by 3.1 percent to \$69.40.

*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 3.1 percent effective January 1986. Therefore, the yearly Federal SSI benefit amount of \$3,900 for an eligible individual, \$5,856 for an eligible individual with an eligible spouse and \$1,956 for an essential person, which are effective January 1985, are increased, effective with January 1986, to \$4,032, \$6,048, and \$2,016, respectively, after rounding. The monthly payment amount is determined dividing the yearly amount by 12, and 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 1984**

The determination of the average wage figure for 1984 is based on the 1983 average wage figure of \$15,239.24 announced in the **Federal Register** on October 31, 1984 (49 FR 43775), along with the percentage increase in average wages from 1983 to 1984 measured by annual wage data tabulated by the Internal Revenue Service (IRS). The average amounts of wages calculated directly from IRS data were \$15,650.18 and \$16,570.17 for 1983 and 1984, respectively. To determine an average wage figure for 1984 at a level that is consistent with the series of average wages for 1951-1977 (published December 29, 1978, at 43 FR 61016), we multiplied the 1983 average wage figure of \$15,239.24 by the percentage increase in average wages from 1983 to 1984 (based on IRS data) as follows (with the result rounded to the nearest cent):  
Average wage for 1984 = \$15,239.24 × \$16,570.17 ÷ \$15,650.18 = \$16,135.07. Therefore, the average wage for 1984 is determined to be \$16,135.07.

### Contribution and Benefit Base

*General.* The contribution and benefit base is \$42,000 for remuneration paid in 1986 and self-employment income earned in taxable years beginning in 1986.

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 1986 shall be equal to the 1985 base of \$39,600 multiplied by the ratio of (1) the average amount, per employee, of total wages for the calendar year 1984 to (2) the average amount of those wages for the calendar year 1983. 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 1983 was previously determined to be \$15,239.24. The average wage for calendar year 1984 has been determined to be \$16,135.07 as stated herein.

*Amount.* The ratio of the average for 1984, \$16,135.07, compared to that for 1983, \$15,239.24, is 1.0587844. Multiplying the 1985 contribution and benefit base of \$39,600 by the ratio 1.0587844 produces the amount of \$41,927.86 which must then be rounded to \$42,000. Accordingly, the contribution and benefit base is determined to be \$42,000 for 1986.

### Quarter of Coverage Amount

*General.* The 1986 amount of earnings required for a quarter of coverage is \$440. 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 1986 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 1984 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 1984 has been determined to be \$16,135.07 as stated herein.

*Quarter of Coverage Amount.* The ratio of the average wage for 1984, \$16,135.07, compared to that for 1976, \$9,226.48, is 1.748779. Multiplying the 1978 quarter of coverage amount of \$250 by the ratio of 1.748779 produces the amount of \$437.19 which must then be rounded to \$440. Accordingly, the quarter of coverage amount is determined to be \$440 for 1986.

### **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 1985 was determined by this formula to be \$610. Under the formula, the exempt amount for 1986 shall be the 1985 exempt amount multiplied by the ratio of: (1) The average amount, per employee, of the total wages for calendar year 1984 to (2) the average amount of those wages for calendar year 1983. 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 way as for the contribution and benefit base. Therefore, the ratio of the average wages for 1984, \$16,135.07, compared to that for 1983, \$15,239.24, is 1.0587844.

*Exempt Amount for Beneficiaries Aged 65 through 69.* Multiplying the 1985 retirement earnings test monthly exempt amount of \$610 by the ratio of 1.0587844 produces the amount of \$645.86. This must then be rounded to \$650. The retirement earnings test monthly exempt amount for beneficiaries aged 65 through 69 is thus determined to be \$640 for 1986. The corresponding retirement earnings test annual exempt amount for these beneficiaries is \$7,800.

(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 \$450 for 1985. The formula provides that the exempt amount for 1986 shall be the 1985 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 1984 to (2) the average amount of those wages for calendar year 1983. 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 way as for the contribution and benefit base. Therefore, the ratio of the average wages for 1984, \$16,135.07, compared to that of 1983, \$15,239.24, is 1.0587844.

*Exempt amount for Beneficiaries Under Age 65.* Multiplying the 1985 retirement earnings test monthly exempt amount of \$450 by the ratio 1.0587844 produces the amount of \$476.45. This must then be rounded to \$480. The retirement earnings test monthly exempt amount for beneficiaries under age 65 is thus determined to be \$480 for 1986. The corresponding retirement earnings test annual exempt amount for these beneficiaries is \$5,760.

### **Computing Benefits After 1978**

The Social Security Amendments of 1977 changed the formula for determining an individual's primary insurance amount after 1978. This basic new formula is based on "wage indexing" and was fully explained with interim regulations and final regulations published in the *Federal Register* on December 29, 1978 (43 FR 60877), and July 15, 1982 (47 FR 30731), respectively. It generally applies when a worker after 1978 attains age 62, becomes disabled, or dies before age 62. This 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 1986, we divide the average of the total wages for 1984, \$16,135.07, by the average of the total wages for each year prior to 1984 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 higher 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 1986.

*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 1986 are obtained by multiplying the 1979 amounts by the ratio of the average of the total wages for 1984, \$16,135.07, to that for 1977, \$9,779.44. These results are

then rounded to the nearest dollar. For 1986, the ratio is 1.649897. Multiplying the 1979 amounts of \$180 and \$1,085 by 1.649897 produces the amounts of \$296.98 and \$1,790.14. These must then be rounded to \$297 and \$1,790.

Accordingly, the portions of the average indexed monthly earnings to be used in 1986 are determined to be the first \$297, the amount between \$297 and \$1,790, and the amount over \$1,790.

Consequently, for individuals who first become eligible for old-age insurance benefits or disability insurance benefits in 1986, or who die in 1986 before becoming eligible for benefits, we will compute their primary insurance amount by adding the following:

(a) 90 percent of the first \$297 of their average indexed monthly earnings, plus

(b) 32 percent of the average indexed monthly earnings over \$297 and through \$1,790, plus

(c) 15 percent of the average indexed monthly earnings over \$1,790.

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**

The 1977 Amendments continued the long established policy of limiting the total monthly benefits which a worker's family may receive based on his or her primary insurance amount. Those amendments also continued the 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 1986 are obtained by multiplying the 1979 amounts by the ratio between the average of the total wages for 1984, \$16,135.07, and the average for 1977, \$9,779.44. This amount is then rounded to the nearest dollar. For 1986, the ratio is 1.649897. Multiplying the amounts of \$230, \$332, and \$433 by 1.649897 produces the amounts of \$379.48, \$547.77, and \$714.41. These amounts are then rounded to \$379, \$548, and \$714. Accordingly, the portions of the primary insurance amounts to be used in 1986 are determined to be the first \$379, the amount between \$379 and \$548, the amount between \$548 and \$714, and the amount over \$714.

Consequently, for the family of a worker who becomes age 62 or dies in 1986, the total amount of benefits payable to them will be computed so that it does not exceed:

- (a) 150 percent of the first \$379 of the worker's primary insurance amount, plus
- (b) 272 percent of the worker's primary insurance amount over \$379 through \$548, plus
- (c) 134 percent of the worker's primary insurance amount over \$548 through \$714, plus
- (d) 175 percent of the worker's primary insurance amount over \$714.

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 203 (a) of the Act (42 U.S.C. 403(a)).

#### **Extension of Benefit Table Effective January 1986**

Table 1 includes an extension of the Table for Determining Primary Insurance Amount and Maximum Family Benefits provided in section 215(a)(5) of the Act. This extension reflects the higher average monthly wage and related benefit amounts now possible under the increased contribution and benefit base published by this Notice effective January 1986 in accordance with section 215(i) of the Act. Table 1 will apply primarily to benefits based on earnings of workers who reached age 62 before 1979.

#### **"Old-Law" Contribution and Benefit Base**

*General.* The 1986 "old-law" contribution and benefit base is \$31,500. This is the base that would have been effective under the Social Security Act without the enactment of the 1977 amendments. The base is computed under section 230(b) of the Social Security Act as it read prior to the 1977 amendments.

The "old-law" contribution 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. (This use is stated in section 230(d) of the Social Security Act), and
- (3) Social Security to determine a "year of coverage" in computing the "special minimum" benefit and in computing benefits for persons who are also eligible to receive pensions based

on employment not covered under section 210 of the Social Security 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" 1985 base multiplied by the ratio of: (1) The average amount, per employee, of total wages for the calendar year of 1984 to (2) the average amount of those wages for the calendar year of 1983. 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 1983 was previously determined to be \$15,239.24. The average wage for calendar year 1984 has been determined to be \$16,135.07, as stated herein.

*Amount.* The ratio of the average wage for 1984, \$16,135.07 compared to that for 1983, \$15,239.24, is 1.0587844. Multiplying the 1985 "old-law" contribution and benefit base amount of \$29,700 by the ratio of 1.0587844 produces the amount of \$31,445.90 which must then be rounded to \$31,500. Accordingly, the "old-law" contribution and benefit base is determined to be \$31,500 for 1986.

#### **OASDI Fund Ratio**

*General.* Section 215(i) of the Act was amended by section 112 of the Social Security Amendments of 1983 (Pub. L. 98-21), to include a "stabilizer" provision that can limit the automatic OASDI benefit increase under certain circumstances. 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 equal to the lesser of: (1) The increase 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 1985 is defined as the ratio of: (1) The combined assets of the OASI and DI Trust Funds at the beginning of 1985, including advance tax transfers for January 1985 and excluding amounts owed to the Hospital Insurance (HI) Trust Fund, to (2) the estimated expenditures of the OASI and DI Trust Funds during 1985, excluding payments of interest and principal on amounts owed to the HI Trust Fund and 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 1985 (including advance tax transfers for January 1985 and excluding amounts owed to the HI Trust Fund) equaled \$33,956 million, and the expenditures are estimated to be \$191,569 million. Thus, the OASDI fund ratio for 1985 is 17.7 percent, which exceeds the applicable threshold of 15.0 percent. As a result, the "stabilizer" provision does not affect the benefit increase for December 1985.

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

Dated: October 29, 1985.

**Margaret M. Heckler,**

*Secretary of Health and Human Services.*

**BILLING CODE 4190-11-M**

(The extended benefit table which was published at the end of the above announcement in the Federal Register is not reproduced here because of its length.)

**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 1986. Projected values for future years through 1991, 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 1984, 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 1986. Table D1 shows the average amount of total wages as announced for each year 1951 through 1984.

TABLE D1.—AVERAGE AMOUNT OF TOTAL WAGES, CALENDAR YEARS 1951-84

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		
1956.....	3,532.36	1971.....	6,497.08		
1957.....	3,641.72	1972.....	7,133.80		
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.....	4,281.40	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 1985 through 1991, based on the four alternative sets of assumptions.

TABLE D2.—ESTIMATED AVERAGE AMOUNT OF TOTAL WAGES BY ALTERNATIVE, CALENDAR YEARS 1985-91

Calendar year	I	II-A	II-B	III
1985.....	\$16,797.03	\$16,769.37	\$16,747.32	\$16,724.03
1986.....	17,572.48	17,537.43	17,493.25	17,496.90
1987.....	18,504.30	18,499.90	18,456.25	18,507.55
1988.....	19,467.48	19,462.33	19,432.72	19,257.89
1989.....	20,508.57	20,505.44	20,721.36	20,702.09
1990.....	21,525.59	21,540.33	21,997.76	21,566.59
1991.....	22,516.75	22,621.23	23,249.94	23,085.52

The provisions for automatic cost-of-living increases in OASDI benefits were originally enacted in 1972 and first became effective with the benefit increase for June 1975. The determination of the benefit increase effective for December 1985 is shown in Appendix C. Table D3 shows the automatic benefit increases determined for each year 1975-85, and the benefit increases for each year 1986-91, 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 1979-86, together with estimated amounts for 1987-91 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 1975-91.

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 1978-91.

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 1979-86, and the values projected for 1987-91, 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 1979-91 are shown in table D3.

TABLE D3.—OASDI PROGRAM AMOUNTS DETERMINED UNDER THE AUTOMATIC-ADJUSTMENT PROVISIONS, CALENDAR YEARS 1975-86, AND PROJECTED FUTURE AMOUNTS, CALENDAR YEARS 1987-91, ON THE BASIS OF THE INTERMEDIATE SETS OF ASSUMPTIONS

Calendar year	Benefit increase <sup>1</sup> (percent)	Contribution and benefit base	"Old-law" contribution and benefit base <sup>2</sup>	Retirement earnings test exempt amounts		Amount of earnings required for quarter of coverage <sup>3</sup>	AIME "bend points" in PIA formula		PIA "bend points" in maximum-family-benefit formula		
				Under age 65	Ages 65 and over <sup>4</sup>		First	Second	First	Second	Third
Actual experience:											
1975	8.0	\$14,100	( <sup>5</sup> )	\$2,520	\$2,520	( <sup>5</sup> )	( <sup>5</sup> )	( <sup>5</sup> )	( <sup>5</sup> )	( <sup>5</sup> )	( <sup>5</sup> )
1976	6.4	15,300	( <sup>5</sup> )	2,760	2,760	( <sup>5</sup> )	( <sup>5</sup> )	( <sup>5</sup> )	( <sup>5</sup> )	( <sup>5</sup> )	( <sup>5</sup> )
1977	5.9	16,500	( <sup>5</sup> )	3,000	3,000	( <sup>5</sup> )	( <sup>5</sup> )	( <sup>5</sup> )	( <sup>5</sup> )	( <sup>5</sup> )	( <sup>5</sup> )
1978	6.5	17,700	( <sup>5</sup> )	3,240	4,000	\$250	( <sup>5</sup> )	( <sup>5</sup> )	( <sup>5</sup> )	( <sup>5</sup> )	( <sup>5</sup> )
1979	9.9	22,900	\$18,900	3,480	4,500	260	\$180	\$1,085	\$230	\$332	\$433
1980	14.3	25,900	20,400	3,720	5,000	290	194	1,171	248	358	467
1981	11.2	29,700	22,200	4,080	5,500	310	211	1,274	270	390	508
1982	7.4	32,400	24,300	4,440	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	( <sup>5</sup> )	42,000	31,500	5,760	7,800	440	297	1,790	379	548	714
Alternative II-A:											
1987	4.1	43,800	32,700	6,000	8,160	450	309	1,861	394	569	742
1988	3.6	45,900	34,200	6,240	8,520	480	323	1,946	412	595	776
1989	3.2	48,300	36,000	6,600	9,000	500	341	2,053	435	628	819
1990	3.0	50,700	37,800	6,960	9,480	530	358	2,159	458	661	862
1991	3.0	53,400	39,900	7,320	9,960	560	377	2,275	482	696	908
Alternative II-B:											
1987	4.5	43,500	32,700	6,000	8,040	450	308	1,858	394	569	742
1988	4.3	45,300	34,200	6,240	8,400	470	322	1,941	411	594	775
1989	5.1	47,700	36,000	6,600	8,880	500	340	2,048	434	627	817
1990	4.5	50,100	37,800	6,960	9,360	530	358	2,156	457	660	860
1991	4.1	53,400	40,200	7,440	9,960	560	381	2,299	487	703	917

<sup>1</sup>Effective with benefits payable for June in each year 1975-82, and for December in each year after 1982.

<sup>2</sup>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.

<sup>3</sup>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.

<sup>4</sup>See Appendix C for a description of quarter-of-coverage requirements prior to 1978.

<sup>5</sup>No provision in law for this amount in this year.

<sup>6</sup>Amount not subject to automatic-adjustment provisions in this year.

<sup>7</sup>Amount specified by Social Security Amendments of 1977.

<sup>8</sup>Amount specified for first year by Social Security Amendments of 1977; amounts for subsequent years subject to automatic-adjustment provisions.

<sup>9</sup>Actual benefit increase for December 1986 has not been determined. Estimates of that increase, based on alternatives II-A and II-B, are 3.0 percent and 3.4 percent, respectively.

**APPENDIX E.—ACTUARIAL ESTIMATES FOR THE OASI, DI, AND HI PROGRAMS, COMBINED**

In this appendix, actuarial estimates for the OASI, DI, and Hospital Insurance (HI) 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. These estimates represent the combination of the estimates shown in this report and in the concurrent report for the HI Trust Fund.

As is the case with the OASI and DI Trust Funds, the primary source of income to the HI Trust Fund is contributions paid by employees, employers, and self-employed persons. Contribution (or tax) rates for the OASDI and HI programs are summarized in table E1 for 1986 and later. The combined OASDI and HI tax on 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

Calendar years	Contribution rates (percent)					
	Employees and employers, each			Self-employed		
	OASDI	HI	Total	OASDI	HI	Total
1986-87 <sup>1</sup> .....	5.70	1.45	7.15	11.40	2.90	14.30
1988-89 <sup>1</sup> .....	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

<sup>1</sup>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 1986-89.

The Social Security Act authorizes borrowing among the OASI, DI, and HI Trust Funds through the end of 1987. Loans cannot be made from a trust fund if its assets are below specified levels, and minimum standards are 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 after 1987 because, under present law, no authority exists for transferring assets from one trust fund to another after 1987 except to repay amounts owed. Thus, the emphasis in this appendix on combined operations should not obscure the financial status of the individual trust funds.

Table E2 shows estimated contingency fund ratios for the three funds, separate and combined, for calendar years 1986-95, based on the four alternative sets of assumptions used in this report. The contingency fund ratio is defined to be the ratio of trust fund assets at the beginning of a year (including advance tax transfers for January, in the case of OASI and DI) to expenditures during the year, expressed as a percentage.

The estimates in table E2 indicate that no further interfund loans would be necessary during 1986-87. The contingency fund ratio for the OASI and DI Trust Funds, combined, is estimated to increase throughout the short-range projection period, except between 1986 and 1987, when the ratio remains level; this temporary leveling is attributable to the final repayment of amounts owed to the HI Trust Fund in 1986. The contingency fund ratio for the HI program increases sharply at the beginning of 1987, due to this interfund loan repayment. Under all but

alternative I, however, the HI fund ratio is estimated to begin declining within a few years thereafter. As described in the concurrent HI Annual Report, the HI Trust Fund would have sufficient assets to meet obligations throughout the medium-range period based on alternative I, but would be exhausted in 1998 based on alternative II-A, in 1996 based on alternative II-B, and in 1993 based on alternative III.

Table E2 shows that the combined assets of the OASI, DI, and HI Trust Funds will be sufficient to meet combined obligations through the end of 1995, based on all four alternative sets of assumptions. Thus, a reallocation of tax rates among the OASI, DI, and HI programs, or the extension of interfund borrowing authority beyond 1987, could be sufficient to prevent the potential financing problems of the HI program for a number of years.

TABLE E2.—ESTIMATED CONTINGENCY FUND RATIOS<sup>1</sup> FOR THE OASI, DI, AND HI TRUST FUNDS, SEPARATE AND COMBINED, BY ALTERNATIVE, CALENDAR YEARS 1986-95

Calendar year	OASI	DI	OASDI	HI	Total OASDI and HI
<b>Alternative I:</b>					
1986	28	38	29	41	31
1987	29	48	31	75	40
1988	40	49	41	84	50
1989	57	58	57	90	64
1990	79	74	78	96	82
1991	101	106	102	99	101
1992	128	144	130	101	123
1993	152	178	155	101	142
1994	182	219	185	101	165
1995	207	253	211	98	184
<b>Alternative II-A:</b>					
1986	28	38	29	41	31
1987	28	43	29	75	39
1988	37	40	37	83	47
1989	52	43	51	87	59
1990	69	50	67	88	72
1991	89	71	87	87	87
1992	109	94	107	82	101
1993	129	117	128	74	115
1994	150	139	149	63	128
1995	172	160	170	51	141
<b>Alternative II-B:</b>					
1986	28	38	29	41	31
1987	27	43	29	75	38
1988	35	38	35	81	44
1989	47	38	46	83	54
1990	61	43	59	81	64
1991	77	61	75	77	76
1992	93	80	92	70	86
1993	109	100	109	60	97
1994	126	120	126	47	107
1995	144	140	143	33	116
<b>Alternative III:</b>					
1986	28	37	28	41	31
1987	27	39	28	72	37
1988	32	30	32	76	41
1989	39	22	37	71	44
1990	47	17	44	64	48
1991	54	20	51	51	51
1992	61	24	58	34	52
1993	68	28	64	15	52
1994	76	33	71	( <sup>2</sup> )	51
1995	84	37	79	( <sup>2</sup> )	49

<sup>1</sup>See text for definition of contingency fund ratio.

<sup>2</sup>The fund is estimated to be exhausted.

Note: The assumptions underlying the estimates for the HI Trust Fund are described in Appendix A of the HI Annual Report. The ratios for OASDI and HI, combined, for years after the HI fund is estimated to be exhausted, are theoretical and are shown for informational purposes only.

Table E3 shows estimated cost rates for the OASI, DI, and HI programs for the long-range 75-year projection period, based on the four alternative sets of assumptions. Table E3 also shows a comparison of total income and cost rates for the three programs combined. The cost rates shown for the HI program exclude the cost associated with rebuilding and maintaining the HI Trust Fund at a level suitable for a contingency reserve. Table 9 of the HI Annual Report presents these additional costs.

TABLE E3.—COMPARISON OF ESTIMATED TOTAL INCOME RATES AND COST RATES FOR THE OASI, DI, AND HI PROGRAMS, BY ALTERNATIVE, CALENDAR YEARS 1986-2060  
[As a percentage of taxable payroll<sup>1</sup>]

Calendar year	Total income rate	Cost rate			Total	Balance <sup>2</sup>
		OASI	DI	HI <sup>3</sup>		
<b>Alternative I:</b>						
1986.....	14.50	9.89	1.10	2.58	13.57	0.94
1987.....	14.51	9.54	1.02	2.66	13.23	1.28
1988.....	15.25	9.61	1.00	2.72	13.34	1.91
1989.....	15.27	9.48	.97	2.78	13.22	2.05
1990.....	15.56	9.25	.92	2.85	13.02	2.54
1991.....	15.59	9.32	.92	2.87	13.11	2.48
1992.....	15.61	9.13	.89	2.93	12.96	2.65
1993.....	15.64	9.19	.90	2.95	13.04	2.60
1994.....	15.66	9.03	.88	3.01	12.92	2.74
1995.....	15.69	9.10	.89	3.03	13.02	2.67
2000.....	15.65	8.03	.92	3.05	12.00	3.65
2005.....	15.63	7.38	1.02	3.01	11.42	4.21
2010.....	15.66	7.59	1.16	2.98	11.73	3.93
2015.....	15.71	8.46	1.24	3.01	12.71	3.00
2020.....	15.78	9.61	1.28	3.17	14.06	1.71
2025.....	15.83	10.47	1.33	3.42	15.22	.61
2030.....	15.86	10.85	1.28	3.66	15.80	.07
2035.....	15.87	10.73	1.22	3.84	15.79	.08
2040.....	15.86	10.28	1.20	3.94	15.42	.45
2045.....	15.86	9.88	1.22	3.97	15.07	.79
2050.....	15.85	9.66	1.23	3.98	14.87	.98
2055.....	15.84	9.56	1.22	3.99	14.76	1.08
2060.....	15.84	9.46	1.20	4.00	14.66	1.18
<b>25-year averages:</b>						
1986-2010.....	15.52	8.44	.98	2.95	12.36	3.16
2011-2035.....	15.79	9.79	1.27	3.35	14.40	1.39
2036-2060.....	15.85	9.86	1.21	3.97	15.05	.81
<b>75-year average:</b> 1986-2060.....	15.72	9.36	1.15	3.42	13.94	1.79
<b>Alternative II-A:</b>						
1986.....	14.50	9.93	1.12	2.59	13.64	.86
1987.....	14.52	9.79	1.07	2.66	13.52	1.00
1988.....	15.26	9.77	1.05	2.77	13.58	1.67
1989.....	15.28	9.69	1.03	2.86	13.57	1.70
1990.....	15.60	9.67	1.01	2.96	13.64	1.96
1991.....	15.60	9.60	1.00	3.05	13.66	1.94
1992.....	15.62	9.57	.99	3.15	13.71	1.91
1993.....	15.65	9.55	.99	3.26	13.80	1.85
1994.....	15.68	9.54	1.00	3.35	13.90	1.78
1995.....	15.71	9.53	1.00	3.45	13.98	1.73
2000.....	15.69	8.66	1.09	3.73	13.48	2.20
2005.....	15.67	8.13	1.26	3.98	13.37	2.30
2010.....	15.70	8.44	1.48	4.26	14.18	1.53
2015.....	15.77	9.50	1.62	4.71	15.83	-.06
2020.....	15.85	10.96	1.69	5.33	17.99	-2.14
2025.....	15.93	12.20	1.79	6.04	20.03	-4.10
2030.....	15.98	12.99	1.76	6.67	21.42	-5.43
2035.....	16.01	13.22	1.70	7.06	21.98	-5.97
2040.....	16.02	13.05	1.69	7.25	21.98	-5.96
2045.....	16.04	12.87	1.75	7.31	21.92	-5.88
2050.....	16.04	12.88	1.78	7.33	21.98	-5.94
2055.....	16.04	12.98	1.76	7.34	22.08	-6.04
2060.....	16.04	13.01	1.74	7.36	22.11	-6.07
<b>25-year averages:</b>						
1986-2010.....	15.55	8.98	1.14	3.53	13.65	1.90
2011-2035.....	15.89	11.40	1.70	5.74	18.84	-2.96
2036-2060.....	16.03	12.97	1.74	7.30	22.01	-5.97
<b>75-year average:</b> 1986-2060.....	15.82	11.12	1.53	5.52	18.17	-2.34

TABLE E3.—COMPARISON OF ESTIMATED TOTAL INCOME RATES AND COST RATES FOR THE OASI, DI, AND HI PROGRAMS, BY ALTERNATIVE, CALENDAR YEARS 1986-2060 (Cont.)  
(As a percentage of taxable payroll<sup>1</sup>)

Calendar year	Total income rate	Cost rate				Total	Balance <sup>2</sup>
		OASI	DI	HI <sup>3</sup>	Total		
<b>Alternative II-B:</b>							
1986.....	14.51	9.98	1.13	2.60	13.71	0.79	
1987.....	14.52	9.93	1.09	2.69	13.71	.62	
1988.....	15.26	9.99	1.07	2.82	13.88	1.38	
1989.....	15.28	9.89	1.05	2.92	13.85	1.43	
1990.....	15.64	9.96	1.04	3.03	14.03	1.60	
1991.....	15.61	9.94	1.03	3.13	14.10	1.51	
1992.....	15.63	9.90	1.02	3.23	14.15	1.48	
1993.....	15.66	9.88	1.01	3.33	14.23	1.44	
1994.....	15.69	9.88	1.02	3.44	14.34	1.35	
1995.....	15.73	9.90	1.03	3.54	14.46	1.27	
2000.....	15.71	9.13	1.12	3.90	14.15	1.56	
2005.....	15.69	8.64	1.31	4.21	14.16	1.53	
2010.....	15.73	8.96	1.55	4.56	15.07	.66	
2015.....	15.80	10.08	1.69	5.05	16.82	-1.02	
2020.....	15.88	11.62	1.77	5.71	19.11	-3.22	
2025.....	15.97	12.96	1.88	6.48	21.32	-5.35	
2030.....	16.03	13.85	1.84	7.15	22.85	-6.82	
2035.....	16.06	14.15	1.78	7.77	23.50	-7.44	
2040.....	16.07	14.00	1.77	7.77	23.54	-7.47	
2045.....	16.09	13.82	1.83	7.83	23.48	-7.40	
2050.....	16.09	13.83	1.86	7.85	23.54	-7.45	
2055.....	16.09	13.92	1.85	7.86	23.63	-7.54	
2060.....	16.09	13.95	1.82	7.89	23.67	-7.57	
25-year averages:							
1986-2010.....	15.57	9.37	1.17	3.68	14.22	1.34	
2011-2035.....	15.92	12.13	1.78	6.15	20.06	-4.14	
2036-2060.....	16.08	13.92	1.82	7.82	23.56	-7.48	
75-year average:							
1986-2060.....	15.86	11.81	1.59	5.88	19.28	-3.43	
<b>Alternative III:</b>							
1986.....	14.51	9.99	1.15	2.63	13.77	.74	
1987.....	14.53	10.08	1.13	2.77	13.98	.54	
1988.....	15.28	10.54	1.17	2.99	14.70	.58	
1989.....	15.29	10.38	1.14	3.11	14.64	.66	
1990.....	15.68	10.79	1.18	3.34	15.31	.38	
1991.....	15.64	10.80	1.17	3.49	15.46	.18	
1992.....	15.67	10.77	1.17	3.67	15.60	.06	
1993.....	15.70	10.76	1.17	3.85	15.77	-.07	
1994.....	15.73	10.76	1.17	4.04	15.97	-.24	
1995.....	15.77	10.78	1.19	4.23	16.19	-.42	
2000.....	15.76	10.21	1.35	5.11	16.67	-.91	
2005.....	15.75	9.79	1.63	6.06	17.48	-1.73	
2010.....	15.80	10.25	1.99	7.20	19.43	-3.63	
2015.....	15.89	11.67	2.23	8.73	22.63	-6.74	
2020.....	16.00	13.77	2.38	10.60	26.75	-10.75	
2025.....	16.13	15.86	2.58	12.63	31.08	-14.95	
2030.....	16.24	17.69	2.60	14.37	34.66	-18.42	
2035.....	16.32	18.96	2.57	15.34	36.87	-20.55	
2040.....	16.39	19.73	2.62	15.74	38.09	-21.70	
2045.....	16.47	20.46	2.78	15.88	39.11	-22.64	
2050.....	16.52	21.45	2.87	15.92	40.23	-23.71	
2055.....	16.57	22.50	2.86	15.94	41.30	-24.72	
2060.....	16.61	23.26	2.82	16.00	42.08	-25.47	
25-year averages:							
1986-2010.....	15.61	10.30	1.39	4.79	16.49	-.88	
2011-2035.....	16.07	14.89	2.43	11.69	29.02	-12.95	
2036-2060.....	16.49	21.14	2.77	15.85	39.76	-23.27	
75-year average:							
1986-2060.....	16.06	15.44	2.20	10.78	28.42	-12.36	

<sup>1</sup>The taxable payroll for HI is slightly larger than the taxable payroll for OASDI, because HI covers all Federal civilian employees, including those hired before 1984, and railroad employees. This difference is relatively small and does not significantly affect the comparisons.

<sup>2</sup>Cost rates for HI exclude amounts required for trust fund building and maintenance.

<sup>3</sup>The balance is the total income rate minus the combined OASDI and HI cost rate. Positive balances are surpluses, and negative balances are deficits.

The trend in long-range OASDI cost rates was described earlier in this report. The HI cost rates are estimated to increase substantially based on the four alternatives, from the current level of 2.6 percent of taxable payroll to 4.00, 7.36, 7.89, and 16.00 percent, respectively, in

2060. The most significant increases occur during 2010-35. The estimated combined OASDI and HI cost rates follow a similar pattern, rising from the current level of 13.6 percent to 14.66, 22.11, 23.67, and 42.08 percent of taxable payroll in 2060. The combined cost rates are estimated to be less than the combined income rates throughout the long-range period based on alternative I, but are estimated to exceed the combined income rates for all years after 2015, based on alternatives II-A and II-B, and for all years after 1993, based on alternative III. The combined average actuarial balances for the 75-year projection period would be a surplus of 1.79 percent of taxable payroll on the basis of alternative I, and deficits of 2.34, 3.43, and 12.36 percent on the basis of alternatives II-A, II-B, and III, respectively. For the long-range period, the estimated average income rate is 113, 73, 68, and 39 percent of the estimated average cost rate.

As noted previously in this report and in the HI Annual Report, long-range estimates such as these are subject to much uncertainty and as such should not be considered precise forecasts, but instead should be considered as indicative of the general trend and range of costs that could reasonably be expected to occur.

**APPENDIX F.—PROJECTED COST AS A PERCENTAGE OF GNP FOR THE OASI, DI, AND HI PROGRAMS**

In this appendix, the estimated cost of the OASI, DI, and HI programs is presented as a percentage of the Gross National Product (GNP). While expressing estimated cost as a percentage of taxable payroll is the most useful approach for assessing the financial status of the programs, (see table 28 and Appendix E), analysis of cost as a percentage of GNP provides an additional perspective on the cost of the programs in relation to the total value of goods produced and services performed in the U.S. economy.

Table F1 presents estimated OASI, DI, and HI costs as percentages of GNP on the basis of the four alternative sets of assumptions. For the next 20 years, the combined OASI and DI cost—hereafter referred to as the OASDI cost—as a percentage of GNP is projected to decline on the basis of alternatives I, II-A, and II-B, and to remain about level on the basis of alternative III. The projected HI cost as a percentage of GNP, however, increases through 2005 under all four alternatives. The combined OASDI and HI cost as a percentage of GNP is projected, for the next 20 years, to decrease based on alternative I, to remain about level based on the intermediate sets of assumptions (alternatives II-A and II-B), and to increase based on alternative III. Between 2005 and about 2030, both the OASDI and the HI costs as percentages of GNP are projected to rise substantially based on all four alternatives because of the baby-boom generation reaching retirement age. After 2030, the HI cost as a percentage of GNP is projected to stabilize, and the OASDI cost as a percentage of GNP is projected to decline slightly, except under alternative III, for which OASDI cost as a percentage of GNP is projected to continue rising. The combined OASDI and HI cost as a percentage of GNP is projected, after 2030, to follow the pattern of its largest component, OASDI cost, decreasing on the basis of alternatives I, II-A, and II-B, while increasing on the basis of alternative III.

The combined costs of the OASDI and HI programs as percentages of GNP, based on the four alternatives, differ by a relatively large amount at the end of the long-range period (about 8.2 percentage points between alternatives I and III), while differing by a much smaller amount at the end of the medium-range period (2.8 percentage points in 2010). In addition, the combined average long-range cost as a percentage of GNP varies by a relatively large amount (from 6.12 percent based on alternative I, to 10.88 percent based on alternative III), while the average medium-range cost varies by a much smaller amount (from 5.50 to 7.02 percent).

TABLE F1.—ESTIMATED COST OF THE OASI, DI, AND HI PROGRAMS AS A PERCENTAGE OF GNP BY ALTERNATIVE AND TRUST FUND, CALENDAR YEARS 1986-2060

Calendar year	OASI	DI	OASDI	HI	Total OASDI and HI
<b>Alternative I:</b>					
1986	4.35	0.48	4.84	1.18	6.02
1987	4.17	.45	4.62	1.21	5.82
1988	4.22	.44	4.66	1.24	5.90
1989	4.17	.42	4.59	1.26	5.85
1990	4.02	.40	4.42	1.28	5.70
1991	4.10	.40	4.51	1.30	5.81
1992	4.00	.39	4.40	1.32	5.71
1993	4.06	.40	4.46	1.34	5.80
1994	3.97	.39	4.35	1.35	5.71
1995	4.02	.39	4.42	1.37	5.79
2000	3.57	.41	3.99	1.38	5.36
2005	3.30	.46	3.76	1.36	5.11
2010	3.39	.52	3.91	1.34	5.24
2015	3.77	.55	4.32	1.35	5.67
2020	4.26	.57	4.83	1.41	6.24
2025	4.62	.59	5.21	1.52	6.72
2030	4.76	.56	5.33	1.62	6.94
2035	4.69	.53	5.22	1.69	6.91
2040	4.47	.52	4.99	1.72	6.71
2045	4.27	.53	4.80	1.73	6.53
2050	4.16	.53	4.69	1.72	6.41
2055	4.10	.52	4.62	1.72	6.34
2060	4.03	.51	4.55	1.72	6.26
25-year averages:					
1986-2010	3.74	.43	4.17	1.33	5.50
2011-2035	4.32	.56	4.88	1.49	6.37
2036-2060	4.26	.52	4.78	1.72	6.50
75-year average:					
1986-2060	4.10	.51	4.61	1.51	6.12
<b>Alternative II-A:</b>					
1986	4.36	.49	4.86	1.18	6.04
1987	4.30	.47	4.77	1.21	5.98
1988	4.28	.46	4.74	1.25	5.99
1989	4.24	.45	4.69	1.29	5.99
1990	4.22	.44	4.66	1.33	5.99
1991	4.20	.44	4.64	1.37	6.01
1992	4.19	.43	4.63	1.42	6.04
1993	4.18	.43	4.62	1.46	6.08
1994	4.18	.44	4.61	1.50	6.11
1995	4.17	.44	4.61	1.54	6.15
2000	3.79	.48	4.27	1.65	5.92
2005	3.55	.55	4.10	1.75	5.85
2010	3.67	.64	4.31	1.86	6.17
2015	4.10	.70	4.80	2.04	6.84
2020	4.69	.72	5.41	2.29	7.70
2025	5.16	.76	5.92	2.57	8.49
2030	5.45	.74	6.18	2.81	8.99
2035	5.49	.71	6.20	2.94	9.14
2040	5.37	.69	6.06	2.99	9.05
2045	5.24	.71	5.96	2.99	8.95
2050	5.20	.72	5.92	2.97	8.89
2055	5.19	.71	5.90	2.95	8.84
2060	5.15	.69	5.84	2.93	8.77
25-year averages:					
1986-2010	3.93	.50	4.42	1.57	5.99
2011-2035	4.84	.72	5.56	2.44	8.00
2036-2060	5.26	.71	5.96	2.97	8.93
75-year average:					
1986-2060	4.67	.64	5.32	2.33	7.64

TABLE F1.—ESTIMATED COST OF THE OASI, DI, AND HI PROGRAMS AS A PERCENTAGE OF GNP BY ALTERNATIVE AND TRUST FUND, CALENDAR YEARS 1986-2060 (Cont.)

Calendar year	OASI	DI	OASDI	HI	Total OASDI and HI
<b>Alternative II-B:</b>					
1986	4.39	0.50	4.88	1.19	6.07
1987	4.35	.48	4.83	1.22	6.05
1988	4.35	.47	4.82	1.27	6.09
1989	4.30	.45	4.75	1.31	6.06
1990	4.30	.45	4.75	1.35	6.10
1991	4.30	.44	4.75	1.39	6.14
1992	4.29	.44	4.73	1.44	6.17
1993	4.28	.44	4.72	1.48	6.21
1994	4.28	.44	4.72	1.52	6.25
1995	4.28	.44	4.73	1.56	6.29
2000	3.94	.49	4.42	1.70	6.13
2005	3.70	.56	4.27	1.82	6.09
2010	3.81	.66	4.46	1.94	6.41
2015	4.23	.71	4.94	2.13	7.06
2020	4.81	.73	5.54	2.37	7.91
2025	5.29	.77	6.05	2.65	8.70
2030	5.57	.74	6.31	2.89	9.19
2035	5.61	.71	6.31	3.01	9.32
2040	5.47	.69	6.16	3.05	9.21
2045	5.32	.70	6.03	3.03	9.06
2050	5.25	.71	5.96	2.99	8.95
2055	5.21	.69	5.90	2.96	8.86
2060	5.15	.67	5.82	2.93	8.75
25-year averages:					
1986-2010	4.05	.51	4.55	1.61	6.16
2011-2035	4.96	.73	5.69	2.52	8.21
2036-2060	5.32	.70	6.01	3.00	9.01
75-year average:					
1986-2060	4.77	.64	5.42	2.38	7.80
<b>Alternative III:</b>					
1986	4.38	.50	4.89	1.20	6.08
1987	4.41	.50	4.90	1.26	6.16
1988	4.55	.51	5.06	1.34	6.40
1989	4.49	.49	4.98	1.39	6.37
1990	4.63	.51	5.14	1.48	6.62
1991	4.63	.50	5.14	1.54	6.68
1992	4.62	.50	5.12	1.61	6.73
1993	4.62	.50	5.12	1.69	6.81
1994	4.61	.50	5.12	1.77	6.89
1995	4.62	.51	5.13	1.85	6.98
2000	4.32	.57	4.89	2.19	7.08
2005	4.10	.68	4.78	2.55	7.33
2010	4.23	.82	5.05	2.98	8.02
2015	4.73	.90	5.64	3.55	9.19
2020	5.48	.95	6.43	4.23	10.66
2025	6.19	1.01	7.20	4.95	12.15
2030	6.78	1.00	7.77	5.52	13.29
2035	7.13	.97	8.10	5.78	13.88
2040	7.28	.97	8.25	5.83	14.07
2045	7.41	1.01	8.41	5.77	14.18
2050	7.62	1.02	8.64	5.67	14.31
2055	7.84	1.00	8.84	5.58	14.42
2060	7.96	.96	8.92	5.49	14.42
25-year averages:					
1986-2010	4.38	.59	4.97	2.05	7.02
2011-2035	5.83	.96	6.79	4.59	11.37
2036-2060	7.56	.99	8.55	5.69	14.24
75-year average:					
1986-2060	5.92	.85	6.77	4.11	10.88

The difference between cost rates 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 F2. 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 were based on 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.

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. For simplicity of presentation, table F2 is based on the projected OASDI taxable payroll even though the projected HI taxable payroll is slightly larger in the first part of the projection period, because of the complete coverage of Federal employees.

TABLE F2.—RATIO OF TAXABLE PAYROLL TO GNP BY ALTERNATIVE,  
CALENDAR YEARS 1986-2060

Calendar year	I	II-A	II-B	III
1986	0.440	0.440	0.439	0.438
1987	.437	.439	.438	.437
1988	.439	.438	.435	.432
1989	.439	.438	.434	.432
1990	.435	.437	.432	.430
1991	.440	.438	.433	.429
1992	.438	.438	.433	.429
1993	.442	.438	.434	.429
1994	.439	.438	.433	.429
1995	.442	.438	.433	.429
2000	.445	.438	.432	.423
2005	.447	.437	.429	.419
2010	.447	.435	.425	.413
2015	.445	.432	.420	.406
2020	.443	.427	.414	.398
2025	.441	.423	.408	.390
2030	.439	.419	.402	.383
2035	.437	.415	.396	.376
2040	.435	.411	.391	.369
2045	.433	.408	.385	.362
2050	.431	.404	.380	.355
2055	.429	.400	.374	.349
2060	.427	.396	.369	.342

The long-range trend in the ratio of taxable payroll to GNP is projected to be downward, because of an assumed continuation of decreases in the ratio of wages to total employee compensation—i.e., wages plus fringe benefits. The ratio of wages to total employee compensation is assumed to decline ultimately by 0.1, 0.2, 0.3, and 0.4 percent per year for alternatives I, II-A, II-B, and III, respectively. This ratio declined at average annual rates of 0.43 percent for the 30 years 1955-84, and 0.49 percent for the 10 years 1975-84.

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. For alternative I, the ratio of taxable payroll to GNP is projected to rise slightly through 2005 before starting to decrease. For alternative II-A, the ratio is projected to stay about the same from 1986 through 2000 before beginning to decrease. For alternatives II-B and III, decreases in the ratio of taxable payroll to GNP are projected to occur throughout the long-range period.

**APPENDIX G.—STATEMENT OF ACTUARIAL OPINION**

It is my opinion that (1) the 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.



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