

APPENDIXES

APPENDIX A.—STATEMENT OF ASSUMPTIONS, METHODOLOGY, AND DETAILS OF LONG-RANGE COST ESTIMATES

(Prepared by Office of the Actuary—Social Security Administration)

The basic assumptions used in the long-range estimates for the old-age, survivors, and disability insurance system are described in this appendix. Also given here are some detailed data in connection with the results of these estimates.

Section A of this appendix provides a description of the demographic aspects of the long-range cost estimates. Section B discusses the economic and various other aspects of the long-range cost estimates. The terms "demographic" and "economic" are used in a general sense, since it is not entirely possible to separate the effect of these two aspects on the cost estimates. "Demographic aspects" refer to those elements dealing with the population and its characteristics. These elements include the number, age, sex, marital status, retirement, disability, mortality, fertility, employment, and coverage under the system. "Economic aspects" refer to the projected annual increases in the Consumer Price Index (CPI) and in the average earnings in covered employment. Section C of this appendix contains a brief analysis of the sensitivity of the cost projections to changes in selected demographic and economic assumptions.

A. DEMOGRAPHIC ASPECTS

This section of the appendix discusses the methods used to estimate the demographic elements of the OASDI cost projections.

(1) POPULATION

A projection was made of the United States population (including persons overseas covered by the old-age, survivors, and disability insurance program) for future quinquennial years, by 5-year age groups and by sex. The starting point was the population on July 1, 1973, as estimated by the Bureau of the Census from the 1970 Census and from births, deaths, and migration in 1970-73. This population estimate was adjusted for differences in the geographical areas covered by the estimate of the Bureau of the Census and those covered by the old-age, survivors, and disability insurance system.

In the population projection it was assumed that through 2050 mortality rates will continue the general trends established over the period from 1950-1970. This results in an overall reduction in mortality rates of about 15 percent from 1970 to 2050.

The total fertility rate was assumed to decrease from its current level to a level of 1.7 children per woman in fiscal year 1977 and then slowly increase to an ultimate level of 2.1 children per woman in fiscal year 2005. It was assumed to remain level at 2.1 from 2005 to 2050. The 2.1 ultimate total fertility rate is close to population replacement rate and would ultimately result in close-to-zero population growth. In addition, the projection assumed a small amount of net immigration. Appendix table A presents the projected population by broad age groups. Complete details about the population projection will be given in a new actuarial study to be published by the Social Security Administration.

APPENDIX TABLE A.—PROJECTIONS OF THE U.S. POPULATION BY BROAD AGE GROUPS, 1985-2050

Year	Population (in thousands) as of July 1				65 and over as—	
	Under 20	20 to 64	65 and over	Total	Percent of total	Ratio of 20 to 64
1985	70,754	141,512	26,741	239,006	11.2	0.189
1990	71,929	147,457	28,789	248,176	11.6	.195
1995	74,264	152,261	30,015	256,540	11.7	.197
2000	76,333	157,038	30,214	263,585	11.5	.192
2005	76,349	162,970	30,580	269,898	11.3	.188
2010	76,222	167,432	32,652	276,316	11.8	.195
2015	76,990	168,840	36,917	282,747	13.1	.219
2020	78,561	167,873	42,061	288,494	14.6	.251
2025	80,030	165,608	47,448	293,087	16.2	.287
2030	80,768	164,636	51,227	296,632	17.3	.311
2035	81,202	166,502	51,879	299,583	17.3	.312
2040	81,989	169,501	50,806	302,296	16.8	.300
2045	83,213	172,462	49,257	304,931	16.2	.286
2050	84,462	173,843	49,352	307,657	16.0	.284

(2) EMPLOYMENT

Assumptions as to the percentage of the population who have covered employment during a year were made for each age group by sex for each quinquennial year. For men, the latest estimated average percentages (1970-72) were projected to increase for teenagers, to decrease slightly for those aged 20-59, and to decrease significantly for those aged 60 and over (thus recognizing the trend toward higher retirement rates). For women, the corresponding percentages were assumed to increase, except for those aged 60 and over for whom a decrease was projected.

As measured by the age-adjusted labor force participation rates for ages 16 and over, the projected ultimate covered employment is equivalent to a decrease over the rates experienced in calendar year 1974 of about 2 percent for males and an increase of about 23 percent for females. At the ultimate assumed rates females would have, on the average, participation in the labor force that is about 73 percent of male participation rates.

The foregoing projections are consistent with the projected average unemployment rate of 5 percent. It is assumed that any periods during which unemployment is substantially higher than the assumed level would be of relatively short duration or would be balanced by offsetting periods of low unemployment, and would therefore have virtually no long-range cost effect.

(3) INSURED POPULATION

The term "insured" as used herein means fully insured, since the number of persons who are currently-insured only is relatively small and can be disregarded for long-range cost analysis purposes. The number of insured persons as percent of population by age and sex, in various future years is estimated from recent experience and from the projected coverage. It is evident that eventually almost all males in the country will be insured for old-age and survivors benefits; the ultimate percentage for aged males is estimated at 95 percent. For females it is estimated that the corresponding proportion will eventually be 85 percent. This is lower than for males because of the lower participation rates of females in the labor force.

The estimated numbers of persons insured for disability benefits are lower than those insured for old-age and survivor benefits because of the more restrictive insured status provision for disability benefits. These numbers were also estimated on the basis of recent experience and the projected percentage of persons covered.

(4) OLD-AGE AND SURVIVORS INSURANCE BENEFICIARIES

Old-age beneficiaries were estimated from the aged insured population. The proportions, by age and sex, of the insured population that were receiving benefits at the beginning of 1973 were projected to increase according to past trends after adjustment for changes in the earnings test and in the level of unemployment, thereby reflecting assumed gradual increases in the retirement rates.

Wives aged 62 and over of male old-age beneficiaries were estimated by using census data and mortality projections. These potential wife beneficiaries, after adjustment for eligibility for their own old-age benefits, were assumed to claim benefits as soon as they are eligible, even if this occurred at ages 62-64, when they would have to take reduced benefits. The experience to date indicates that in the vast majority of the cases, such immediate claiming of wife's benefits does occur.

Young wives and children of retired workers were estimated by reference to their ratios to male old-age beneficiaries, as derived from recent actual data and projected according to the aforementioned fertility and mortality assumptions.

Child-survivor beneficiaries were obtained from estimates of orphans in the country in future years. The projected child population, by age group, was multiplied by the probability of being an orphan. These probabilities were derived by using distribution of age of parent at birth of child and death rates consistent with the population projections. The number of orphans was then adjusted to eliminate orphans of uninsured deceased parents, and to include the eligible disabled orphans aged 18 and over. For non-disabled children aged 18-21 a further reduction was made to exclude those not attending school. Mother-survivor-beneficiaries were estimated by extrapolating the present ratio of mothers to children, after excluding those non-disabled children 18-21 who were attending school, to reflect the projected fertility. The estimated costs were increased by 0.01 percent of taxable payroll to reflect the cost of fathers survivors benefits, payable as a result of the recent Supreme Court decision.

To estimate widow beneficiaries the proportions of widows in the female aged population were projected according to mortality assumptions and adjusted for both eligibility for their own old-age benefits and for the insured status of their deceased husbands. These uninsured eligible widows were assumed to claim benefits as soon as available even if this occurred at ages 60 to 64, when they would have to take reduced benefits. For ages 50-59, the disabled widow beneficiaries were estimated from the eligible widows by using disability prevalence rates.

It may be observed that the assumed wife and widow beneficiaries consist of the uninsured potential beneficiaries. In actual practice, some of the insured potential beneficiaries also receive a residual benefit consisting of the excess of the potential wife's or widow's benefit over their own old-age benefit. These residual benefits, although not giving rise to additional aged beneficiaries, were considered in the cost of the particular type of dependent or survivor benefit concerned.

The minor category of parent beneficiaries was projected by assuming a decrease from a level of 23,000 at the end of 1974 to an ultimate level of 15,000 in 1980. The insignificant effect of the retirement test as it applies to wife's, widow's and parent's benefits was ignored. No separate estimates were made for benefits to dependent husbands and widowers since their cost is relatively negligible.

Appendix table B shows the estimated number of beneficiaries in the old-age and survivors insurance program.

APPENDIX TABLE B.—OLD-AGE AND SURVIVORS INSURANCE BENEFICIARIES WITH MONTHLY BENEFITS IN CURRENT-PAYMENT STATUS¹

[In thousands]

Calendar Year	Retired workers and dependents			Survivors of deceased workers				Total
	Old-Age	Wives ²	Children	Mothers	Children	Widows ³	Parents	
Actual data (as of June 30):								
1970	13,066	2,651	535	514	2,673	3,151	29	22,619
1971	13,604	2,673	556	523	2,745	3,287	28	23,416
1972	14,181	2,706	578	536	2,847	3,433	27	24,308
1973	14,880	2,756	602	548	2,887	3,575	25	25,273
1974	15,589	2,806	619	565	2,908	3,620	24	26,131
Projection (as of June 30):								
1985	21,243	2,892	518	765	3,035	3,686	15	32,154
1990	23,319	2,897	387	777	3,030	3,610	15	34,035
1995	24,589	2,898	310	824	3,253	3,514	15	35,403
2000	25,172	2,766	311	849	3,526	3,452	15	36,091
2005	26,310	2,528	345	855	3,662	3,417	15	37,132
2010	29,077	2,352	416	832	3,636	3,394	15	39,722
2015	33,623	2,317	496	815	3,614	3,345	15	44,225
2020	39,120	2,302	577	819	3,679	3,339	15	49,851
2025	44,427	2,288	623	834	3,777	3,326	15	55,290
2030	47,655	2,247	619	843	3,833	3,327	15	58,539
2035	48,513	2,121	590	836	3,842	3,262	15	59,179
2040	47,506	1,969	552	823	3,853	3,225	15	57,943
2045	46,689	1,841	551	829	3,906	3,153	15	56,984
2050	47,020	1,809	577	837	3,978	3,070	15	57,306

¹ Excluding the effect of the railroad financial interchange provisions.² Including dependent husband beneficiaries.³ Including dependent widower beneficiaries.

(5) LUMP-SUM DEATH PAYMENTS

The numbers of lump-sum death payments were estimated by multiplying the insured population by the death rates used in the population projections.

(6) DISABILITY INSURANCE BENEFICIARIES

The future number of persons receiving monthly disability benefits based on their own earnings was estimated by the application of incidence and termination rates. These rates were developed from the experience data available from the operations of the disability insurance system. The population insured for disability (by sex and age) was multiplied by the incidence rates to arrive at the number of new cases of disabled workers. These in turn were projected through the use of mortality and recovery termination rates to obtain the number of beneficiaries.

The assumed incidence rates were based on the estimated actual experience in calendar year 1965, adjusted to reflect both the increases in awarded disability benefits through the end of calendar year 1974 as well as relevant legislated changes through that year. Although the reasons for these increases are not yet fully understood, it was decided that the projected costs should reflect the total increases that have already been experienced through the end of calendar year 1974. In addition, the incidence rates were assumed to increase 3 percent per year for the next 5 years and to remain level thereafter. This extrapolation of future incidence rates is intended as a temporary procedure for reflecting probable future increases.

A more complete knowledge of possible future trends in the number of disabled worker beneficiaries will not be available until current studies of the recent increases are completed.

The mortality and recovery rates were based on the actual experience of the system for the period 1957-67 adjusted to reflect the estimated experience through the end of calendar year 1974.

The number of child beneficiaries was projected as a proportion of the disabled male beneficiaries allowing for future projected changes in fertility.

The number of wife beneficiaries was projected as a proportion of child beneficiaries after allowing the projected future changes in fertility.

Appendix table C shows the projected number of beneficiaries in the disability insurance program.

APPENDIX TABLE C.—DISABILITY INSURANCE BENEFICIARIES WITH MONTHLY BENEFITS IN CURRENT-PAYMENT STATUS¹

[In thousands]

Calendar year	Workers	Wives ²	Children	Total
Actual data (as of June 30):				
1970.....	1,436	271	861	2,568
1971.....	1,561	293	934	2,788
1972.....	1,737	327	1,028	3,092
1973.....	1,925	364	1,127	3,416
1974.....	2,098	391	1,203	3,692
Projection (as of June 30):				
1985.....	3,829	533	1,302	5,664
1990.....	4,219	516	1,151	5,886
1995.....	4,675	631	1,340	6,646
2000.....	5,379	758	1,632	7,769
2005.....	6,240	906	1,964	9,110
2010.....	6,982	1,034	2,289	10,305
2015.....	7,397	1,060	2,434	10,891
2020.....	7,448	1,007	2,440	10,895
2025.....	7,146	942	2,338	10,426
2030.....	6,796	889	2,224	9,909
2035.....	6,706	884	2,194	9,784
2040.....	6,868	896	2,242	10,006
2045.....	7,131	914	2,325	10,370
2050.....	7,231	904	2,357	10,492

¹ Excluding the effect of the railroad financial interchange provisions.

² Including dependent husband beneficiaries.

B. ECONOMIC ASPECTS ; MISCELLANEOUS ASPECTS

This section of the appendix presents a discussion of the economic aspects and miscellaneous aspects of the OASDI long-range cost estimates. As stated above, the term "economic aspects" is used here to refer primarily to the assumptions regarding future annual increases in average earnings as well as in the Consumer Price Index (CPI). The importance of these economic aspects results from the automatic adjustment provisions in the present law which require that the benefit table be adjusted to keep up with increases in the CPI and that the taxable earnings base, as well as the exempt amount in the retirement test, be adjusted to keep up with increases in average earnings. This type of automatic procedure has the effect that, once a worker retires, the value of his benefits will not deteriorate in terms of purchasing power. It has the further effect that, for those who are still working, their potential benefits increase because of both the increases in the credited earnings and the adjustment in the benefit table according to increases in the CPI. This dual increase in potential benefits for future beneficiaries may, in combination, be at a higher or lower rate than the increase in earnings, but (as will be shown later) it is likely to be, on the average, slightly higher than increases in earnings for the next 20 years and significantly higher thereafter.

(1) ECONOMIC ASSUMPTIONS AS TO ANNUAL INCREASES IN AVERAGE EARNINGS AND IN CPI

The cost estimates presented in the Report are based on three alternative sets of economic assumptions as described therein. This was done to illustrate the effect on the estimates of variations in economic assumptions. However, most of the estimates presented in the report are based on the central set of economic assumptions in which the ultimate annual rate of increase in average earnings is assumed to be 6 percent while CPI is assumed to increase at 4 percent.

The assumed 4 percent increase in the CPI is approximately $\frac{1}{2}$ of one percent higher than has been experienced over the last 30 years. However, trends over the last 60 years indicate a tendency for the CPI to increase slowly with time. Moreover, current outlook does not support a reversal or a halt in these trends. The assumed 6-percent increase in average earnings is a by-product of the 4-percent CPI assumption and the assumption adopted regarding the annual increases in average real earnings. Based on the trend in real earnings over the last 20-25 years, and also on the assumption that there would be a leveling in the movement toward part-time employment, an ultimate annual increase in

average real earnings of 2 percent was adopted. This increase when combined with the assumed CPI increase of 4 percent yielded the assumption of a total increase in average earnings of 6 percent.

This central set of economic assumptions is consistent with the economic assumptions adopted by the panel of actuaries and economists appointed in 1974 by the Senate Committee on Finance to review the OASDI long-range cost estimates published in last year's report of the Board of Trustees.¹

Unless otherwise stated, the estimates presented in this appendix are based on this same central set of economic assumptions, that is, ultimate annual increases in average earnings in covered employment of 6 percent and in the CPI of 4 percent. For years before 1981 the assumptions are as described in the section of this report dealing with the 5-years forecast of operation of the trust funds.

(2) AVERAGE BENEFITS

Appendix table D shows the projected average awarded retirement benefit, the projected average retirement benefit in current-payment status, and the projected increases in each as compared to increases in average earnings. As can be observed from the projected ratios in the third column of the table, all of which are greater than one, the average awarded retirement benefit is projected to increase faster than average earnings. It can also be observed that this is particularly true after the year 1995 when the computation period for retirement benefits reaches its ultimate length of 35 years.

To prepare the figures in appendix table D, the average awarded benefits for retired workers were projected by computer simulation of the automatic adjustment provisions for workers at various earnings levels under the central set of economic assumptions regarding the increases in earnings and CPI. The average benefits in current-payment status were then obtained by weighting the projected awarded benefits according to values obtained from recent actual experience while allowing for the effect of future CPI adjustments.

APPENDIX TABLE D.—PROJECTED INCREASES IN AVERAGE RETIREMENT BENEFIT AT AWARD AND IN CURRENT-PAYMENT STATUS AS COMPARED WITH PROJECTED INCREASES IN AVERAGE COVERED EARNINGS¹ FOR SELECTED YEARS, 1975-2050

Calendar year	Average annual retirement benefit		Ratio of increase in retirement benefits to increase in earnings	
	Awards	In current payment	Awards	In current payment
1975.....	2,750	2,603	1.000	1.000
1985.....	5,921	5,001	1.060	.946
1990.....	8,020	6,832	1.066	.960
1995.....	10,832	9,280	1.074	.972
2000.....	15,206	12,643	1.126	.989
2005.....	21,517	17,521	1.191	1.024
2010.....	29,769	24,504	1.231	1.070
2015.....	41,038	34,136	1.268	1.114
2020.....	56,399	47,218	1.302	1.152
2025.....	77,431	65,014	1.336	1.185
2030.....	106,166	89,316	1.369	1.217
2035.....	145,696	122,569	1.404	1.248
2040.....	198,435	167,970	1.429	1.278
2045.....	269,841	229,422	1.452	1.304
2050.....	366,258	312,401	1.473	1.327

¹ Based on the central set of economic assumptions of annual increases of 4 percent in CPI and 6 percent in earnings and somewhat higher increases before 1981. The benefits refer only to those payable to retired workers. The figures in the column entitled "In current-payment" refer to the average benefits for all retired workers who are receiving benefits, while those in the column entitled "Awards" refer to the average benefits for those workers retiring in the particular year.

(3) TOTAL BENEFIT PAYMENTS

Total benefit payments were calculated as the product of the number of beneficiaries and their corresponding average benefits. These values were adjusted to reflect retroactive payments.

¹ The panel's discussion of these assumptions may be found on pp. 10-11 under the sub-headings "Rate of Growth in Real Wages" and "Rate of Inflation" of the Report of the Panel on Social Security Financing to the Committee on Finance United States Senate, printed for the Committee, February 1975.

(4) ADMINISTRATIVE EXPENSES

It was assumed that future administrative expenses would be 1.8 percent of benefit payments for old-age and survivors insurance and 5.0 percent of benefit payment for disability insurance. These percentages include the allocation of funds to be used to rehabilitate disabled beneficiaries under the beneficiary rehabilitation program enacted in 1965.

(5) RAILROAD RETIREMENT FINANCIAL INTERCHANGE

The effect of the financial interchange was evaluated on the basis of trends similar to those used for the old-age, survivors, and disability insurance direct costs. This results in a small long-range loss to the Old-Age, Survivors, and Disability System.

(6) INTEREST RATE

The interest rate used in each estimate and projection was assumed at an annual real rate (after discounting for CPI increases) of 3¼ percent.

The effect of a different interest rate would be minor since the system is expected to operate with relatively small trust funds.

C. SENSITIVITY OF COST ESTIMATES TO CHANGES IN SELECTED ASSUMPTIONS

(1) SENSITIVITY TO ECONOMIC ASSUMPTIONS

This subsection contains a brief analysis of the sensitivity of the cost projections to some changes in the economic assumptions and to changes in procedures for computing benefits.

Appendix table E shows the average-cost over periods of 25 years (1975-1999), 50 years (1975-2024) and 75 years (1975-2049) under three alternative assumptions of annual CPI increases of 3 percent, 4 percent, and 5 percent. In each case the annual increases in real average earnings are assumed at about 2 percent yielding annual increases in average earnings of 5 percent, 6 percent and 7 percent. The table indicates the cost under present law as well as under a modified theoretical system in which average benefits awarded at retirement are assumed to increase after 1976 at about the same rate as average earnings. In this modified theoretical system it is also assumed, as is true in present law, that after retirement, benefits will be increased automatically to keep up with increases in CPI. The new theoretical system is assumed to apply to individuals who attain age 62, die or become disabled after 1976. These individuals would have a choice between the new procedure for computing benefits or the procedure and benefit table in the law at the end of 1976.

APPENDIX TABLE E.—ESTIMATED LONG-RANGE AVERAGE-CURRENT-COST¹ OF OLD-AGE, SURVIVORS, AND DISABILITY INSURANCE SYSTEM AS PERCENT OF TAXABLE PAYROLL,² UNDER VARIOUS CPI ASSUMPTIONS,³ PRESENT LAW AND MODIFIED THEORETICAL SYSTEM⁴

System	[In percent]		
	Estimated under assumptions of— ³		
	5-3	6-4	7-5
25-yr period:			
Present law	11.39	11.42	11.47
Modified theoretical	11.43	11.31	11.20
50-yr period:			
Present law	12.93	13.50	14.10
Modified theoretical	12.57	12.43	12.30
75-yr period:			
Present law	14.93	16.26	17.68
Modified theoretical	14.00	13.83	13.67

¹ "Average-current-cost" represents the arithmetic average of expenditures as percent of taxable payroll for the period and includes the cost of increasing the funds on hand to 1 yr's expenditures by the end of the valuation period.

² 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.

³ The initial value in each set refers to the assumed annual percent increases after 1980 in average earnings, while the 2d value in each set refers to the assumed percent increases after 1980 in CPI. Higher assumptions are used in the 1975-80 period.

⁴ See text for brief description of theoretical system.

As shown in appendix table E the average-cost of the old-age, survivors, and disability insurance system over a 75-year period under present law is highly sensitive to changes in CPI assumptions. However, under the modified theoretical system the average-cost would be significantly less sensitive to CPI assumptions.

It will be noted that under the modified theoretical system the average-cost decreases with increases in CPI. This is due in large part to specific assumptions used in this case in which there is a lag between the increases in earnings and the assumed increases in average awarded benefits. Normally, costs are computed as a percent of the taxable payroll in the year, while awarded benefits normally are based on earnings in years prior to retirement.

A very significant element in appendix table E is the fact that over the rest of this century, that is, for the next 25-year period, the average-cost of the old-age, survivors, and disability insurance system will be essentially the same (11.2 to 11.5 percent of taxable payroll) regardless of the CPI assumption or of a possible modification in the procedure for computing benefits.

Appendix table F shows the average-cost over periods of 25 years, 50 years and 75 years under three alternative assumptions of annual increases in average real earnings of 1½ percent, 2 percent and 2½ percent. In each case the annual increases in average earnings of 5½ percent, 6 percent, and 6½ percent. The table indicates the cost under the present law as well as under the modified theoretical system previously discussed.

APPENDIX TABLE F.—ESTIMATED LONG-RANGE AVERAGE-CURRENT-COST¹ OF OLD-AGE, SURVIVORS, AND DISABILITY INSURANCE SYSTEM AS PERCENT OF TAXABLE PAYROLL² UNDER VARIOUS REAL EARNINGS ASSUMPTIONS,³ PRESENT LAW AND MODIFIED THEORETICAL SYSTEM⁴

		[In percent]		
		Estimated under assumptions of— ³		
System		5½-4	6-4	½-4
25-yr period:				
	Present law	11.95	11.42	10.93
	Modified theoretical	11.58	11.31	11.04
50-yr period:				
	Present law	14.83	13.50	12.32
	Modified theoretical	12.80	12.43	12.08
75-yr period:				
	Present law	18.59	16.26	14.30
	Modified theoretical	14.27	13.83	13.42

¹ "Average-current-cost" represents the arithmetic average of expenditures as percent of taxable payroll for the period and includes the cost of increasing the funds on hand to 1 yr expenditures by the end of the valuation period.

² 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.

³ The initial value in each set refers to the assumed annual percent increases after 1930 in average earnings, while the 2d value in each set refers to the assumed percent increases after 1930 in CPI. Higher assumptions are used in the 1975-80 period.

⁴ See text for brief description of theoretical system.

As shown in appendix table F the average-current-cost of the old-age, survivors, and disability insurance system over a 75-year period is highly sensitive to changes in the assumed increases in average real earnings. For a modified theoretical system the sensitivity would be significantly reduced.

For the next 25-year period, that is, for the remainder of this century, the average-cost under present law would vary by about ½ percent of taxable payroll for every ½ percent change in annual increases in average real earnings. Under the modified theoretical system the changes in the 25-year average-cost would be equivalent to about ¼ percent of taxable payroll for each ½ percent change in annual increases in average real earnings. It should be observed that in all instances the average-cost over the next 25 years is higher than the tax rate in present law of 9.9 percent of taxable payroll that is scheduled for the period.

(8) SENSITIVITY TO DEMOGRAPHIC ASSUMPTIONS

This subparagraph contains a brief analysis of the sensitivity of the cost projections to changes in the demographic assumptions. The assumptions tested are those regarding the projected ultimate total fertility rates and the annual level of net migration. All other assumptions and all formulae and procedures remained the same as those used in the preparation of the cost estimates under the central set of economic assumptions.

Appendix table G shows the average-current-cost over periods of 25 years, 50 years, and 75 years under the central set of economic assumptions with three alternative assumptions of ultimate total fertility rates of 1.7 children per woman, 2.1 children per woman, and 2.5 children per woman. The table indicates the cost under the present law as well as under the modified theoretical system previously discussed.

APPENDIX TABLE G.—ESTIMATED LONG-RANGE AVERAGE-CURRENT COST¹ OF OLD-AGE, SURVIVORS, AND DISABILITY INSURANCE SYSTEM AS PERCENT OF TAXABLE PAYROLL,² UNDER VARIOUS FERTILITY ASSUMPTIONS,³ PRESENT LAW AND MODIFIED THEORETICAL SYSTEM⁴

[In percent]

System	Estimate under assumed fertility of— ⁵		
	1.7	2.1	2.5
25-yr period:			
Present law	11.40	11.42	11.43
Modified theoretical	11.28	11.31	11.32
50-yr period:			
Present law	13.80	13.50	13.23
Modified theoretical	12.68	12.43	12.21
75-yr period:			
Present law	17.72	16.26	15.19
Modified theoretical	14.95	13.83	13.00

¹ "Average-current-cost" represents the arithmetic average of expenditures as percent of taxable payroll for the period and includes the cost of increasing the funds on hand to one year's expenditures by the end of the valuation period.

² 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.

³ These assumptions refer to the ultimate total fertility rate which is in terms of number of children per woman during her lifetime. In all cases the rate is assumed to start from its 1974 level and to move gradually to the ultimate level which would be attained by the year 2005.

⁴ See text for brief description of theoretical system.

⁵ Calculated under the central set of economic assumptions of annual increases after 1980 of 6 percent in average earnings and 4 percent in CPI. Higher assumptions are used in the 1975-80 period.

As shown in appendix table G the average-current-cost over a 75-year period of the old-age, survivors, and disability insurance system under either present law or the theoretical system is highly sensitive to changes in fertility assumptions.

Over the next 25 years the average-cost under either system would be slightly lower with assumed fertility and higher with higher assumed fertility, which is opposite to the effect over the 75-year period. This is due to the lower (or higher) survivor and dependent children benefits that would be payable during the 25-year period, which would not be offset by a lower (or higher) number of workers in the period.

It is clear from this table that for the next 25-year period regardless of future fertility the average-cost of the old-age, survivors, and disability insurance system will be significantly higher than the tax rate of 9.9 percent of taxable payroll scheduled in present law.

Appendix table H shows the average-cost over periods of 25 years, 50 years, and 75 years under three alternative assumptions of annual net migration of 300,000 persons, 400,000 persons, and 500,000 persons. The table indicates the cost under the present law as well as under the modified theoretical system previously discussed.

APPENDIX TABLE H.—ESTIMATED LONG-RANGE AVERAGE-CURRENT COST¹ OF OLD-AGE, SURVIVORS AND DISABILITY INSURANCE SYSTEM AS PERCENT OF TAXABLE PAYROLL,² UNDER VARIOUS MIGRATION ASSUMPTIONS.³ PRESENT LAW AND MODIFIED THEORETICAL SYSTEM⁴

[In percent]

System	Estimated under assumed migration of— ⁵		
	300,000	400,000	500,000
25-yr period:			
Present law	11.48	11.42	11.37
Modified theoretical	11.37	11.31	11.26
50-yr period:			
Present law	13.61	13.50	13.40
Modified theoretical	12.53	12.43	12.33
75-yr period:			
Present law	16.43	16.26	16.10
Modified theoretical	13.97	13.83	13.70

¹ "Average-current-cost" represents the arithmetic average of expenditures as percent of taxable payroll for the period and includes the cost of increasing the funds on hand to 1 yr's expenditures by the end of the valuation period.

² 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.

³ These refer to the annual net migration which would be applicable to all future years. The distribution by age and sex of these immigrants is assumed to be identical to that in the preferred central set of assumptions.

⁴ See text for brief description of theoretical system.

⁵ Calculated under the central set of economic assumptions of annual increases after 1980 of 6 percent in average earnings and 4 percent in CPI. Higher assumptions are used in the 1975-80 period.

As shown in appendix table H the average-current-cost over all periods is relatively insensitive to changes in migration assumptions. This is the case under present law as well as under the modified theoretical system.

APPENDIX

APPENDIX B.—DETERMINATION AND ANNOUNCEMENT OF SOCIAL SECURITY CONTRIBUTION AND BENEFIT BASE AND RETIREMENT TEST EXEMPT AMOUNT FOR 1975¹

Pursuant to authority contained in sections 203(f)(8) and 230 of the Social Security Act (42 U.S.C. 403(f)(8) and 430), as amended by section 3(j) and (k) of Public Law 93-233, enacted December 31, 1973, I hereby determine and announce that the contribution and benefit base with respect to remuneration paid in, and taxable years beginning in 1975 shall be \$14,100 and the monthly exempt amount under the retirement test shall be \$210 with respect to taxable years ending in calendar year 1975.

There follows a statement of the actuarial bases employed in arriving at the amounts of \$210 and \$14,100 for the retirement test monthly exempt amount and the contribution and benefit base, respectively, for the calendar year 1975.

In determining each of the 1975 amounts, the law specifies a formula which automatically produces a mathematical result based upon reported statistics.

Section 203(f)(8) of the Act provides that the retirement test monthly exempt amount for 1975 shall be equal to the 1974 amount of \$200 multiplied by the ratio of (1) the average amount, per employee, of the taxable wages of all employees reported under the program for the first calendar quarter of 1974 to (2) the average amount of such wages reported for the first calendar quarter of 1973. The section further provides that if the amount so determined is not a multiple of \$10, it shall be rounded to the nearest multiple of \$10.

Similarly, section 230 of the Act provides that the contribution and benefit base for 1975 shall be equal to the 1974 amount of \$13,200 multiplied by the ratio of (1) the average amount, per employee, of the taxable wages of all employees reported under the program for the first calendar quarter of 1974 to (2) the average amount of such wages reported for the first calendar quarter of 1973. The section further provides that if the amount so determined is not a multiple of \$300, it shall be rounded to the nearest multiple of \$300.

The data used to make the necessary computations of such average taxable wages were derived from reports submitted to the Social Security Administration of taxable wages paid to employees by their employers. Each quarter, taxable wages are posted to the record of earnings of each individual employee for whom wages were reported. These records are referred to hereinafter as Summary Earnings Records. As the wages were posted to the Summary Earnings Records, the data were tabulated on a 100-percent basis to obtain the total amount of reported taxable wages and the total number of employees for whom such wages were reported.

Because of the requirement in the law that the foregoing determinations be made on or before November 1, 1974, the tabulated data on taxable wages reported for the first calendar quarter of 1974 were necessarily limited to those wages that were reported and posted to the Summary Earnings Records by the end of the quarterly updating operations completed in September 1974. In order that the required ratio referred to above be based on data reflecting comparable reporting and posting periods, the tabulated data on taxable wages reported for the first calendar quarter of 1973 were limited to those wages that were reported and posted to the Summary Earnings Records by the end of the quarterly updating operations completed in September 1973.

¹ This statement was published in the Federal Register for October 31, 1974 (Vol. 39, No. 211, pp. 38406-7).

About 70.6 million employees had taxable wages reported for the first calendar quarter of 1973 that were posted to the Summary Earnings Records by the end of September 1973, and the average amount of their taxable wages was \$1,895.04 per employee. The corresponding number of employees and average amount of taxable wages for the first calendar quarter of 1974 were 71.1 million and \$2,007.69, respectively. The ratio of average taxable wages reported for the first quarter of 1974 to average taxable wages reported for the first quarter of 1973 is therefore 1.059445.

Multiplying the 1974 retirement test monthly exempt amount of \$200 by the ratio of 1.059445 produces the amount of \$211.89, which must then be rounded to \$210. Accordingly, the retirement test exempt amount for taxable years ending in calendar year 1975 is \$210 on a monthly basis, or \$2,520 on an annual basis.

Multiplying the 1974 contribution and benefit base of \$13,200 by the ratio of 1.059445 produces the amount of \$13,984.67, which must then be rounded to \$14,100. Accordingly, the contribution and benefit base for remuneration paid in, and taxable years beginning in, calendar year 1975 is \$14,100.

Dated: October 29, 1974.

CASPAR W. WEINBERGER,
Secretary.

