Staff Data and Materials Relating to

Social Security Financing

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The words "social security" are used in different senses to describe a variety of programs. The most common understanding of the term, however, is as an identification for those Federal programs which provide retirement, survivors, and disability insurance benefits financed from an earmarked payroll tax which is referred to as the social security tax. More than 33 million people are currently receiving social security benefits. The average monthly benefits are $234 for retired workers alone, $262 for disabled workers, and $223 for aged widows.

About 108 million workers, and their employers, will pay social security taxes this year. The social security payroll tax paid by employers, employees, and self-employed persons is a composite of three separate tax rates supporting: (1) the old-age and survivors insurance program (OASI); (2) the disability insurance program (DI); and the hospital insurance program (HI or part A of medicare). (Part B of medicare or supplementary medical insurance is also considered a "social security program" but is financed from premiums and general funds rather than from payroll taxes.)

Each of the three components of the overall social security tax—OASI, DI, and HI—has a separate trust fund which receives all of the taxes generated by its portion of the overall tax and which can use those funds only to operate its own program. For convenience, the two cash benefit programs OASI and DI are frequently considered together. In this document, except where otherwise specified, references to social security financing will include the OASI and DI systems combined and will exclude the HI system.

How the Program is Financed

Tax rates.—The social security program is financed by a tax on earnings paid by employees, employers and the self-employed. The schedule of taxes in present law is shown in the following table:

TABLE 1.—SOCIAL SECURITY TAX RATES

[In percent]

Year	Employee-employer, each			Self-employment		
	Cash benefits	Hospital insurance	Total	Cash benefits	Hospital insurance	Total
1977......	4.95	0.9	5.85	7.0	0.9	7.9
1978–80..	4.95	1.1	6.05	7.0	1.1	8.1
1981–85..	4.95	1.35	6.30	7.0	1.35	8.35
1986– 2010....	4.95	1.5	6.45	7.0	1.5	8.5
2011 and after....	5.95	1.5	7.45	7.0	1.5	8.5

The tax base.—For 1977 the tax applies to the first $16,500 of an individual's earnings and for 1978 the amount will rise to $17,700. In future years the amount of earnings taxed will rise depending on the rise in average earnings from year to year. The estimates in the 1977 report of the Trustees indicate that the taxable amount will rise as follows:

TABLE 2.—SOCIAL SECURITY TAX BASE

Year:	Taxable earnings
1979	$18,900
1980	20,400
1981	21,900

·The 1977 reports of the Board of Trustees show that the OASI and DI trust funds will be depleted in the very near future unless additional financing is provided through changes in the law and that the annual deficits will grow each year in the future.

Long-term deficit.—Over the 75-year period covered by the long-term actuarial cost estimates, the OASDI taxes provided under present law are estimated to provide income averaging 10.99 percent of taxable payroll while the benefits authorized are estimated to have an average cost of 19.19 percent of taxable payroll. The deficit of 8.20 percent of taxable payroll is about $66 billion per year at present payroll levels. (Effective taxable payroll is estimated at about $803 billion for this year.)

·*Short-term deficit.*—In the short-term, the estimates indicate that the OASI program will run out of funds about 1983 and that the DI program will exhaust its reserves early in 1979. A more detailed discussion of the deficits appears in the material which follows.

Changes over time.—The situation depicted in the 1977 report of the Trustees is in marked contrast to the situation shown by the estimates made in 1972 when the last major changes in that program were adopted. The actuarial estimates made at that time showed that the program was in exact actuarial balance, that is long-term income equaled long-term outgo. The steadily deteriorating conditions which have existed from that time result in the short-run from the interaction of the economy on benefit payments and income. In the long-run, the effect of short-term conditions on long-term projections combined with the effects of changes in economic and demographic assumptions, have resulted in increases in the estimated cost of the program in relation to the anticipated income.

The Social Security Benefit Structure

The primary insurance amount.—Under the present law, cash benefits for an individual are based on a Primary Insurance Amount (PIA) which is arrived at by determining a worker's average monthly earnings (AME). AME is, broadly speaking, total earnings (minus 5 years of lowest earnings) under social security divided by the number of months (minus 60) between 1950 (or attainment of age 22, if later) and the earliest of (1) attainment of age 62, (2) onset of disability, or (3) death. The PIA is determined from the AME by reference to a table which is included in the Social Security Act and which determines the payments to people on the rolls and those who become entitled to benefits. The tables in the law for May 1977 and for June 1977 (when

a 5.9 percent cost-of-living increase became effective) can be approximated by the following formulas:

TABLE 3.—SOCIAL SECURITY BENEFIT FORMULA—MAY 1977

Formula:	Benefit as percent of average monthly earnings
137.77 percent of first $110 of average monthly earnings, but not less than $107.90 ....(at least)	137
$151.55 plus 50.1 percent of average monthly earnings above $110 and not more than $400....	137-74
$296.84 plus 46.82 percent of average monthly earnings above $400 and not more than $550....	74-67
$367.07 plus 55.05 percent of average monthly earnings above $550 and not more than $650*..	67-65
$422.12 plus 30.61 percent of average monthly earnings above $650 and not more than $750....	65-60
$452.73 plus 25.51 percent of average monthly earnings above $750 and not more than $1,000..	60-52
$516.51 plus 22.98 percent of average monthly earnings above $1,000 and not more than $1,175.	52-47
$556.73 plus 21.28 percent of average monthly earnings above $1,175 and not more than $1,275.	47-45
$578.00 plus 20 percent of average monthly earnings above $1,275 and not more than $1,375....	45-43

*This is the last step in the formula used for men who retire at age 65 in 1977.

TABLE 4.—SOCIAL SECURITY BENEFIT FORMULA— JUNE 1977

Formula:	Benefit as percent of average monthly earnings
145.9 percent of first $110 of average monthly earnings, but not less than $114.30 ....(at least)	146
$160.49 plus 53.06 percent of average monthly earnings above $110 and not more than $400..........	146-79
$314.36 plus 49.58 percent of average monthly earnings above $400 and not more than $550..........	79-71
$388.73 plus 58.3 percent of average monthly earnings above $550 and not more than $650*....	71-69
$447.03 plus 32.42 percent of average monthly earnings above $650 and not more than $750..........	69-64
$479.45 plus 27.02 percent of average monthly earnings above $750 and not more than $1,000........	64-55
$546.99 plus 24.34 percent of average monthly earnings above $1,000 and not more than $1,175......	55-50
$589.58 plus 22.54 percent of average monthly earnings above $1,175 and not more than $1,275..	50-48
$612.12 plus 21.18 percent of average monthly earnings above $1,275 and not more than $1,375......	48-46

*This is the last step in the formula used for men who retire at age 65 in 1977.

Automatic cost-of-living increases.—Existing law calls for automatic cost-of-living increases in benefits effective each June and for increases in the tax base each January (assuming that the Consumer Price Index rises by at least 3 percent). Each benefit increase is put into effect by a revision of the table in the law. Thus, each increase applies not only to people entitled to benefits for the month the increase is effective but also to everyone who will become entitled to benefits in the future. For example, because of the rise in the CPI between the first quarter of 1976 and the first quarter of 1977, benefits for June 1977 will be increased by 5.9 percent. As a result, each of the percentages in the benefit formula will be increased by 5.9 percent—the 137.77 percent factor becomes 145.9, the minimum PIA becomes $114.30 and so on until the 20 percent factor becomes 21.18 percent. A further expansion of the table will take place the following January when the maximum amount of earnings taxable rises to $17,700. This will cause a new last step to be added: $633.30 plus 20 percent of average monthly earnings above $1,375 and not more than $1,475. Much of the estimated long-term deficit results from the fact that these modifications in the benefit formula apply to benefits which will be awarded in the future as well as to the benefits paid to people on the benefit rolls on the effective date.

Relationship between benefit formula and the deficit.—The automatic "cost-of-living" benefit increase mechanism incorporated into the social security program by the 1972 amendments which had been recommended as a way to make benefits inflation proof operates exactly as intended for persons on the benefit rolls. Once the initial benefit has been established, it is periodically increased by a percentage which restores its original purchasing power according to the official governmental index of purchasing power—the Consumer Price Index (CPI).

The "cost-of-living" adjustment mechanism, however, also increases the percentages in the formula for determining initial benefits in the future. Future benefits however, are based on earnings which rise, in part, as the result of increases in prices. Thus, wages which were increased to take account of rising prices are multiplied by a benefit formula which was also increased to take account of the same increase in prices.

For an example of how benefits are increased under present procedures, assume a program with a benefit equal to 50 percent of wages. In such a program wages of $100 would produce a benefit of $50. If wages and prices both rise by 10 percent, the individual who is on the benefit rolls will have his benefit increased to $55 and the person who is still working will have his $100 wage increased to $110. If the benefit formula is left unchanged, both individuals would qualify for a $55 benefit. But under present procedures the benefit formula is also increased to 55 percent and the person who will retire in the future with wages increased from $100 to $110 will get a benefit of $60.50.

Under any reasonable projection of future economic conditions, benefit levels determined by the present-law mechanism will be much higher than what is necessary to simply adjust for inflation and will represent an ever-increasing percentage of the new retiree's wages in the year before he retires. For significant numbers of workers, the benefits payable just after retirement would approach—and in many cases exceed—their wage levels immediately before retirement.

Under this existing automatic increase mechanism, the annual costs of the program are estimated to grow from their present level of 11 percent of taxable wages to over 12 percent by 1990, about 14 percent by 2000, and 27 percent by 2050. If, however, the law were changed so that the automatic cost-of-living adjustment mechanism were used only to keep benefits inflation-proof after a person comes on the rolls and not to provide a constantly increasing level of initial benefits, the situation would be changed drastically. In place of an increasingly costly program, the costs of the program as a percent of payroll would actually decline. The average long-range costs of the program which are now 19.2 percent of payroll would be reduced to 7.2 percent of payroll—or 3.8 percent less than the revenues which present tax schedules will generate.

Thus, "decoupling" the automatic cost-of-living mechanism from the formula for determining initial benefits so that it operates only to increase benefits after an individual comes on the rolls would solve the long-range deficit entirely and would, in fact, leave a very substantial long-range surplus. However, it would then be necessary to consider the adequacy of the initial benefits determined under the present-law formula in the absence of future automatic increases, and to determine what other changes, if any, are appropriate.

Measures of benefit adequacy.—There is no accepted measure of what constitutes an adequate level of social security benefits. Whether social security benefits are adequate or not is a value judgment. There is, however, general agreement that once a benefit has been awarded the purchasing power of the initial benefit should be maintained. A convenient benchmark for measuring the adequacy of initial benefits in the absence of any absolute standard is the currently prevailing level of benefits. Measured against this benchmark, a proposed new benefit formula will either increase, decrease, or maintain the level of adequacy now existing for persons retiring at the present time. Even so, two different types of "adequacy" can be described. In terms of purchasing power, present levels of adequacy are maintained if future benefits are sufficiently higher than today's benefits for similar workers to offset the impact of inflation.

An alternative measure of adequacy is the percentage of pre-retirement earnings which the initial benefit represents—the "replacement rate." Since wages tend to rise faster than prices over the long-run, a new benefit formula which maintains adequacy in terms of purchasing power may still fall short of maintaining adequacy in terms of replacement rates.

It should be emphasized that there is no method of determining what "the replacement rate" is under the existing system or any proposed modifications of it. There are in fact many different replacement rates depending on the individual's level and pattern of earnings and on what base is chosen to measure replacement against. Similarly, there is no single "level of purchasing power" for initial social security benefits today but a wide range of purchasing power depending upon what each worker qualifies for on the basis of his past work history. For convenience, the actuaries of the Administration compute certain replacement rates and benefit levels for theoretical workers at low, average, and maximum earnings, assuming them to have steadily rising wage levels over their working lifetime, and applying the result against their assumed earnings in the year before retirement. A study

done by the Hsiao panel for the Congressional Research Service demonstrates that these theoretical models do not bear any great resemblance to typical wage patterns of actual workers.

The variety of different replacement rates possible depending upon such factors as work history and family composition is illustrated by table 5 below. This table shows the replacement ratios for workers who have average monthly wages at various levels. The examples shown are based on retired workers whose final earnings are 66⅔ percent higher than their average monthly earnings and disabled workers whose final earnings are 25 percent higher than their average monthly earnings.

TABLE 5.—SOCIAL SECURITY REPLACEMENT RATIOS, AGED RETIRED WORKER, YOUNG DISABLED WORKER, AND THEIR FAMILIES, JANUARY 1977 BENEFIT RATES

[In percent]

| Average monthly earnings (AME) | Replacement ratio—Highest earnings equal to: | | | | |
| | 1⅔ AME—Retired worker | | 1.25 (AME)—Young disabled worker | | |
	Alone	With wife	Alone	With wife	Family maximum
Up to $110, at least..........	83	127	110	165	164
$400.............	44	67	59	89	107
$550.............	40	60	53	89	97
$650 [1]..........	39	58	52	78	91
$750.............	36	54	48	72	85
$1,000...........	31	46	41	63	72
$1,175...........	28	43	38	57	66
$1,275..........	27	41	36	54	63

[1] Retirement benefits based on earnings in excess of $650 are not ordinarily payable until after 1977.

The choice of what change, if any, to make in the way in which benefits are computed under the social security system will depend on a judgment as to the extent to which it is desirable to maintain or increase adequacy under the system as measured in terms of purchasing power and replacement rates and as to how much of the desired adequacy can be accommodated within the funding that can be made available. A number of possibilities exist. Some of the more widely discussed proposals are described elsewhere in this print. The following table shows the growth in benefits and replacement rates for a median earner which is projected under present law using the intermediate assumptions in the 1977 Trustees report:

TABLE 6.—PROJECTED EARNINGS AND BENEFITS FOR INDI-VIDUALS WITH MEDIAN EARNINGS RETIRING AT AGE 65 IN SELECTED YEARS 1977-2050

	Taxable earnings in prior year	Annual benefit amount [1]	Replace-ment ratio [2]
Year of attainment of age 65:			
1977	$8,858	$4,078	0.460
1978	9,602	4,483	.467
1979	10,380	4,842	.466
1980	11,189	5,221	.467
1981	11,984	5,620	.469
1982	12,751	6,032	.473
1983	13,516	6,498	.481
1984	14,293	6,957	.487
1985	15,115	7,478	.495
1990	19,990	9,981	.499
1995	26,437	13,385	.506
2000	34,963	18,626	.533
2005	46,240	25,710	.556
2010	61,153	35,326	.578
2015	80,876	48,291	.597
2020	106,960	65,753	.615
2025	141,456	89,175	.630
2030	187,079	120,653	.645
2035	247,415	162,870	.658
2040	327,211	219,375	.670
2045	432,743	294,960	.682
2050	572,310	395,946	.692

[1] Total benefits paid during year.
[2] Replacement ratio represents the ratio of annual benefit amount to taxable earnings in the year just prior to retirement.

Note: The long-range economic assumptions underlying this table are those used as the "intermediate" (alternative II) assumptions for the 1977 Trustees report: with ultimate 4 percent annual CPI growth; 5.75 percent annual wage growth. The annual benefit amount of $395,946 in the year 2050 would be approximately $21,390 in constant (1977) dollars.
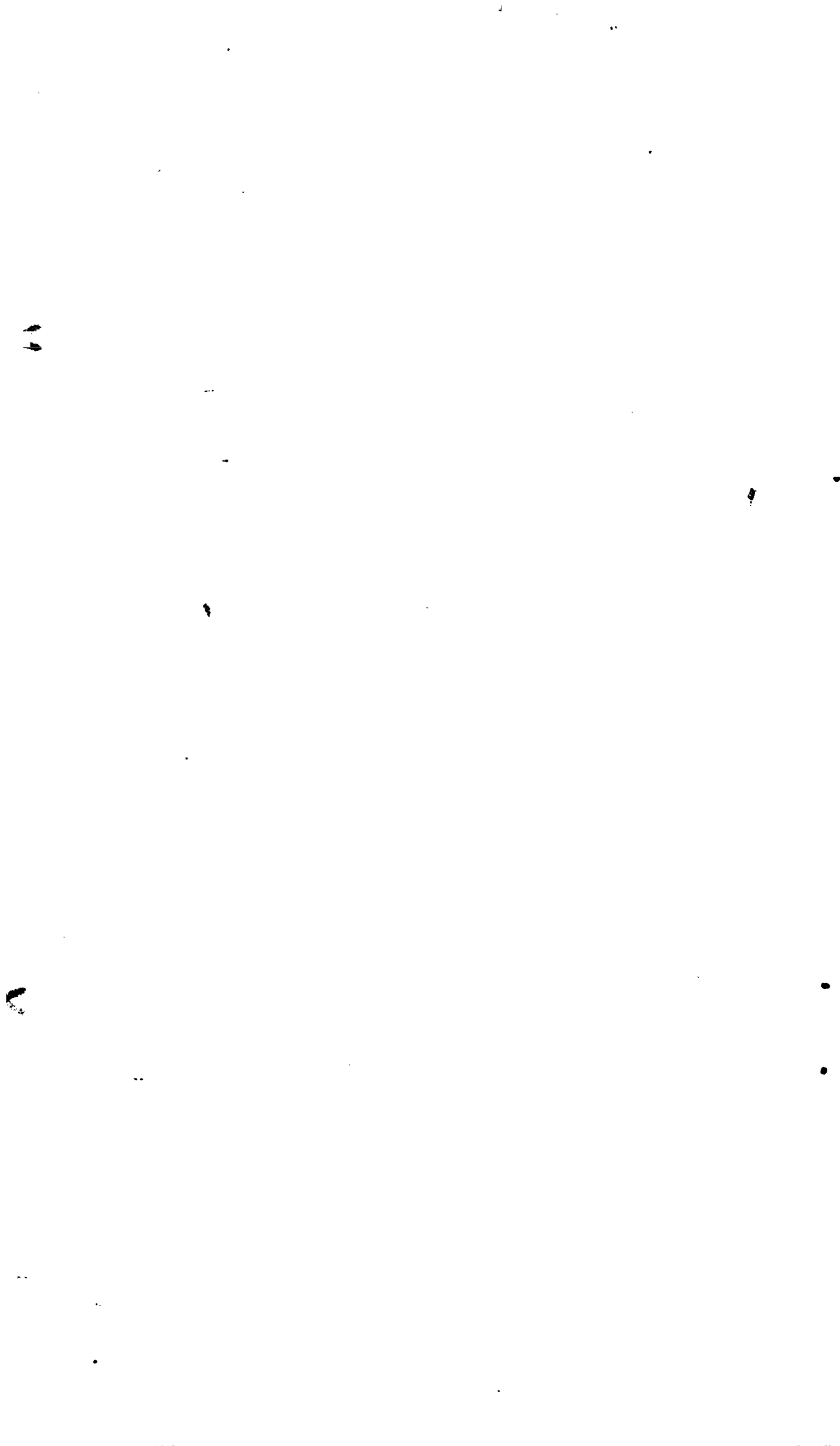
II. FINANCIAL STATUS OF THE PROGRAM
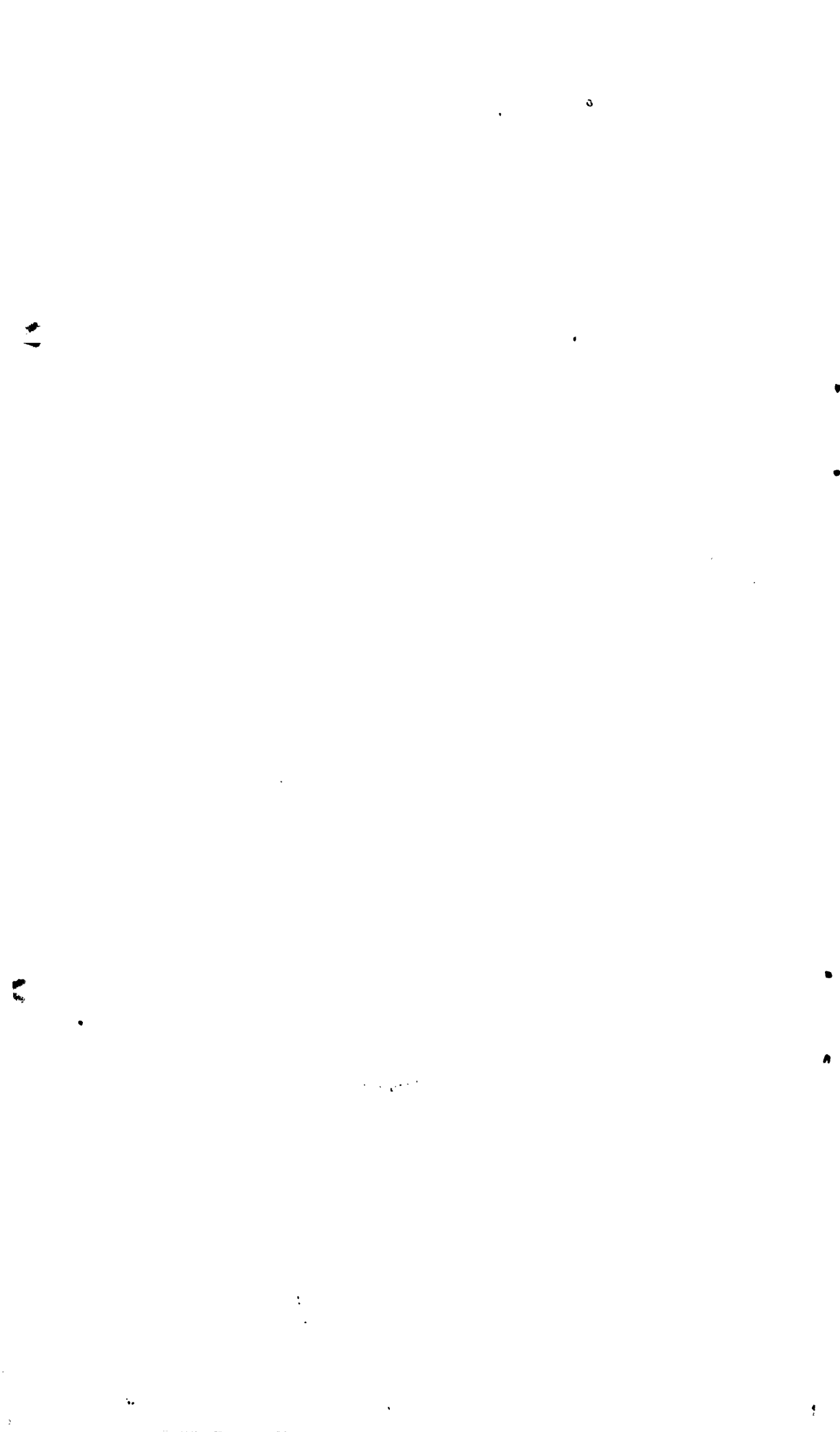
II. FINANCIAL STATUS OF THE PROGRAM

The Deficit

The 1977 report of the Trustees of the social security trust funds showed for the fourth consecutive year that the social security cash benefits programs—old-age, survivors and disability insurance or OASDI—were inadequately financed in both the near-term and the long-range future. In addition the hospital insurance program (HI) was described as being adequately financed over the next 5 years but with a tax rate schedule which would not finance the program over the long-run.

Over the 25-year period covered by the cost estimates the HI program has an average deficit of 1.16 percent of taxable payroll compared to the 0.64 percent deficit estimated in 1976.

Two deficits.—There are really two cash-benefits deficits. A short-term deficit caused by recent economic conditions and a long-term deficit reflecting changes in economic conditions and the assumptions used for the actuarial estimates. The estimates in the 1977 reports of the Trustees were that the cash benefits program could be expected to run out of funds in the early 1980's (with the disability program being depleted early in 1979 if some action to provide additional funds is not taken). In the long-run (the 75-year period ending in 2051), the average deficit for the cash benefits programs was estimated at 8.2 percent of taxable payroll and a 25-year deficit of 1.16 percent was projected for the medicare program. This is equivalent to annual amounts of $66 billion if based on the 1977 taxable payroll. If the 25-year deficit of 1.16 percent projected for the medicare program, which is equivalent to $9.3 billion per year were added, the total social security deficit would be equal to $75.3 billion a year, based on the 1977 taxable payroll.

These deficits represent the magnitude of the financing problems facing the social security programs when averaged over the entire valuation period. The deficit at present and in the years immediately ahead is much smaller, but the ultimate deficit is much larger. The following table shows the deficits at various points in the future.

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TABLE 7.—DEFICITS OF THE SOCIAL SECURITY CASH BENEFITS PROGRAM (OASDI)

	Percent of taxable payroll	Dollar equivalent based on 1977 payroll levels (billions)
1977	1.01	$8
2000	4.01	32
2025	12.40	100
2050	15.03	121
Yearly average (1977-2001)	2.34	19
Yearly average (2002-2026)	7.67	62
Yearly average (2027-2051)	14.57	117
75-yr average (1977-2051)	8.20	66

In other words, if the benefit structure of the cash benefits program were left unchanged, additional funding would have to be provided to meet benefit costs over and above current revenues. The amount of additional funding would be $8 billion in 1977 increasing each year to $121 billion (in constant 1977 dollars) by 2050. The alternative to providing this much additional funding is to change the structure of the program so that it pays out less in benefits.

Estimates not predictions.—In evaluating estimates of the future cost of the social security program, one should keep in mind that while the estimates are useful as indicators of future trends, they should not be taken as accurate predictions of future events. The estimates depend on assumptions (predictions, in a sense) of future economic, demographic and sociological trends. To the degree that the estimates are validated by future experience they will be accurate, while they will be inaccurate to the degree that they depart from future trends. In projecting the cost of the program, the Trustees actually adopt a range of assumptions within which it appears likely that future experience will fall. Under the 1977 Trustees assumptions, the range of the deficit is estimated to be from 3.88 percent of taxable payroll under an optimistic set of assumptions to 16.09 percent under a pessimistic set of assumptions. Generally, the intermediate set of assumptions which yield an 8.20 percent deficit are used for convenience. See appendix A for additional discussion of the actuarial assumptions.

The Short-Term Deficit

Background.—Early in 1973, it was obvious that the cost of living was increasing at a rapid rate. Congress therefore provided (P.L. 93–66) a 5.9 percent increase in benefits which would have been payable for the months June through December 1974 as an advance payment of the January 1975 automatic cost-of-living increase. Inflation continued at a very high rate and, before this increase went into effect, Congress

substituted (P.L. 93-233) a two-step 11 percent increase for the 5.9 percent increase previously authorized. The first 7 percent rise in benefits was effective for March 1974 with the remainder being effective for June. The changes in the financing made at that time are the most recent changes made by Congress.

At the time of the December 1973 legislation, the Social Security Administration informed Congress that the income to the cash benefits program (taking into account the effect of the changes made by P.L. 93-233) would be more than outgo for the period covered by the short-term estimates. The balance in the two trust funds (old-age and survivors insurance and disability insurance) which was about $42.8 billion at the end of 1972 was estimated to rise to $53.6 billion by the end of 1978. The following table compares the 1973 estimates with the actual experience through 1976 and the most recent estimates for the years 1977-1978.

The 1973 estimates were based on the assumption that there would be a gradual rise in employment and wages with an increase in average wages about 6.2 percent a year. The CPI was assumed to rise at an average rate of 3.3 percent a year from the second quarter of 1974 to the first quarter of 1977. However, actual economic experience proved to be quite different from the 1973 assumptions.

TABLE 8.—INCOME AND EXPENDITURES OF THE SOCIAL SECURITY CASH BENEFITS TRUST FUNDS AS ESTIMATED IN 1973 AND IN 1977

[In billions of dollars]

	1973 estimate				1977 estimate			
	Income	Expenditures	Changes in funds	Funds at end of year	Income	Expenditures	Changes in funds	Funds at end of year
Year:								
1973	54.8	53.4	1.4	44.2	[1] 54.8	[1] 53.1	[1] 1.6	[1] 44.4
1974	63.1	61.2	1.9	46.1	[1] 62.1	[1] 60.6	[1] 1.5	[1] 45.9
1975	68.5	67.6	.8	46.9	[1] 67.6	[1] 69.2	[1] —1.5	[1] 44.3
1976	74.8	73.1	1.7	48.6	[1] 75.0	[1] 78.2	[1] —3.2	[1] 41.1
1977	80.9	77.8	3.1	51.7	82.1	87.7	—5.6	35.5
1978	85.5	83.7	1.9	53.6	90.7	97.5	—6.9	28.6

[1] Actual rather than estimated amounts.

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

The CPI rose faster than anticipated. Under the 1973 assumptions, the automatic cost-of-living provisions would have caused benefits to rise at an average rate of 3 percent a year while the actual increases along with that assumed for 1978 average 6.4 percent, or 115 percent higher than the 1973 estimate. The automatic cost-of-living increases used for the 1973 and 1977 estimates are shown below:

TABLE 9.—COST-OF-LIVING INCREASES IN BENEFITS—1973 AND 1977 ESTIMATES

Year:	1973 estimate—percent	1977 estimate—percent
1975	3.1	8.0
1976	3.1	6.4
1977	[1] 0	5.9
1978	5.8	5.5

[1] The 1973 estimates projected that the CPI rise for 1976 to 1977 would be less than the 3% needed to trigger an automatic benefit increase.

Wage levels also rose faster than had been anticipated but not enough faster to offset the impact of the price rises. For 1973 the increase in average wages was 7.0 percent, for 1974 the increase was 6.9 percent, for 1975 it was again 6.9 percent, and for 1976 it was 7.4 percent. The estimates for the years 1977 and 1978 assume rises of 8.4 percent and 8.1 percent—an average of 7.4 percent, 20 percent higher than assumed in the 1973 estimates.

The 1977 Trustees report.—The 1977 report of the Trustees indicated that the cash-benefit programs would require relatively modest but growing amounts of additional funds in the immediate future and quite large amounts later on. The estimates, were based on 3 alternative sets of economic assumptions and projected the following changes as a result of the provisions of the law which call for automatic increases in benefits to take account of rises in the CPI and increases in the tax base to take account of rising wage levels.

TABLE 10—PROJECTED INCREASES IN BENEFITS AND TAX BASE

Year	General benefit increase (percent) under alternative—			Tax base
	I	II	III	
1976	6.4	6.4	6.4	$15,300
1977	5.9	5.9	5.9	16,500
1978	5.5	5.5	5.5	17,700
1979	4.8	5.2	6.9	18,900
1980	4.5	5.0	6.8	20,400
1981	3.6	4.2	5.2	[1] 21,900

[1] $22,200 under alternative III.

The estimated 1976–1981 income and expenditures of the combined cash-benefits trust funds and of each separate fund under the three alternative assumptions are shown in the following tables:

TABLE 11.—ESTIMATED OPERATIONS OF THE OLD-AGE AND SURVIVORS INSURANCE AND DISABILITY INSURANCE TRUST FUNDS, COMBINED, DURING CALENDAR YEARS 1976-81 UNDER 3 ALTERNATIVE SETS OF ASSUMPTIONS

[Dollar amounts in billions]

Calendar year	Income	Disbursements	Net increase in funds	Funds at end of year	Funds at beginning of year as a percentage of disbursements during year
Alternative I:					
1976 [1]	$75.0	$78.2	−$3.2	$41.1	57
1977	82.1	87.7	−5.6	35.5	47
1978	90.7	97.5	−6.8	28.7	36
1979 [2]	100.0	107.2	−7.3	21.4	27
1980 [2]	109.3	117.2	−7.9	13.5	18
1981 [2]	118.0	127.4	−9.4	4.1	11
Alternative II:					
1976 [1]	75.0	78.2	−3.2	41.1	57
1977	82.1	87.7	−5.6	35.5	47
1978	90.7	97.5	−6.9	28.6	36
1979 [2]	99.5	107.4	−7.9	20.7	27
1980 [2]	108.9	118.0	−9.1	11.6	18
1981 [2]	117.4	128.9	−11.5	.1	9
Alternative III:					
1976 [1]	75.0	78.2	−3.2	41.1	57
1977	82.1	87.7	−5.6	35.5	47
1978	90.5	97.5	−7.0	28.5	36
1979 [2]	98.2	108.4	−10.2	18.3	26
1980 [2]	106.7	121.1	−14.3	3.9	15
1981 [2]	115.7	134.1	−18.4	−14.5	3

[1] Figures for 1976 represent actual experience.
[2] Because the disability insurance trust fund is exhausted in 1979 under each alternative, and because none of the estimated income to one trust fund can be allocated to the other trust fund, under present law, the figures for 1979–81 are theoretical, representing arithmetical addition of figures shown in tables 14 and 15.

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

TABLE 12.—ESTIMATED OPERATIONS OF THE DISABILITY INSURANCE TRUST FUND DURING CALENDAR YEARS 1976–81 UNDER 3 ALTERNATIVE SETS OF ASSUMPTIONS

[Dollar amounts in billions]

Calendar year	Income	Dis-bursements	Net Increase in fund	Fund at end of year	Fund at beginning of year as a percentage of disbursements during year
Alternative I:					
1976 [1]	$8.8	$10.4	−$1.6	$5.7	71
1977	9.6	12.1	−2.5	3.3	48
1978	10.9	13.6	−2.8	.5	24
1979 [2]	11.9	15.3	−3.5	−3.0	3
1980 [2]	12.8	17.2	−4.4	−7.4	([3])
1981 [2]	14.7	19.2	−4.5	−11.9	([3])
Alternative II:					
1976 [1]	8.8	10.4	−1.6	5.7	71
1977	9.6	12.1	−2.5	3.3	48
1978	10.8	13.6	−2.8	.5	24
1979 [2]	11.8	15.4	−3.5	−3.1	3
1980 [2]	12.7	17.4	−4.6	−7.7	([3])
1981 [2]	14.6	19.5	−4.9	−12.5	([3])
Alternative III:					
1976 [1]	8.8	10.4	−1.6	5.7	71
1977	9.6	12.1	−2.5	3.3	48
1978	10.8	13.7	−2.8	.4	24
1979 [2]	11.7	15.5	−3.9	−3.4	3
1980 [2]	12.5	17.9	−5.4	−8.8	([3])
1981 [2]	14.4	20.3	−6.0	−14.8	([3])

[1] Figures for 1976 represent actual experience.
[2] Figures for 1979–81 are theoretical because it is estimated that the disability insurance trust fund will be exhausted in 1979.
[3] Fund exhausted in 1979.

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

TABLE 13.—ESTIMATED OPERATIONS OF THE OLD-AGE AND SURVIVORS INSURANCE TRUST FUND DURING CALENDAR YEARS 1976–81 UNDER 3 ALTERNATIVE SETS OF ASSUMP-TIONS

[Dollar amounts in billions]

Calendar year	Income	Dis-burse-ments	Net Increase in fund	Fund at end of year	Fund at beginning of year as a percentage of disbursements during year
Alternative I:					
1976 [1]	$66.3	$67.9	−$1.6	$35.4	54
1977	72.5	75.7	−3.2	32.2	47
1978	79.8	83.9	−4.0	28.2	38
1979	88.1	91.9	−3.8	24.4	31
1980	96.5	100.0	−3.5	20.9	24
1981	103.3	108.2	−4.9	16.1	19
Alternative II:					
1976 [1]	66.3	67.9	−1.6	35.4	54
1977	72.5	75.7	−3.2	32.2	47
1978	79.8	83.9	−4.1	28.2	38
1979	87.7	92.1	−4.4	23.8	31
1980	96.1	100.6	−4.5	19.3	24
1981	102.8	109.4	−6.7	12.7	18
Alternative III:					
1976 [1]	66.3	67.9	−1.6	35.4	54
1977	72.5	75.7	−3.2	32.2	47
1978	79.7	83.9	−4.2	28.1	38
1979	86.5	92.9	−6.3	21.7	30
1980	94.3	103.2	−8.9	12.8	21
1981	101.3	113.8	−12.5	.3	11

[1] Figures for 1976 represent actual experience.

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

The Long-Term Deficit

Background.—The last time (1972) that major changes were made in the cash-benefits programs the actuaries estimated that long-term income would just equal long-term expenditures. All subsequent estimates have projected increasing deficits as shown in the following table:

TABLE 14.—OLD-AGE, SURVIVORS, AND DISABILITY INSURANCE TRUST FUNDS LONG-RANGE ACTUARIAL BALANCE: 1971–77 ESTIMATES

[Percent of payroll]

Law in effect	Date of estimate [1]	Cost	Income	Long-range balance		
				OASI	DI	Total
1971 (level cost)[2]	1972	10.16	10.21	+0.13	−0.08	+0.05
1971 (dynamic)[3]	1972	8.96	10.29	+1.38	−.05	+1.33
1972 (Public Law 92–336)	1972	9.77	9.84	+.09	−.02	+.07
H.R. 1 (Public Law 92–603)	1972	10.63	10.63	−.01	+.01	.00
Do	1973 (trustees)	10.95	10.63	−.09	−.23	−.32
Do	October 1973	11.31	10.63	−.40	−.28	−.68
Do	November 1973	11.39	10.63	−.48	−.28	−.76
H.R. 11333 (Public Law 93–233).	do	11.39	10.88	−.43	−.08	−.51
Do	1974 (trustees)	13.89	10.91	−2.58	−.40	−2.98
Do	1975 (advisory council).					−3.50
Do	1975 (Senate panel)	16.90	10.90			−6.00
Do	1975 (trustees)	16.26	10.94	−3.88	−1.44	−5.32
Do	1976 (trustees)	18.93	10.97	−5.99	−1.97	−7.96
Do	1977 (trustees)	19.19	10.99	−6.06	−2.14	−8.20

[1] All of the estimates were made by the Social Security Administration Actuaries except for the 1975 Senate panel estimate (see, Report on Social Security Financing to the Committee on Finance, committee print dated February 1975).

[2] The level-cost estimates which were used prior to 1972 assumed no future changes in the law, in benefit levels, or in wage levels.

[3] The dynamic estimating procedures were adopted to demonstrate the effect of automatic increases in benefits and in the tax base. They assume no changes in the law but do assume increases in benefit levels and in wage levels. Dynamic procedures were the basis for all subsequent estimates.

A number of people have noted that the decline in the actuarial status of the trust funds began with the adoption of the automatic cost-of-living increases in benefits. While it is true that a substantial part of the long-term deficit is caused by the cost-of-living increases, this is because the assumptions made in 1972 as to the relationship between rises in wage levels and increases in the CPI are now considered excessively optimistic. In addition, the 1972 assumptions about demographic factors have also proven excessively optimistic. As a result, the increases in wage levels have not paid (as was assumed in 1972) for the cost-of-living increases in benefits.

In this connection it seems worth noting that the only time the Finance Committee reported a cost-of-living provision (in connection with H.R. 17750, 91st Congress) it said in its 1970 report that it wished "to make clear its intention that the full cost (as estimated at the time the increase is promulgated) of each automatic increase is to be financed by additional taxes imposed at the same time that benefits are increased." While this principle was incorporated in the Senate-passed bill, it was not included in the legislation subsequently enacted in 1972. The earlier bill passed the Senate but no conference was held to compromise differences between the House-passed and Senate-passed bills. Subsequently, cost-of-living provisions were enacted as a Senate floor amendment to a debt ceiling bill, Public Law 92–336.

Changing assumptions affecting the long-term deficit.—The long-term deficit comes about because the earlier cost estimates—and as a result, the financing—were based on demographic and economic assumptions which are now considered unrealistic.

The 1973 estimates of the cost of the cash-benefits programs were based on the assumption that the ultimate fertility rate would be 2.3 or 2.8 children per women. By 1973, it was probably more reasonable to assume that the ultimate rate should be one which would approach zero population growth (about 2.1 children per woman). Subsequent cost estimates were based on lesser fertility rates. The initial reduction came in 1974 when a rate of 2.1 was assumed and a further reduction was made in 1976 where an ultimate fertility rate of 1.9 was used for the intermediate 1976 assumptions.

As for the economic assumptions made for 1973, the most significant were that after 1977 average earnings would increase at an annual rate of 5 percent while the CPI would increase at 2¾ percent a year. Even at the end of 1973 this seemed a dim prospect, and the 1974 estimates were based on the assumption that the annual rise in the CPI would average 3 percent a year. The effect of this change, however, was offset to some degree by eliminating an 0.375 percent additional cost which had been included as a "safety factor" for years prior to 2011 in the 1973 estimates. By 1976, the assumptions had been changed to a 5.75 percent annual rise in average wages and a 4 percent annual rise in the CPI.

The long-range economic assumptions used for the 1977 estimates are basically those used for the 1976 estimates. Significant changes though, were made in the mortality and fertility assumptions. Mortality was assumed to improve, thus raising the cost of the program by 0.64 percent of taxable payroll. This increase in cost was offset by assuming that the fertility rate would rise to 2.1 (the approximate rate

:it which tho population would neither grow nor decline). The net result of the two changes in the demographic assumptions is to increase the cost of the programs by 0.02 percent of taxable payroll. The change in the valuation period from 1976–2050 to 1977–2051 substitutes a year of high cost for a low-cost year and increases the long-term cost by 0.24 percent of taxable payroll. The effects of the changes in assumptions starting with the 1974 report of the Trustees are shown in the following table:

TABLE 15.—ACTUARIAL FACTORS AFFECTING CHANGES IN ESTIMATES: 1974–77

[In percent of taxable payroll]

	1974 trustees' report	1975 trustees' report	1976 trustees' report	1977 trustees' report
Retirement rates..........	−0.14	....	....	....
Disability assumptions....	−.21	−0.60	−0.33	−.26
Population and demographic assumptions....	−1.87	−.24	−.69	[1] +.02
Economic assumption.....	−.19	−1.95	−1.24	+.12
Female labor force participants..................		+.35		....
Supreme Court decision on dependency test..................				−0.12
All other (net).............	−.06	+.10	−.54	[2] −.02
Total................	−2.47	−2.34	−2.08	−.26

[1] Includes −0.64 as a result of changed mortality and +0.66 as a result of changed fertility assumptions.

[2] Includes −.024 as a result of change in valuation period (from 1976–2050 to 1977–2051).

Note: A negative (−) figure indicates an increase in the deficit while a positive (+) figure indicates a decrease in the deficit.

The full effect of the changes in assumptions on the estimated cost of the program does not come all at once. For the first 25 years the increase in cost is significant but relatively small when compared with the rises occurring in the rest of the valuation period.

TABLE 16.—ESTIMATED EXPENDITURES UNDER PRESENT LAW OF OLD-AGE, SURVIVORS, AND DISABILITY INSURANCE SYSTEM AS PERCENT OF TAXABLE PAYROLL FOR SELECTED YEARS, 1977-2055

[In percent]

Calendar year	Expenditures as percent of taxable payroll [1]			Tax rate in law	Difference
	Old-age and survivors insurance	Disability insurance	Total		
1977	9.40	1.50	10.91	9.90	−1.01
1978	9.37	1.53	10.89	9.90	−.99
1979	9.30	1.55	10.86	9.90	−.96
1980	9.21	1.59	10.80	9.90	−.90
1981	9.24	1.65	10.88	9.90	−.98
1982	9.31	1.70	11.01	9.90	−1.11
1983	9.40	1.77	11.17	9.90	−1.27
1984	9.51	1.84	11.35	9.90	−1.45
1985	9.64	1.92	11.56	9.90	−1.66
1986	9.77	1.99	11.76	9.90	−1.86
1987	9.86	2.06	11.92	9.90	−2.02
1988	9.95	2.13	12.08	9.90	−2.18
1989	10.03	2.20	12.23	9.90	−2.33
1990	10.12	2.27	12.39	9.90	−2.49
1991	10.20	2.34	12.54	9.90	−2.64
1992	10.28	2.41	12.68	9.90	−2.78
1993	10.35	2.48	12.83	9.90	−2.93
1994	10.42	2.56	12.98	9.90	−3.08
1995	10.50	2.64	13.14	9.90	−3.24
1996	10.54	2.73	13.27	9.90	−3.37
1997	10.60	2.83	13.43	9.90	−3.53
1998	10.66	2.92	13.58	9.90	−3.68
1999	10.72	3.02	13.74	9.90	−3.84
2000	10.79	3.12	13.91	9.90	−4.01
2001	10.89	3.23	14.12	9.90	−4.22
2005	11.30	3.66	14.96	9.90	−5.06
2010	12.46	4.11	16.57	9.90	−6.67
2015	14.47	4.42	18.89	11.90	−6.99
2020	17.05	4.59	21.64	11.90	−9.74
2025	19.75	4.55	24.30	11.90	−12.40
2030	21.57	4.45	26.02	11.90	−14.12
2035	22.26	4.43	26.69	11.90	−14.79
2040	22.12	4.55	26.67	11.90	−14.77
2045	21.83	4.76	26.59	11.90	−14.69

See footnote at end of table.

TABLE 16.—ESTIMATED EXPENDITURES UNDER PRESENT LAW OF OLD–AGE, SURVIVORS, AND DISABILITY INSURANCE SYSTEM AS PERCENT OF TAXABLE PAYROLL FOR SELECTED YEARS, 1977–2055—Continued

[In percent]

| Calendar year | Expenditures as percent of taxable payroll[1] | | | Tax rate in law | Difference |
	Old-age and survivors insurance	Disability insurance	Total		
2050...........	22.02	4.91	26.93	11.90	−15.03
2055...........	22.53	4.98	27.51	11.90	−15.61
25-yr averages:					
1977–2001....	10.00	2.24	12.24	9.90	−2.34
2002–26......	14.65	4.20	18.85	11.18	−7.67
2027–51......	21.86	4.61	26.47	11.90	−14.57
75-yr average:					
1977–2051....	15.51	3.68	19.19	10.99	−8.20

[1] Expenditures and taxable payroll are calculated under the intermediate set of assumptions (alternative II) which incorporates ultimate annual increases of 5¾ percent in average wages in covered employment and 4 percent in CPI, an ultimate unemployment rate of 5 percent, and an ultimate total fertility rate of 2.1 children per woman. Taxable payroll is adjusted to take into account the lower contribution rates on self-employment income, on tips, and on multiple-employer "excess wages" as compared with the combined employer-employee rate.

III. DEALING WITH THE SOCIAL SECURITY DEFICITS
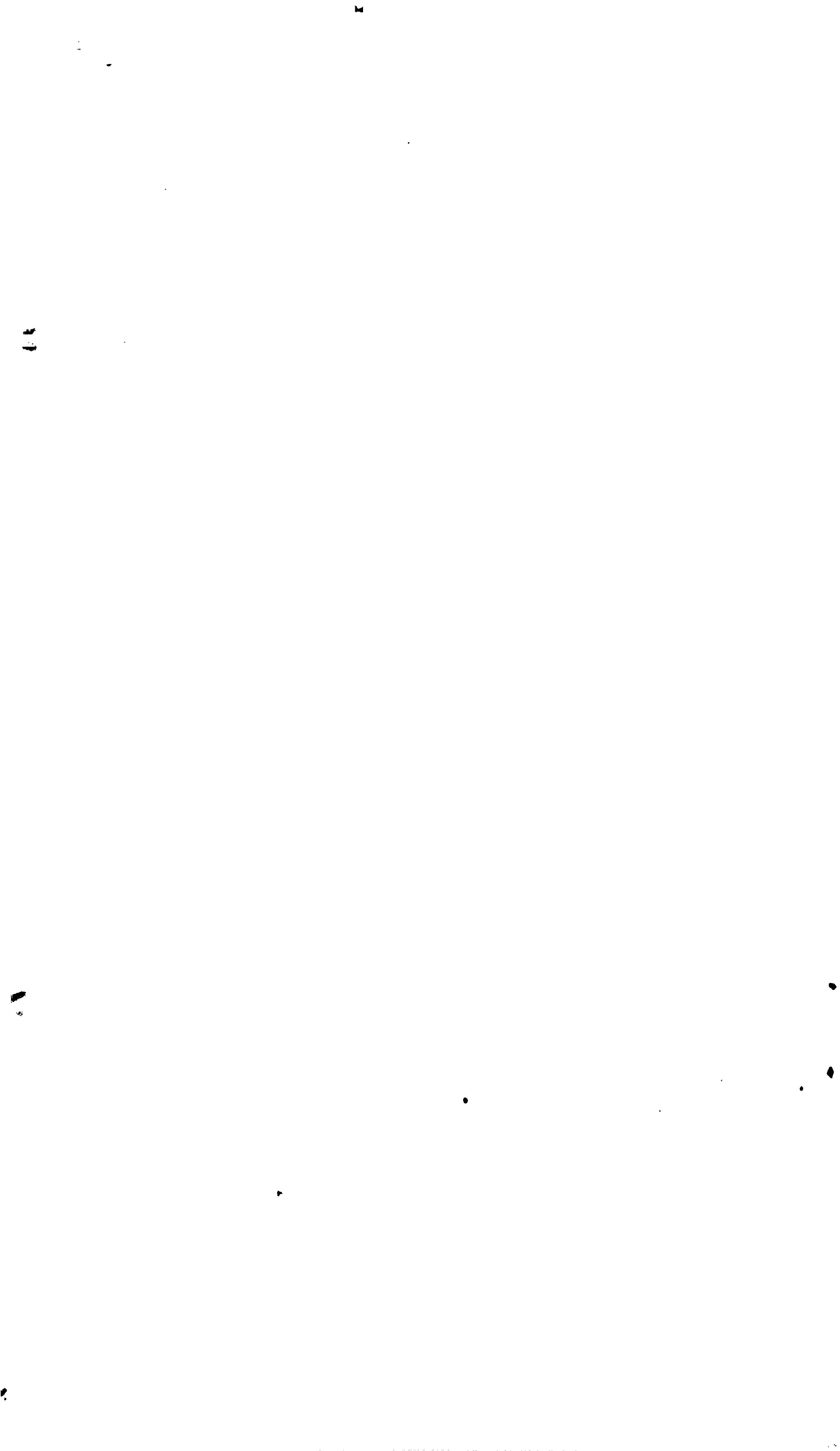
III. DEALING WITH THE SOCIAL SECURITY DEFICITS

Although it is correct to view the social security financing problem as involving two deficits—long run and short run—there is considerable interaction between the two. In fact, under the present program, the deficit is estimated to increase every year throughout the entire 75-year valuation period. Significant additional financing is necessary to keep the program operating over the next several years and basic changes in program structure and/or financing are needed. Making long-range changes will not eliminate the need for short-range financing. However, the long-range structural problems of the program will become more severe each year if the short-range financing is not taken care of. Moreover, the proposal chosen by Congress to deal with the long-range financing situation can affect the judgment as to the most appropriate methods of dealing with the short-range situation.

Administration Package

The Administration has proposed a package of changes in the social security system designed to reduce future social security expenditures and to increase trust fund income. Although draft legislation to carry out the Administration program has not yet been submitted, the following details of the elements of that program have been made known:

Changes in the basic benefit structure.—The present law automatic benefit increase mechanism now applies both to benefits after retirement and to the formula for initially determining benefits for new retirees. The Administration proposal would make that mechanism inapplicable in the future to the formula for determining initial benefits. This modification is commonly referred to as "decoupling." As a substitute for the present automatic adjustment mechanism as it applies to the formula for determining initial benefits, the Administration proposal would establish a new formula in which initial benefits would be based on the worker's wages after adjustment for changes in wage levels over his working lifetime. This is commonly referred to as "wage-indexing." The proposed new benefit structure would maintain replacement rates at approximately current levels. It is essentially the same change recommended by the 1974 Advisory Council and the Ford Administration.

Eligibility for dependents benefits.—The package includes a proposal under which a wife, widow, husband, or widower would have to meet a test of dependency on the spouse in order to qualify for dependents or survivors benefits.

General revenues.—General revenues would be transferred to the OASDI trust funds to replace social security taxes lost as a result of unemployment in excess of 6 percent during the recent recession. The proposal would apply to the period 1975–1982. (Under the intermediate assumptions in the 1977 trustees report, the rate drops below 6 percent after 1978.)

Employee and self-employed tax base.—The Administration proposal would increase the annual amount of wages or self-employment income subject to the employee share of social security taxes (or the self-employment tax) by $2,400 over and above the levels which would apply under existing law. This change would take place in 4 steps with $600 increases in 1979, 1981, 1983, and 1985.

Employer tax base.—The limit on annual wages subject to the employer part of the social security tax would be eliminated entirely in 1981. (It would be increased to $23,400 in 1979 and $37,500 in 1980.)

Self-employment tax rate.—The rate of the social security tax for the cash-benefits program for self-employed persons would be increased to a rate equal to 1½ times the rate for employees. This change would be effective in 1979.

Reallocation of HI tax revenue.—A portion of the Hospital Insurance tax rate would be shifted to the cash-benefits program beginning in 1978.

Long-range increase in OASDI tax rates.—The combined employer-employee tax rate for the social security cash benefits-program is now 9.9 percent and is scheduled under present law to rise to 11.9 percent in 2011. The Administration would advance the date of the increase, making 0.5 percent (0.25 each for employee and employer) effective in 1985 and the remaining 1.5 percent (0.75 each) effective in 1990.

Long-term cost estimates of Administration proposal.—The total package shows a slight (0.5 percent of taxable payroll) actuarial surplus in the 25-year period 1977–2002; in the long-term (1977–2051) the proposal would have a deficit of 1.9 percent of taxable payroll or 13 percent of the cost of the revised program. The following table summarizes the 75-year cost effects of the Administration proposal:

TABLE 17.—IMPACT OF ADMINISTRATION PROPOSALS ON LONG, RANGE FINANCIAL STATUS OF TRUST FUNDS

[As percent of taxable payroll]

Deficit under present law	−8.2
Savings from decoupling	+12.0
Cost of wage-indexed benefit formula	−7.9
Effect of:	
Employer base increases	+0.9
Employee base increases	+0.1
Self-employed tax increase	+0.1
Diversion of hospital taxes and acceleration of 2011 tax rate increase	+1.0
Dependency tests	+0.1
Residual deficit	[1]−1.9

[1] While the Administration's proposals would assure sufficient financing for the next 25 years or so and maintain the reserve ratio above one-third in the 1980's, they would leave a long-range deficit of 1.9 percent of taxable payroll, which is equal to about 12.6 percent of long range expenditures, under the program as it would be modified by the Administration's recommendations. The Administration says that this deficit is to be studied by the Social Security Advisory Council along with other benefit adequacy questions which would change the long range deficit.

Short-term effects of the Administration proposals.—The Administration has indicated that the cash-benefits programs will need an additional $83 billion in the period 1978–1982 in order to have a trust fund balance equivalent to 50 percent of one year's outgo. In order to provide this amount they have suggested a number of changes which could (1) reduce the amount needed by $27 billion and (2) provide an additional $56 billion in additional income.

The additional income would be provided by:

	Billions
Additional employer taxes	$30
Additional employee taxes	4
Diversion of hospital insurance taxes	7
Increase in self-employment tax rate	1
Appropriation from general revenues	14
Total	56

The reduction would come from:

	Billions
Reducing the ratio of trust fund assets to expenditures from 50 percent to 35 percent	$24
Adding a dependency requirement for spouses benefits	3
Total	27

The following tables show the estimated status of the cash-benefits trust funds under present law and under the Administration's package of proposals over the period 1977–1987:

TABLE 18.—ESTIMATED OPERATIONS OF THE OASI AND DI TRUST FUNDS, COMBINED, DURING CALENDAR YEARS 1977–87 UNDER PRESENT LAW AND UNDER THE PROGRAM AS MODIFIED BY THE ADMINISTRATION'S PROPOSALS

[In billions of dollars]

Calendar year:	Income		Outgo		Net increase in funds	
	Present law	Administration proposal	Present law	Administration proposal	Present law	Administration proposal
1977	82.1	82.1	87.7	87.7	−5.6	−5.6
1978	90.7	98.0	97.5	97.4	−6.9	.6
1979 [1]	99.5	108.5	107.4	107.1	−7.9	1.4
1980 [1]	108.9	121.3	118.0	117.4	−9.1	3.9
1981 [1]	117.4	134.1	128.9	128.0	−11.5	6.1
1982 [1]	125.2	144.7	140.1	138.7	−14.9	6.0
1983 [1]	132.9	155.1	152.1	149.9	−19.2	5.2
1984 [1]	140.7	165.7	165.1	162.1	−24.4	3.6
1985 [1]	148.4	184.8	179.2	175.4	−30.9	9.4
1986 [1]	156.2	198.3	194.4	189.4	−38.2	8.9
1987 [1]	164.4	211.7	210.5	204.4	−46.2	7.2

[Dollar amounts in billions]

Calendar year:	Funds at end of year		Funds at beginning of year as a percentage of outgo during year	
	Present law	Administration proposal	Present law	Administration proposal
1977	$35.5	$35.5	47	47
1978	28.6	36.1	36	36
1979 [1]	20.7	37.6	27	34
1980 [1]	11.6	41.5	18	32
1981 [1]	.1	47.6	9	32
1982 [1]	−14.8	53.6	(³)	34
1983 [1]	−34.0	58.9	(³)	36
1984 [1]	−58.4	62.5	(³)	36
1985 [1]	−89.3	71.9	(³)	36
1986 [1]	−127.4	80.8	(³)	38
1987 [1]	−173.6	88.0	(³)	40

[1] Because it is estimated that the DI trust fund will be exhausted in 1979 under present law, the figures for 1979–87 under present law are theoretical.
² Less than 0.5 percent.
³ Funds exhausted.

TABLE 19.—ESTIMATED OPERATIONS OF THE OASI TRUST FUND DURING CALENDAR YEARS 1977-87 UNDER PRESENT LAW AND UNDER THE PROGRAM AS MODIFIED BY THE ADMINISTRATION'S PROPOSALS

[In billions of dollars]

	Income		Outgo		Net increase in fund	
	Present law	Admin- istration proposal	Present law	Admin- istration proposal	Present law	Admin- istration proposal
Calendar year:						
1977........	72.5	72.5	75.7	75.6	−3.2	−3.1
1978........	79.8	84.0	83.9	83.8	−4.1	.3
1979........	87.7	92.6	92.1	91.8	−4.4	.8
1980........	96.1	103.5	100.6	100.2	−4.5	3.3
1981........	102.8	113.4	109.4	108.8	−6.7	4.6
1982........	109.7	122.2	118.4	117.4	−8.7	4.8
1983 [1].......	116.7	129.7	127.9	126.4	−11.2	3.3
1984 [1].......	123.9	138.3	138.3	136.2	−14.4	2.1
1985 [1].......	131.1	155.5	149.5	146.8	−18.4	8.7
1986 [1].......	136.9	164.6	161.4	158.0	−24.5	6.5
1987 [1].......	144.3	175.3	174.1	170.0	−29.7	5.3

[Dollar amounts in billions]

	Fund at end of year		Fund at beginning of year as a percentage of outgo during year	
	Present law	Adminis- tration proposal	Present law	Adminis- tration proposal
Calendar year:				
1977..................	$32.2	$32.3	47	47
1978..................	28.2	32.5	38	39
1979..................	23.8	33.3	31	35
1980..................	19.3	36.6	24	33
1981..................	12.7	41.3	18	34
1982..................	4.0	46.1	11	35
1983 [1]................	−7.3	49.3	3	36
1984 [1]................	−21.7	51.4	([2])	36
1985 [1]................	−40.1	60.2	([2])	35
1986 [1]................	−64.6	66.7	([2])	38
1987 [1]................	−94.4	72.0	([2])	39

[1] Because it is estimated that the OASI trust fund will be exhausted in 1983 under present law, the figures for 1983-87 under present law are theoretical.
[2] Fund exhausted in 1983.

TABLE 20.—ESTIMATED OPERATIONS OF THE DI TRUST FUND DURING CALENDAR YEARS 1977-87 UNDER PRESENT LAW AND UNDER THE PROGRAM AS MODIFIED BY THE ADMINISTRATION'S PROPOSALS

[In billions of dollars]

	Income		Outgo		Net increase in fund	
	Present law	Administration proposal	Present law	Administration proposal	Present law	Administration proposal
Calendar year:						
1977	9.6	9.6	12.1	12.1	−2.5	−2.5
1978	10.8	14.0	13.6	13.6	−2.8	.4
1979 [1]	11.8	15.9	15.4	15.3	−3.5	.6
1980 [1]	12.7	17.8	17.4	17.2	−4.6	.6
1981 [1]	14.6	20.7	19.5	19.2	−4.9	1.5
1982 [1]	15.5	22.4	21.7	21.2	−6.2	1.2
1983 [1]	16.2	25.5	24.1	23.5	−8.0	2.0
1984 [1]	16.8	27.4	26.8	25.9	−10.0	1.5
1985 [1]	17.3	29.3	29.8	28.6	−12.4	.7
1986 [1]	19.3	33.8	33.0	31.4	−13.6	2.4
1987 [1]	20.0	36.3	36.4	34.4	−16.4	1.9

[Dollar amounts in billions]

	Fund at end of year		Fund at beginning of year as a percentage of outgo during year	
	Present law	Administration proposal	Present law	Administration proposal
Calendar year:				
1977	$3.3	$3.3	48	48
1978	.5	3.6	24	24
1979 [1]	−3.1	4.2	3	24
1980 [1]	−7.7	4.8	(²)	24
1981 [1]	−12.6	6.3	(²)	25
1982 [1]	−18.8	7.6	(²)	30
1983 [1]	−26.7	9.5	(²)	32
1984 [1]	−36.7	11.0	(²)	37
1985 [1]	−49.2	11.7	(²)	39
1986 [1]	−62.8	14.1	(²)	37
1987 [1]	−79.2	16.0	(²)	41

[1] Because it is estimated that the DI trust fund will be exhausted in 1979 under present law, the figures for 1979-87 are theoretical.
[2] Fund exhausted in 1981.

Additional employer taxes.—Under present law employers, employees and the self-employed are taxed on the first $16,500 of an individual's earnings. (The amount is scheduled to rise each year as average earnings rise.) The Administration proposes to remove this limitation on the employer tax base in three steps. In 1979 the employer tax would be applied to the first $23,400 of an individual's wages and to the first $37,500 in 1980. Starting in 1981 the employer's total payroll would be covered. The additional taxes which employers would pay in the years 1979–82 would be:

[In billions of dollars]

	Additional employer taxes		
	Old-age, survivors, and disability insurance	Hospital insurance	Total
Year:			
1979	2.1	0.5	2.6
1980	5.0	1.1	6.1
1981	8.1	2.2	10.3
1982	9.0	2.4	11.4

Additional employee taxes.—As mentioned above, the present law puts a ceiling on the amount of earnings subject to the social security tax, and the ceiling rises as average earnings rise. The administration proposes four additional increases of $600 in 1979, 1981, 1983 and 1985. The estimated ceilings under present law and under the administration proposal are shown below:

	Ceiling	
	Present law	Administration proposal
Year:		
1979	$18,900	$19,500
1980	20,400	21,000
1981	21,900	23,100
1982	23,400	24,600
1983	24,900	26,700
1984	26,400	28,200
1985	27,900	30,300
1986	29,400	32,100
1987	31,200	33,900
1988	33,000	35,700
1989	34,800	37,800
1990	36,900	39,900

The additional taxes that would be paid by employees and the self-employed as a result of the tax base increases are shown in the following table:

[In billions of dollars]

	Additional employee taxes		
	Old-age, survivors, and disability Insurance	Hospital Insurance	Total
Year:			
1979..............	0.4	0.1	0.5
1980..............	.5	.1	.6
1981..............	.9	.2	1.1
1982..............	1.0	.3	1.3

Diversion of hospital insurance taxes.—Under present law the hospital insurance program (Part A of Medicare) is financed through a payroll tax (separate from the taxes which support the cash-benefits program) which is permanently appropriated to the Federal Hospital Insurance Trust Fund. The tax is subject to the same ceiling which applies to the cash-benefits program and is paid by employees, employers and the self-employed. For 1977, the tax rate is 0.9 percent of earnings and is scheduled to rise to 1.1 percent in 1978 and to 1.35 percent in 1981 with additional increases in later years. The Administration proposes that these rates be cut to 1 percent in 1978 and to 1.15 percent in 1981. At the same time the cash-benefits tax rates would be increased by 0.1 percent in 1978, from 4.95 percent to 5.05 percent, and by an additional 0.1 percent (to 5.15 percent) in 1981.

Increase in OASDI Trust Fund and decrease in HI Trust Fund

Billions

1978..	$1.6
1979..	2.0
1980..	2.3
1981..	4.8
1982..	5.4

Although the 1977 report of the Trustees of the hospital insurance trust fund states that, over the 25-year period covered by the cost estimates, the average deficit is 1.16 percent of taxable payroll, the Administration says that the program will need less money than previously anticipated if their cost containment program is enacted. Should that program be enacted, they anticipate a savings of about $10 billion through 1982. In effect, they propose to allocate $7 billion of the anticipated savings plus all of the added revenue generated by the proposed tax base increases and general fund contributions to the cash-benefits programs.

The net impact of the Administration's short-range financing proposals on the hospital insurance program would be an increase in the deficit from 1.16 percent of taxable payroll to 1.22 percent of taxable

payroll. If the Administration's cost containment proposals are enacted and have the anticipated effects, that deficit would be reduced to 0.79 percent of payroll (at current payroll levels about $6.3 billion per year over the 25-year valuation period). The Hospital Insurance trust fund would become exhausted under the Administration's financing proposal in 1985 or, if the cost containment proposals are enacted and effective, in 1990.

TABLE 21.—LONG RANGE (25-YEAR) STATUS OF HOSPITAL INSURANCE TRUST FUND UNDER INTERMEDIATE ASSUMPTIONS

[In percent of taxable payroll]

		Under administration financing proposal	
	Under present law	Without cost containment	With cost containment
Average cost.............	3.96	3.66	3.23
Average tax rate......,...	2.80	2.44	2.44
Actuarial balance.	−1.16	−1.22	−0.79

TABLE 22.—HOSPITAL INSURANCE TRUST FUND BALANCES

	Start-of-year balance (billions)			Start-of-year balance as percent of outgo for year		
		Administration proposal			Administration proposal	
Year	Present law	Without contain-ment	With contain-ment	Present law	Without contain-ment	With contain-ment
1978...	$11	$11	$11	55	55	58
1979...	12	12	13	56	53	60
1980...	14	12	14	53	47	60
1981...	14	11	16	45	39	59
1982...	17	13	20	50	38	65
1983...	19	12	23	50	31	67
1984...	19	9	25	44	20	64
1985...	17	2	24	34	5	56
1986...	11	0	21	20	0	44
1987...	6	....	21	10	....	38
1988...	0	....	18	0	....	29
1989...		....	12		....	18
1990...		....	2		....	3
1991...		....	0		....	0

Increase in self-employment tax rate.—When earnings from self-employment were made subject to the social security tax in 1950, the rate was set at 1.5 times the employee rate. At that time the employee rate was 1.5 percent and the self-employment rate was 2.25 percent. Over the years as tax rates were increased, the 1.5 ratio was maintained until 1973 when the cash-benefits rate for the self-employed was frozen at 7 percent. (When the hospital insurance program was established the self-employment rate for that program was made equal to the employee rate and has remained equal as the rate has increased.) The Administration proposal would increase the self-employment tax rate for cash benefits according to the original ratio of 1.5 times the employee rate.

The additional taxes that would be paid by the self-employed in the period 1979–1982 are shown in the following table:

Additional Self-Employment Tax

Year:	Billions
1979	$0.1
1980	.3
1981	.4
1982	.4

New tax rate schedules.—The parts of the Administration package calling for increased self-employment tax and the diversion of hospital insurance funds into the OASDI funds would necessitate the enactment of revised tax rate schedules as shown below:

TABLE 23.—SOCIAL SECURITY TAX RATES UNDER PRESENT LAW AND UNDER THE ADMINISTRATION'S PROPOSALS

[Percent of taxable earnings]

	OASDI	OASI	DI	HI	Total
EMPLOYEES AND EMPLOYERS, EACH					
Present law:					
1977	4.950	4.375	0.575	0.900	5.850
1978–80	4.950	4.350	.600	1.100	6.050
1981–82	4.950	4.300	.650	1.350	6.300
1983–84	4.950	4.300	.650	1.350	6.300
1985	4.950	4.300	.650	1.350	6.300
1986–89	4.950	4.250	.700	1.500	6.450
1990–2010	4.950	4.250	.700	1.500	6.450
2011 and later	5.950	5.100	.850	1.500	7.450
Proposal:					
1977	4.950	4.375	.575	.900	5.850
1978–80	5.050	4.300	.750	1.000	6.050
1981–82	5.150	4.350	.800	1.150	6.300
1983–84	5.150	4.300	.850	1.150	6.300
1985	5.400	4.550	.850	1.150	6.550
1986–89	5.400	4.475	.925	1.300	6.700
1990–2010	6.150	5.000	1.150	1.300	7.450
2011 and later	6.150	5.000	1.150	1.300	7.450

TABLE 23.—SOCIAL SECURITY TAX RATES UNDER PRESENT LAW AND UNDER THE ADMINISTRATION'S PROPOSALS

[Percent of taxable earnings]

	OASDI	OASI	DI	HI	Total
SELF-EMPLOYED PERSONS					
Present law:					
1977	7.000	6.185	.815	.900	7.900
1978	7.000	6.150	.850	1.100	8.100
1979–80	7.000	6.150	.850	1.100	8.100
1981–82	7.000	6.080	.920	1.350	8.350
1983–84	7.000	6.080	.920	1.350	8.350
1985	7.000	6.080	.920	1.350	8.350
1986–89	7.000	6.010	.990	1.500	8.500
1990–2010	7.000	6.010	.990	1.500	8.500
2011 and later	7.000	6.000	1.000	1.500	8.500
Proposal:					
1977	7.000	6.185	.815	.900	7.900
1978	7.100	6.045	1.055	1.000	8.100
1979–80	7.600	6.470	1.130	1.000	8.600
1981–82	7.700	6.500	1.200	1.150	8.850
1983–84	7.700	6.430	1.270	1.150	8.850
1985	8.100	6.830	1.270	1.150	9.250
1986–89	8.100	6.710	1.390	1.300	9.400
1990–2010	9.200	7.480	1.720	1.300	10.500
2011 and later	9.200	7.480	1.720	1.300	10.500

Appropriation from general revenues.—The Administration proposal includes what it describes as a counter-cyclical financing mechanism to compensate the cash-benefits and hospital insurance programs for the income that is not forthcoming from taxes because unemployment is in excess of 6 percent. The proposal would transfer funds from general revenues to the OASDI trust funds. The details of the proposed transfer have not been made available but the process would involve a formula for determining the amount of social security taxes that were not paid in the period 1975–1978 when unemployment was above 6 percent. The amount calculated under this formula, $14.1 billion for the entire period, would be appropriated to the trust fund in three installments:

	Billions
1978	$6.5
1979	4.3
1980	3.3
Total	14.1

Although the Administration proposals are based on an assumption that the provision would become a permanent part of the social security financing plan, they suggest that it be enacted on a temporary basis. The Advisory Council on Social Security (to be appointed this year and to report at the end of 1978) would be charged with recommending whether such a provision should be part of the permanent financing scheme.

Ratio of trust fund assets.—The Administration short-term financing proposals are premised on a decision to recommend that the balance in the social security trust funds at the end of any year should be about 50 percent of the expenditures anticipated for the following year. This 50 percent ratio, they say, could be further reduced to 35 percent, provided that their recommendations for general revenue financing are adopted. If a 50 percent trust fund level was determined to be desirable, rather than the 35 percent level, an additional $24.1 billion would be needed for the period 1978–1982.

Dependency requirement for spouses benefits.—The Social Security Act provides benefits for a wife or a widow without regard to her actual dependency on her husband. However, benefits for a husband or a widower are authorized in the law only if the husband received at least one-half of his support from his wife in the year before she became disabled, retired or died. Recently the Supreme Court ruled that the provision of the Act requiring a husband or widower to establish his dependency was discriminatory and unconstitutional. Therefore, the Social Security Administration has begun to pay benefits to husbands and widowers even though they were not dependent on their wives.

The Administration proposes that the law be changed so that in the future benefits would be awarded to wives, widows, husbands, and widowers only when they are dependent on their spouses. Details of how the new dependency test would work have not been made available. The Secretary of Health, Education, and Welfare in his prepared testimony before the House Subcommittee on Social Security said: "Under our proposal, in order to qualify for benefits, a person must show that he or she earned less than one-half of the couple's total income in the three years prior to the application for benefits." The year-by-year savings resulting from the adoption of this provision are shown below:

Reduction in Benefit Payments

Year:	Billions
1978	$0.1
1979	.3
1980	.5
1981	.7
1982	1.0

TABLE 24.—SOURCE OF ADDITIONAL REVENUES PRODUCED BY ADMINISTRATION PLAN

[In billions of dollars]

Year	Change in trust funds current law	Removing base for employers	Counter-cyclical general revenues	Increasing base for employees	Increasing self-employment tax rate	Reduced outgo [1]	Reallocation of part of HI rate	Added interest income	Total effect	Change in trust funds under plan
Old-age, survivors, and disability insurance										
1978	−6.9	....	+5.5	....	....	+0.1	+1.6	+0.3	+7.5	+0.6
1979	−7.9	+2.1	+3.6	+0.4	+0.1	+.3	+2.0	+.8	+9.3	+1.4
1980	−9.1	+5.0	+2.8	+.5	+.3	+.6	+2.3	+1.5	+13.0	+3.9
1981	−11.5	+8.1	....	+.9	+.4	+.9	+4.8	+2.5	+17.7	+6.1
1982	−14.9	+9.0	....	+1.0	+.4	+1.5	+5.4	+3.7	+20.9	+6.0
Hospital insurance										
1978	+1.9	....	+1.0	....	....	+0.8	−1.6	....	+0.2	+2.0
1979	+1.2	+.5	+.7	+.1	....	+1.3	−2.0	+0.1	+.7	+1.9
1980	−.1	+1.1	+.5	+.1	....	+2.0	−2.3	+.1	+1.5	+1.4
1981	+3.6	+2.2	....	+.2	....	+2.7	−4.8	+.2	+.5	+4.0
1982	+2.3	+2.4	....	+.3	....	+3.4	−5.4	+.2	+.9	+3.2
Cumulative total, 1977–82										
OASDI	−50.3	+24.2	+11.9	+2.8	+1.2	+3.5	+16.1	+8.8	+68.4	+18.1
HI	+8.8	+6.2	+2.2	+.7	....	+10.2	−16.1	+.6	+3.7	+12.5
Total	−41.5	+30.4	+14.1	+3.5	+1.2	+13.6	....	+9.4	+72.1	+30.6

[1] Includes effect of institution of new dependency test, decoupling, and hospital cost containment.

Note: Individual items may not add to total due to rounding.

Effects of the Administration proposals.—The following 2 tables show how the Administration proposals would affect the financial status of the social security system at different points in the future. The first table shows the impact only considering the adoption of a new wage-indexed benefit formula. The second table shows the impact of the entire package.

TABLE 25.—COMPARISON OF OASDI COST PROJECTION UNDER THE ADMINISTRATION WAGE-INDEXING PROPOSAL [1] AND THE OASDI TAX RATES SCHEDULED IN PRESENT LAW

[As percent of taxable payroll]

	OASDI cost	OASDI tax rate	Difference
Calendar year:			
1977	10.91	9.90	−1.01
1978	10.89	9.90	−1.01
1979	10.86	9.90	−.96
1980	10.76	9.90	−.89
1981	10.86	9.90	−.96
1982	10.98	9.90	−1.08
1983	11.11	9.90	−1.22
1984	11.27	9.90	−1.37
1985	11.43	9.90	−1.53
1986	11.59	9.90	−1.69
1987	11.71	9.90	−1.81
1988	11.81	9.90	−1.91
1989	11.87	9.90	−1.97
1990	11.92	9.90	−2.02
1991	11.99	9.90	−2.09
1992	12.05	9.90	−2.15
1993	12.12	9.90	−2.22
1994	12.19	9.90	−2.29
1995	12.25	9.90	−2.35
1996	12.30	9.90	−2.40
1997	12.36	9.90	−2.46
1998	12.40	9.90	−2.50
1999	12.46	9.90	−2.56
2000	12.51	9.90	−2.61
2001	12.60	9.90	−2.70
2005	12.91	9.90	−3.01
2010	13.75	9.90	−3.85
2015	15.08	11.90	−3.18
2020	16.74	11.90	−4.84
2025	18.23	11.90	−6.33

See footnotes at end of table.

TABLE 25.—COMPARISON OF OASDI COST PROJECTION UNDER THE ADMINISTRATION WAGE-INDEXING PROPOSAL [1] AND THE OASDI TAX RATES SCHEDULED IN PRESENT LAW—Continued

[As percent of taxable payroll]

	OASDI cost	OASDI tax rate	Difference
2030	19.00	11.90	−7.10
2035	18.97	11.90	−7.07
2040	18.45	11.90	−6.55
2045	18.01	11.90	−6.11
2050	17.85	11.90	−5.95
25-yr averages:			
1977–2001	11.73	9.90	−1.83
2002–26	15.12	11.18	−3.94
2027–51	18.48	11.90	−6.58
75-yr average: 1977–2051	15.11	10.99	−4.12

[1] The system considered here excludes any of the Administration's proposals that would increase income as well as the new proposed dependency test for living or surviving spouses.

Note: The above estimates are based on alternative II assumptions used in the 1977 OASDI Trustees report.

TABLE 26.—ADMINISTRATION PACKAGE,[1] OASDI COST PROJECTIONS OVER THE LONG RANGE (1977-2051)

[As percent of taxable payroll]

	OASDI cost	Proposed tax rate	Difference
Calendar year:			
1977	10.91	9.90	−1.01
1980	10.17	10.10	−.07
1985	10.41	10.80	+.39
1990	10.84	12.30	+1.46
1995	11.15	12.30	+1.15
2000	11.41	12.30	+.89
2005	11.78	12.30	+.52
2010	12.56	12.30	−.26
2015	13.81	12.30	−1.51
2020	15.37	12.30	−3.07
2025	16.75	12.30	−4.45
2030	17.47	12.30	−5.17
2035	17.46	12.30	−5.16
2040	16.99	12.30	−4.69
2045	16.58	12.30	−4.28
2050	16.43	12.30	−4.13
25-yr averages:			
1977-2001	10.80	11.32	+.52
2002-26	13.84	12.30	−1.54
2027-51	17.00	12.30	−4.70
75-yr average: 1977-2051	13.88	11.97	−1.91

[1] Reflects combined impact of decoupling, wage-indexed benefit formula, new taxes and other proposed changes.

Note: The above estimates are based on alternative II assumptions used in the 1977 Trustees' report.

Reducing the Long-Term Deficit

The goal of long-range financing.—Over the years Congress has sought to finance the social security program on what has been called an actuarially sound basis. In general, the social security program can be said to be on an actuarially sound basis if, over the period covered by the estimates, income is sufficient to pay the benefits provided and the administrative costs of the program. Clearly, it is not possible to make estimates over so long a period with absolute precision. Therefore, some tolerance for error must be included in the definition of actuarial soundness. At one time the cost estimates were carried out into the indefinite future (perpetuity) and the program was considered in actuarial balance if income and outgo varied by no more than plus or minus 0.25 percent of taxable payroll. When the valuation period

was reduced to a finite 75-year term, the permissible variation was reduced to 0.1 percent of taxable payroll. When these tolerances were generally accepted the estimates were made on the so-called "level-cost" basis which assumed that the law would not be changed and that wages and benefits would remain at the actual levels existing at the time the estimates were made.

When the automatic increases in the tax base and cost-of-living benefit increase provisions were added to the law, the estimates showed the program to be in actuarial balance under the 0.1 percent tolerance. However in 1973, the Committee on Ways and Means stated in its report on a bill to increase social security benefits (H.R. 11333) that the "acceptable limit of variation" was plus or minus 5 percent of the cost of the program, or at that time 0.57 percent of taxable payroll. This judgment was based on the opinion of the Social Security Administration's actuary that a greater tolerance than the former 0.1 percent of payroll would have to be accepted under the new assumptions of rising wages and rising benefits. Indicating that the experience up to that time had been inadequate to indicate what the acceptable imbalance should be, he believed that it might be in the neighborhood of 5 percent of the cost of the program.

Since that time, there have been no definitive statements as to the tolerances which should be applied in determining whether the program is in actuarial balance. The income to the present program has a long-term average value of 10.99 percent of taxable payroll and a long-term cost of 19.19 percent. Therefore, if 5 percent of program income is used as the tolerance and the program's financing were not increased, a maximum deficit of 0.55 percent of payroll would be within the acceptable limits. This would mean that the program's cost would have to be reduced to a level that was not in excess of 11.54 percent of taxable payroll. (At present payroll levels, 0.55 percent of taxable payroll amounts to $4.4 billion a year.) While the tolerance would be a residual deficit of 0.55 percent of payroll, the goal of long-range financing would be to bring income and outgo into as nearly complete balance as possible. In other words, within the current 10.99 percent average tax rate, the goal would be a program costing 10.99 percent of taxable payroll but that goal could be considered acceptably met if the estimated cost fell between 10.44 and 11.54 percent of taxable payroll. (Similarly, if the long-range cost of the program were not reduced below its current level of 19.19 percent of taxable payroll and the 5-percent-of-cost tolerance were used as the guideline for actuarial soundness, the funding of the program would have to be increased from it's present level of 10.99 percent to 18.23 in order to be within the 0.96 percent tolerance.)

The means to achieve long-range soundness.—The reason for the long-term deficit is not that Congress has changed the program since 1972 when it was last determined to be soundly financed; rather it is because the actuaries have found it necessary to change the assumptions as to what social and economic changes may occur over the next 75 years. The program is still what Congress provided in 1972; it is just being looked at from a changed vantage point. In brief, from the 1977 point of view the estimated deficit is the result of changed assumptions as to economic and demographic factors such as the long-term relationship between wages and prices, population growth, longevity and disa-

bility rates. The changed assumptions, however, are not arbitrary changes but reflect changing conditions in the economy and society which have made it necessary to change the actuarial judgment as to what are the most likely future economic and demographic situations. While these assumptions will, in turn, have to be revised from time to time, they do represent a reasonably firm basis on which to predict the direction and to some degree the magnitude of future changes in outgo and income for the social security program.

While it is not really possible to directly change the economic and demographic factors which will ultimately determine whether the social security program is soundly financed, it is possible to modify the benefit structure of the program to reduce the anticipated deficit which may result from future changes in economic and demographic conditions. Moreover these changes can be made so as to make sound financing of the program considerably less sensitive to variations in economic conditions. Some reduction in the ultimate cost of the program would be possible through a variety of proposals dealing with specific elements of entitlement. However, most proposals which have been advanced to significantly reduce the ultimate cost of the program and to make it less sensitive to economic changes involve changing the formula for determining the amount of initial benefits.

In revising the basic social security benefit formulas, a number of alternatives are possible depending upon what level of benefits Congress wishes the program to provide and what level of costs it wishes to provide funding for. As indicated in the first part of this document, two measures of adequacy for various alternative benefit structures are benefit levels in terms of purchasing power as compared with current levels and replacement rates—that is, the ratio of initial benefits to earnings just prior to retirement. The tables which follow present information concerning these elements together with cost information for a variety of proposals. For purposes of comparison, the first table shows how the present system has operated in this respect in the past and how it is projected to operate in the future under the intermediate assumptions in the 1977 Trustees' report.

TABLE 27.—HISTORICAL BEHAVIOR AND PROJECTIONS OF PRESENT PROGRAM

- Initial Average Benefit Same as in Present Law
- Workers Earnings Records Not Indexed
- Benefit Formula Bend Points Not Indexed
- Benefit Formula Factors CPI Indexed (*ad hoc* increases prior to 1975)

[In percent]

Year	Worker with average earnings [1]		Replacement rate for worker with—		Aggregate OASDI expenditures	
	Annual benefit in 1977 prices	Replace-ment rate	Low earn-ings [2]	High earn-ings [3]	As per-cent of payroll	As per-cent of GNP [4]
Year:						
1955...	$2,141	31	45	31	3.3	1.3
1960...	2,493	33	45	30	5.9	2.3
1965...	2,665	32	43	33	8.0	2.8
1970...	2,987	34	46	29	8.1	3.4
1975...	3,619	43	56	30	10.7	4.6
1979...	4,415	46	58	35	10.9	4.5
1985...	5,258	48	60	34	11.6	4.8
1990...	5,766	49	63	36	12.4	5.1
1995...	6,360	49	66	36	13.1	5.4
2000...	7,273	52	76	38	13.9	5.7
2010...	9,334	56	84	42	16.6	6.8
2020...	11,733	60	91	44	21.6	8.9
2030...	14,558	63	97	45	26.0	10.7
2040...	17,892	66	102	47	26.7	11.0
2050...	21,830	68	106	48	26.9	11.1

Percent

Average medium-range cost (1977–2001)..................................... 12.2
Average medium-range revenue... 9.9
Average medium-range deficit.. −2.3
Average long-range cost (1977–2051).. 19.2
Average long-range revenue... 11.0
Average long-range deficit.. −8.2

[1] Assumed to be 4 times the average 1st quarter covered earnings.
[2] Assumed at $4,600 in 1976 and following the trends of the average.
[3] Assumed at the maximum taxable under the program.
[4] Based on full employment and assuming taxable payroll equals 41.1 percent of GNP.

Note: The estimates in this table are based on the economic and demographic assumptions used in the intermediate cost estimates (alternative II) in the 1977 OASDI Trustees Report. The replacement rates pertain to workers with steady employment at increasing earnings and compare the annual retirement benefit at age 65 with the earnings in the year immediately prior to retirement.

Decoupling.—The starting point for most proposals for dealing with the long-term deficit of the social security system is a concept called "decoupling." Decoupling means that the automatic benefit increase mechanism in present law would continue to apply to keep benefits inflation proof after a person retires and begins to draw his benefits but the formula for initially determining benefits at the time of retirement would no longer be automatically increased. If the system were simply decoupled with no other changes, a man or woman retiring in 1987 would get the same initial benefit as a man or woman with the same average earnings retiring in 1977. The level of initial benefits would tend to grow in the future but only as a result of rising wage levels which, using the same benefit formula, would tend to generate higher benefits. However, the rise in actual benefits awarded in the future would not be enough to keep pace with rising wage levels or to offset the rise in the CPI.

Simple decoupling would completely eliminate the long-range deficit and would, in fact, generate a long-range surplus of 3.8 percent of taxable payroll. However, the impact on benefit levels for initial retirees in the future would be a decline in adequacy as compared with the present situation whether measured as in terms of purchasing power or in terms of replacement rates. After simple decoupling, it would be necessary to adopt a new automatic mechanism for increasing initial benefit levels in order to assure continued adequacy unless Congress wished to leave this to ad hoc legislation. A number of proposals for automatic increases in initial benefit levels are discussed in the following pages.

TABLE 28.—IMPACT OF SIMPLE DECOUPLING

(Present law provisions except no CPI adjustment of benefit table)

- Initial Average Benefit Same as in Present Law
- Workers Earnings Records Not Indexed
- Benefit Formula Bend Points Not Indexed
- Benefit Formula Factors Not Indexed

Year	Worker with average earnings [1] — Annual benefit in 1977 prices	Worker with average earnings [1] — Replacement rate (percent)	Replacement rate for worker with— Low earnings [2] (percent)	Replacement rate for worker with— High earnings [3] (percent)	Aggregate OASDI expenditures — As percent of payroll (percent)	Aggregate OASDI expenditures — As percent of GNP [4] (percent)
1979	$4,415	46	58	35	10.9	4.5
1985	4,058	37	46	26	10.8	4.5
1990	3,657	31	40	22	10.3	4.2
1995	3,315	26	34	19	9.3	3.8
2000	3,116	22	32	17	8.2	3.4
2010	2,776	17	24	14	6.7	2.8
2020	2,650	14	18	12	6.3	2.6
2030	2,703	12	14	11	5.8	2.4
2040	2,903	11	12	10	4.9	2.0
2050	3,235	10	11	10	4.3	1.8

Percent

Average medium-range cost (1977–2001)................................. 10.0
Average medium-range revenue... 9.9
Average medium-range deficit.. —.1
Average long-range cost (1977–2051)..................................... 7.2
Average long-range revenue.. 11.0
Average long-range surplus.. +3.8

[1] Assumed to be 4 times the average 1st quarter covered earnings.
[2] Assumed at $4,600 in 1976 and following the trends of the average.
[3] Assumed at the maximum taxable under the program.
[4] Based on full employment and assuming taxable payroll equals 41.1 percent of GNP.

Note: The estimates in this table are based on the economic and demographic assumptions used in the intermediate cost estimates (alternative II) in the 1977 OASDI Trustees Report. The replacement rates pertain to workers with steady employment at increasing earnings and compare the annual retirement benefit at age 65 with the earnings in the year immediately prior to retirement.

Option 1. Wage-indexing (Administration proposal).—This option involves the adoption of a new automatic mechanism for adjusting the formula for computing initial benefits which is designed to keep replacement rates at about existing levels. The proposal incorporating this objective uses a benefit formula in which the worker's initial benefit is based on his average wages during his working years but using wages after adjustment to offset changes in wage levels from year to year rather than using his actual unadjusted wages. This proposal, in slightly different forms, was recommended by the 1974 Social Security Advisory Council, the Ford Administration, and the Carter Administration.

The wage-indexing option would reduce the deficit by $\frac{1}{2}$ to 4.1 percent of payroll. (Put another way, it would use up the 3.8 percent of payroll surplus generated by decoupling and would require an additional 4.1 percent of payroll in new financing to restore the long-range soundness of the system.) The Carter Administration proposal includes long-range additional financing or reduction in cost equal to 2.2 percent, thus leaving a deficit to be financed later of 1.9 percent of payroll (equivalent, at 1977 payroll levels, to $15 billion per year over the 75-year valuation period).

Under the wage-indexing proposal, replacement ratios would stabilize after falling about 1 percent from their 1979 levels. Thus, adequacy would be maintained in terms of replacement rates and substantially increased in terms of purchasing power. The real value of benefits would increase about 3¼ times in the period ending 2050. The theoretical individual with average earnings who qualified for an annual benefit of $4,326 in 1979 would (in constant dollars) qualify for $14,047 in 2050.

TABLE 29.—OPTION 1: WAGE INDEXING

(Proposal recommended by Carter Administration)

- Initial Average Benefit Close to Present Law in 1979
- Workers Earnings Records Wage Indexed
- Benefit Formula Bend Points Wage Indexed
- Benefit Formula Factors Not Indexed

Year	Workers with average earnings [1]		Replacement rate for worker with—		Aggregate OASDI expenditures	
	Annual benefit in 1977 prices	Replacement rate (percent)	Low earnings [2] (percent)	High earnings [3] (percent)	As percent of payroll (percent)	As percent of GNP [4] (percent)
1979	$4,326	45	57	33	10.9	4.5
1985	4,733	44	55	32	11.5	4.7
1990	5,169	44	56	32	11.9	4.9
1995	5,610	44	56	33	12.2	5.0
2000	6,098	44	56	33	12.5	5.1
2010	7,206	44	56	34	13.8	5.7
2020	8,514	44	56	34	16.7	6.9
2030	10,061	44	56	34	19.0	7.8
2040	11,888	44	56	34	18.4	7.6
2050	14,047	44	56	34	17.8	7.3

Percent

Average medium-range cost (1977–2001).................................. 11.7
Average medium-range revenue.. 9.9
Average medium-range deficit.. −1.8
Average long-range cost (1977–2051)..................................... 15.1
Average long-range revenue.. 11.0
Average long-range deficit.. −4.1

[1] Assumed to be 4 times the average 1st quarter covered earnings.
[2] Assumed at $4,600 in 1976 and following the trends of the average.
[3] Assumed at the maximum taxable under the program.
[4] Based on full employment and assuming taxable payroll equals 41.1 percent of GNP.

Note: The estimates in this table are based on the economic and demographic assumptions used in the intermediate cost estimates (alternative II) in the 1977 OASDI Trustees Report. The replacement rates pertain to workers with steady employment at increasing earnings and compare the annual retirement benefit at age 65 with the earnings in the year immediately prior to retirement. The values in this table refers only to the Administration wage-indexing proposal and exclude the effect of all other benefit and financing modifications in the Administration proposal.

Option 2. Price indexing.—Another alternative would be a system which uses up the 3.8 percent surplus generated by decoupling. This option also involves establishing a new mechanism for automatically adjusting the benefit formula for new retirees. A proposal along these lines was included in a report prepared for the Congressional Research Service by a panel of actuaries and economists (the "Hsiao Report"). This proposal would establish a benefit formula for determining initial social security benefits under which benefits would be based not on the worker's actual average wages but on the average of those wages after an adjustment to compensate for changes in inflation during his working lifetime. This proposal is commonly referred to as "price-indexing."

Using purchasing power as a measure of adequacy, the price-indexing approach would provide for steadily increasing adequacy of initial benefit levels as compared with current benefits though not as much as under option 1. Under the assumptions used for the 1977 Trustees report, the real value of benefits paid to a worker with average wages in each year would rise by nearly 90 percent in the period 1979–2050, from $4,369 to $8,325 a year.

Using replacement rates as a measure of adequacy, the price-indexing approach would result in a decline in replacement rates for the next several years. Using the Administration method of measuring replacement ratios, the ratio for the average worker would fall from 45 to 27 percent in the period 1979–2050.

From a cost standpoint, the long-range cost of the system under a price-indexing approach would be approximately equal to the long-range revenues which the system is expected to generate under the tax schedules in present law. The short-range deficit would still require some added financing, but little or no other financing would be needed in the long run unless Congress subsequently decided to improve benefit levels above those which would be automatically generated by the proposal.

TABLE 30.—OPTION 2: PRICE INDEXING

(Proposal recommended by panel of consultants to Congressional Research Service)

- Initial Average Benefit Close to Present Law in 1979
- Workers Earnings Records CPI Indexed
- Benefit Formula Bend Points CPI Indexed
- Benefit Formula Factors Not Indexed

Year	Workers with average earnings [1]		Replacement rate for worker with—		Aggregate OASDI expenditures	
	Annual benefit in 1977 prices	Replacement rate (percent)	Low earnings [2] (percent)	High earnings [3] (percent)	As percent of payroll (percent)	As per cent of GNP [4] (percent)
1979	$4,369	45	59	32	10.9	4.5
1985	4,428	41	53	29	11.0	4.5
1990	4,515	38	50	28	11.0	4.5
1995	4,631	36	47	27	10.8	4.4
2000	4,820	34	45	27	10.5	4.3
2010	5,263	32	42	27	10.6	4.3
2020	5,855	30	40	26	12.0	4.9
2030	6,546	28	37	25	12.8	5.3
2040	7,361	27	35	24	11.8	4.9
2050	8,325	26	32	23	10.9	4.5

	Percent
Average medium-range cost (1977-2001)	10.8
Average medium-range revenue	9.9
Average medium-range deficit	−.9
Average long-range cost (1977-2051)	11.3
Average long-range revenue	11.0
Average long-range deficit	−.3

[1] Assumed to be 4 times the average 1st quarter covered earnings.
[2] Assumed at $4,600 in 1976 and following the trends of the average.
[3] Assumed at the maximum taxable under the program.
[4] Based on full employment and assuming taxable payroll equals 41.1 percent of GNP.

Note: The estimates in this table are based on the economic and demographic assumptions used in the intermediate cost estimates (alternative II) in the 1977 OASDI Trustees Report. The replacement rates pertain to workers with steady employment at increasing earnings and compare the annual retirement benefit at age 65 with the earnings in the year immediately prior to retirement.

Option 3. Combination proposal.—This option would seek to maintain replacement rates at about current levels for the next 15 years. After that, replacement rates would be allowed to decline as under the price-indexing approach (but not necessarily by the use of price indexing).

In terms of benefit adequacy, the combination option would have continually increasing adequacy in terms of purchasing power. In addition replacement rates would be maintained at existing levels through 1995 and would decline thereafter, slowly at first and then more rapidly after the turn of the century. The cost of this approach would more than use up the 3.8 percent surplus generated by decoupling and would leave a long-range deficit of about 2 percent of payroll. Thus, if Congress chose this option it would have to increase the financing of the system by 2 percent of payroll in order to have a soundly financed program. (At current wage levels, 2 percent of payroll is the equivalent of $16 billion per year over the 75-year valuation period.)

If the combination option were adopted with the necessary additional financing, present levels of benefit adequacy (by the replacement rate criterion) would be essentially maintained for nearly 20 years. During that period, Congress would have to determine whether or not to provide the additional financing which would be necessary to maintain replacement rates beyond that period.

TABLE 31.—OPTION 3: COMBINATION PROPOSAL

- Initial Average Benefit Close to Present Law in 1979
- Workers Earnings Records Wage Indexed
- Benefit Formula Bend Points Wage Indexed
- Benefit Formula Factors Not Indexed Before 1995; Thereafter Reduced by Half the Gains in Real Earnings

Year	Worker with average earnings [1]		Replacement rate for worker with—		Aggregate OASDI expenditures	
	Annual benefit in 1977 prices	Replacement rate (percent)	Low earnings [2] (percent)	High earnings [3] (percent)	As percent of payroll (percent)	As percent of GNP [4] (percent)
1979.......	$4,326	45	57	33	10.9	4.5
1985.......	4,938	45	58	33	11.4	4.7
1990.......	5,366	45	58	34	12.0	4.9
1995.......	5,781	45	57	34	12.4	5.1
2000.......	6,016	43	55	33	12.5	5.2
2010.......	6,516	39	50	31	12.9	5.3
2020.......	7,057	36	46	29	14.5	6.0
2030.......	7,643	33	42	26	15.1	6.2
2040.......	8,277	30	39	24	13.5	5.5
2050.......	8,964	28	36	22	12.0	4.9

	Percent
Average medium-range cost (1977-2001).....................................	11.8
Average medium-range revenue...	9.9
Average medium-range deficit..	−1.9
Average long-range cost (1977-2051)...	13.0
Average long-range revenue...	11.0
Average long-range deficit...	−2.0

[1] Assumed to be 4 times the average 1st quarter covered earnings.
[2] Assumed at $4,600 in 1976 and following the trends of the average.
[3] Assumed at the maximum taxable under the program.
[4] Based on full employment and assuming taxable payroll equals 41.1 percent of GNP.

Note: The estimates in this table are based on the economic and demographic assumptions used in the intermediate cost estimates (alternative II) in the 1977 OASDI Trustees Report. The replacement rates pertain to worker with steady employment at increasing earnings and compare the annual retirement benefit at age 65 with the earnings in the year immediately prior to retirement.

Option 4. Maintaining replacement rates at a level 10 percent below the 1979 rates.—In 1976 the American Council of Life Insurance and the National Association of Manufacturers presented a proposal (developed for them by Robert J. Myers) which would maintain replacement ratios at a level 10 percent below the current levels. This proposal would leave a deficit equal to 2.7 percent of taxable payroll (the equivalent, at current payroll levels, of $22 billion per year over the 75-year valuation period).

Under this proposal the level of benefits to be maintained for people coming on the benefit rolls would drop from 45 percent (for the hypothetical average worker) to 40 percent in 1979. For any individual, however, a grandfather clause would guarantee a benefit equal to the dollar benefit payable in 1979 under present law. In effect, benefits would be stabilized at the 41 percent level estimated for 1985. The purchasing power of benefits, however, would rise 3½ times in the period 1979 to 2050, from $3,893 to $13,141 in 1977 dollars.

This option is actually the same basic approach as embodied in the Administration recommendations except that it uses as a starting point a benefit formula which yields a lower replacement rate than now prevails. Once that formula is established, however, it would utilize wages indexed to reflect changes in wage levels in the same way as the Administration proposal.

TABLE 32.—OPTION 4: WAGE INDEXING AT REDUCED REPLACEMENT RATE LEVEL

- Initial Average Benefit Close to 10 Percent Below Present Law in 1979
- Workers Earnings Records Wage Indexed
- Benefit Formula Bend Points Wage Indexed
- Benefit Formula Factors Not Indexed

Year	Worker with average earnings [1]		Replacement rate for worker with—		Aggregate OASDI expenditures	
	Annual benefit in 1977 prices	Replacement rate (percent)	Low earnings [2] (percent)	High earnings [3] (percent)	As percent of payroll (percent)	As percent of GNP [4] (percent)
1979	$3,893	40	51	30	10.9	4.5
1985	4,444	41	52	30	10.9	4.5
1990	4,829	41	52	30	11.0	4.5
1995	5,249	41	52	31	11.2	4.6
2000	5,705	41	52	32	11.3	4.6
2010	6,741	41	52	32	12.4	5.1
2020	7,966	41	52	33	15.1	6.2
2030	9,412	41	52	33	17.1	7.0
2040	11,121	41	52	33	16.6	6.8
2050	13,141	41	52	33	16.0	6.6

	Percent
Average medium-range cost (1977-2001)	11.0
Average medium-range revenue	9.9
Average medium-range deficit	−1.1
Average long-range cost (1977-2051)	13.7
Average long-range revenue	11.0
Average long-range deficit	−2.7

[1] Assumed to be 4 times the average 1st quarter covered earnings.
[2] Assumed at $4,600 in 1976 and following the trends of the average.
[3] Assumed at the maximum taxable under the program.
[4] Based on full employment and assuming taxable payroll equals 41.1 percent of GNP.

Note: The estimates in this table are based on the economic and demographic assumptions used in the intermediate cost estimates (alternative II) in the 1977 OASDI Trustees Report. The replacement rates pertain to workers with steady employment at increasing earnings and compare the annual retirement benefit at age 65 with the earnings in the year immediately prior to retirement.

Option 5. Increasing benefit formula by lesser of CPI increase or 55% of wage increase.

An example of an alternative which does not involve decoupling or the use of indexed wages would be to retain the provisions of present law which call for increasing the benefit formula to take account of increases in price levels with a modification limiting the percentage increase to the smaller of (1) the rise in the Consumer Price Index or (2) 55 percent of the rise in average wage levels. Under such a proposal the replacement ratios would be maintained at approximately present levels for all except those workers who had low earnings throughout their working lifetimes (for low-earners, replacement rates would increase). Under the wage-price relationships assumed for the 1977 report of the Trustees the proposal would have the same long-term cost as the wage-indexed proposal recommended by the Carter Administration. That is, it would reduce the cost of the program from 19.2 percent of taxable payroll to 15.1 percent and the average long-term deficit would be 4.1 percent of taxable payroll (at current payroll levels about $33 billion per year over the 75-year valuation period.)

TABLE 33.—OPTION 5: INCREASING BENEFIT FORMULA BY LESSER OF CPI INCREASE OR 55 PERCENT OF WAGE INCREASE

- Initial Average Benefit Same as in Present Law
- Workers Earnings Records Not Indexed
- Benefit Formula Bend Points Not Indexed
- Benefit Formula Factors Indexed to Smaller of Increase in CPI or 55 Percent of Increase in Wages

Year	Worker with average earnings [1]		Replacement rate for worker with—		Aggregate OASDI expenditures	
	Annual benefit in 1977 prices	Replacement rate (percent)	Low earnings [2] (percent)	High earnings [3] (percent)	As percent of payroll (percent)	As percent of GNP [4] (percent)
1979	$4,415	46	58	35	10.9	4.5
1985	5,144	47	59	34	11.4	4.7
1990	5,428	46	59	33	12.0	4.9
1995	5,760	45	60	33	12.3	5.0
2000	6,340	45	66	33	12.5	5.1
2010	7,545	46	67	34	13.8	5.7
2020	8,906	46	68	34	16.8	6.9
2030	10,503	46	68	34	19.0	7.8
2040	12,390	46	67	34	18.5	7.6
2050	14,619	45	67	34	17.9	7.3

Percent

Average medium-range cost (1977-2001)............................... 11.7
Average medium-range revenue.. 9.9
Average medium-range balance.. −1.8
Average long-range cost (1977-2051)................................. 15.1
Average long-range revenue.. 11.0
Average long-range balance.. −4.1

[1] Assumed to be 4 times the average 1st quarter covered earnings.
[2] Assumed at $4,600 in 1976 and following the trends of the average.
[3] Assumed at the maximum taxable under the program.
[4] Based on full employment and assuming taxable payroll equals 41.1 percent of GNP.

Note: The estimates in this table are based on the economic and demographic assumptions used in the intermediate cost estimates (alternative II) in the 1977 OASDI Trustees Report. The replacement rates pertain to workers with steady employment at increasing earnings and compare the annual retirement benefit at age 65 with the earnings in the year immediately prior to retirement.

Reducing the Short-Range Deficit

The goal of short-range financing.—Although the tolerable amount of long-range deficit that should be permitted is subject to debate, the fundamental goal is quite clear: income over the long-range should

come quite close to equaling outgo. The goal of short-range financing is to provide the money needed to pay benefits as they come due and to maintain or build up an "adequate" trust fund.

When the social security program was created in 1935, a fully funded program would have created unmanageable reserves. And until 1960 the law required the trustees of the social security trust funds to report to Congress whenever, in the course of the next five years it was expected that either of the cash benefits trust funds would exceed three times expenditures for any one year. Therefore, the financing adopted was considered a compromise with an interest earning reserve fund which was expected to be larger than needed for contingency purposes but much smaller than would be created under a fully-funded system. This concept was gradually modified and the program developed into one that was financed essentially on a pay-as-you-go basis with a contingency fund equal to about one year's benefit payments.

Prior to the adoption of the automatic cost-of-living benefit increase provisions in 1972, the 1971 Advisory Council had considered the adequacy of the cash benefits trust funds and recommended that the funds be maintained at a level equal to about the benefits payable for the following year. Although it presented no analysis to support the recommendation, the council observed that there was "nothing new" about the recommendation. The council realized that strict adherence to the one-year-of-benefits level would be impractical and that a year-end balance equal to between 75 percent and 125 percent of the total expenditures anticipated in the following year would be adequate.

The cost estimates which accompanied the 1972 amendment providing automatic cost-of-living increases in benefits (P.L. 92-336) were predicated on the assumption that year-end balances in the trust fund should approximately equal expenditures anticipated for the following year. When the Social Security Amendments of 1972 were adopted a few months later, the tax schedule in the law was based on a prediction that the year-end balance in the trust funds would start at about 80 percent of the expenditures anticipated for the following year and in the long-run would rise to 100 percent. Beginning in 1973 economic conditions did not coincide with the assumptions made in 1972, and the ratio of year-end trust fund balances to anticipated expenditures fell rapidly so that at the beginning of 1977 it was 47 percent, less than 6 months benefit payments. It is estimated that by 1981 it will be about 9 percent and, by the start of 1982, less than 1 percent.

There is no clear definition as to what constitutes an adequate reserve for the cash-benefits trust funds. Clearly, the fund should never fall below one month's benefits and a fund equal to one year's benefits would soon be more than $100 billion. There is some agreement that if the trust fund is to serve as a contingency reserve the funds should be large enough at the start of a recession to carry the program through the recession without any need for a tax rate increase until after the end of the recession. If such a course were followed, taxes would have to be increased at the end of the recession so that the funds could be rebuilt to whatever level seemed necessary to ride out the next recession.

A 1976 paper prepared in the Department of Health, Education, and Welfare [1] concludes that a trust fund of about 60 percent of one year's expenditures would be enough to last through a depression "slightly more severe than the present one without having to raise taxes until unemployment falls below 6 percent."

In his testimony before the House Subcommittee on Social Security the Secretary of Health, Education, and Welfare described the Administration's proposals for financing the cash-benefits programs and indicated that a 50 percent level would be adequate. He said that because of the proposal to provide some general revenue financing to make up for the income lost when unemployment rises to 6 percent or more, the 50 percent level could be reduced to a 35 percent level.

At the end of 1973, the cash-benefits trust funds had a balance of $44.4 billion which was 73 percent of the 1974 fund outgo. The table below shows the relationship between fund balances at the start of each year since 1970 to fund outgo during the year for the cash-benefits trust funds.

TABLE 34.—CASH-BENEFITS TRUST FUND BALANCES, 1970–81 [1]

	Start of year trust fund balance	
	Amount (billions)	As a percent of outgo for the year
Calendar year:		
1970	$34	103
1971	38	99
1972	40	93
1973	43	80
1974	44	73
1975	46	66
1976	44	57
1977	41	47
1978	35	36
1979	29	27
1980	21	18
1981	12	9

[1] 1977–81 amounts based on intermediate assumptions of 1977 Trustees reports.

Means of meeting the short-range deficit.—There is general agreement that the solution to the short-term financing problems of the cash-benefits programs requires additional funding. There are, however, different views as to the amount of additional funds needed, the timing of the funding and the source of the funds.

The Social Security Administration actuary has pointed out that the short-term financing problems of the disability insurance program are particularly acute. According to his estimates, the DI trust fund

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[1] Van de Water, Paul N. and Thompson, Lawrence H. Technical analysis paper, "The Social Security Trust Funds as Contingency Reserves." Office of Income Security Policy, Office of Assistant Secretary of Planning and Evaluation, Department of Health, Education, and Welfare, July 1976.

may not have sufficient funds in the latter part of 1978 to pay benefits as they come due. The estimates for the latter part of 1978 are shown below.

[In billions]

Month in calendar year 1978	Assets at beginning of month	Benefit payments on the 3d of the month
October...............................	$1.7	$1
November............................	1.1	1
December............................	.6	1

From these estimates it appears that additional funds must be provided to the DI program before the last quarter of 1978. To assure that the fund will have sufficient money to pay benefits in the latter part of 1978, the actuary recommends that the disability program be provided additional funding equivalent to 0.3 percent (over the present 1.2 percent funding level) starting January 1978.

If no new source of funding is provided before 1979, the added funds needed by the disability program would have to be reallocated from the retirement and survivors program. Such reallocation requires enabling legislation. The short-term financing problems would be met under the Administration's proposals by a combination of several approaches including increases in the tax base, use of general revenues, and reallocation of Hospital Insurance funds to the cash-benefits program.

Depending upon the objectives, level of funding desired, economic considerations, and other factors many different combinations of proposals for short-term financing could be devised. The following examples are not proposals in any sense but are examples computed by the Social Security Administration actuary illustrating a range of alternative ways that short-term funding could be provided through the use of tax-rate and tax base increases (and not taking into account any impact of other proposals such as general revenue funding, changed eligibility requirements, or a revised benefit structure.)

The examples have been prepared on the assumption that the ratio of trust fund assets to expenditures would be maintained at about the present level (47 percent) through 1986. Under each example, the assets of the trust funds would drop from their 1977 level of about $35.5 billion for a few years and then would rise so that by 1986 the balance would range from a low of $90.2 billion to a high of $109.7 billion and the ratio of assets to expenditures would be 46 to 49 percent.

Example 1.-Single-step tax rate increase.—Under this example the employer and employee tax rate would rise from 4.95 percent to 5.75 percent each in 1979 and the self-employment rate would rise from 7 percent to 8.625 percent. The ratio of trust fund assets to expenditures would fall to 27 percent in 1979 and begin to rise thereafter reaching the current 47 percent in 1984, 48 percent in 1985 and falling to 47 percent in 1986.

Example 2. Several-step tax rate increase.—Like example 1, this would increase income through a tax rate increase only. In the 10-year period taxes would be increased 5 times as shown below:

[In percent]

	Employee, employer, each		Self-employed	
	Present law	Ex-ample 2	Present law	Example 2
Year:				
1977	4.95	4.95	7	7.0
1978	4.95	4.95	7	7.0
1979	4.95	5.25	7	· 7.9
1980	4.95	5.55	7	8.3
1981	4.95	5.55	7	8.3
1982	4.95	5.85	7	8.8
1983	4.95	5.85	7	8.8
1984	4.95	6.10	7	9.2
1985	4.95	6.10	7	9.2
1986	4.95	6.25	7	9.4

The ratio of trust fund assets to expenditures would fall to 22 percent in 1980 and then begin to rise until it reaches 47 percent in 1986.

Example 3. Single-step increase in tax rate and tax base.—This example shows the effects of increasing the tax base from an estimated $18,900 in 1979 to $30,000, with automatic increases thereafter according to the formula in present law. At the same time, the tax rates would increase from 4.95 percent, each, for employees and employers to 5.3 percent and from 7 percent for the self-employed to 7.9 percent. The ratio of trust fund assets to expenditures would fall from 47 percent in 1977 to 27 percent in 1979 and then rise until reaching 47 percent in 1983, 50 percent in 1985, and falling to 49 percent in 1986. At the end of the period, the tax base would have risen to $47,100 rather than to the $29,400 estimated for the present law.

Example 4. Several-step increase in the tax rate and the tax base.—In this example the tax rate and the tax base are increased in several steps as follows:

	Present law			Example 4		
		Tax rate			Tax rate	
	Tax base	Employee/ employer, each (percent)	Self-employed (percent)	Tax base	Employee/ employer, each (percent)	Self-employed (percent)
Year:						
1977	$16,500	4.95	7.0	$16,500	4.95	7.0
1978	17,700	4.95	7.0	17,700	4.95	7.0
1979	18,900	4.95	7.0	21,900	5.1	7.7
1980	20,400	4.95	7.0	26,400	5.25	7.9
1981	21,900	4.95	7.0	28,500	5.25	7.9
1982	23,400	4.95	7.0	35,400	5.40	8.1
1983	24,900	4.95	7.0	37,800	5.40	8.1
1984	26,400	4.95	7.0	44,100	5.55	8.3
1985	27,900	4.95	7.0	46,500	5.55	8.3
1986	29,400	4.95	7.0	49,200	5.55	8.3

Under this schedule, the ratio of trust fund assets would fall to 23 percent in 1980 and then rise to 46 percent in 1986.

Example 5. Elimination of the taxable earnings limit.—In this example all of the additional income would come from eliminating the ceiling on the amounts taxable for employers, employees and the self-employed. This would result in the ratio of trust fund assets falling to 27 percent in 1979 and then rising to 48 percent in 1985 and falling to 46 percent in 1986.

Example 6. Eliminations of the taxable earnings limit for employers only and a several-step tax rate increase.—Elimination of the ceiling on taxable earnings for the employer only would not provide sufficient additional income to allow the trust funds to grow to about present levels. Therefore, in addition to eliminating the ceiling for employer this example would increase the tax rates as follows:

[In percent]

Year:	Employee/employer, each		Self-employed	
	Present law	Example 6	Present law	Example 6
1977	4.95	4.95	7.0	7.0
1978	4.95	4.95	7.0	7.0
1979	4.95	5.05	7.0	7.6
1980	4.95	5.05	7.0	7.6
1981	4.95	5.25	7.0	7.9
1982	4.95	5.25	7.0	7.9
1983	4.95	5.65	7.0	8.5
1984	4.95	5.65	7.0	8.5
1985	4.95	5.65	7.0	8.5
1986	4.95	5.65	7.0	8.5

Under this schedule, the ratio of trust fund assets to expenditures would fall to 25 percent in 1980 and would then rise to 46 percent in 1986.

The following table compares the provisions and the effects of the 6 examples:

TABLE 35.—ESTIMATED OPERATIONS OF THE OASI AND DI TRUST FUNDS, COMBINED, UNDER PRESENT LAW AND UNDER THE PROGRAM AS IT WOULD BE MODIFIED BY ALTERNATIVE EXAMPLES OF PROPOSED FINANCING CHANGES, CALENDAR YEARS 1977-86

| | | Alternative financing examples [3] | | | | | |
| | | Rate increase only | | Increase in base and rate | | Elimination of base for— | |
	Present law [1]	Single step	Several steps	Single step	Several steps	Employers and employees	Employers only
CONTRIBUTION AND BENEFIT BASE							
Calendar year:							
1977	$16,500	$16,500	$16,500	$16,500	$16,500	$16,500	$16,500
1978	17,700	17,700	17,700	17,700	17,700	17,700	17,700
1979	18,900	18,900	18,900	30,000	21,900	....	18,900
1980	20,400	20,400	20,400	32,400	26,400	....	20,400
1981	21,900	21,900	21,900	34,800	28,500	....	21,900
1982	23,400	23,400	23,400	37,200	35,400	....	23,400
1983	24,900	24,900	24,900	39,600	37,800	....	24,900
1984	26,400	26,400	26,400	42,000	44,100	....	26,400
1985	27,900	27,900	27,900	44,400	46,500	....	27,900
1986	29,400	29,400	29,400	47,100	49,200	....	29,400

OASDI CONTRIBUTION RATES FOR EMPLOYEES AND EMPLOYERS, EACH (PERCENT)

Calendar year:

1977	4.95	4.95	4.95	4.95	4.95	4.95	4.95
1978	4.95	4.95	4.95	4.95	4.95	4.95	4.95
1979	4.95	5.75	5.25	5.30	5.10	4.95	5.05
1980	4.95	5.75	5.55	5.30	5.25	4.95	5.05
1981	4.95	5.75	5.55	5.30	5.25	4.95	5.25
1982	4.95	5.75	5.85	5.30	5.40	4.95	5.25
1983	4.95	5.75	5.85	5.30	5.40	4.95	5.65
1984	4.95	5.75	6.10	5.30	5.55	4.95	5.65
1985	4.95	5.75	6.10	5.30	5.55	4.95	5.65
1986	4.95	5.75	6.25	5.30	5.55	4.95	5.65

INCOME (IN BILLIONS)

Calendar year:

1977	$82.1	$82.1	$82.1	$82.1	$82.1	$82.1	$82.1
1978	90.7	90.7	90.7	90.7	90.7	90.7	90.7
1979	99.5	114.6	105.2	114.4	105.8	113.2	108.2
1980	108.9	128.3	122.6	129.6	123.1	129.5	120.4
1981	117.4	139.7	133.8	141.1	134.7	140.9	135.4
1982	125.2	150.5	151.0	151.8	151.1	151.4	145.8
1983	132.9	161.5	162.9	162.8	163.3	162.2	167.2
1984	140.7	172.8	181.4	174.1	180.7	173.3	180.4
1985	148.4	184.3	194.9	185.7	194.2	184.7	193.0
1986	156.2	196.3	213.0	198.0	207.7	196.8	206.3

TABLE 35.—ESTIMATED OPERATIONS OF THE OASI AND ¯ '. RUST FUNDS, COMBINED, UNDER PRESENT LAW AND UNDER THE PROGRAM AS IT WOULD BE MOD:FIED BY ALTERNATIVE EXAMPLES OF PROPOSED FINANCING CHANGES, CALENDAR YEARS 1977–86—Continued

	Present law [1]	Alternative financing examples [3]					
		Rate increase only		Increase in base and rate		Elimination of base for—	
		Single step	Several steps	Single step	Several steps	Employers and employees	Employers only

OUTGO (IN BILLIONS)

Calendar year:

Year	Present law [1]	Single step	Several steps	Single step	Several steps	Employers and employees	Employers only
1977	$87.7	$87.7	$87.7	$87.7	$87.7	$87.7	$87.7
1978	97.5	97.5	97.5	97.5	97.5	97.5	97.5
1979	107.4	107.4	107.4	107.4	107.4	107.4	107.4
1980	118.0	117.8	117.9	117.9	118.0	118.0	117.9
1981	128.9	128.7	128.8	128.8	128.9	128.9	128.8
1982	140.1	139.9	140.0	140.1	140.1	140.3	139.9
1983	152.1	151.8	151.8	152.2	152.1	152.5	151.8
1984	165.1	164.9	164.8	165.4	165.3	166.0	164.8
1985	179.2	179.0	178.9	179.8	179.6	180.7	178.9
1986	194.4	194.1	194.0	195.3	195.1	196.5	194.0

NET INCREASE IN FUNDS (IN BILLIONS)

Calendar year:							
1977	−$5.6	−$5.6	−$5.6	−$5.6	−$5.6	−$5.6	−$5.6
1978	−6.9	−6.9	−6.9	−6.9	−6.9	−6.9	−6.9
1979	−7.9	7.2	−2.2	6.9	−1.7	5.8	.8
1980	−9.1	10.4	4.7	11.7	5.1	11.5	2.5
1981	−11.5	11.0	5.0	12.3	5.8	12.0	6.6
1982	−14.9	10.6	11.1	11.7	10.9	11.1	5.9
1983	−19.2	9.7	11.1	10.6	11.2	9.6	15.4
1984	−24.4	8.0	16.6	8.7	15.5	7.3	15.6
1985	−30.9	5.3	16.0	5.9	14.6	4.0	14.1
1986	−38.2	2.2	19.0	2.7	12.7	.2	12.3

ASSETS AT END OF YEAR (IN BILLIONS)

Calendar year:							
1977	$35.5	$35.5	$35.5	$35.5	$35.5	$35.5	$35.5
1978	28.6	28.6	28.6	28.6	28.6	28.6	28.6
1979	20.7	35.8	26.4	35.5	27.0	34.4	29.4
1980	11.6	46.2	31.1	47.2	32.1	45.9	31.9
1981	.1	57.2	36.0	59.5	37.9	57.9	38.4
1982	−14.8	67.8	47.1	71.2	48.8	69.0	44.3
1983	−34.0	77.5	58.2	81.8	60.0	78.6	59.0
1984	−58.4	85.4	74.8	90.5	75.5	86.0	74.6
1985	−89.3	90.7	90.7	96.4	90.1	90.0	88.7
1986	−127.4	92.9	109.7	99.1	102.8	90.2	100.9

TABLE 35.—ESTIMATED OPERATIONS OF THE OASI AND DI TRUST FUNDS, COMBINED, UNDER PRESENT LAW AND UNDER THE PROGRAM AS IT WOULD BE MODIFIED BY ALTERNATIVE EXAMPLES OF PROPOSED FINANCING CHANGES, CALENDAR YEARS 1977-86—Continued

| | | Alternative financing examples [2] | | | | | |
| | | Rate increase only | | Increase in base and rate | | Elimination of base for— | |
	Present law [1]	Single step	Several steps	Single step	Several steps	Employers and employees	Employers only
ASSETS AT BEGINNING OF YEAR AS A PERCENTAGE OF OUTGO DURING YEAR							
Calendar year:							
1977	47	47	47	47	47	47	47
1978	36	36	36	36	36	36	36
1979	27	27	27	27	27	27	27
1980	18	30	22	30	23	29	25
1981	9	36	24	37	25	36	25
1982	([3])	41	26	42	27	41	27
1983	([4])	45	31	47	32	45	29
1984	([4])	47	35	49	36	47	36
1985	([4])	48	42	50	42	48	42
1986	([4])	47	47	49	46	46	46

[1] Estimated operations in calendar years 1979-86 under present law are theoretical because it is estimated that the DI trust fund will be exhausted in 1979 and that the OASI trust fund will be exhausted in 1983.

[2] Each set of financing changes also includes an increase in the contribution rate for self-employed persons to 1½ times the rate for employees.

[3] Less than 0.5 percent.
[4] Funds exhausted in 1982.

Note: The above estimates are based on the intermediate set of assumptions shown in the 1977 Trustees report.

IV. CHARTS ON SOCIAL SECURITY FINANCING

Chart A

Sensitivity of Cost Estimates to Various Assumptions (Cost as a percent of taxable payroll)

	Short range (25 yrs.)	Long range (75 yrs.)
Trustees' assumptions	12.24%	19.19%
Mortality improvement:		
None	-0.09%	-0.93%
18%*	--	--
33%	+0.09%	+0.81%
Children per woman: 1.7	-0.02%	+1.81%
1.9	--	+0.84%
2.1*	--	--
2.3	+0.02%	-0.74%
Annual price increase: 2%	-0.08%	-2.61%
4%*	--	--
6%	+0.10%	+2.77%
Productivity growth: 1%	+0.95%	+5.01%
1¾%*	--	--
2½%	-0.82%	-3.55%

*Amount assumed by Trustees

Chart A

Sensitivity of Cost Estimates to Various Assumptions

The long-range costs of the social security program are measured in terms of the social security tax rate that would be necessary to pay all of the benefits which will be due. Over the next 75-year period, the average social security tax rate will, under the provisions of present law, be 10.99 percent. What the program will cost, however, depends upon the interaction of various demographic and economic factors which are difficult to predict with any degree of confidence. The 1977 Trustees report indicates that the cost of the program over the next 75 years could range from 14.87 percent of taxable payroll under a somewhat optimistic set of economic and demographic assumptions to 27.08 percent under a somewhat pessimistic set of assumptions. An intermediate set of assumptions yields an estimated cost of 19.19 percent or 8.20 percent more than the average tax rate now in the law.

Over the next 25 years, the average tax rate will be 9.90 percent and the average cost will, under the Trustees' estimates, range from 11.57 percent under optimistic assumptions to 13.14 percent under pessimistic assumptions, with an intermediate estimate of 12.24 percent.

Chart A, using the intermediate set of assumptions as a base, shows how the estimated costs over the next 25 and 75 years would change if one of the basic demographic or economic factors were varied while the other factors remained the same. While all of these factors are shown to have a significant impact on the cost of the program, particularly over the long-range period, it is the economic factors of inflation and real-wage growth that most strongly influence the cost estimates.

The extreme sensitivity of the program to the economic factors results from the operation of the existing mechanism for automatically increasing the formula for computing initial benefits as the cost-of-living rises. Since benefit levels rise in response to price increases but the program's income is tied to wage levels, a change in the relationship between wage and price increases will have a disproportionate impact on the actuarial balance of the system. Similarly a change in the rate of inflation alone will cause a large change in program costs.

(73)

Formula on which the Social Security Benefit Table is Based: Relation between Average Monthly Earnings and Benefits

146%

53% 50% 58%

32% 27% 24% 23% 21% 20%

AVERAGE MONTHLY EARNINGS

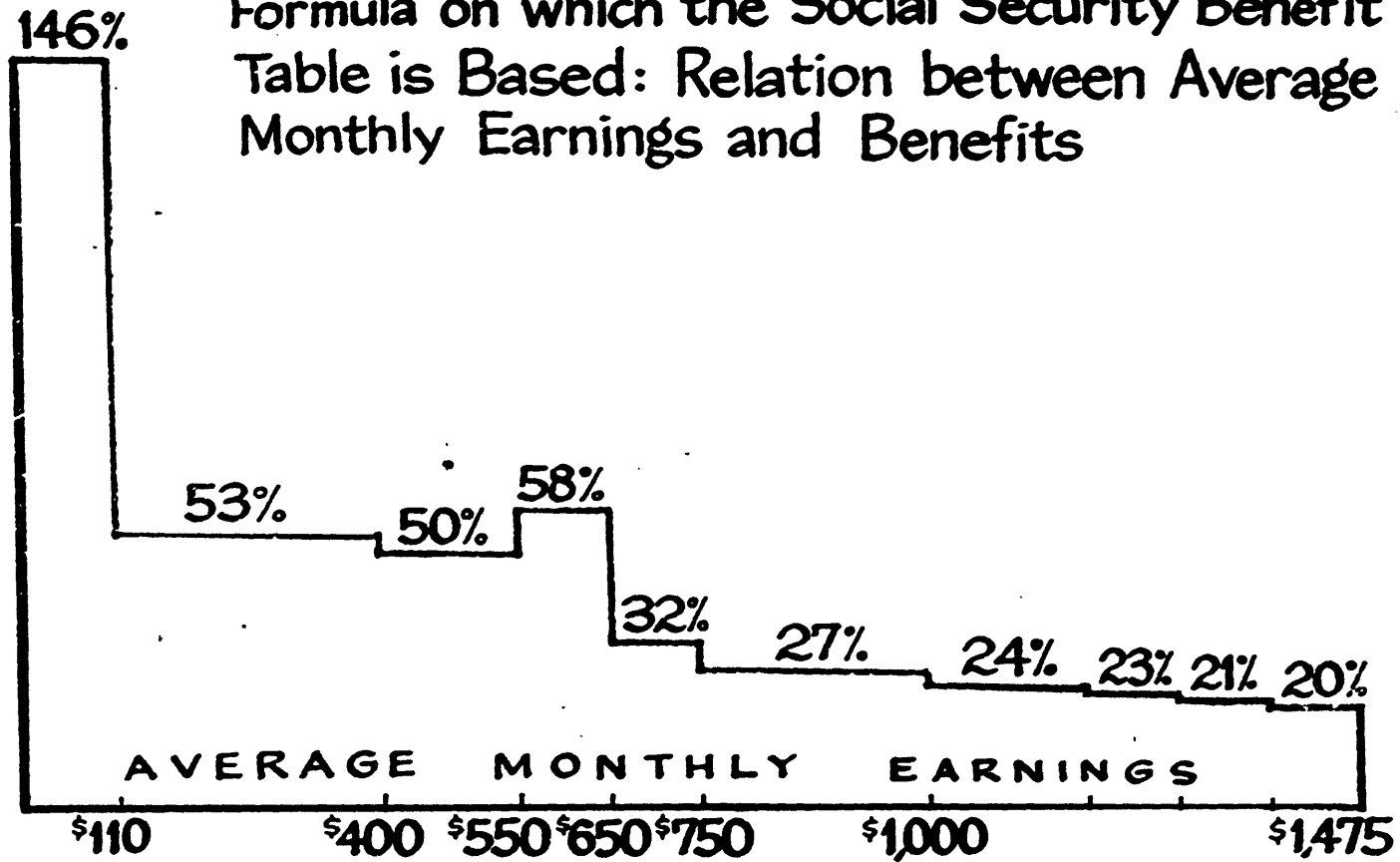$110 $400 $550 $650 $750 $1,000 $1,475

Chart B

Formula on Which the Social Security Benefit Table Is Based: Relation Between Average Monthly Earnings and Benefits

Under existing law, a person gets an initial social security benefit which is based on his average monthly earnings under the program during his working lifetime. (After 1990, a working lifetime will mean the 35 years of highest earnings; because social security coverage did not become fully effective until the 1950s, a smaller number of years are used for those retiring now—21 years for persons reaching age 62 in 1977, 22 years for persons reaching age 62 in 1978, etc.). For each level of average monthly earnings, a benefit table in the law specifies a particular monthly benefit amount.

Chart B shows the approximate formula which underlies the benefit table in the law as of June 1977. Because persons who have had low wages throughout their lifetimes are presumed to have less other sources of retirement income and also to need, for basic necessities, a greater percentage of their pre-retirement income, the benefit table is heavily weighted at the low-income end. Thus, for the first $110 of average monthly wages a benefit is provided which approaches 1½ times those wages. At higher wage levels, the percentage replacement declines sharply except for a bulge in the $550 to $650 range. (The benefit formula as now structured appears to give the greatest advantage not to the long-time, low-income worker but to the worker who has had only marginal attachment to the social security program. The long-time, low-income worker will generally have average monthly earnings well above $110 which is the upper limit of the most highly weighted factor in the formula.)

Although the benefit table now provides for benefits at average monthly wage levels up to nearly $1,500, it is not yet possible for retirees to have lifetime average monthly wages under social security at the higher levels. At present, a worker retiring with maximum wages in all years will have average monthly wages at approximately the $650 level.

In future years, if the benefit formula shown in chart B remained static, benefit levels—in terms of percentage replacement—would become less and less adequate as retirees average wage levels increased and moved them into the lower percentage factors shown on the right half of the chart. Existing law offsets this impact by increasing each of the percentages shown on the chart by the annual percentage increase in the Consumer Price Index. However, there is no mechanism in existing law for maintaining the relationship between the two factors which determine benefit amounts—average wage levels and the percentages applied to those wage levels to determine benefit amounts. In other words, the working population moves along the bottom line of the chart according to the way in which wage levels in the economy grow while the benefit computation percentages increase according to the way price levels grow. The results, in terms of benefit levels and therefore program costs, can vary greatly under differing predictions of the relationship in the growth of these two factors.

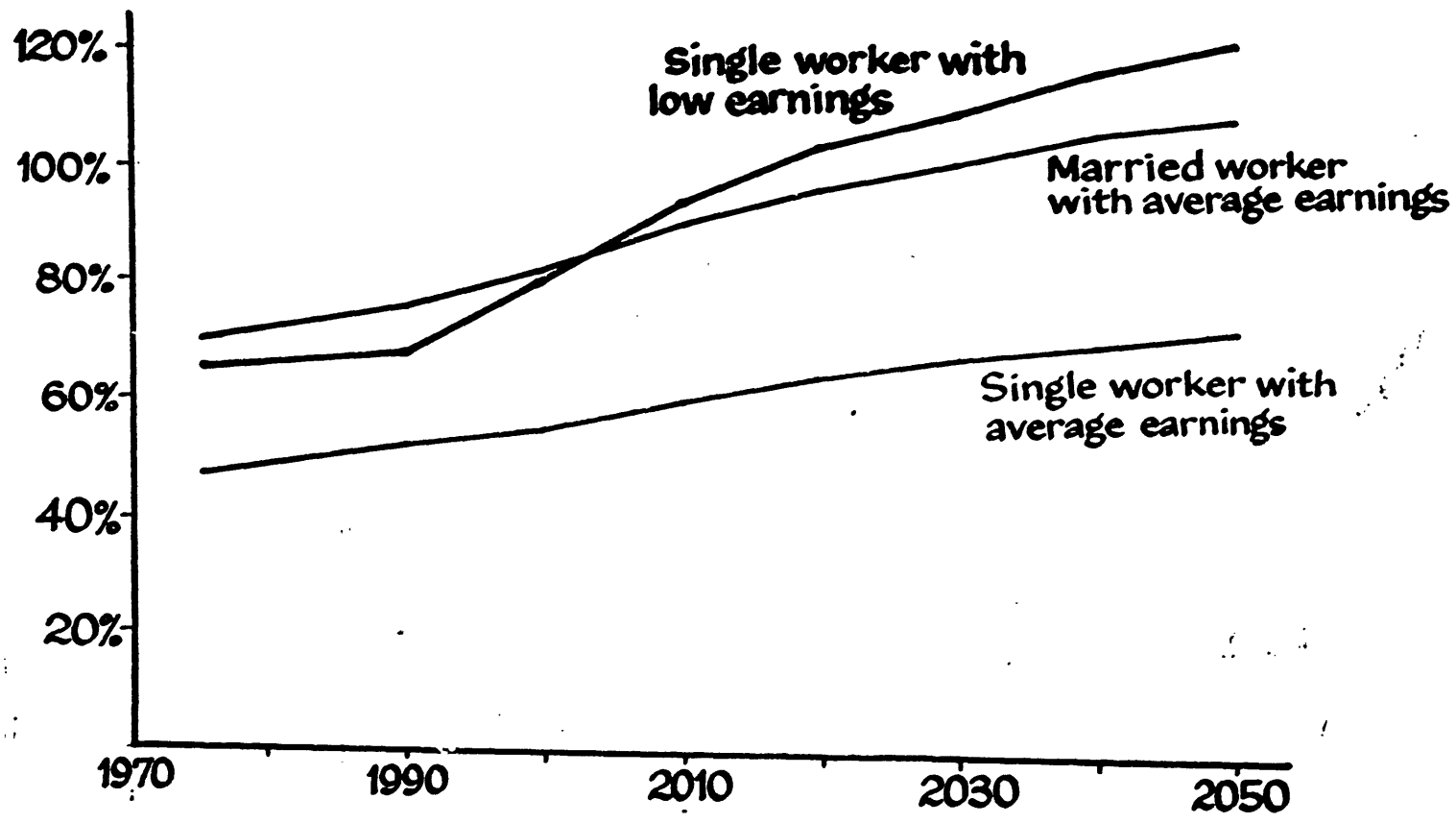# Social Security Benefits Upon Retirement as a Percent of Earnings in the Year Before Retirement: Present Law

Single worker with
low earnings

Married worker
with average earnings

Single worker with
average earnings

120%

100%

80%

60%

40%

20%

1970   1990   2010   2030   2050

Chart C

76

Chart C

Social Security Benefits Upon Retirement as a Percent of Earnings in the Year Before Retirement: Present Law

As described in the preceding chart, the benefits payable to new retirees in the future will be determined by the interaction of two factors—wage level increases and price increases. Chart C shows the result of that interaction under the intermediate economic assumptions in the 1977 Trustees' report. These assumptions are that wage levels will increase by 5.75 percent per year and price levels will increase by 4 percent per year (once beyond the short-range period).

Under these intermediate assumptions, benefit levels when measured as a percentage of earnings in the year before retirement will increase sharply in the future. Because of the higher benefit percentages at the lower end of the table, this phenomenon is most pronounced for the lower income workers, but it also will result in much higher benefits for average and higher income workers. By 2040, the benefits for a single worker with low earnings and the husband-wife benefit for a married worker with average earnings will be more in the year they first retire than their earnings immediately prior to retirement. A worker with average earnings retiring in 1970 got a benefit equal to 34 percent of his prior year earnings. By 1975 that had increased to 43 percent and by 2050 it is projected to reach nearly 70 percent. It should be noted that these percentages would be even higher if calculated as a percent of net earnings after expenses such as payroll and other withholding taxes.

This rapid increase in benefit levels in relation to earnings accounts for a substantial proportion of the projected increased cost of the social security program.

(77)

Social Security Cash Benefits: Cost as a Percent of Payroll

Present Law

19.2% Average Cost

Present law tax rates (Average: 11.0%)

Simple Decoupling

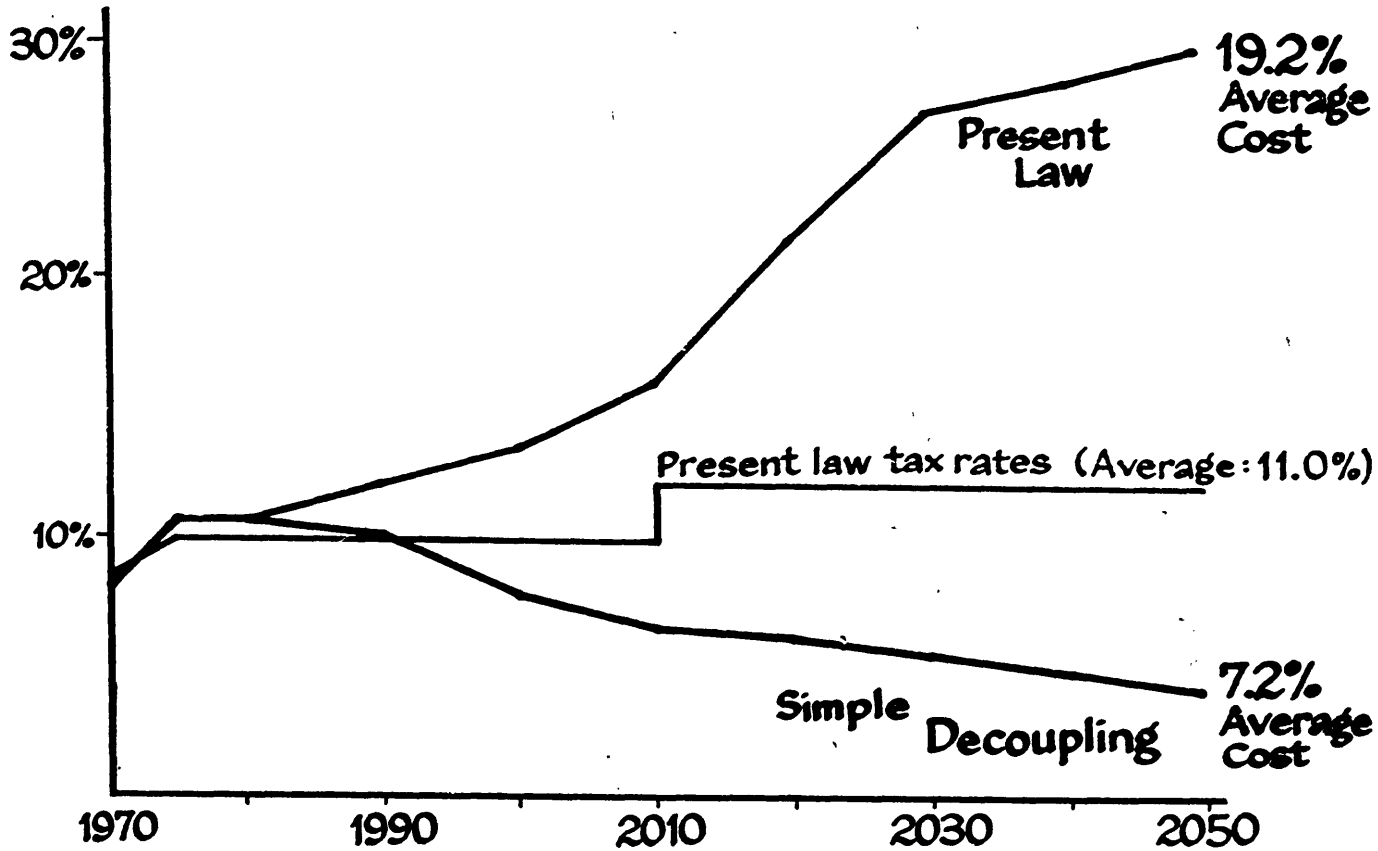7.2% Average Cost

30%

20%

10%

1970 1990 2010 2030 2050

Chart D

Social Security Cash Benefits: Cost as a Percent of Payroll: Present Law

The social security payroll tax paid by employers and employees is now set at a rate of 9.9 percent (combined) of taxable wages. The law now also provides for that rate to increase to 11.9 percent in the year 2011. Over the next 75 years, the rate will average 10.99 percent.

The cost of the program, however, is now somewhat more than the current 9.9 percent tax rate and is projected to grow to 27.51 percent by the year 2055. Over the next 75 years, the average cost of the program will be 19.19 percent of taxable payroll or 8.20 percent more than the average tax rate.

The cost of the program grows so rapidly because the law contains an automatic mechanism for raising the level of benefits paid to new retirees as the Consumer Price Index increases. If the law were amended so that benefits would continue to be adjusted for inflation after an individual retires but no further adjustment were made in the formula for determining benefits for new retirees, the cost of the program would be substantially reduced. This approach is called "simple decoupling" in that the inflation adjustment mechanism which now applies both to benefits after retirement and to the initial benefit formula would be made applicable only to benefits after retirement.

Under simple decoupling, the cost of the program as a percent of taxable payroll would begin to decline almost immediately and would reach a level of 4.3 percent of payroll by the year 2050. Over the 75 year period, the annual average cost of the program would be 7.2 percent of payroll or 3.8 percent less than the tax rate now in the law. Although simple decoupling would produce a significant long-range actuarial surplus, there would still be need for added financing in the next few years to maintain the short-range cash flow. In addition, simple decoupling would lead to declining adequacy of benefit levels when measured as a percent of pre-retirement earnings or when measured in terms of purchasing power. In order to restore and maintain the adequacy of the benefits after decoupling, some further changes in the law would have to be made. The next several charts illustrate various aspects of alternative possibilities.

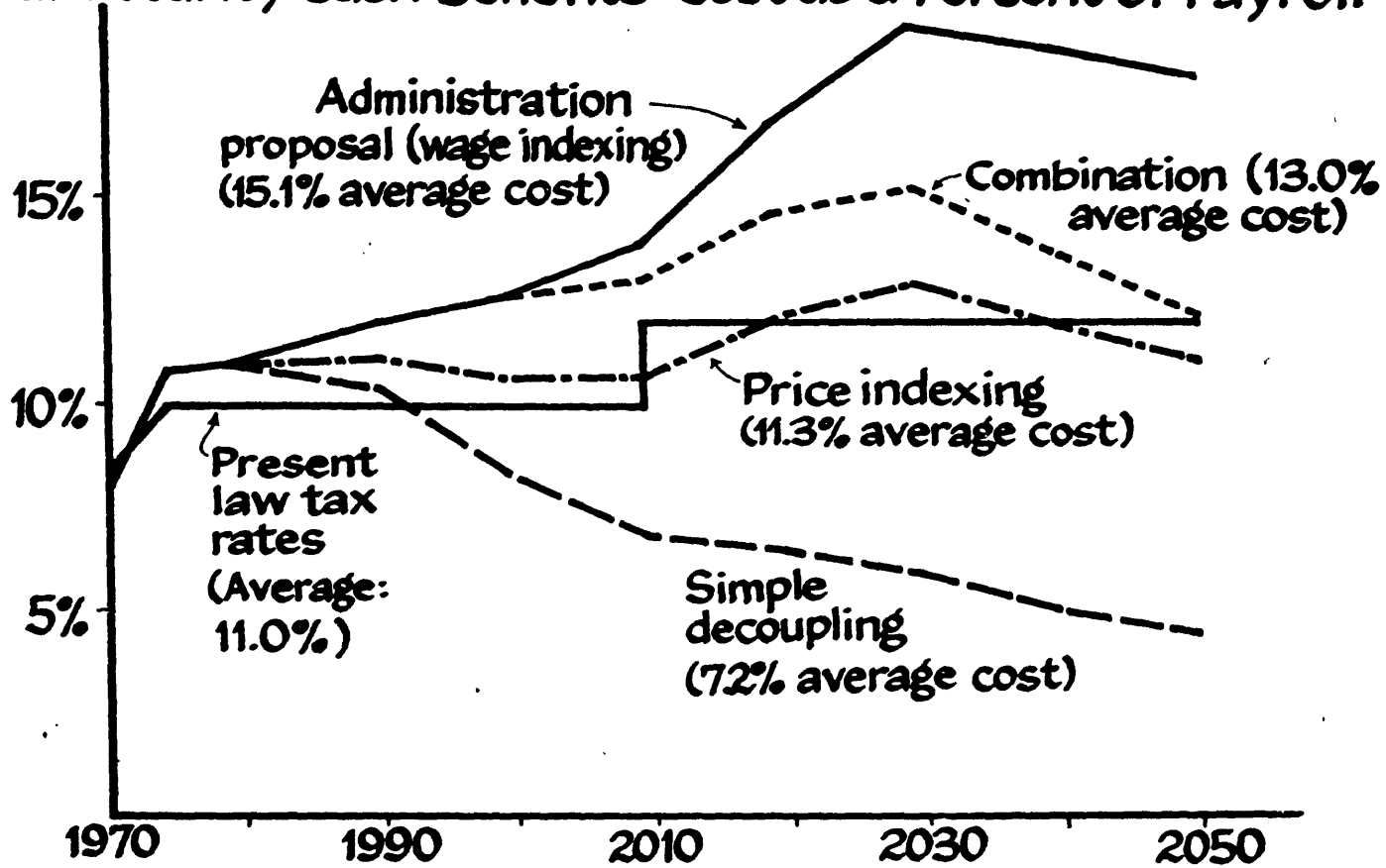# Social Security Cash Benefits: Cost as a Percent of Payroll

Administration proposal (wage indexing) (15.1% average cost)

Combination (13.0% average cost)

Price indexing (11.3% average cost)

Present law tax rates (Average: 11.0%)

Simple decoupling (7.2% average cost)

15%

10%

5%

1970   1990   2010   2030   2050

Chart E

Social Security Cash Benefits: Cost as a Percent of Payroll: Proposals

Chart E shows how the cost of the social security program would be affected by a number of alternative options for revising the benefit formula.

Simple decoupling as described on Chart D would reduce the long-range average cost of the program by 12 percent of payroll to a level of 7.2 percent, but would lead to declining benefit adequacy for future retirees.

The proposal is recommended by the Administration (which was also endorsed by the prior Administration and the 1974 Social Security Advisory Council) is called wage-indexing. This approach adopts a new benefit formula in which the percentage factors are not changed periodically but in which indexed rather than actual average wages are used in applying the formula. Under the Administration proposal, wages would be indexed according to changes which took place in national wage levels during the individual's working years. This approach would reduce the 8.2 percent deficit to 4.1 percent. Put another way, it would use up the 3.8 percent surplus from decoupling and would create a new deficit equal to 4.1 percent of taxable payroll. (Other Administration proposals included in their total financing package would reduce this deficit to 1.9 percent of taxable payroll.)

Another option would be to decouple but then substitute a new mechanism for automatically adjusting benefit levels for new retirees designed in such a way as to use up the 3.8 surplus from decoupling without requiring any additional new financing. One such approach called price indexing was designed by a consultant panel to the Congressional Research Service (Hsiao panel). Their proposal would adopt a new benefit formula for determining initial benefit amounts based on indexed rather than actual average wages. Wages would be indexed to changes in price levels during the individual's working years.

A combination approach would be possible following the wage-indexing approach for about 15 years and then introducing elements which would reduce costs by causing benefits to rise at a lesser rate than under the Administration proposal. Such an approach would be designed to use up the surplus generated by decoupling and would reduce the current dificit to 2.0 percent of payroll. In order to restore the program to a sound financial status, such an approach would have to be combined with additional measures to provide new financing of about the same magnitude as those proposed by the Administration.

Social Security Benefits Upon Retirement as a Percent of Earnings in the Year Before Retirement
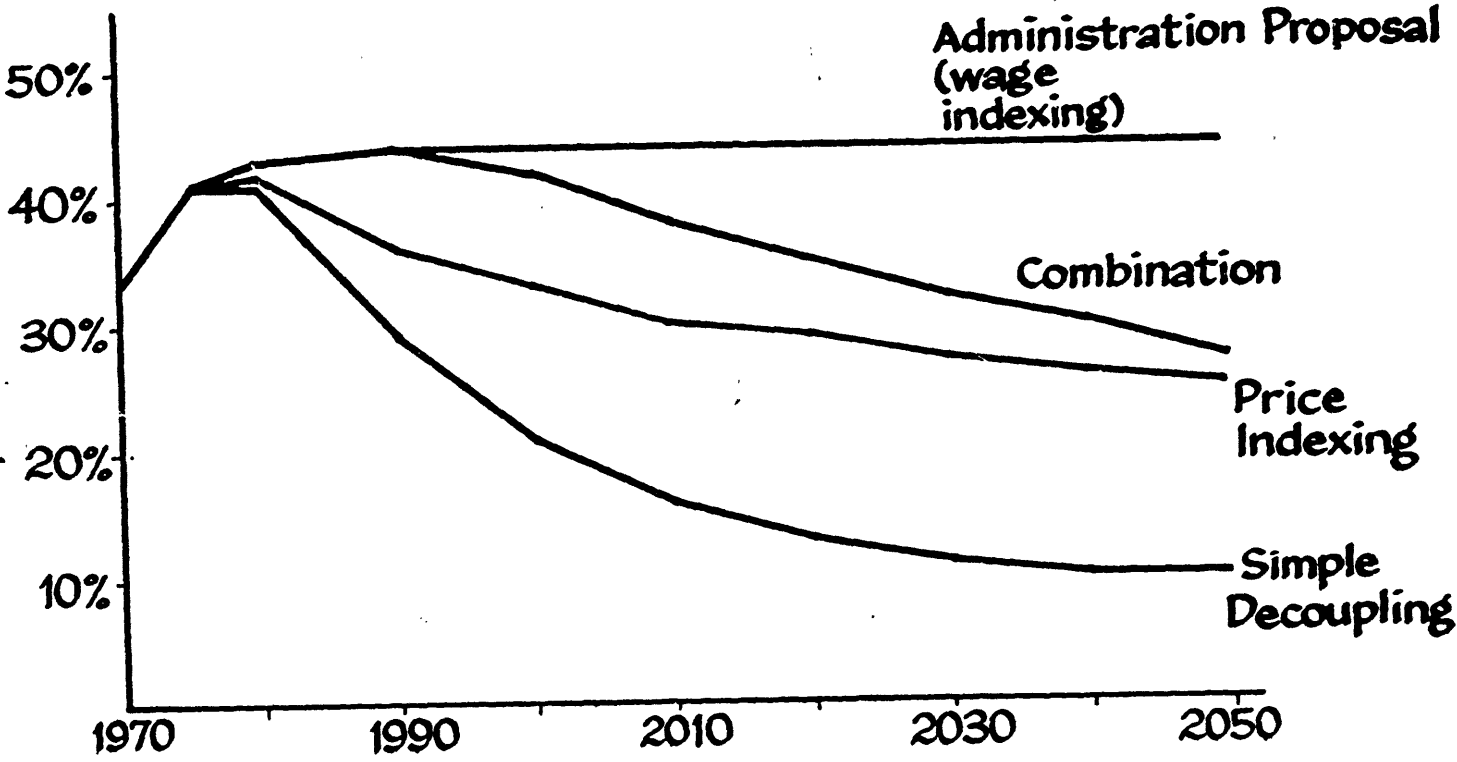

Administration Proposal (wage indexing)

Combination

Price Indexing

Simple Decoupling

50%
40%
30%
20%
10%

1970   1990   2010   2030   2050

Chart F

Social Security Benefits Upon Retirement as a Percent of Earnings in the Year Before Retirement: Proposals

Chart C demonstrated that the benefits paid under present law will rise over time when measured as a fraction of earnings in the year before retirement. Chart F illustrates the effect of several decoupling proposals on the relationship of benefits at time of retirement to wages just before retirement.

In 1955, the benefits paid to a worker with average earnings were about 31 percent of his earnings and by 1970 they had risen 3 percentage points to 34 percent. In the next 5 years, the rise was 9 percentage points to about 43 percent and as shown in chart C this trend could be expected to continue on into the future.

One of the purposes of the various proposals is to cut off the trend of benefits to represent an increasing part of preretirement earnings. The wage indexed proposal recommended by the Administration would maintain future benefits at about the present level in relationship to earnings in the year before retirement. The other proposals would allow the replacement rates to drop. For a worker with average earnings in all years, the ultimate percentage of preretirement earnings represented by benefits would be 44 percent under wage indexing, 2S percent under the combination plan, 26 percent under price indexing, and 10 percent under simple decoupling. These percentages compare with the 6S percent rate projected under present law.

Purchasing Power of Social Security Cash Benefits
(Worker with Average Earnings)

Administration Proposal (wage indexing)

Combination

Price Indexing

Simple Decoupling

$14,000
12,000
10,000
8,000
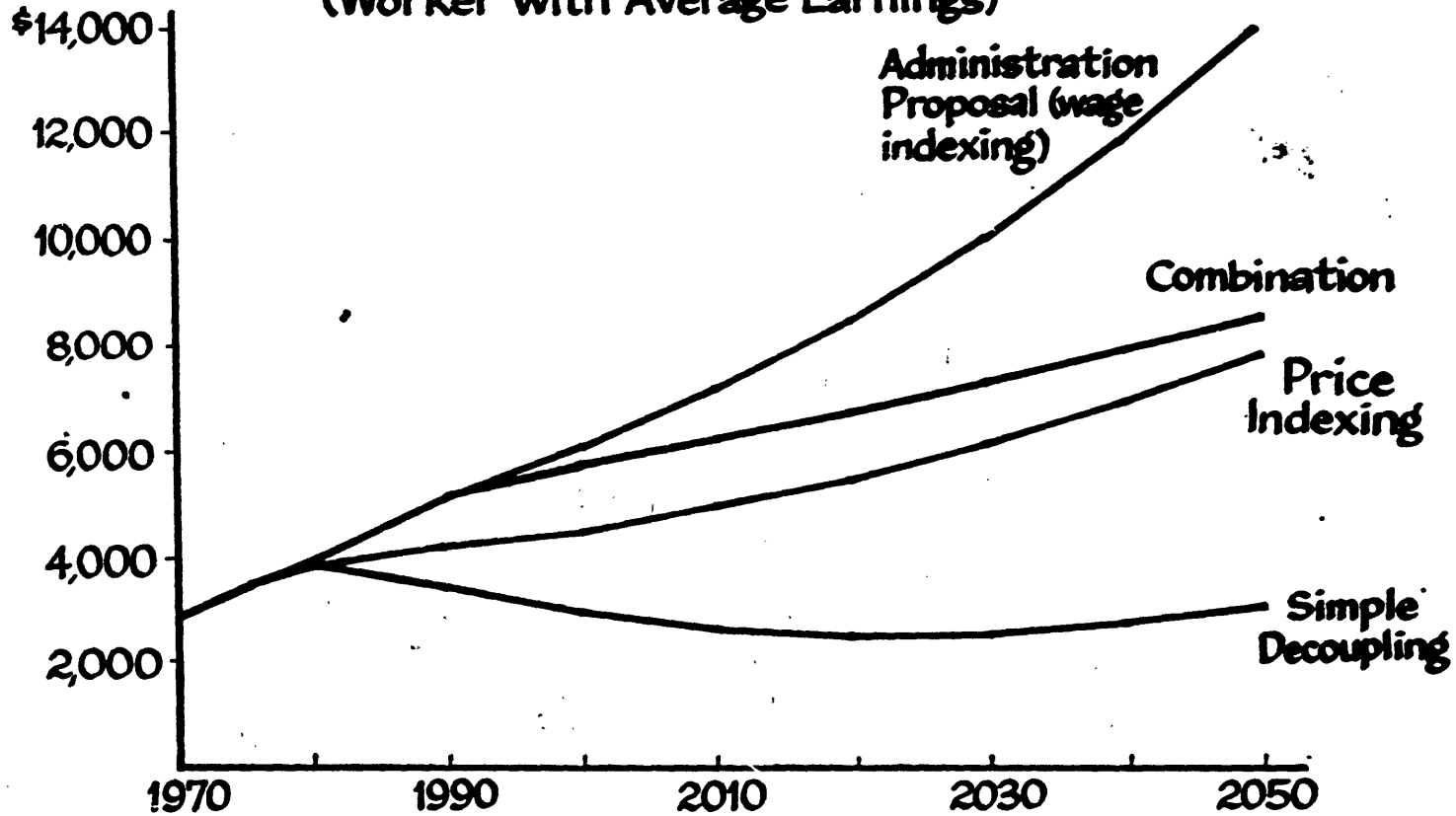6,000
4,000
2,000

1970   1990   2010   2030   2050

Chart G

Purchasing Power of Social Security Cash Benefits

Under the present law the worker who has average earnings in every year can expect to get an annual benefit of $4,415 in 1979 which in constant dollars will rise to $21,830 by 2050. This large increase is the result of the automatic benefit increase mechanism in present law; and the various proposals are intended to reduce it to levels which can be financed. Under three of the four proposals shown in the chart, the purchasing power of benefits—measured in 1977 dollars—rises from the $4,415 estimated for 1979. Under the simple decoupling proposal shown by the bottom line purchasing power falls to $3,235 by 2050. This contrasts with the rise to $14,047 under the wage indexing proposal, to $8,964 under the combination proposal, and to $8,325 under the price indexing proposal.

Thus, all of the indexing proposals do more than make benefits inflation proof and provide future retirees with improved purchasing power but with a lesser increase than would be provided under present law.

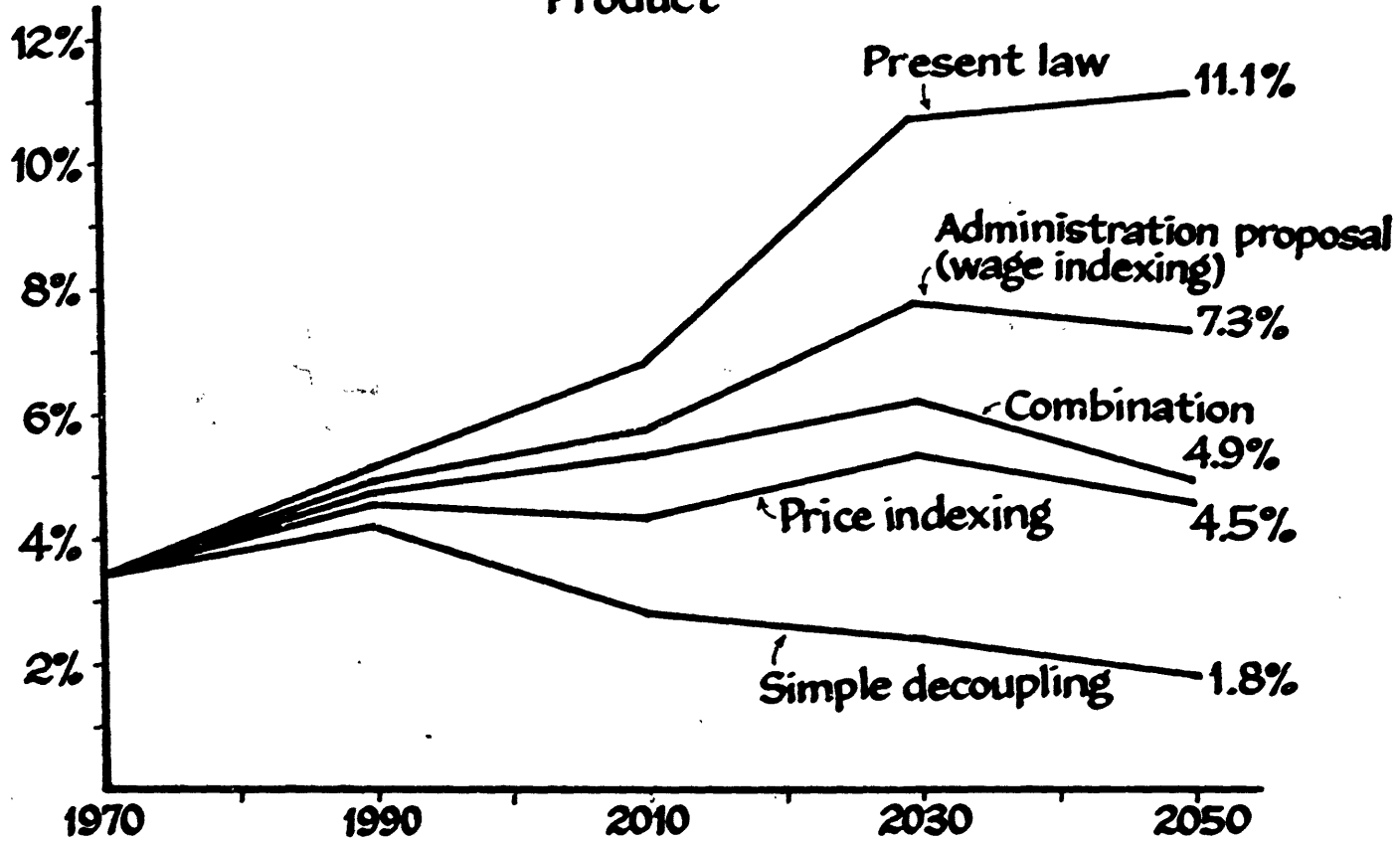# Social Security Cash Benefits: Cost as a Percent of Gross National Product

12%

Present law
11.1%

10%

Administration proposal
(wage indexing)
7.3%

8%

Combination
4.9%

6%

Price indexing
4.5%

4%

2%

Simple decoupling
1.8%

1970   1990   2010   2030   2050

Chart H

Social Security Cash Benefits: Cost as a Percent of Gross National Product

The portion of national wealth devoted to the social security cash benefits programs has been increasing over time. In 1955 about 1.3 percent of the gross national product (GNP) was devoted to the program. In the following 15 years, the amount increased so that it was 3.4 percent in 1970. In the next 5 years it rose to 4.6 for 1975. The growth in the percentage of GNP devoted to social security arises from a variety of factors such as the growth in coverage under the program, increasing benefit levels, and changes in the sizes of the beneficiary population in comparison with the total population.

Chart H shows how the cost of the present program will increase over time and how it would change under various proposals to change the benefit computation procedures. Under present law and under the alternatives the cost of the program as a percent of GNP will increase until about 1990 when it will range from 5.1 percent under present law to 4.2 percent under the simple decoupling concept. The costs of the other three proposals would be 4.9 percent for the wage indexing and combination proposals and 4.5 percent for the price indexing proposal.

After 1990 the cost of the proposals changes in different directions depending on the type of indexing used and how it relates to the anticipated growth in national wealth. The sharpest increase comes under the present law. This is, of course, in sharp contrast to the reduction in cost which results from the non-indexed simple decoupling which allows relative benefit levels to fall while national wealth increases.

The wage and price indexing proposals show increasing costs as a percentage of the GNP until about 2030 because the indexing formulas devote a part of increasing national wealth to the programs and because the ratio of beneficiaries to working population grows throughout the period.

In 2030 the portion of GNP going to the cash benefits program would be about 10.7 percent under present law, 7.8 percent under wage indexing, 5.3 percent under price indexing, and 2.4 percent under simple decoupling.

(87)

Chart I

Social Security Trust Funds
(Balances in billions of dollars)

Old-Age and
Survivors
Insurance

$40

$37.0

$30

$20

$12.7

$10

$7.4

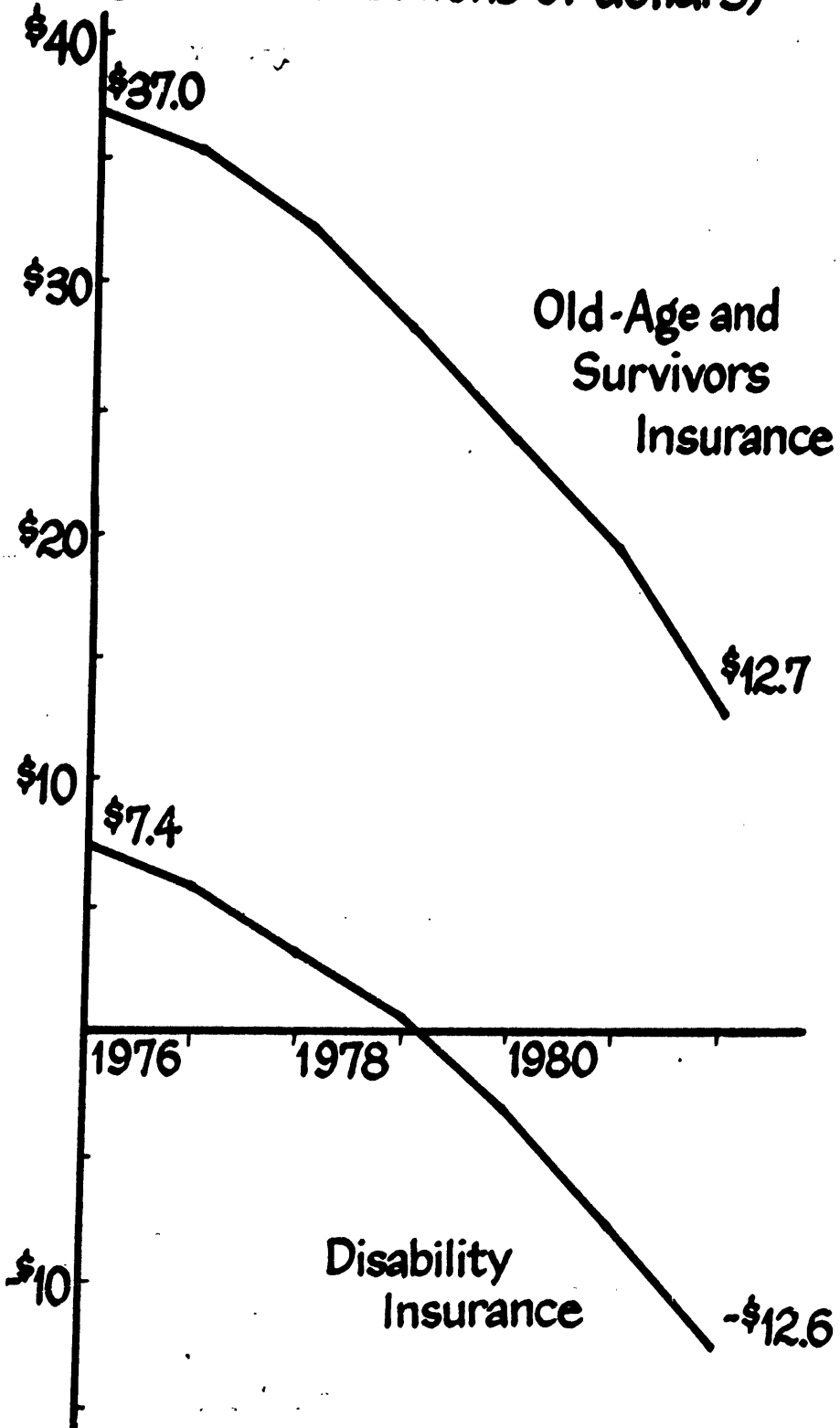1976   1978   1980

-$10

Disability
Insurance

-$12.6

Chart I

Social Security Trust Funds: Balances in Billions of Dollars

Chart I shows the rapid decline in the cash benefits trust funds which will occur in the near future if no additional money is provided. At the start of the period the OASI fund has a reserve equal to benefit payments for about 6 months and the DI fund for about 8 months. The balances in both funds fall quickly and by 1981 the OASI fund equals about 2 months benefit payments. The DI fund runs out of money in 1979. However, even before running out of money in 1979, the DI fund would have some cash flow problems, and new funding will be needed to pay benefits for the latter part of 1978 when due on the 3rd of the month because taxes to pay the benefits will not be collected until later in the month.
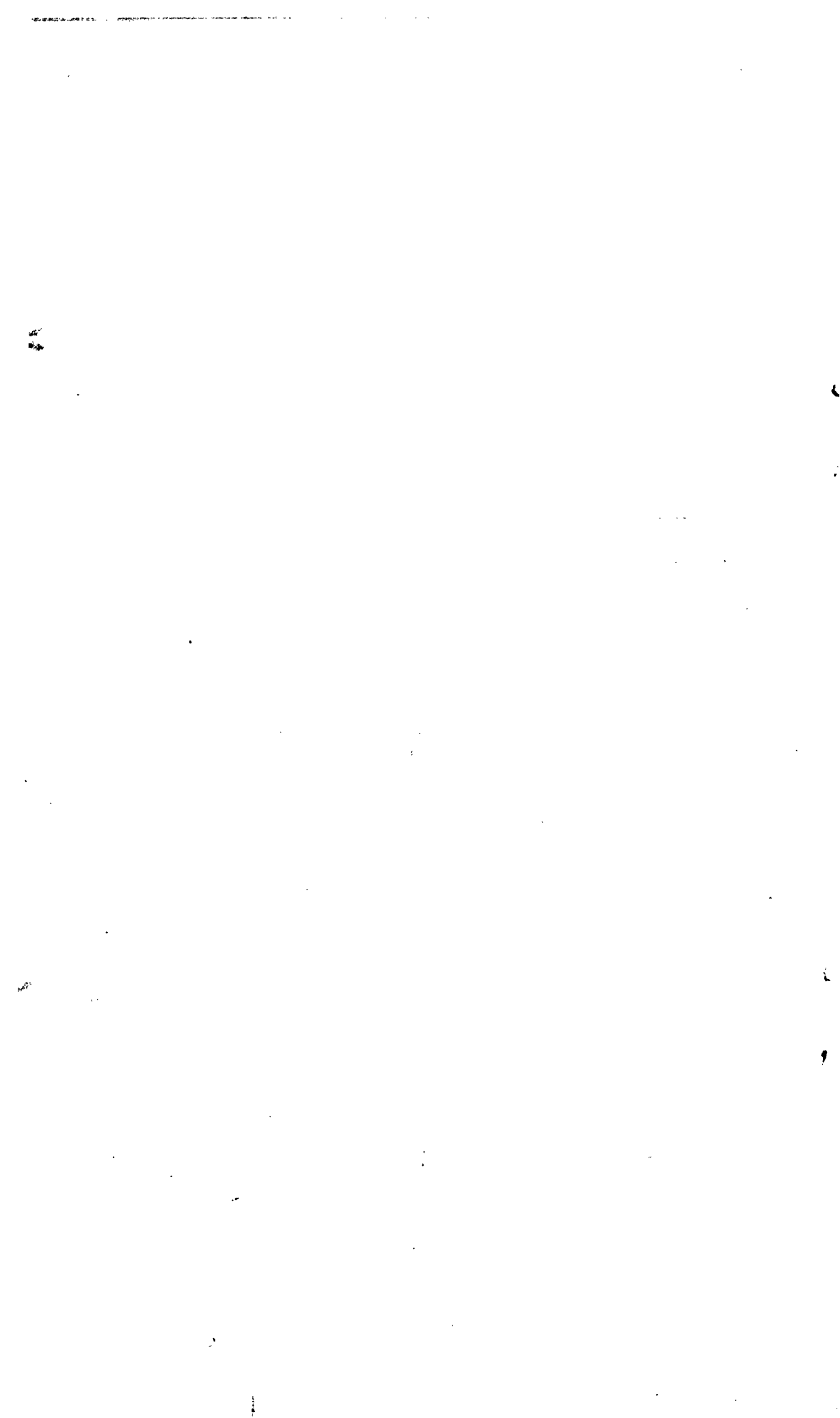
Taken together, the two funds could continue to pay benefits through 1981. However, legislation will be needed in any case since present law does not permit the transfer of the money needed from the OASI fund to the DI fund.

<div align="center">(89)</div>
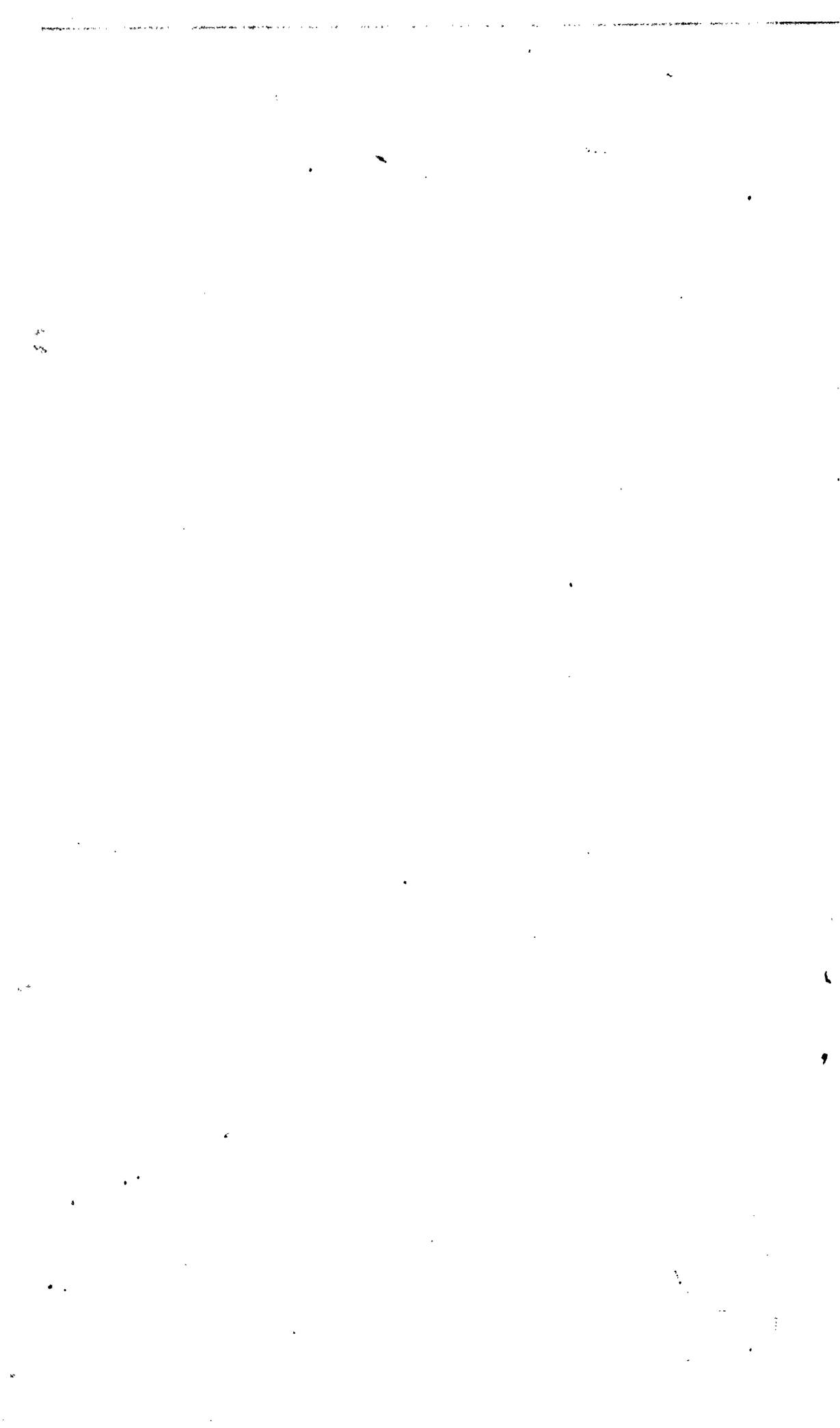
APPENDIX A

ACTUARIAL ASSUMPTIONS

Actuarial Assumptions

The common measure of the financial soundness of the social security cash benefits program is the actuarial cost estimates presented each year in the report of the Trustees. Two basic estimates are made, short-term estimates covering the next 5 years and long-term estimates covering the 70-year period beginning where the short-term estimates leave off.

The short-term estimates.—The short-time estimates essentially picture the cash flow over a 5-year period based on assumptions as to what economic conditions (inflation, unemployment, and wage levels) will prevail in each of the years covered by the estimate.

The long-term estimates.—The long-term estimates, unlike the short-term estimates, are not presented in dollar terms. Rather they are in terms of percent of taxable payroll. (At the present payroll level each 1 percent of taxable payroll amounts to about $8.0 billion.) The current long-term deficit of 8.2 percent of taxable payroll points to the need for major changes in the social security program. However, in evaluating the estimates one should bear in mind that estimates over a 75-year future period, however reasonable they may appear at the time they are made, are not precise predictions of future events. For example, a major assumption in estimating the cost of the social security program is that the present law will remain unchanged over the period covered by the estimates.

Prior to 1972, the long-range estimates were made on a level-cost basis that assumed earnings and benefit levels would not change over the next 75 years. In 1972, when automatic cost-of-living increases in benefits were authorized, the method of making cost estimates was changed. Under the revised procedures, the actuarial projections assume an increase in both wages and prices in future years. These assumptions are the result of the provisions in the law under which benefits can increase each year as the Consumer Price Index rises, and the tax base rises in proportion to the rise in average taxable earnings. In 1972 it was estimated that with the automatic cost-of-living increases and the automatic increases in the tax the program would remain in exact actuarial balance.

The former level-cost assumptions were generally considered to be "conservative" in view of the probability that wage levels would continue to rise in the future. Thus, when the cost was expressed in terms of a percentage of covered payroll, there was an implicit allowance for an increase in benefit levels. Moreover, Congress did act from time to time to use the actuarial surpluses (which resulted from rising wage levels) to finance part of the cost of the various benefit increases. As a result, large amounts of surplus funds were not accumulated and for all practical purposes the program was financed largely on a pay-as-you-go basis—that is, income in most years approximated outgo.

TABLE 36.—COMPARISON OF AVERAGE EXPENDITURES AND TAXES FOR OLD-AGE, SURVIVORS, AND DISABILITY INSURANCE SYSTEM UNDER PRESENT LAW AS PERCENT OF TAXABLE PAYROLL UNDER ALTERNATIVES I, II, AND III

[In percent]

Item	Alternative—		
	I	II	III
1st 25-yr period (1977–2001):			
Expenditures as percent of taxable payroll	11.57	12.24	13.14
Tax rate in law	9.90	9.90	9.90
Difference	−1.67	−2.34	−3.24
2d 25-yr period (2002–26):			
Expenditures as percent of taxable payroll	15.12	18.85	24.51
Tax rate in law	11.18	11.18	11.18
Difference	−3.94	−7.67	−13.33
3d 25-yr period (2027–51):			
Expenditures as percent of taxable payroll	17.93	26.47	43.61
Tax rate in law	11.90	11.90	11.90
Difference	−6.03	−14.57	−31.71
Total 75-yr period (1977–2051):			
Expenditures as percent of taxable payroll	14.87	19.19	27.08
Tax rate in law	10.99	10.99	10.99
Difference	−3.88	−8.20	−16.09

The three alternative sets of assumptions underlying the costs estimates in the 1977 Trustees' report (see table 36 above) are those which the Trustees call "optimistic" (alternative I), "intermediate" (alternative II) and "pessimistic" (alternative III). The report goes on to warn that while "it does not seem unreasonable to assume that actual experience will fall within the range defined by alternatives I and III . . . there can be no guarantee that this will be the case because of the high degree of uncertainty in economic and demographic forecasting." The values of the major factors in each set of assumptions are shown in the following table:

TABLE 37.—VALUES OF SELECTED ECONOMIC AND DEMO-GRAPHIC FACTORS UNDER 3 ALTERNATIVE SETS OF ASSUMPTIONS, CALENDAR YEARS 1977-2051

Calendar year	Percentage increase in average annual—			Average annual unemployment rate	Total fertility rate [2]
	Wages in covered employment	CPI	Real wages [1]		
Alternative I:					
1977	8.4	6.0	2.4	7.1	1,709.9
1978	8.2	5.3	2.9	6.3	1,685.9
1979	7.9	4.6	3.3	5.6	1,662.0
1980	6.6	4.1	2.5	5.0	1,670.2
1981	5.8	3.4	2.4	4.5	1,710.5
1982	5.3	3.0	2.3	4.5	1,750.9
1983	5.25	3.0	2.25	4.5	1,791.2
1984 and later	5.25	3.0	2.25	4.5	[3] 2,300.0
Alternative II:					
1977	8.4	6.0	2.4	7.1	1,709.9
1978	8.1	5.4	2.7	6.3	1,685.9
1979	7.8	5.3	2.5	5.7	1,662.0
1980	7.1	4.7	2.4	5.2	1,662.9
1981	6.4	4.1	2.3	5.0	1,688.8
1982	6.0	4.0	2.0	5.0	1,714.7
1983	5.75	4.0	1.75	5.0	1,740.5
1984 and later	5.75	4.0	1.75	5.0	[3] 2,100.0
Alternative III:					
1977	8.4	6.0	2.4	7.1	1,709.9
1978	7.9	5.7	2.2	6.4	1,685.9
1979	8.1	7.6	.5	6.6	1,662.0
1980	8.2	5.9	2.3	6.6	1,648.4
1981	7.0	5.1	1.9	6.3	1,645.2
1982	6.5	5.0	1.5	6.0	1,642.1
1983	6.25	5.0	1.25	5.6	1,638.9
1984 and later	6.25	5.0	1.25	5.5	[3] 1,700.0

[1] Expressed as the difference between percentage increases in average annual wages and average annual CPI.
[2] Average number of children born per 1,000 women in their lifetime.
[3] This ultimate total fertility rate is not reached until after 1984.

The wide range in the costs of the program under the three sets of assumptions only suggests the degree to which the estimates are sensitive to changes in assumptions and how far from the mark experience may show the estimates to be. For example, the 75–year average cost under each of the three sets of estimates is 14.87 percent, 19.19 percent and 27.08 percent. However, if one takes only the intermediate set of estimates, uses the 1.75 real wage growth but assumes that the CPI rises at either 2 percent or 6 percent rather than the 4 percent value used for the intermediate set of assumptions, the cost of the program becomes:

	75-year average cost
Wages 3.75 percent—CPI 2 percent........................	16.58
Wages 5.75 percent—CPI 4 percent........................	19.19
Wages 7.75 percent—CPI 6 percent........................	21.96

The above keeps the rise in real wages at 1.75 percent. If one holds the CPI constant but assumes that real wages rise at 1 percent or 2.5 percent the cost under assumption II would be:

	75-year average cost
Wages 5 percent—CPI 4 percent..........................	24.20
Wages 5.75 percent—CPI 4 percent........................	19.19
Wages 6.5 percent—CPI 4 percent........................	15.64

A similar though much less substantial variation in cost would be shown if the ultimate fertility rate of 2.1 children per woman were changed. Under the assumptions indicated the cost would be:

Fertility rate:	75-year average cost
1.7..	21.00
1.9..	20.03
2.1..	19.19
2.3..	18.45
2.5..	17.80

Staff Note: The social security actuaries have indicated to the staff their preference for a 1.9 ultimate fertility rate.

The report of the Trustees also points out that in preparing the long-term cost estimates they did not make any assumptions as to the size of the trust funds or changes in the size of the trust fund. If one wished to have the funds grow so that at the end of the 75-year valuation period they equaled the expenditures for the following year, additional income averaging 0.24 percent of taxable payroll per year over the 75-year period would be needed.

APPENDIX B

INCREASE IN EMPLOYER TAX LIABILITIES UNDER ADMINISTRATION PROPOSAL
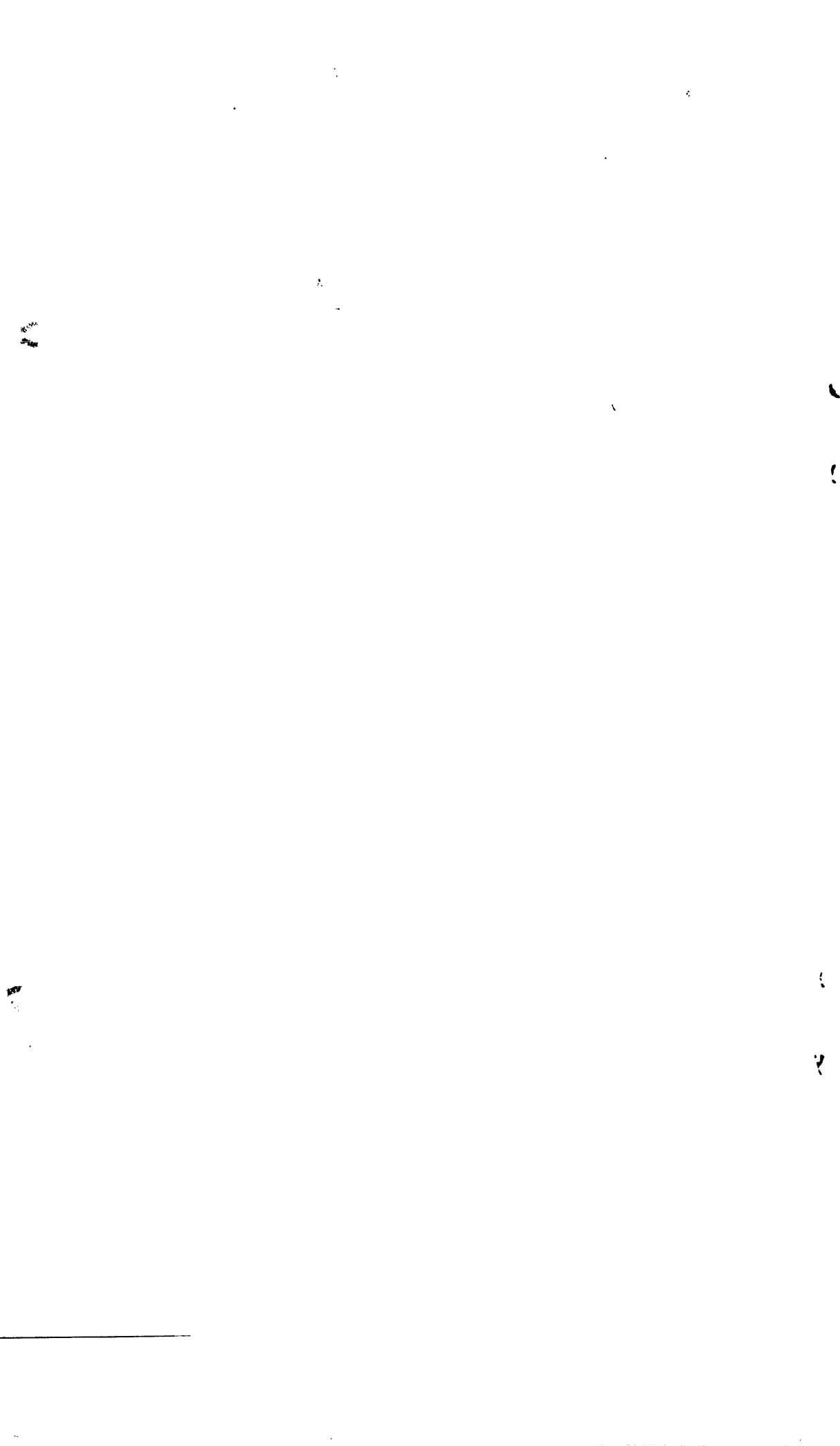
Increase in Employer Tax Liabilities Under Administration Proposal

The attached tables were prepared in the Department of Health, Education, and Welfare to show the estimated impact of the administration short-run financing plan on 1981 employer tax liabilities. The staff has not had an opportunity to evaluate the information in the tables. The staff notes that the data is broken to show small firms and large firms but not firms with more than 1,050 employees but less than 10,000 employees.

The following statement was furnished to the staff along with the tables.

"These estimates are from data supplied by the Office of Research and Statistics of the Social Security Administration. They come from a 1 percent sample of persons working in covered employment in 1973.

"Implicit in this exercise is the assumption that the 1981 structure of relative wages and employment in each industry will be identical to the 1973 structure.

"Employers are categorized by the estimated total number of persons who worked for them at any time during the year. Those categorized as small employers had fewer than 1,050 employees. Given the nature of the data, it is probably not feasible for us to break out employers that are much smaller than this.

"State and local government employment is categorized according to the industry reported by the governmental unit. Some governments report local school and hospital employment as education and hospitals respectively; others report all employment regardless of function as government."

TABLE 38.—PERCENTAGE INCREASE IN EMPLOYER TAX LIA-
BILITIES BY INDUSTRY GROUP AND SIZE OF FIRM ESTI-
MATED 1981 LIABILITY UNDER ADMINISTRATION PLAN

Industry	All firms	Small firms [1]	Large firms [1]
Agriculture, forestry, and fisheries	6.0	4.8	([2])
Construction	14.3	13.7	14.1
Mining and durable manufacturing	14.1	12.6	16.6
Nondurable manufacturing	13.0	12.9	13.8
Transport, communication, and utilities	15.7	12.8	18.4
Wholesale trade	23.6	23.2	25.9
Retail trade	9.7	9.8	9.9
Finance, insurance, and real estate	21.2	21.1	21.1
Medical offices	60.5	63.3	([2])
Hospitals and nursing homes	4.8	2.7	([2])
Educational institutions	10.6	6.2	17.1
Nonprofit institutions	10.6	9.9	([2])
Other services	14.8	14.5	17.4
State and local government	7.7	2.5	10.7
U.S. military	4.7	([2])	4.7
All industries	13.9	14.0	14.7

[1] Small firms are those with fewer than 1,050 employees; large firms are those with 10,000 or more employees. Classification based on estimated total number of persons employed by firm at some time during 1973.
[2] None in category or too few to allow reliable estimate.

TABLE 39.—ESTIMATED PERCENTAGE OF EMPLOYEES EARNING
MORE THAN THE 1981 PRESENT LAW TAXABLE MAXIMUM
FROM 1 EMPLOYER

Industry	All firms	Small firms	Large firms
Agriculture, forestry, and fisheries.	1.6	1.3	(²)
Construction.......................	8.3	10.9	16.4
Mining and durable manufacturing.	14.6	7.1	26.2
Nondurable manufacturing..........	8.5	5.3	14.9
Transport, communication, and utilities............................	18.0	9.0	29.9
Wholesale trade....................	12.2	9.1	25.8
Retail trade........................	2.7	2.4	3.9
Finance, insurance, and real estate.	8.7	7.0	14.5
Medical offices.....................	6.8	6.6	(²)
Hospitals and nursing homes......	2.5	1.4	(²)
Educational institutions............	8.7	5.4	14.4
Nonprofit institutions..............	3.8	3.6	(²)
Other services.....................	3.7	4.7	3.8
State and local government.........	8.0	2.4	12.6
U.S. military.......................	4.6	(²)	4.6

See notes to table 38.

TABLE 40.—PERCENTAGE INCREASE IN EMPLOYER TAX LIA-
BILITIES BY INDUSTRY GROUP AND SIZE OF FIRM (DETAILED
BREAKOUT OF EDUCATIONAL INSTITUTIONS)

Industry	All firms	Small firms	Large firms
Elementary and secondary education.....	7.9	5.6	(²)
Colleges and universities.................	17.5	8.4	19.3

See notes to table 38.

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