

COST ESTIMATES OF OPTIONS FOR  
COVERAGE OF FEDERAL EMPLOYEES UNDER THE  
SOCIAL SECURITY SYSTEM

The Compensation Group  
Office of Personnel Management

October 23, 1979

Benefit and Cost Illustrations for Methods of Extending  
Special Security Coverage to Federal Employees

Preface

This paper is the third of three prepared by the Office of the Actuary of the Office of Personnel Management for the Universal Social Security Study Group. The first paper discussed various methods of integrating the federal fringe benefit system with Social Security if the latter were extended to federal employees. The second paper presented options if Social Security coverage is not extended to federal employees. This paper presents detailed analysis of the impact on the federal systems, the general economy, and individual employees of the packages presented in the first paper.

This paper begins with a discussion of the assumptions used in determining the costs and projections. This is followed by presentation of the actuarial costs - normal cost and change in unfunded liability - and the economic impact projected over 76 years. Finally, there is a presentation of the impact on individual benefits for a wide range of employees.

Benefit Packages

The first paper contains extensive discussion of the details of new systems that could be put in place if Social Security coverage were extended to federal employees. Readers are referred to that paper for complete details on those packages. A brief description of the packages follows.

The minimum change model is the current system changed as little as needed to integrate with Social Security. The retirement formula is 1.4 percent a year for the first five years service; 1.5 percent for the next five years; and 1.75 percent for years over ten with a maximum of 80 percent of high three pay. The benefit is offset by 1.25 percent times service times the PIA after age 62 with an equal supplement before age 62. Contributions are 7 percent over the FICA base but nothing below that base. There is no forfeiture for refund of contributions but only a reduction in the benefit value. The eligibility conditions are the same as in the current system. There is a separate disability benefit with eligibility conditions and benefit amounts the same as in the current system but with the benefit fully offset by Social Security before age 62. The offset after age 62 is 1.25 percent times the Social Security benefit times service before disablement. There is no change in the sick leave system. The survivor benefits are paid under current conditions. The benefit is the accrued normal retirement benefit after the Social Security offset. For employees with less than 25 years' service at death the benefit is based on the smaller of 25 years or service projected to age 60. There are no children's benefits. All benefits would be increased once a year to keep pace with inflation. The health benefits system would be amended to provide a separate option for those covered by Medicare fully paid for by the government.

The offset, step rate and add-on benefit models differ from each other only in the basic retirement formula. The current voluntary and involuntary eligibility conditions would be continued with addition of a reduced early retirement benefit for employees between ages 55 and 62 with more than five but less than 29 years of service. The systems would be non-contributory with full vesting after five years of service. The retirement formulae are as follows:

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--Offset - The formula is 1.65 percent times service up to 40 years times the high three years' average earnings. The pension would be reduced by 1.25 percent times the employees' estimated Social Security benefit at age 62 for each year of service up to 40 years.

--Add-on - The formula is 1.35 percent times service up to 40 years times the high three years earnings average.

--Step Rate - The pension payable at or after age 62 is 1.15 percent times that part of the high three years' average earnings below \$10,000 and 1.65 percent times that part of the high three earnings above \$10,000, all times service up to 40 years. For employees retiring before age 62 a supplement will be payable to age 62. The supplement will be equal to .5 percent times that part of the high three year earnings below \$10,000 times years of service up to 40 years. The break point of \$10,000 would be increased each year to the maximum level permitted by regulations of the Internal Revenue Service.

These three benefit models would have a separate disability and sick leave system which would provide full pay for up to ten days each year, 75 percent of pay after that up to five months and 60 percent thereafter. Employees would qualify under the current definition for two years with benefits after two years only if they met the Social Security definition. Benefits would be fully offset by Social Security before age 62. After age 62 the benefit would be recomputed counting service while disabled plus any salary increases, but would not be less than the benefit received prior to age 62.

There would also be a separate survivor system which would pay benefits to widows or widowers for two years at 20 percent of final pay. For death after age 65 a benefit of 50 percent of the earned annuity would be paid for life. There would be smaller benefits for spouses of those who would die between ages 50 and 55 and there would be no children's benefit.

The health benefits system would be the same as for the minimum change formula.

#### Population

Data on employees was obtained from the Central Personnel Data File maintained by OPM. Data for the September 30, 1978 file was blown-up to include employees covered by federal retirement but not in CPDF and to include the October 1, 1978 federal pay raise. Table one shows the age and service distribution of the 2,690,000 employees included in the valuation. Total covered payroll was \$47.8 billion.

The liability for retirees was the corresponding value included in the 1977 Board of Actuaries report projected one year. Since these new models do not affect current retirees we only needed an estimate of the retired life liability to use in determining the incremental cost.

Table 1

Distribution of Employees by Age, Service and Salary  
as of September 30, 1978

	EMPLOYEES BY AGE AND SERVICE GROUP							TOTAL
	5-9	10-14	15-19	20-24	25-29	30+OVER		
15-19	7214.	0.	0.	0.	0.	0.	0.	7214.
20-24	86677.	46909.	0.	0.	0.	0.	0.	133587.
25-29	94120.	190537.	38198.	0.	0.	0.	0.	322855.
30-34	47516.	145819.	177023.	17458.	0.	0.	0.	367819.
35-39	26933.	60464.	107672.	92652.	13720.	0.	0.	301640.
40-44	25452.	45906.	58605.	74713.	80379.	13521.	0.	298637.
45-49	15355.	44824.	57186.	58545.	77060.	81411.	10456.	344842.
50-54	8928.	27290.	46547.	58412.	62610.	70381.	94857.	372029.
55-59	4603.	17277.	34019.	47466.	55841.	51027.	110964.	321765.
60-64	1510.	7719.	18504.	24363.	27654.	23064.	52563.	155577.
65-69	320.	1770.	5226.	5914.	6668.	5514.	14742.	40183.
70-74	57.	340.	967.	598.	366.	366.	1099.	3801.
75-79	2.	16.	53.	28.	7.	2.	3.	112.

	AVERAGE SALARY OF ENROLLEES BY AGE AND SERVICE GROUP						
	5-9	10-14	15-19	20-24	25-29	30+OVER	
15-19	8551.	0.	0.	0.	0.	0.	
20-24	10909.	11697.	0.	0.	0.	0.	
25-29	12905.	14250.	15074.	0.	0.	0.	
30-34	14358.	16506.	17335.	17922.	0.	0.	
35-39	14717.	17001.	19206.	19994.	19943.	0.	
40-44	14075.	16018.	18106.	21030.	21519.	21136.	
45-49	13868.	15727.	17318.	19665.	21827.	21310.	
50-54	13798.	15686.	17047.	18545.	19644.	20967.	
55-59	14132.	15463.	16703.	18046.	18927.	19547.	
60-64	15982.	16334.	16993.	17942.	18660.	16878.	
65-69	20049.	19700.	17959.	18688.	18918.	18742.	
70-74	27955.	24516.	19639.	20610.	18928.	19935.	
75-79	30818.	26127.	23039.	20330.	14594.	17320.	

TOTAL OF 269,062 EMPLOYEES WITH AVERAGE SALARY OF 17769.  
AVERAGE AGE OF 42.9 AND AVERAGE SERVICE OF 14.3

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### Actuarial and Economic Analysis

The program used to value the benefit packages was the valuation program developed for the Board of Actuaries of the Civil Service Retirement system for use in their 1977 valuation. Most of the demographic rates used in the program; death, disability, retirement rates etc; were the same as those used by the Board. The economic assumptions were also those used by the Board in their dynamic valuations. All of these rates, and the basis for them, can be found in the 1977 Board of Actuaries report and supplement.

Some methodology changes and new assumptions were needed. These include the need to evaluate benefits by salary level and the potential impact of changes in eligibility and benefit levels on the rate of retirement. Major changes in methodology and additional assumptions are discussed below.

#### Disability Rates

The new systems include a change in the definition of disability to a more liberal definition for the first two years and the less liberal Social Security definition after two years. Related changes in the cost of sick leave coverage also had to be determined.

Rates of incidence of and termination for disabilities meeting the Social Security definition are from the Social Security Administration Study No. 75. Rates of incidence are a simple interpolation of the SSA table 4 held to a maximum of the 1977 Board rates. Rates of termination are a three year select period reduction of the SSA five year select periods in tables 9 through 12. The incidence of disabilities not meeting the Social Security definition are the 1977 CSR disability rates less the above mentioned Social Security disability rates.

The 1977 reports of the Society of Actuaries show that about 40% of the three month elimination period disabilities recover in nine months and 20% more in the next twelve months. Since the Boards' incidence rates are substantially higher than general experience we assumed the recovery rate was 40% in the first six months followed by 20% in each of the next half-year periods. To calculate the term cost of sick leave we constructed a table of total usage of days by 10,000 employees with the criteria that 92% would use some leave and the average for all, including non-users, would be 9.4 days per year. These are from the overall results of OPM's recent sick leave study for all groups combined.

We assumed that many of those who used 11 to 16 days would return to work after 10 days if there were a ten day limit on full sick leave. The average cost for the new model sick leave was based on full pay for adjusted days under ten plus 75 percent of pay for days over ten. We also added an allowance for temporary disabilities who run out of sick leave under the current system with no further benefit but who would be eligible for up to two years of benefit in the new system.

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### Retirement Rates

The benefits for early retirement are somewhat less under the new models than under the current system because Social Security benefits are not paid until age 62. The fact that benefits are smaller would result in fewer retirements at these ages which would tend to reduce the cost of the model. Also, under the offset, step rate, and add-on options, a reduced early retirement benefit is available at age 55 after 5 years service and before 29 years service. The retirement rates for these age and service combinations would be significantly lower than for the unreduced benefit.

The election to retire is a result of many different considerations by each different individual and we know of no way to predict the exact impact that a change in benefit or eligibility will have. It is clear, however, that changes in benefits will affect the retirement rate. In 1966, for instance, when a relatively small reduction was removed from federal retirement benefits payable before age 60, the rate of retirement doubled. We developed a specific formula that considers the present value of an employees' benefit at each retirement age.

We based the retirement rates on a ratio which can be referred to as the "incentive to retire". It is equal to the present value of the projected benefits which employees would receive over the next ten years if they retired immediately divided by the present value of salary and benefits which they would receive over the same ten years if the retirement was deferred to age 62 or for three years, whichever is greater.

The benefits used in computing this ratio include the CSR benefits and any supplements plus the full PIA. All benefits and salaries are projected and discounted using the valuation economic assumptions. The Social Security benefit is for an average salary. The incentive to retire would generally be less than one, and the higher the ratio the greater the financial incentive to retire.

We assumed that the retirement rate for a given age and service combination would be proportional to the corresponding incentive to retire ratio. To get the constant of proportionality we first calculated these ratios for the current benefit structure. Denoting the incentive to retire by IR, we found by trial and error that if the retirement rate was set equal to  $.75 \times (IR - .35)$  it gave the same average age and service at retirement as the current retirement rates for the new entrant model. These rates also resulted in very nearly the same normal cost.

The retirement rates determined from this formula were subject to a minimum value of .02. Also, at ages 55 to 59 and 30 years of service or age 60 to 61 and 20 years of service, which are the combinations at which employees are first eligible for unreduced benefits, the retirement rates were set equal to 150% of the value obtained from the formula. Both of these modifications were in effect when the constants of proportionality were determined.

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Although the average age and service at retirement was used in determining the relationship between the incentive to retire and the retirement rates, it would not be meaningful to compare the average age and service at retirement for the current system with the corresponding values under the new options. Under the offset, step rate, and add-on options, the employees can retire with a reduced benefit after 5 years service, and this would have a significant effect on the results.

The retirement rates calculated according to this method are presented below in Table 2 for the minimum change and offset options at 5 year age and service intervals. The reduced benefit after 5 years service is not available under the minimum change option.

Table 2

Retirement Rates for the Minimum Change Option

<u>Age</u>	<u>Service</u>							
	<u>5</u>	<u>10</u>	<u>15</u>	<u>20</u>	<u>25</u>	<u>30</u>	<u>35</u>	<u>40</u>
55	0	0	0	0	0	.1866	.1762	.2306
60	0	0	0	.3195	.2546	.2904	.3223	.3739
65	.1164	.1677	.2215	.2667	.3049	.3379	.3675	.4183
70	.1564	.2014	.2502	.2914	.3265	.3573	.3851	.4346

Retirement Rates for the Offset Option

<u>Age</u>	<u>Service</u>							
	<u>5</u>	<u>10</u>	<u>15</u>	<u>20</u>	<u>25</u>	<u>30</u>	<u>35</u>	<u>40</u>
55	.02	.02	.02	.02	.02	.1379	.1356	.1815
60	.0524	.1153	.1671	.3160	.2477	.2798	.3086	.3560
65	.1255	.1836	.2321	.2733	.3086	.3394	.3672	.4153
70	.1645	.2164	.2603	.2978	.3301	.3588	.3849	.4316

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Calculation of Social Security Benefits and Offsets

In the current CSR valuation program the data on the employee population is grouped into cells by age, sex, and years of service. Thus information on the distribution of salaries is lost, and only the number of employees and their total salary is available for each of these cells. When benefits are a straight percentage of salary as in the current CSR system, this aggregate data is sufficient. However in order to compute Social Security benefits, data on the distribution of salaries is also needed.

In order to permit sufficiently rapid calculation of Social Security benefits in the program while taking the salary distribution into account, a table of "overall replacement ratios" was first constructed. These are the ratios of the total PIA for all members of a cell to the total salary for that cell. The distribution of individual salaries within each cell used in constructing this table was based on a 1 percent sample of all employees in 1977.

In specifying the distribution for a cell, the individual salaries were expressed relative to the average salary for the cell. This way the distribution can be used for different years, and in fact this same relative distribution was used for all future years.

Since the table of overall replacement ratios was determined in advance, and the exact level of the average salary for each cell was not known, values were calculated for several possible levels of average salary. Then when a cell is actually being processed and the average salary is known, the overall replacement ratio can be obtained through interpolation.

The overall replacement ratio for a cell was computed as follows:

First the data on the distribution by salary level was used to separate employees into six salary groupings. The first grouping was for employees with a salary of less than 50% of the average salary for the cell. The last grouping was for employees with a salary over 150% of the average salary for the cell. Then the average salary within each of the six groupings was found. The average salaries were then used to determine an AIME and a PIA. These PIA's were then multiplied by the number in the groupings and totaled to get the total PIA for the cell.

The PIA's were based on lifetime earnings, and the covered earnings for current federal employees were assumed to start in 1975 to take into account existing coverage from non-federal employment.

The wage history for each of the six groupings was based on actual or assumed General Schedule wage increases and on a scale of hypothetical merit increases. The salaries of the lowest paid were assumed to increase 70 percent over their career due to merit increases only, while the salaries of the highest paid increased 270 percent. These merit increases were divided proportionately between federal and non-federal service, and the federal portion was assumed



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to be concentrated primarily in the early years of federal service. The salaries of employees who will retire prior to age 62 was assumed to remain constant until age 62, at the same level as their final salaries. In determining the AIME, these assumed post-retirement salaries were indexed the same as for salaries prior to retirement.

A similar table of overall replacement ratios was constructed for disability retirement. Here, of course, the PIA is paid immediately upon disability rather than at age 62 or actual retirement if later.

For purposes of the valuation, the offset for deferred retirement was based on the disability replacement ratio. The disability PIA at termination was multiplied by the number of years of federal service times .0125 to get the offset. This offset was then held constant until age 62, when the benefits commence. This method was used because the PIA for regular retirement is increased due to the indexing of the salaries although the deferred benefit is not increased.

#### Social Security/Medicare Contribution

To obtain the Social Security/Medicare contribution the projected salary was distributed between salary above and below the FICA base. This gives a long term equivalent rate of 5.8 percent of total salary for Social Security and 1.4 percent for Medicare compared to ultimate rates below the FICA base of 6.2 percent and 1.45 percent respectively. This means that over 90 percent of total federal pay would be under the ultimate FICA base. The present value of the contribution is 5.5 percent for Social Security and 1.3 percent for Medicare. These amounts are lower than the ultimate rates because the current contribution rates and relative FICA base are lower than they are scheduled to become.

The new Medicare contribution by the government and enrollees would be somewhat offset by reduced FEHB costs since Medicare would pick up a large part of the bill for all annuitants. Most annuitants are now covered by Medicare but a significant number who would not have Medicare would obtain coverage. We estimate additional federal savings of \$150 per annuitant who would be covered by Medicare.

#### Projections of Funding

The projections show the development of the CSR fund and the unfunded liability in relation to the total payroll. A single fund is used to accumulate contributions and pay benefits under both the new and old systems. If a separate fund were established for the new system, the benefits for the old system would have to be financed over the remaining working career of the current employees covered under this system. This relatively short amortization period would result in a level of contributions that would be excessively large in early years even in relation to the total payroll for all employees.

The funding method used in the projection is the one recommended by the Board of Actuaries in their report on the 1977 valuation for the current system, modified to take into account the new benefit structure. It involves payment of the dynamic normal cost under the new system for all employees, with additional contributions necessary to amortize the unfunded liability associated with current employees and annuitants over 75 years as a level percent of pay.

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The normal cost is the level percentage of pay which must be contributed for a typical group of new employees over their working lifetime in order to provide sufficient funds by the time they retire to fund all of their benefits. At the end of the 75 years the total contribution rate drops to the normal cost rate.

Table 2 shows the total of the normal cost and the incremental cost of the other parts of the fringe benefit package that will be changed. The total, therefore, represents relative cost of a particular benefit package. Since these are relative values the absolute figures should not be used as the full cost of a particular system.

The relative cost of the new models, compared to the current system, is obtained by adding the incremental costs of changes in other parts of the package to the normal cost of the retirement, disability and survivor benefits. The normal cost for disability and survivor benefits includes the cost of benefits to be paid from the separate disability and survivor systems.

The largest incremental cost is the federal contribution for Social/Security Medicare. This is partially offset by the savings to the federal health benefits system resulting from 100 percent Medicare participation. The net result of these factors is to increase costs by 6.4 percent of payroll. Finally, for the three models which include changes in the sick leave program, there is a savings of .6 percent of payroll attributable to reduced sick leave costs.

The total cost of the new models is 1.8 to 2.8 percent of payroll greater than the current system. We assume that this increase will be less than savings that will result from covering new federal employees under Social Security so that the models would cost the taxpayer no more than the current system.

The net change in government cost as shown in table 2 was based on the Board of Actuaries economic assumptions. The Social Security/Medicare contribution is based on assumptions used by the Social Security Administration of 6.6 percent interest; 5.75 percent salary; and 4 percent inflation. Even with mixed actuarial assumptions, the comparison does show the real immediate impact of the integration models. It could be argued, however, that the long term cost is best shown by calculating all factors on the same set of economic assumptions. Table 3 shows the comparison if the federal systems are priced using the Social Security actuarial assumptions. On this basis, the cost will be 2.0 to 4.7 percent higher for the new models than for the current system.

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Table 2

Government Contribution Needed to Fund Benefits  
of Average New Employee Group

Board of Actuaries Assumptions  
(as percent of career payroll)

	<u>Current Program</u>	<u>Minimum Change</u>	<u>Offset</u>	<u>Step Rate</u>	<u>Add-on</u>
<b>A. Retirement Benefits</b>					
1. Voluntary retirement	20.7%	14.1%	14.7%	13.3%	13.9%
2. Involuntary retirement	3.2	2.8	2.7	2.5	2.4
3. Disability retirement	5.1	3.2	4.0	4.3	4.2
4. Deferred retirement	.4	1.0	1.1	1.0	1.2
5. Contribution refund	1.0	.0	-	-	-
6. Subtotal benefits	30.4	21.1	22.5	21.1	21.7
7. Employee contribution	7.0	0.5	-	-	-
8. Benefits less contrib.	23.4	20.6	22.5	21.1	21.7
<b>B. Survivor Benefits</b>					
1. Widow(er) of employee	1.1	0.7	.4	.3	.4
2. Widow (s) of retirees	4.3	3.1	3.1	2.9	3.1
3. Children	0.2	-	-	-	-
4. Total	5.6	3.8	3.5	3.2	3.5
<b>C. Social Security Contrib.</b>					
1. Old Age	-	5.5	5.5	5.5	5.5
2. Medicare	-	1.3	1.3	1.3	1.3
3. Offsetting Medicare Savings	-	.4	.4	.4	.4
4. Net Contribution	-	6.4	6.4	6.4	6.4
<b>D. Sick Leave Net Savings</b>					
	-	-	.6	.6	.6
<b>E. Total Cost</b>					
	29.0	30.8	31.8	30.1	31.0

Table 3

Government Contribution Needed to Fund Benefits  
of Average New Employee Group

Social Security Administration Assumptions  
(percent of career payroll)

	<u>Current Program</u>	<u>Minimum Change</u>	<u>Offset</u>	<u>Step Rate</u>	<u>Add-on</u>
<b>A. Retirement and Survivor Benefits</b>					
1. Total cost	29.4%	20.6%	21.3%	18.6%	20.3%
2. Employee Contribution	7.0	.5	-	-	-
3. Net Cost	22.4	20.1	21.3	18.6	20.3
<b>B. Social Security Contribution Offset by Medicare Savings</b>	-	6.4	6.4	6.4	6.4
<b>C. Sick Leave Net Savings</b>	-	-	.6	.6	.6
<b>D. Total Cost</b>	<b>22.4%</b>	<b>26.5%</b>	<b>27.1%</b>	<b>24.4%</b>	<b>26.1%</b>

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Table 4 is an actuarial balance sheet showing the amount that is needed to fund the current retirement system as a level percentage of total payroll for the next 75 years. The unfunded liability is the present value of the benefits payable to current employees and annuitants less the present value of the dynamic normal cost less the current fund. This is a total of \$366 billion or 12.5% of the total payroll for all employees for the next 75 years. When added to the normal cost the total current program can be funded by 41.5% of payroll over the next 75 years. After 75 years the cost will drop to 29.0% of payroll.

Table 5 shows the development of the unfunded liability cost for the combination of the model plan for new employees and the current plan for current employees and annuitants. In this case the normal cost will be contributed for all employees so this is deducted as a percent of payroll. In addition, current employees will continue to contribute on the old system so 7% of current employees' payroll is an asset. This leads to level 75 year funding of the liability which, when added to the normal cost, equals the total contribution over the next 75 years. After 75 years the total cost will be the normal cost.

Table 6 shows the development of the unfunded liability for the model and the current plan if the latter applies only to current employees over age 45 and all current annuitants. Here, the normal cost is paid on total payroll but the 7 percent employee contribution is only on the payroll of employees now over age 45.

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Table 4

## Added Liability for Current System

A. Present value of benefits		
1. Annuitants		\$191 billion
2. Current employees		450
3. Total		641
B. Present value of assets		
1. Normal cost on current employee payroll less 7%		\$176 billion
2. Contribution of employees at 7%		43
3. Current fund		56
4. Total		275
C. Payment on liability		
1. Added liability A.3. - B.4.		\$366
2. Present value of all salary for 75 years		\$2,928
3. Payment (1) ÷ (2)		12.5%
D. Total government cost		
1. Normal cost less 7%		29.0%
2. Payment on liability		12.5%
3. Total		41.5%

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Table 5

Added Liability for Model Package  
Current Employees Excluded

(Amounts in billions)

	<u>Minimum Change</u>	<u>Offset</u>	<u>Step Rate</u>	<u>Add-on</u>
A. Present value of benefit				
1. Annuitants	\$191	\$191	\$191	\$191
2. Current employees	450	450	450	450
3. Total	641	641	641	641
B. Present value of assets				
1. Normal cost on current employee payroll	\$151	\$158	\$148	\$153
2. Contributions by employees at 7%	43	43	43	43
3. Current fund	56	56	56	56
4. Total	250	257	247	252
C. Payment on liability				
1. Added liability A.3 - B.4.	\$391	\$384	\$394	\$389
2. Present value of all salary for 75 years	2900	2910	2920	2925
3. Payment (1) ÷ (2)	13.5%	13.2%	13.5%	13.3%
D. Total federal payment as percent of payroll				
1. Federal share of normal cost	24.8%	26.0%	24.3%	25.2%
2. Payment on liability	13.5	13.2	13.5	13.3
3. Total	38.3	39.2	37.8	38.5

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Table 6

**Added Liability for Model Packages  
Current Employees Over Age 45 Excluded  
(Amounts in billions)**

	<u>Minimum Change</u>	<u>Offset</u>	<u>Step Rate</u>	<u>Add-on</u>
<b>A. Present value of benefits</b>				
1. Annuitants	\$191	\$191	\$191	\$191
2. Employees over 45	216	216	216	216
3. Employees under 45	164	170	158	174
4. Total	571	577	565	581
<b>B. Present values of assets</b>				
1. Normal cost on current employee payroll	\$152	\$161	\$151	\$155
2. Contribution by employees at 7%	12	12	12	12
3. Current fund	56	56	56	56
4. Total	220	229	219	223
<b>C. Payment on liability</b>				
1. Added liability A.4 - B.4.	\$351	\$348	\$346	\$358
2. Present value of all salary for 75 years	2900	2900	2930	2910
3. Payment (1) ÷ (2)	12.1%	12.0%	11.8%	12.3%
<b>D. Total federal payment as percent of payroll</b>				
1. Federal share of normal cost	24.8%	26.0%	24.3%	25.2%
2. Payment on liability	12.1	12.0	11.8	12.3
3. Total	36.9	38.0	36.1	37.5



### Projections

The current retirement system and each of the four options were projected over the next 75 years based on the dynamic economic assumptions recommended by the Board of Actuaries. These projections appear in the following section. The projections all start in 1979. Although Social Security coverage would not start until 1981 or later, the workforce should not change significantly over this period in a manner that would affect the comparisons.

The projections are for an open group and include current employees and annuitants as well as future employees. New employees are added each year so the total employee population remains constant at the current level of 2,690,000. The age and prior military service characteristics of the new entrants are based on the model of typical new employees used in the 1977 valuation. This new entrant model is also used as a basis for calculating the normal cost.

Each of the options is presented under two alternative methods of extending Social Security coverage to federal employees. The first alternative is that the new benefits apply only to future employees, and current employees and annuitants receive current benefits. The second is that current employees under age 45 earn the new benefits with respect to future service but keep the benefit earned under the current option while current annuitants and current employees age 45 or older receive the current benefits.

The results of each projection are presented in three tables. The first shows the number of age annuitants, disability annuitants, and spouse survivors each year. It also shows the number with a Social Security offset. The second table shows the benefits for each of these groups as a percent of total payroll. The third table shows the development of the Civil Service Retirement fund and the unfunded liability, also in relation to the total payroll. For ease of interpretation results are presented at 5 year intervals. The 76th year is included to show relative contributions after the current liability is amortized.

The number of age annuitants is significantly higher under the new options than under the current system because a greater number of terminated vested employees will receive a deferred benefit. Under ERISA these employees must receive the full actuarial value of their vested benefits. Currently, few CSR covered employees receive a deferred benefit since they can, and most do, divest themselves of benefit rights by withdrawing their contribution if they leave before retirement. These new deferred benefits are often quite small however because of the fewer number of years of service involved, and because the benefits are not adjusted for inflation between termination of employment and age 62 when the benefits begin.

Another reason for the greater number of age annuitants is that under offset, step rate, and add-on options, employees can retire with a reduced benefit at age 55 after 5 years of service which would mean fewer withdrawals and additional age retirements. The benefits for unreduced early retirement, at age 55 with 30 years service, are somewhat less under the options than under the current system. This would normally result in a somewhat smaller number of early retirements and, in fact, retirements were adjusted to take this into account. Although fewer early retirements would tend to reduce the number of age annuitants, this reduction was more than offset by the number of people receiving the reduced early retirement benefits and the improved vested benefits.

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Finally, under the offset, step rate, and add-on options there are a smaller number of disability retirements but most of those who do not receive disability benefits because of the stricter definition will eventually retire normally and increase the number of age annuitants. The disability annuitants shown in the projections include both those qualifying and those not qualifying for Social Security. They also include annuitants over age 62 who had been disabled and never recovered.

The number of survivors eventually is greater under the new options than under the current system because the number of annuitants is so much larger even though the benefit period is limited to two years for survivors of employees and annuitants under age 50.

Table 7 shows the projected incremental cost of items that are not included in the main body of projections. This includes two relatively minor reductions in cost - sick leave and health care covered by Medicare - and one increase in cost - federal contributions for Medicare.

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Table 7

Projection of Changes in  
Sick Leave Usage, Medicare Contribution & Medicare Savings  
as Percentage of Payroll  
For Future Employees Only

<u>Year</u>	<u>Reduction in Federal Expenses for Sick Leave</u>	<u>Health Care</u>	<u>Increases in Federal Expenses for Medicare Contribution</u>
1979	*	*	*
1983	1%	*	3%
1988	.3	*	6
1993	.4	*	.8
1998	.5	*	1.0
2003	.5	.1	1.1
2008	.6	.1	1.3
2013	.6	.2	1.3
2088 and on	.6	.4	1.4

For Current Employees under 45 and Future Employees

1979	.3%	*	.6%
1983	.4	.1%	.8
1989	.5	.1	1.1
1993	.6	.2	1.3
1998	.6	.3	1.3
2003 and on	.6	.4	1.4

\*Less than 0.05%

CURRENT BENEFITS  
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NUMBER OF ANNUITANTS ON ROLL  
(IN THOUSANDS)

YEAR	NUMBER OF AGE ANNUITANTS			NUMBER DISABILITY ANNUITANTS			NUMBER SURVIVORS
	WITH SOCIAL SECURITY OFFSET	WITHOUT SOCIAL SECURITY OFFSET	TOTAL NUMBER	WITH SOCIAL SECURITY OFFSET	WITHOUT SOCIAL SECURITY OFFSET	TOTAL NUMBER	
1979	0.	893.	893.	0.	336.	336.	365.
1983	0.	1074.	1074.	0.	358.	358.	410.
1988	0.	1227.	1227.	0.	370.	370.	466.
1993	0.	1297.	1297.	0.	375.	375.	517.
1998	0.	1299.	1299.	0.	378.	378.	558.
2003	0.	1280.	1280.	0.	383.	383.	580.
2008	0.	1273.	1273.	0.	386.	386.	578.
2013	0.	1290.	1290.	0.	389.	389.	560.
2018	0.	1321.	1321.	0.	392.	392.	541.
2023	0.	1348.	1348.	0.	394.	394.	534.
2028	0.	1363.	1363.	0.	396.	396.	540.
2033	0.	1367.	1367.	0.	397.	397.	550.
2038	0.	1363.	1363.	0.	397.	397.	558.
2043	0.	1358.	1358.	0.	396.	396.	558.
2048	0.	1355.	1355.	0.	396.	396.	555.
2053	0.	1354.	1354.	0.	396.	396.	552.
2054	0.	1354.	1354.	0.	396.	396.	552.

CURRENT BENEFITS

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BENEFITS AS A PERCENT OF PAYROLL

YEAR	AGE ANNUITANTS	DISABILITY ANNUITANTS	SURVIVORS	TOTAL BENEFITS
1979	18.0	5.0	3.1	27.2
1983	21.2	5.2	3.7	31.3
1986	23.8	5.3	4.4	34.7
1993	25.0	5.2	5.0	36.5
1998	25.0	5.3	5.5	37.0
2003	25.0	5.4	5.9	37.5
2008	25.8	5.5	6.0	38.5
2013	26.8	5.6	6.0	39.6
2018	27.8	5.7	5.9	40.6
2023	28.5	5.7	6.0	41.4
2028	28.7	5.7	6.1	41.7
2033	28.5	5.7	6.2	41.6
2038	28.3	5.7	6.2	41.4
2043	28.1	5.7	6.2	41.1
2048	28.0	5.7	6.1	41.0
2053	28.0	5.7	6.1	40.9
2054	28.0	5.7	6.1	40.9

**CURRENT BENEFITS**  
\*\*\*\*\*

**PROJECTION OF BOARD OF ACTUARIES DYNAMIC FUNDING METHOD  
WITH UNFUNDED LIABILITY AMORTIZED OVER 75 YEARS**

**(CONTRIBUTIONS AND BENEFITS AS A PERCENT OF PAYROLL)**

<b>YEAR</b>	<b>FEDERAL CONTRIB. TO CSR</b>	<b>FEDERAL CONTRIB. TO SS</b>	<b>TOTAL FEDERAL CONTRIB.</b>	<b>TOTAL BENEFITS FROM CSR</b>	<b>RATIO OF FUND TO PAYROLL</b>	<b>RATIO OF UNFUNDED LIABILITY TO PAYROLL</b>
1979	41.5	0.	41.5	27.2	1.51	8.47
1983	41.5	0.	41.5	31.3	2.26	7.17
1988	41.5	0.	41.5	34.7	3.02	7.16
1993	41.5	0.	41.5	36.5	3.67	6.78
1998	41.5	0.	41.5	37.0	4.28	6.02
2003	41.5	0.	41.5	37.5	4.92	5.70
2008	41.5	0.	41.5	38.5	5.58	5.02
2013	41.5	0.	41.5	39.6	6.21	4.73
2018	41.5	0.	41.5	40.6	6.79	4.03
2023	41.5	0.	41.5	41.4	7.32	3.70
2028	41.5	0.	41.5	41.7	7.83	2.45
2033	41.5	0.	41.5	41.6	8.34	2.78
2038	41.5	0.	41.5	41.4	8.87	1.01
2043	41.5	0.	41.5	41.1	9.44	1.42
2048	41.5	0.	41.5	41.0	10.03	0.02
2053	41.5	0.	41.5	40.9	10.64	0.00
2054	28.9	0.	28.9	40.9	10.64	0.00

MINIMUM CHANGE BENEFITS FOR FUTURE EMPLOYEES  
 CURRENT BENEFITS FOR CURRENT EMPLOYEES  
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NUMBER OF ANNUITANTS ON ROLL  
 (IN THOUSANDS)

YEAR	NUMBER OF AGE ANNUITANTS			NUMBER DISABILITY ANNUITANTS			NUMBER SURVIVORS
	WITH SOCIAL SECURITY OFFSET	WITHOUT SOCIAL SECURITY OFFSET	TOTAL NUMBER	WITH SOCIAL SECURITY OFFSET	WITHOUT SOCIAL SECURITY OFFSET	TOTAL NUMBER	
1979	0.	893.	893.	-0.	336.	336.	365.
1983	0.	1074.	1074.	0.	358.	358.	410.
1988	4.	1220.	1224.	5.	365.	370.	466.
1993	21.	1267.	1288.	21.	353.	374.	518.
1998	57.	1232.	1289.	48.	328.	376.	561.
2003	124.	1153.	1277.	84.	294.	378.	587.
2008	225.	1064.	1288.	126.	253.	378.	590.
2013	382.	961.	1343.	170.	210.	380.	580.
2018	641.	811.	1452.	213.	170.	383.	574.
2023	981.	623.	1604.	250.	136.	386.	582.
2028	1283.	459.	1742.	277.	111.	388.	607.
2033	1506.	335.	1841.	296.	94.	389.	639.
2038	1655.	250.	1905.	307.	83.	390.	667.
2043	1746.	198.	1944.	313.	76.	389.	683.
2048	1796.	170.	1966.	316.	73.	389.	689.
2053	1816.	159.	1976.	316.	72.	389.	689.
2054	1819.	158.	1977.	317.	72.	389.	689.

MINIMUM CHANGE BENEFITS FOR FUTURE EMPLOYEES  
 CURRENT BENEFITS FOR CURRENT EMPLOYEES  
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BENEFITS AS A PERCENT OF PAYROLL

YEAR	AGE ANNUITANTS	DISABILITY ANNUITANTS	SURVIVORS	TOTAL BENEFITS
1979	18.1	5.0	3.2	27.2
1983	21.6	5.3	3.7	31.6
1988	23.9	5.2	4.4	34.2
1993	24.9	5.0	5.0	35.4
1998	24.8	4.8	5.5	35.4
2003	24.8	4.6	5.8	35.3
2008	25.3	4.3	5.8	35.6
2013	25.6	4.1	5.7	35.5
2018	25.5	4.0	5.6	35.1
2023	24.8	3.9	5.4	34.1
2028	23.6	3.8	5.3	32.7
2033	22.5	3.7	5.2	31.4
2038	21.7	3.6	4.9	30.3
2043	21.2	3.6	4.7	29.5
2048	21.0	3.6	4.5	29.1
2053	20.9	3.6	4.4	28.9
2054	20.9	3.6	4.4	28.9



MINIMUM CHANGE BENEFITS FOR FUTURE EMPLOYEES  
 CURRENT BENEFITS FOR CURRENT EMPLOYEES  
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PROJECTION OF BOARD OF ACTUARIES DYNAMIC FUNDING METHOD  
 WITH UNFUNDED LIABILITY AMORTIZED OVER 75 YEARS  
 (CONTRIBUTIONS AND BENEFITS AS A PERCENT OF PAYROLL)

YEAR	FEDERAL CONTRIB. TO CSR	FEDERAL CONTRIB. TO SS	TOTAL FEDERAL CONTRIB.	TOTAL BENEFITS FROM CSR	RATIO OF FUND TO PAYROLL	RATIO OF UNFUNDED LIABILITY TO PAYROLL
1979	38.3	0.1	38.4	27.2	1.47	8.85
1983	38.3	1.1	39.4	31.6	2.07	8.46
1988	38.3	2.3	40.6	34.2	2.52	7.10
1993	38.3	3.5	41.8	35.4	2.84	7.04
1998	38.3	4.3	42.6	35.4	3.11	6.42
2003	38.3	4.9	43.2	35.3	3.38	5.87
2008	38.3	5.4	43.7	35.6	3.64	5.36
2013	38.3	5.7	44.0	35.5	3.88	4.84
2018	38.3	5.8	44.1	35.1	4.14	4.31
2023	38.3	5.8	44.1	34.1	4.43	3.75
2028	38.3	5.8	44.1	32.7	4.77	3.16
2033	38.3	5.8	44.1	31.4	5.19	2.56
2038	38.3	5.8	44.1	30.3	5.69	1.94
2043	38.3	5.8	44.1	29.5	6.25	1.31
2048	38.3	5.8	44.1	29.1	6.85	0.66
2053	38.3	5.8	44.1	28.9	7.48	0.00
2054	24.8	5.8	30.7	28.9	7.48	0.00

MINIMUM CHANGE BENEFITS FOR CURRENT EMPLOYEES UNDER AGE 45  
 AND FUTURE EMPLOYEES  
 CURRENT BENEFITS FOR CURRENT EMPLOYEES AGE 45 AND OVER  
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NUMBER OF ANNUITANTS ON ROLL  
 (IN THOUSANDS)

YEAR	NUMBER OF AGE ANNUITANTS			NUMBER DISABILITY ANNUITANTS			NUMBER SURVIVORS
	WITH SOCIAL SECURITY OFFSET	WITHOUT SOCIAL SECURITY OFFSET	TOTAL NUMBER	WITH SOCIAL SECURITY OFFSET	WITHOUT SOCIAL SECURITY OFFSET	TOTAL NUMBER	
1979	0.	893.	893.	0.	336.	336.	365.
1983	0.	1073.	1073.	8.	343.	351.	410.
1988	4.	1219.	1224.	30.	333.	363.	467.
1993	21.	1263.	1284.	67.	299.	366.	523.
1998	127.	1176.	1303.	116.	253.	369.	571.
2003	374.	949.	1322.	169.	203.	372.	602.
2008	652.	724.	1377.	216.	159.	375.	612.
2013	1004.	492.	1497.	256.	121.	378.	609.
2018	1303.	331.	1634.	285.	96.	381.	611.
2023	1533.	230.	1763.	302.	82.	384.	627.
2028	1683.	179.	1863.	312.	75.	387.	654.
2033	1762.	161.	1923.	316.	73.	389.	682.
2038	1795.	158.	1952.	317.	73.	389.	698.
2043	1809.	158.	1967.	317.	72.	389.	702.
2048	1817.	157.	1975.	317.	72.	389.	697.
2053	1822.	156.	1978.	317.	72.	389.	692.
2054	1823.	156.	1978.	317.	72.	389.	691.

MINIMUM CHANGE BENEFITS FOR CURRENT EMPLOYEES UNDER AGE 45  
 AND FUTURE EMPLOYEES  
 CURRENT BENEFITS FOR CURRENT EMPLOYEES AGE 45 AND OVER  
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BENEFITS AS A PERCENT OF PAYROLL

YEAR	AGE ANNUITANTS	DISABILITY ANNUITANTS	SURVIVORS	TOTAL BENEFITS
1979	18.0	5.0	3.2	26.7
1983	21.5	5.1	3.7	30.7
1988	23.9	4.8	4.3	33.2
1993	24.7	4.3	4.9	34.0
1998	24.5	3.9	5.4	33.9
2003	23.3	3.7	5.6	32.7
2008	22.5	3.6	5.6	31.7
2013	21.6	3.6	5.2	30.4
2018	21.2	3.5	4.8	29.6
2023	21.1	3.6	4.5	29.2
2028	21.0	3.6	4.4	29.1
2033	20.9	3.6	4.4	29.0
2038	20.9	3.6	4.5	28.9
2043	20.8	3.6	4.5	28.9
2048	20.9	3.6	4.4	28.9
2053	20.9	3.6	4.4	28.9
2054	20.9	3.6	4.4	28.9

MINIMUM CHANGE BENEFITS FOR CURRENT EMPLOYEES UNDER AGE 45  
 AND FUTURE EMPLOYEES  
 CURRENT BENEFITS FOR CURRENT EMPLOYEES AGE 45 AND OVER  
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PROJECTION OF BOARD OF ACTUARIES DYNAMIC FUNDING METHOD  
 WITH UNFUNDED LIABILITY AMORTIZED OVER 75 YEARS

(CONTRIBUTIONS AND BENEFITS AS A PERCENT OF PAYROLL)

YEAR	FEDERAL CONTRIB. TO CSR	FEDERAL CONTRIB. TO SS	TOTAL FEDERAL CONTRIB.	TOTAL BENEFITS FROM CSR	RATIO OF FUND TO PAYROLL	RATIO OF UNFUNDED LIABILITY TO PAYROLL
1979	36.9	2.5	39.4	26.7	1.43	7.74
1983	36.9	3.5	40.4	30.7	1.86	7.78
1988	36.9	4.6	41.5	33.2	2.14	6.89
1993	36.9	5.5	42.4	34.0	2.31	6.68
1998	36.9	5.7	42.7	33.9	2.49	5.78
2003	36.9	5.8	42.7	32.7	2.73	5.71
2008	36.9	5.8	42.7	31.7	3.04	4.86
2013	36.9	5.8	42.7	30.4	3.42	4.79
2018	36.9	5.8	42.8	29.6	3.86	3.89
2023	36.9	5.8	42.8	29.2	4.33	3.78
2028	36.9	5.8	42.8	29.1	4.82	2.85
2033	36.9	5.8	42.8	29.0	5.32	2.70
2038	36.9	5.8	42.7	28.9	5.84	1.74
2043	36.9	5.8	42.7	28.9	6.39	1.18
2048	36.9	5.8	42.8	28.9	6.94	0.80
2053	36.9	5.8	42.8	28.9	7.52	0.40
2054	24.8	5.8	30.7	28.9	7.51	0.40

OFFSET BENEFITS FOR FUTURE EMPLOYEES  
 CURRENT BENEFITS FOR CURRENT EMPLOYEES  
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NUMBER OF ANNUITANTS ON ROLL  
 (IN THOUSANDS)

YEAR	NUMBER OF AGE ANNUITANTS			NUMBER DISABILITY ANNUITANTS			NUMBER SURVIVORS
	WITH SOCIAL SECURITY OFFSET	WITHOUT SOCIAL SECURITY OFFSET	TOTAL NUMBER	WITH SOCIAL SECURITY OFFSET	WITHOUT SOCIAL SECURITY OFFSET	TOTAL NUMBER	
1979	0.	893.	893.	-0.	336.	336.	365.
1983	0.	1074.	1074.	4.	360.	364.	410.
1988	6.	1222.	1227.	17.	367.	384.	466.
1993	27.	1275.	1302.	39.	349.	388.	515.
1998	72.	1248.	1321.	68.	314.	382.	553.
2003	151.	1178.	1329.	102.	268.	371.	570.
2008	264.	1100.	1364.	140.	214.	354.	563.
2013	437.	1001.	1438.	177.	161.	337.	542.
2018	717.	851.	1568.	209.	116.	325.	526.
2023	1079.	661.	1740.	233.	82.	316.	526.
2028	1395.	496.	1891.	251.	57.	308.	543.
2033	1624.	373.	1997.	263.	40.	303.	569.
2038	1775.	289.	2064.	271.	29.	299.	592.
2043	1868.	237.	2105.	275.	22.	297.	604.
2048	1919.	209.	2128.	277.	19.	296.	608.
2053	1941.	198.	2139.	277.	18.	295.	607.
2054	1944.	196.	2140.	277.	18.	295.	607.

OFFSET BENEFITS FOR FUTURE EMPLOYEES  
 CURRENT BENEFITS FOR CURRENT EMPLOYEES  
 \*\*\*\*\*

BENEFITS AS A PERCENT OF PAYROLL

YEAR	AGE ANNUITANTS	DISABILITY ANNUITANTS	SURVIVORS	TOTAL BENEFITS
1979	18.0	5.0	3.1	27.2
1983	21.4	5.3	3.7	31.3
1988	23.7	5.4	4.3	34.1
1993	24.9	5.3	5.0	35.7
1998	25.0	5.3	5.5	36.1
2003	25.1	5.2	5.7	36.2
2008	25.7	5.0	5.7	36.6
2013	25.9	4.7	5.5	36.2
2018	25.7	4.5	5.3	35.6
2023	25.1	4.5	5.1	34.6
2028	24.1	4.4	4.9	33.4
2033	23.1	4.3	4.7	32.2
2038	22.3	4.3	4.5	31.1
2043	21.9	4.2	4.3	30.4
2048	21.7	4.2	4.1	30.0
2053	21.6	4.2	4.0	29.9
2054	21.6	4.2	4.0	29.8

OFFSET BENEFITS FOR FUTURE EMPLOYEES  
 CURRENT BENEFITS FOR CURRENT EMPLOYEES  
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PROJECTION OF BOARD OF ACTUARIES DYNAMIC FUNDING METHOD  
 WITH UNFUNDED LIABILITY AMORTIZED OVER 75 YEARS

(CONTRIBUTIONS AND BENEFITS AS A PERCENT OF PAYROLL)

YEAR	FEDERAL CONTRIB. TO CSR	FEDERAL CONTRIB. TO SS	TOTAL FEDERAL CONTRIB.	TOTAL BENEFITS FROM CSR	RATIO OF FUND TO PAYROLL	RATIO OF UNFUNDED LIABILITY TO PAYROLL
1979	39.2	0.1	39.3	27.2	1.48	8.07
1983	39.2	1.2	40.4	31.3	2.11	8.41
1988	39.2	2.4	41.6	34.1	2.62	7.98
1993	39.2	3.5	42.7	35.7	2.99	6.87
1998	39.2	4.3	43.5	36.1	3.30	6.30
2003	39.2	4.9	44.1	36.2	3.59	5.78
2008	39.2	5.4	44.6	36.6	3.85	5.47
2013	39.2	5.7	44.9	36.2	4.09	4.75
2018	39.2	5.8	45.0	35.6	4.37	4.43
2023	39.2	5.8	45.0	34.6	4.68	3.98
2028	39.2	5.8	45.0	33.4	5.04	3.10
2033	39.2	5.8	45.0	32.2	5.47	2.70
2038	39.2	5.8	45.0	31.1	5.98	1.70
2043	39.2	5.8	45.0	30.4	6.55	1.48
2048	39.2	5.8	45.0	30.0	7.16	0.95
2053	39.2	5.8	45.0	29.9	7.80	0.40
2054	26.0	5.8	31.9	29.9	7.80	0.40

OFFSET BENEFITS FOR CURRENT EMPLOYEES UNDER AGE 45  
 AND FUTURE EMPLOYEES  
 CURRENT BENEFITS FOR CURRENT EMPLOYEES AGE 45 AND OVER  
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NUMBER OF ANNUITANTS ON ROLL  
 (IN THOUSANDS)

YEAR	NUMBER OF AGE ANNUITANTS			NUMBER DISABILITY ANNUITANTS			NUMBER SURVIVORS
	WITH SOCIAL SECURITY OFFSET	WITHOUT SOCIAL SECURITY OFFSET	TOTAL NUMBER	WITH SOCIAL SECURITY OFFSET	WITHOUT SOCIAL SECURITY OFFSET	TOTAL NUMBER	
1979	0.	893.	893.	0.	338.	338.	367.
1983	0.	1074.	1074.	17.	346.	362.	409.
1988	6.	1222.	1227.	48.	324.	371.	457.
1993	27.	1277.	1304.	90.	272.	362.	503.
1998	151.	1209.	1360.	136.	209.	345.	539.
2003	419.	985.	1404.	178.	152.	329.	558.
2008	716.	767.	1483.	213.	103.	316.	558.
2013	1091.	535.	1626.	239.	66.	305.	547.
2018	1411.	371.	1782.	258.	42.	299.	541.
2023	1658.	268.	1926.	269.	28.	297.	552.
2028	1815.	216.	2031.	274.	22.	296.	576.
2033	1893.	198.	2091.	276.	19.	296.	601.
2038	1922.	196.	2118.	277.	18.	296.	617.
2043	1933.	197.	2130.	277.	18.	296.	620.
2048	1941.	196.	2137.	277.	18.	295.	615.
2053	1947.	195.	2141.	277.	18.	295.	609.
2054	1948.	194.	2142.	277.	18.	295.	608.



OFFSET BENEFITS FOR CURRENT EMPLOYEES UNDER AGE 45  
 AND FUTURE EMPLOYEES  
 CURRENT BENEFITS FOR CURRENT EMPLOYEES AGE 45 AND OVER  
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BENEFITS AS A PERCENT OF PAYROLL

YEAR	AGE ANNUITANTS	DISABILITY ANNUITANTS	SURVIVORS	TOTAL BENEFITS
1979	18.0	5.0	3.2	26.7
1983	21.3	5.2	3.7	30.7
1988	23.6	5.1	4.3	33.2
1993	24.4	4.8	4.8	34.1
1998	24.6	4.6	5.2	34.4
2003	23.5	4.4	5.4	33.2
2008	22.9	4.3	5.2	32.4
2013	22.3	4.2	4.9	31.4
2018	22.0	4.2	4.5	30.7
2023	22.0	4.2	4.2	30.4
2028	22.0	4.2	4.0	30.2
2033	21.8	4.2	4.0	30.1
2038	21.7	4.2	4.0	29.9
2043	21.6	4.2	4.0	29.9
2048	21.6	4.2	4.0	29.8
2053	21.6	4.2	3.9	29.8
2054	21.6	4.2	3.9	29.8

OFFSET BENEFITS FOR CURRENT EMPLOYEES UNDER AGE 45  
 AND FUTURE EMPLOYEES  
 CURRENT BENEFITS FOR CURRENT EMPLOYEES AGE 45 AND OVER  
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PROJECTION OF BOARD OF ACTUARIES DYNAMIC FUNDING METHOD  
 WITH UNFUNDED LIABILITY AMORTIZED OVER 75 YEARS  
 (CONTRIBUTIONS AND BENEFITS AS A PERCENT OF PAYROLL)

YEAR	FEDERAL CONTRIB. TO CSR	FEDERAL CONTRIB. TO SS	TOTAL FEDERAL CONTRIB.	TOTAL BENEFITS FROM CSR	RATIO OF FUND TO PAYROLL	RATIO OF UNFUNDED LIABILITY TO PAYROLL
1979	38.0	2.5	40.5	26.7	1.44	7.08
1983	38.0	3.5	41.5	30.7	1.90	7.26
1988	38.0	4.6	42.5	33.2	2.23	6.76
1993	38.0	5.5	43.5	34.1	2.46	6.18
1998	38.0	5.8	43.7	34.4	2.69	5.70
2003	38.0	5.8	43.8	33.2	2.96	5.44
2008	38.0	5.8	43.8	32.4	3.30	4.80
2013	38.0	5.8	43.8	31.4	3.70	4.23
2018	38.0	5.8	43.8	30.7	4.15	3.84
2023	38.0	5.8	43.8	30.4	4.62	3.34
2028	38.0	5.8	43.8	30.2	5.10	2.81
2033	38.0	5.8	43.8	30.1	5.60	2.47
2038	38.0	5.8	43.8	29.9	6.13	1.92
2043	38.0	5.8	43.8	29.9	6.68	1.46
2048	38.0	5.8	43.8	29.8	7.25	0.99
2053	38.0	5.8	43.8	29.8	7.83	0.40
2054	26.0	5.8	31.9	29.8	7.83	0.40

STEP RATE BENEFITS FOR FUTURE EMPLOYEES  
 CURRENT BENEFITS FOR CURRENT EMPLOYEES  
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NUMBER OF ANNUITANTS ON ROLL  
 (IN THOUSANDS)

YEAR	NUMBER OF AGE ANNUITANTS			NUMBER DISABILITY ANNUITANTS			NUMBER SURVIVORS
	WITH SOCIAL SECURITY OFFSET	WITHOUT SOCIAL SECURITY OFFSET	TOTAL NUMBER	WITH SOCIAL SECURITY OFFSET	WITHOUT SOCIAL SECURITY OFFSET	TOTAL NUMBER	
1979	0.	893.	893.	0.	336.	336.	365.
1983	0.	1074.	1074.	4.	361.	364.	410.
1988	0.	1228.	1228.	16.	368.	385.	466.
1993	0.	1305.	1305.	35.	354.	389.	516.
1998	0.	1329.	1329.	58.	326.	384.	554.
2003	0.	1346.	1346.	80.	292.	372.	571.
2008	0.	1394.	1394.	104.	251.	355.	565.
2013	0.	1488.	1488.	122.	216.	337.	546.
2018	0.	1632.	1632.	129.	195.	323.	531.
2023	0.	1810.	1810.	128.	184.	313.	533.
2028	0.	1964.	1964.	128.	177.	305.	551.
2033	0.	2071.	2071.	129.	170.	299.	578.
2038	0.	2140.	2140.	130.	165.	295.	601.
2043	0.	2183.	2183.	130.	162.	292.	614.
2048	0.	2207.	2207.	129.	161.	291.	617.
2053	0.	2218.	2218.	129.	161.	290.	616.
2054	0.	2220.	2220.	129.	161.	290.	616.

STEP RATE BENEFITS FOR FUTURE EMPLOYEES  
 CURRENT BENEFITS FOR CURRENT EMPLOYEES  
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BENEFITS AS A PERCENT OF PAYROLL

YEAR	AGE ANNUITANTS	DISABILITY ANNUITANTS	SURVIVORS	TOTAL BENEFITS
1979	18.0	5.0	3.1	27.1
1983	21.3	5.3	3.7	31.2
1988	23.6	5.3	4.3	34.0
1993	24.6	5.3	4.9	35.4
1998	24.8	5.2	5.4	35.8
2003	25.0	5.2	5.7	36.0
2008	25.8	5.0	5.7	36.5
2013	26.3	4.7	5.5	36.6
2018	26.1	4.6	5.3	36.0
2023	25.0	4.5	5.0	34.6
2028	23.6	4.5	4.8	32.9
2033	22.3	4.4	4.6	31.3
2038	21.4	4.4	4.3	30.1
2043	20.8	4.3	4.0	29.2
2048	20.6	4.3	3.8	28.8
2053	20.5	4.3	3.7	28.6
2054	20.5	4.3	3.7	28.5

STEP RATE BENEFITS FOR FUTURE EMPLOYEES  
 CURRENT BENEFITS FOR CURRENT EMPLOYEES  
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PROJECTION OF BOARD OF ACTUARIES DYNAMIC FUNDING METHOD  
 WITH UNFUNDED LIABILITY AMORTIZED OVER 75 YEARS

(CONTRIBUTIONS AND BENEFITS AS A PERCENT OF PAYROLL)

YEAR	FEDERAL CONTRIB. TO CSR	FEDERAL CONTRIB. TO SS	TOTAL FEDERAL CONTRIB.	TOTAL BENEFITS FROM CSR	RATIO OF FUND TO PAYROLL	RATIO OF UNFUNDED LIABILITY TO PAYROLL
1979	37.8	0.2	38.0	27.1	1.46	8.88
1983	37.8	1.2	39.0	31.2	2.04	8.91
1988	37.8	2.4	40.2	34.0	2.48	7.84
1993	37.8	3.6	41.4	35.4	2.78	6.98
1998	37.8	4.3	42.1	35.8	3.03	6.39
2003	37.8	4.9	42.8	36.0	3.26	5.86
2008	37.8	5.4	43.3	36.5	3.45	5.36
2013	37.8	5.7	43.5	36.6	3.62	4.85
2018	37.8	5.8	43.6	36.0	3.81	4.34
2023	37.8	5.8	43.7	34.6	4.03	3.78
2028	37.8	5.8	43.7	32.9	4.31	3.18
2033	37.8	5.8	43.7	31.3	4.69	2.57
2038	37.8	5.8	43.7	30.1	5.16	1.95
2043	37.8	5.8	43.7	29.2	5.70	1.51
2048	37.8	5.8	43.7	28.8	6.28	0.97
2053	37.8	5.8	43.7	28.6	6.89	0.60
2054	24.3	5.8	30.2	28.6	6.88	0.60

STEP RATE BENEFITS FOR CURRENT EMPLOYEES UNDER AGE 45  
 AND FUTURE EMPLOYEES  
 CURRENT BENEFITS FOR CURRENT EMPLOYEES AGE 45 AND OVER  
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NUMBER OF ANNUITANTS ON ROLL  
 (IN THOUSANDS)

YEAR	NUMBER OF AGE ANNUITANTS			NUMBER DISABILITY ANNUITANTS			
	WITH SOCIAL SECURITY OFFSET	WITHOUT SOCIAL SECURITY OFFSET	TOTAL NUMBER	WITH SOCIAL SECURITY OFFSET	WITHOUT SOCIAL SECURITY OFFSET	TOTAL NUMBER	NUMBER SURVIVORS
1979	0.	893.	893.	0.	338.	338.	367.
1983	0.	1074.	1074.	17.	346.	363.	409.
1988	0.	1228.	1228.	47.	325.	372.	458.
1993	0.	1304.	1304.	86.	277.	364.	503.
1998	0.	1361.	1361.	116.	232.	348.	540.
2003	0.	1411.	1411.	128.	204.	332.	560.
2008	0.	1503.	1503.	136.	183.	319.	560.
2013	0.	1669.	1669.	132.	175.	307.	550.
2018	0.	1843.	1843.	130.	169.	299.	547.
2023	0.	1994.	1994.	128.	166.	295.	559.
2028	0.	2103.	2103.	128.	165.	292.	584.
2033	0.	2164.	2164.	129.	163.	292.	611.
2038	0.	2194.	2194.	130.	161.	291.	627.
2043	0.	2208.	2208.	130.	161.	291.	630.
2048	0.	2217.	2217.	129.	161.	290.	624.
2053	0.	2221.	2221.	129.	161.	290.	619.
2054	0.	2221.	2221.	129.	161.	290.	618.

STEP RATE BENEFITS FOR CURRENT EMPLOYEES UNDER AGE 45  
 AND FUTURE EMPLOYEES  
 CURRENT BENEFITS FOR CURRENT EMPLOYEES AGE 45 AND OVER  
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BENEFITS AS A PERCENT OF PAYROLL

YEAR	AGE ANNUITANTS	DISABILITY ANNUITANTS	SURVIVORS	TOTAL BENEFITS
1979	18.0	5.0	3.2	26.7
1983	21.3	5.2	3.7	30.6
1988	23.4	5.1	4.2	33.0
1993	24.0	4.8	4.7	33.6
1998	23.8	4.5	5.1	33.5
2003	22.5	4.4	5.3	32.2
2008	21.8	4.4	5.1	31.4
2013	21.5	4.5	4.8	30.8
2018	21.4	4.5	4.3	30.2
2023	21.2	4.4	4.0	29.6
2028	20.9	4.4	3.8	29.1
2033	20.7	4.4	3.8	28.9
2038	20.6	4.3	3.8	28.7
2043	20.5	4.3	3.8	28.6
2048	20.5	4.3	3.7	28.5
2053	20.5	4.3	3.7	28.5
2054	20.5	4.3	3.7	28.5

STEP RATE BENEFITS FOR CURRENT EMPLOYEES UNDER AGE 45  
 AND FUTURE EMPLOYEES  
 CURRENT BENEFITS FOR CURRENT EMPLOYEES AGE 45 AND OVER  
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PROJECTION OF BOARD OF ACTUARIES DYNAMIC FUNDING METHOD  
 WITH UNFUNDED LIABILITY AMORTIZED OVER 75 YEARS

(CONTRIBUTIONS AND BENEFITS AS A PERCENT OF PAYROLL)

YEAR	FEDERAL CONTRIB. TO CSR	FEDERAL CONTRIB. TO SS	TOTAL FEDERAL CONTRIB.	TOTAL BENEFITS FROM CSR	RATIO OF FUND TO PAYROLL	RATIO OF UNFUNDED LIABILITY TO PAYROLL
1979	36.1	2.5	38.7	26.7	1.42	7.18
1983	36.1	3.5	39.7	30.6	1.81	7.36
1988	36.1	4.6	40.7	33.0	2.05	6.66
1993	36.1	5.5	41.7	33.6	2.19	6.03
1998	36.1	5.8	41.9	33.5	2.35	5.27
2003	36.1	5.8	41.9	32.2	2.56	5.10
2008	36.1	5.8	41.9	31.4	2.87	4.98
2013	36.1	5.8	42.0	30.8	3.23	4.46
2018	36.1	5.8	42.0	30.2	3.61	3.80
2023	36.1	5.9	42.0	29.6	4.01	3.30
2028	36.1	5.8	42.0	29.1	4.43	2.78
2033	36.1	5.8	42.0	28.9	4.89	2.45
2038	36.1	5.8	42.0	28.7	5.37	1.90
2043	36.1	5.8	42.0	28.6	5.87	1.45
2048	36.1	5.8	42.0	28.5	6.39	0.98
2053	36.1	5.8	42.0	28.5	6.92	0.50
2054	44.3	5.8	30.2	28.5	6.91	0.50



ADD-ON BENEFITS FOR FUTURE EMPLOYEES  
 CURRENT BENEFITS FOR CURRENT EMPLOYEES  
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NUMBER OF ANNUITANTS ON ROLL  
 (IN THOUSANDS)

YEAR	NUMBER OF AGE ANNUITANTS			NUMBER DISABILITY ANNUITANTS			NUMBER SURVIVORS
	WITH SOCIAL SECURITY OFFSET	WITHOUT SOCIAL SECURITY OFFSET	TOTAL NUMBER	WITH SOCIAL SECURITY OFFSET	WITHOUT SOCIAL SECURITY OFFSET	TOTAL NUMBER	
1979	0.	893.	893.	0.	336.	336.	365.
1983	0.	1074.	1074.	0.	363.	363.	410.
1988	0.	1227.	1227.	0.	382.	382.	465.
1993	0.	1300.	1300.	0.	385.	385.	515.
1998	0.	1316.	1316.	0.	379.	379.	552.
2003	0.	1321.	1321.	0.	366.	366.	569.
2008	0.	1351.	1351.	0.	349.	349.	561.
2013	0.	1416.	1416.	0.	332.	332.	541.
2018	0.	1538.	1538.	0.	321.	321.	523.
2023	0.	1707.	1707.	0.	312.	312.	522.
2028	0.	1857.	1857.	0.	306.	306.	539.
2033	0.	1962.	1962.	0.	301.	301.	565.
2038	0.	2028.	2028.	0.	297.	297.	587.
2043	0.	2068.	2068.	0.	295.	295.	599.
2048	0.	2091.	2091.	0.	294.	294.	603.
2053	0.	2101.	2101.	0.	293.	293.	602.
2054	0.	2103.	2103.	0.	293.	293.	602.

ADD-ON BENEFITS FOR FUTURE EMPLOYEES  
 CURRENT BENEFITS FOR CURRENT EMPLOYEES  
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BENEFITS AS A PERCENT OF PAYROLL

YEAR	AGE ANNUITANTS	DISABILITY ANNUITANTS	SURVIVORS	TOTAL BENEFITS
1979	18.0	5.0	3.1	27.2
1983	21.5	5.3	3.7	31.5
1988	23.8	5.4	4.4	34.4
1993	25.0	5.5	5.0	36.0
1998	25.1	5.4	5.5	36.3
2003	25.1	5.4	5.8	36.5
2008	25.5	5.2	5.8	36.6
2013	25.2	4.9	5.5	35.7
2018	24.6	4.8	5.3	34.8
2023	24.0	4.7	5.1	33.8
2028	23.0	4.6	4.9	32.6
2033	22.0	4.6	4.7	31.4
2038	21.2	4.5	4.5	30.3
2043	20.7	4.5	4.3	29.5
2048	20.5	4.5	4.1	29.1
2053	20.5	4.5	4.0	29.0
2054	20.5	4.5	3.9	28.9

ADD-ON BENEFITS FOR FUTURE EMPLOYEES  
 CURRENT BENEFITS FOR CURRENT EMPLOYEES  
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PROJECTION OF BOARD OF ACTUARIES DYNAMIC FUNDING METHOD  
 WITH UNFUNDED LIABILITY AMORTIZED OVER 75 YEARS.

(CONTRIBUTIONS AND BENEFITS AS A PERCENT OF PAYROLL)

YEAR	FEDERAL CONTRIB. TO CSR	FEDERAL CONTRIB. TO SS	TOTAL FEDERAL CONTRIB.	TOTAL BENEFITS FROM CSR	RATIO OF FUND TO PAYROLL	RATIO OF UNFUNDED LIABILITY TO PAYROLL
1979	38.5	0.1	38.7	27.2	1.47	8.19
1983	38.5	1.1	39.7	31.5	2.08	8.96
1988	38.5	2.4	40.9	34.4	2.55	7.63
1993	38.5	3.5	42.1	36.0	2.87	7.00
1998	38.5	4.3	42.8	36.3	3.13	6.42
2003	38.5	4.9	43.4	36.5	3.37	5.89
2008	38.5	5.4	44.0	36.6	3.57	5.98
2013	38.5	5.7	44.2	35.7	3.77	4.83
2018	38.5	5.8	44.3	34.8	4.03	4.49
2023	38.5	5.8	44.4	33.8	4.35	3.13
2028	38.5	5.8	44.4	32.6	4.71	3.14
2033	38.5	5.8	44.4	31.4	5.14	2.24
2038	38.5	5.8	44.4	30.3	5.64	1.93
2043	38.5	5.8	44.4	29.5	6.21	1.90
2048	38.5	5.8	44.4	29.1	6.83	0.96
2053	38.5	5.8	44.4	29.0	7.47	0.00
2054	25.2	5.8	31.0	29.0	7.47	0.00

ADD-ON BENEFITS FOR CURRENT EMPLOYEES UNDER AGE 45  
 AND FUTURE EMPLOYEES  
 CURRENT BENEFITS FOR CURRENT EMPLOYEES AGE 45 AND OVER  
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NUMBER OF ANNUITANTS ON ROLL  
 (IN THOUSANDS)

YEAR	NUMBER OF AGE ANNUITANTS			NUMBER DISABILITY ANNUITANTS			
	WITH SOCIAL SECURITY OFFSET	WITHOUT SOCIAL SECURITY OFFSET	TOTAL NUMBER	WITH SOCIAL SECURITY OFFSET	WITHOUT SOCIAL SECURITY OFFSET	TOTAL NUMBER	NUMBER SURVIVORS
1979	0.	893.	893.	0.	337.	337.	367.
1983	0.	1074.	1074.	0.	361.	361.	409.
1988	0.	1227.	1227.	0.	368.	368.	457.
1993	0.	1304.	1304.	0.	358.	358.	502.
1998	0.	1360.	1360.	0.	340.	340.	539.
2003	0.	1400.	1400.	0.	323.	323.	557.
2008	0.	1474.	1474.	0.	310.	310.	556.
2013	0.	1606.	1606.	0.	300.	300.	545.
2018	0.	1753.	1753.	0.	295.	295.	539.
2023	0.	1894.	1894.	0.	293.	293.	549.
2028	0.	1998.	1998.	0.	293.	293.	572.
2033	0.	2057.	2057.	0.	293.	293.	597.
2038	0.	2082.	2082.	0.	293.	293.	612.
2043	0.	2093.	2093.	0.	293.	293.	615.
2048	0.	2100.	2100.	0.	293.	293.	610.
2053	0.	2104.	2104.	0.	293.	293.	605.
2054	0.	2105.	2105.	0.	293.	293.	604.

ADD-ON BENEFITS FOR CURRENT EMPLOYEES UNDER AGE 4  
 AND FUTURE EMPLOYEES  
 CURRENT BENEFITS FOR CURRENT EMPLOYEES AGE 45 AND  
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BENEFITS AS A PERCENT OF PAYROLL

YEAR	AGE ANNUITANTS	DISABILITY ANNUITANTS	SURVIVORS	TOTAL BENEFITS
1979	18.0	5.0	3.2	26.7
1983	21.4	5.3	3.7	30.8
1988	23.7	5.2	4.3	33.4
1993	24.5	5.0	4.8	34.4
1998	24.5	4.8	5.3	34.7
2003	23.4	4.7	5.5	33.6
2008	22.6	4.6	5.4	32.6
2013	21.8	4.6	5.0	31.4
2018	21.3	4.5	4.6	30.4
2023	21.2	4.5	4.2	30.0
2028	21.1	4.5	4.1	29.7
2033	20.8	4.5	4.1	29.4
2038	20.6	4.5	4.1	29.2
2043	20.5	4.5	4.0	29.0
2048	20.5	4.5	4.0	28.9
2053	20.5	4.5	3.9	28.9
2054	20.5	4.5	3.9	28.9

ADD-ON BENEFITS FOR CURRENT EMPLOYEES UNDER AGE 45  
 AND FUTURE EMPLOYEES  
 CURRENT BENEFITS FOR CURRENT EMPLOYEES AGE 45 AND OVER  
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PROJECTION OF BOARD OF ACTUARIES DYNAMIC FUNDING METHOD  
 WITH UNFUNDED LIABILITY AMORTIZED OVER 75 YEARS

(CONTRIBUTIONS AND BENEFITS AS A PERCENT OF PAYROLL)

YEAR	FEDERAL CONTRIB. TO CSR	FEDERAL CONTRIB. TO SS	TOTAL FEDERAL CONTRIB.	TOTAL BENEFITS FROM CSR	RATIO OF FUND TO PAYROLL	RATIO OF UNFUNDED LIABILITY TO PAYROLL
1979	37.5	2.5	40.0	26.7	1.43	8.09
1983	37.5	3.5	41.0	30.8	1.88	7.08
1988	37.5	4.6	42.0	33.4	2.17	6.97
1993	37.5	5.5	43.0	34.4	2.36	6.97
1998	37.5	5.8	43.2	34.7	2.55	5.90
2003	37.5	5.8	43.3	33.6	2.77	5.43
2008	37.5	5.8	43.3	32.6	3.06	4.97
2013	37.5	5.8	43.3	31.4	3.41	4.97
2018	37.5	5.8	43.3	30.4	3.82	3.96
2023	37.5	5.8	43.3	30.0	4.27	3.43
2028	37.5	5.8	43.3	29.7	4.75	2.89
2033	37.5	5.8	43.3	29.4	5.25	2.94
2038	37.5	5.8	43.3	29.2	5.77	1.77
2043	37.5	5.8	43.3	29.0	6.33	1.40
2048	37.5	5.8	43.3	28.9	6.91	0.81
2053	37.5	5.8	43.3	28.9	7.51	0.0
2054	25.2	5.8	31.0	28.9	7.51	0.0

### Individual Benefit Levels

The following tables compare the current Civil Service Retirement benefit with Social Security and the four models of integrating with Social Security. Monthly annuities and replacement ratios were projected for retirement in 1985 at ages 55, 60, 62 and 65 for various combinations of salary and service. Projections to 1985 avoid the complications of transitional Social Security formulae.

After 1979, annual general schedule increases of 6.5% and annual inflation of 6% were assumed. Benefits were discounted from 1985 to 1979 by the 6.5% salary increase rate.

Social Security benefits were computed using indexed earnings. If total federal service is less than or equal to 35 years, the primary insurance amount is multiplied by the ratio of federal service to 35 years; if service is greater than 35 years, the Social Security benefit is the Primary Insurance Amount. The Primary Insurance Amount is reduced by 20% for retirement at age 62. Family benefits are not included.

Salary histories were the same as those made in the actuarial valuation described earlier in this paper. The range of final salaries, from \$10,000 to \$50,000, cover almost all current federal employees. Replacement ratios are less than the direct benefit calculation percentage since those are applied to the high-three years salary while the ratio is based on final salary.

**RETIRED AT AGE 55  
BENEFIT BEFORE AGE 62**



PROJECTED CSR BENEFITS - MINIMUM CHANGE FORMULA  
 AGE 55 RETIREMENT  
 BENEFIT BEFORE AGE 62  
 PROJECTED TO 1985 AND DISCOUNTED AT 6.5% TO 1979  
 REPLACEMENT RATIOS

FINAL SALARY		SERVICE	
		30	35
\$10000	CSR	52.6	62.0
10000	TOT	58.7	69.3
10000	SUP	14.3	16.7
10000	NEW	44.4	52.6
15000	CSR	52.6	62.0
15000	TOT	56.4	66.6
15000	SUP	11.9	14.0
15000	NEW	44.4	52.6
20000	CSR	52.6	62.0
20000	TOT	54.6	64.6
20000	SUP	10.2	11.9
20000	NEW	44.4	52.6
25000	CSR	52.6	62.0
25000	TOT	53.3	63.0
25000	SUP	8.8	10.3
25000	NEW	44.4	52.6
30000	CSR	52.6	62.0
30000	TOT	52.1	61.6
30000	SUP	7.7	9.0
30000	NEW	44.4	52.6
35000	CSR	52.6	62.0
35000	TOT	51.1	60.5
35000	SUP	6.7	7.8
35000	NEW	44.4	52.6
40000	CSR	52.6	62.0
40000	TOT	50.3	59.5
40000	SUP	5.9	6.9
40000	NEW	44.4	52.6
45000	CSR	52.6	62.0
45000	TOT	49.7	58.7
45000	SUP	5.2	6.1
45000	NEW	44.4	52.6
50000	CSR	52.6	62.0
50000	TOT	49.2	58.1
50000	SUP	4.7	5.5
50000	NEW	44.4	52.6

PROJECTED CSR BENEFITS - OFFSET FORMULA  
 AGE 55 RETIREMENT  
 BENEFIT BEFORE AGE 62  
 PROJECTED TO 1985 AND DISCOUNTED AT 6.5% TO 1979  
 REPLACEMENT RATIOS

FINAL SALARY		SERVICE	
		30	35
\$10000	CSR	52.6	62.0
10000	TOT	46.3	54.0
10000	SUP	0.	0.
10000	NEW	46.3	54.0
15000	CSR	52.6	62.0
15000	TOT	46.3	54.0
15000	SUP	0.	0.
15000	NEW	46.3	54.0
20000	CSR	52.6	62.0
20000	TOT	46.3	54.0
20000	SUP	0.	0.
20000	NEW	46.3	54.0
25000	CSR	52.6	62.0
25000	TOT	46.3	54.0
25000	SUP	0.	0.
25000	NEW	46.3	54.0
30000	CSR	52.6	62.0
30000	TOT	46.3	54.0
30000	SUP	0.	0.
30000	NEW	46.3	54.0
35000	CSR	52.6	62.0
35000	TOT	46.3	54.0
35000	SUP	0.	0.
35000	NEW	46.3	54.0
40000	CSR	52.6	62.0
40000	TOT	46.3	54.0
40000	SUP	0.	0.
40000	NEW	46.3	54.0
45000	CSR	52.6	62.0
45000	TOT	46.3	54.0
45000	SUP	0.	0.
45000	NEW	46.3	54.0
50000	CSR	52.6	62.0
50000	TOT	46.3	54.0
50000	SUP	0.	0.
50000	NEW	46.3	54.0

PROJECTED CSR BENEFITS - STEP RATE FORMULA  
 AGE 55 RETIREMENT  
 BENEFIT BEFORE AGE 62  
 PROJECTED TO 1965 AND DISCOUNTED AT 6.5% TO 1979  
 REPLACEMENT RATIOS

FINAL SALARY		SERVICE	
		30	35
\$10000	CSR	52.6	62.0
10000	TOT	46.3	54.0
10000	SUP	14.0	16.4
10000	NEW	32.3	37.7
15000	CSR	52.6	62.0
15000	TOT	46.3	54.0
15000	SUP	10.7	12.5
15000	NEW	35.6	41.6
20000	CSR	52.6	62.0
20000	TOT	46.3	54.0
20000	SUP	8.0	9.4
20000	NEW	38.3	44.7
25000	CSR	52.6	62.0
25000	TOT	46.3	54.0
25000	SUP	6.4	7.5
25000	NEW	39.9	46.6
30000	CSR	52.6	62.0
30000	TOT	46.3	54.0
30000	SUP	5.3	6.2
30000	NEW	41.0	47.8
35000	CSR	52.6	62.0
35000	TOT	46.3	54.0
35000	SUP	4.6	5.3
35000	NEW	41.7	48.7
40000	CSR	52.6	62.0
40000	TOT	46.3	54.0
40000	SUP	4.0	4.7
40000	NEW	42.3	49.4
45000	CSR	52.6	62.0
45000	TOT	46.3	54.0
45000	SUP	3.6	4.2
45000	NEW	42.8	49.9
50000	CSR	52.6	62.0
50000	TOT	46.3	54.0
50000	SUP	3.2	3.7
50000	NEW	43.1	50.3

PROJECTED CSR BENEFITS - ADD-ON FORMULA  
 AGE 55 RETIREMENT  
 BENEFIT BEFORE AGE 62  
 PROJECTED TO 1985 AND DISCOUNTED AT 6.5% TO 1979  
 REPLACEMENT RATIOS

FINAL SALARY		SERVICE	
		30	35
10000	CSR	52.6	62.0
	TOT	37.9	44.2
	SUP	0.	0.
	NEW	37.9	44.2
15000	CSR	52.6	62.0
	TOT	37.9	44.2
	SUP	0.	0.
	NEW	37.9	44.2
20000	CSR	52.6	62.0
	TOT	37.9	44.2
	SUP	0.	0.
	NEW	37.9	44.2
25000	CSR	52.6	62.0
	TOT	37.9	44.2
	SUP	0.	0.
	NEW	37.9	44.2
30000	CSR	52.6	62.0
	TOT	37.9	44.2
	SUP	0.	0.
	NEW	37.9	44.2
35000	CSR	52.6	62.0
	TOT	37.9	44.2
	SUP	0.	0.
	NEW	37.9	44.2
40000	CSR	52.6	62.0
	TOT	37.9	44.2
	SUP	0.	0.
	NEW	37.9	44.2
45000	CSR	52.6	62.0
	TOT	37.9	44.2
	SUP	0.	0.
	NEW	37.9	44.2
50000	CSR	52.6	62.0
	TOT	37.9	44.2
	SUP	0.	0.
	NEW	37.9	44.2

**RETIRED AT AGE 55  
BENEFIT AT AGE 62**

CIVIL SERVICE RETIREMENT COMPARED TO SOCIAL SECURITY  
 AGE 55 RETIREMENT  
 BENEFIT AFTER AGE 62  
 PROJECTED TO 1985 AND DISCOUNTED AT 6.5% TO 1979  
 REPLACEMENT RATIOS

FINAL SALARY		SERVICE	
		30	35
\$10000	CSR	52.6	62.0
10000	SS	32.7	38.2
15000	CSR	52.6	62.0
15000	SS	27.2	32.0
20000	CSR	52.6	62.0
20000	SS	23.3	27.3
25000	CSR	52.6	62.0
25000	SS	20.2	23.6
30000	CSR	52.6	62.0
30000	SS	17.5	20.5
35000	CSR	52.6	62.0
35000	SS	15.3	17.9
40000	CSR	52.6	62.0
40000	SS	13.5	15.7
45000	CSR	52.6	62.0
45000	SS	12.0	14.0
50000	CSR	52.6	62.0
50000	SS	10.8	12.6

PROJECTED CSR BENEFITS - MINIMUM CHANGE FORMULA  
 AGE 55 RETIREMENT  
 BENEFIT AFTER AGE 62  
 PROJECTED TO 1985 AND DISCOUNTED AT 6.5% TO 1979  
 REPLACEMENT RATIOS

FINAL SALARY		SERVICE	
		30	35
\$10000	CSR	52.6	62.0
	TOT	62.8	74.1
	SS	32.7	38.2
	NEW	30.2	35.9
15000	CSR	52.6	62.0
	TOT	59.8	70.6
	SS	27.2	32.0
	NEW	32.5	38.6
20000	CSR	52.6	62.0
	TOT	57.5	68.0
	SS	23.3	27.3
	NEW	34.3	40.7
25000	CSR	52.6	62.0
	TOT	55.8	65.9
	SS	20.2	23.6
	NEW	35.6	42.3
30000	CSR	52.6	62.0
	TOT	54.3	64.1
	SS	17.5	20.5
	NEW	36.8	43.7
35000	CSR	52.6	62.0
	TOT	53.1	62.7
	SS	15.3	17.9
	NEW	37.7	44.8
40000	CSR	52.6	62.0
	TOT	52.0	61.5
	SS	13.5	15.7
	NEW	38.6	45.8
45000	CSR	52.6	62.0
	TOT	51.2	60.5
	SS	12.0	14.0
	NEW	39.2	46.5
50000	CSR	52.6	62.0
	TOT	50.5	59.7
	SS	10.8	12.6
	NEW	39.7	47.1

PROJECTED CSR BENEFITS - OFFSET FORMULA  
 AGE 55 RETIREMENT  
 BENEFIT AFTER AGE 62  
 PROJECTED TO 1985 AND DISCOUNTED AT 6.5% TO 1979  
 REPLACEMENT RATIOS

FINAL SALARY		SERVICE	
		30	35
\$10000	CSR	52.6	62.0
10000	TOT	64.7	75.5
10000	SS	32.7	38.2
10000	NEW	32.0	37.3
15000	CSR	52.6	62.0
15000	TOT	61.6	72.1
15000	SS	27.2	32.0
15000	NEW	34.4	40.0
20000	CSR	52.6	62.0
20000	TOT	59.4	69.4
20000	SS	23.3	27.3
20000	NEW	36.1	42.1
25000	CSR	52.6	62.0
25000	TOT	57.7	67.3
25000	SS	20.2	23.6
25000	NEW	37.5	43.7
30000	CSR	52.6	62.0
30000	TOT	56.2	65.6
30000	SS	17.5	20.5
30000	NEW	38.6	45.1
35000	CSR	52.6	62.0
35000	TOT	54.9	64.1
35000	SS	15.3	17.9
35000	NEW	39.6	46.2
40000	CSR	52.6	62.0
40000	TOT	53.9	62.9
40000	SS	13.5	15.7
40000	NEW	40.4	47.2
45000	CSR	52.6	62.0
45000	TOT	53.1	61.9
45000	SS	12.0	14.0
45000	NEW	41.1	47.9
50000	CSR	52.6	62.0
50000	TOT	52.4	61.1
50000	SS	10.8	12.6
50000	NEW	41.6	48.5



PROJECTED CSR BENEFITS - ADD-ON FORMULA  
 AGE 55 RETIREMENT  
 BENEFIT AFTER AGE 62  
 PROJECTED TO 1985 AND DISCOUNTED AT 6.5% TO 1979  
 REPLACEMENT RATIOS

FINAL SALARY		SERVICE	
		30	35
\$10000	CSR	52.6	62.0
10000	TOT	70.5	82.4
10000	SS	32.7	38.2
10000	NEW	37.9	44.2
15000	CSR	52.6	62.0
15000	TOT	65.1	76.2
15000	SS	27.2	32.0
15000	NEW	37.9	44.2
20000	CSR	52.6	62.0
20000	TOT	61.2	71.5
20000	SS	23.3	27.3
20000	NEW	37.9	44.2
25000	CSR	52.6	62.0
25000	TOT	58.1	67.8
25000	SS	20.2	23.6
25000	NEW	37.9	44.2
30000	CSR	52.6	62.0
30000	TOT	55.4	64.7
30000	SS	17.5	20.5
30000	NEW	37.9	44.2
35000	CSR	52.6	62.0
35000	TOT	53.2	62.1
35000	SS	15.3	17.9
35000	NEW	37.9	44.2
40000	CSR	52.6	62.0
40000	TOT	51.4	59.9
40000	SS	13.5	15.7
40000	NEW	37.9	44.2
45000	CSR	52.6	62.0
45000	TOT	49.9	58.2
45000	SS	12.0	14.0
45000	NEW	37.9	44.2
50000	CSR	52.6	62.0
50000	TOT	48.7	56.8
50000	SS	10.8	12.6
50000	NEW	37.9	44.2

PROJECTED CSR BENEFITS - STEP RATE FORMULA  
 AGE 55 RETIREMENT  
 BENEFIT AFTER AGE 62  
 PROJECTED TO 1985 AND DISCOUNTED AT 6.5% TO 1979  
 REPLACEMENT RATIOS

FINAL SALARY		SERVICE	
		30	35
\$10000	CSR	52.6	62.0
10000	TOT	64.9	75.8
10000	SS	32.7	38.2
10000	NEW	32.3	37.7
15000	CSR	52.6	62.0
15000	TOT	62.9	73.6
15000	SS	27.2	32.0
15000	NEW	35.6	41.6
20000	CSR	52.6	62.0
20000	TOT	61.6	72.0
20000	SS	23.3	27.3
20000	NEW	38.3	44.7
25000	CSR	52.6	62.0
25000	TOT	60.1	70.2
25000	SS	20.2	23.6
25000	NEW	39.9	46.6
30000	CSR	52.6	62.0
30000	TOT	58.5	68.3
30000	SS	17.5	20.5
30000	NEW	41.0	47.8
35000	CSR	52.6	62.0
35000	TOT	57.1	66.6
35000	SS	15.3	17.9
35000	NEW	41.7	48.7
40000	CSR	52.6	62.0
40000	TOT	55.8	65.1
40000	SS	13.5	15.7
40000	NEW	42.3	49.4
45000	CSR	52.6	62.0
45000	TOT	54.7	63.8
45000	SS	12.0	14.0
45000	NEW	42.8	49.9
50000	CSR	52.6	62.0
50000	TOT	53.9	62.9
50000	SS	10.8	12.6
50000	NEW	43.1	50.3

**RETIRED AT AGE 60  
BENEFIT BEFORE AGE 62**

PROJECTED CSR BENEFITS - MINIMUM CHANGE FORMULA  
 AGE 60 RETIREMENT  
 BENEFIT BEFORE AGE 62  
 PROJECTED TO 1985 AND DISCOUNTED AT 6.5% TO 1979  
 REPLACEMENT RATIOS

FINAL SALARY		SERVICE				
		20	25	30	35	40
\$10000	CSR	33.9	43.3	52.6	62.0	71.3
	TOT	36.3	46.6	56.9	67.2	77.5
	SUP	8.2	10.3	12.4	14.6	16.7
	NEW	28.1	36.3	44.4	52.6	60.8
15000	CSR	33.9	43.3	52.6	62.0	71.3
	TOT	34.9	44.9	55.0	65.0	75.1
	SUP	6.8	8.6	10.5	12.4	14.3
	NEW	28.1	36.3	44.4	52.6	60.8
20000	CSR	33.9	43.3	52.6	62.0	71.3
	TOT	34.0	43.6	53.4	63.1	72.9
	SUP	5.9	7.4	8.9	10.5	12.0
	NEW	28.1	36.3	44.4	52.6	60.8
25000	CSR	33.9	43.3	52.6	62.0	71.3
	TOT	33.1	42.5	51.9	61.4	70.8
	SUP	5.0	6.2	7.5	8.8	10.0
	NEW	28.1	36.3	44.4	52.6	60.8
30000	CSR	33.9	43.3	52.6	62.0	71.3
	TOT	32.3	41.5	50.7	60.0	69.2
	SUP	4.2	5.2	6.3	7.4	8.4
	NEW	28.1	36.3	44.4	52.6	60.8
35000	CSR	33.9	43.3	52.6	62.0	71.3
	TOT	31.7	40.8	49.8	58.9	68.0
	SUP	3.6	4.5	5.4	6.3	7.2
	NEW	28.1	36.3	44.4	52.6	60.8
40000	CSR	33.9	43.3	52.6	62.0	71.3
	TOT	31.2	40.2	49.2	58.2	67.1
	SUP	3.2	3.9	4.7	5.5	6.3
	NEW	28.1	36.3	44.4	52.6	60.8
45000	CSR	33.9	43.3	52.6	62.0	71.3
	TOT	30.9	39.8	48.6	57.5	66.4
	SUP	2.8	3.5	4.2	4.9	5.6
	NEW	28.1	36.3	44.4	52.6	60.8
50000	CSR	33.9	43.3	52.6	62.0	71.3
	TOT	30.6	39.4	48.2	57.0	65.9
	SUP	2.5	3.2	3.8	4.4	5.0
	NEW	28.1	36.3	44.4	52.6	60.8

PROJECTED CSR BENEFITS - OFFSET FORMULA  
 AGE 60 RETIREMENT  
 BENEFIT BEFORE AGE 62  
 PROJECTED TO 1985 AND DISCOUNTED AT 6.5% TO 1979  
 REPLACEMENT RATIOS

FINAL SALARY		SERVICE				
		20	25	30	35	40
\$10000	CSR	33.9	43.3	52.6	62.0	71.3
10000	TOT	30.9	38.6	46.3	54.0	61.8
10000	SUP	0.	0.	0.	0.	0.
10000	NEW	30.9	38.6	46.3	54.0	61.8
15000	CSR	33.9	43.3	52.6	62.0	71.3
15000	TOT	30.9	38.6	46.3	54.0	61.8
15000	SUP	0.	0.	0.	0.	0.
15000	NEW	30.9	38.6	46.3	54.0	61.8
20000	CSR	33.9	43.3	52.6	62.0	71.3
20000	TOT	30.9	38.6	46.3	54.0	61.8
20000	SUP	0.	0.	0.	0.	0.
20000	NEW	30.9	38.6	46.3	54.0	61.8
25000	CSR	33.9	43.3	52.6	62.0	71.3
25000	TOT	30.9	38.6	46.3	54.0	61.8
25000	SUP	0.	0.	0.	0.	0.
25000	NEW	30.9	38.6	46.3	54.0	61.8
30000	CSR	33.9	43.3	52.6	62.0	71.3
30000	TOT	30.9	38.6	46.3	54.0	61.8
30000	SUP	0.	0.	0.	0.	0.
30000	NEW	30.9	38.6	46.3	54.0	61.8
35000	CSR	33.9	43.3	52.6	62.0	71.3
35000	TOT	30.9	38.6	46.3	54.0	61.8
35000	SUP	0.	0.	0.	0.	0.
35000	NEW	30.9	38.6	46.3	54.0	61.8
40000	CSR	33.9	43.3	52.6	62.0	71.3
40000	TOT	30.9	38.6	46.3	54.0	61.8
40000	SUP	0.	0.	0.	0.	0.
40000	NEW	30.9	38.6	46.3	54.0	61.8
45000	CSR	33.9	43.3	52.6	62.0	71.3
45000	TOT	30.9	38.6	46.3	54.0	61.8
45000	SUP	0.	0.	0.	0.	0.
45000	NEW	30.9	38.6	46.3	54.0	61.8
50000	CSR	33.9	43.3	52.6	62.0	71.3
50000	TOT	30.9	38.6	46.3	54.0	61.8
50000	SUP	0.	0.	0.	0.	0.
50000	NEW	30.9	38.6	46.3	54.0	61.8

PROJECTED CSR BENEFITS - STEP RATE FORMULA  
 AGE 60 RETIREMENT  
 BENEFIT BEFORE AGE 62  
 PROJECTED TO 1985 AND DISCOUNTED AT 6.5% TO 1979  
 REPLACEMENT RATIOS

FINAL SALARY		SERVICE				
		20	25	30	35	40
\$10000	CSR	33.9	43.3	52.6	62.0	71.3
10000	TOT	30.9	38.6	46.3	54.0	61.8
10000	SUP	9.4	11.7	14.0	16.4	18.7
10000	NEW	21.5	26.9	32.3	37.7	43.0
15000	CSR	33.9	43.3	52.6	62.0	71.3
15000	TOT	30.9	38.6	46.3	54.0	61.8
15000	SUP	7.1	8.9	10.7	12.5	14.3
15000	NEW	23.8	29.7	35.6	41.6	47.5
20000	CSR	33.9	43.3	52.6	62.0	71.3
20000	TOT	30.9	38.6	46.3	54.0	61.8
20000	SUP	5.3	6.7	8.0	9.4	10.7
20000	NEW	25.5	31.9	38.3	44.7	51.1
25000	CSR	33.9	43.3	52.6	62.0	71.3
25000	TOT	30.9	38.6	46.3	54.0	61.8
25000	SUP	4.3	5.3	6.4	7.5	8.6
25000	NEW	26.6	33.3	39.9	46.6	53.2
30000	CSR	33.9	43.3	52.6	62.0	71.3
30000	TOT	30.9	38.6	46.3	54.0	61.8
30000	SUP	3.6	4.5	5.3	6.2	7.1
30000	NEW	27.3	34.1	41.0	47.8	54.6
35000	CSR	33.9	43.3	52.6	62.0	71.3
35000	TOT	30.9	38.6	46.3	54.0	61.8
35000	SUP	3.1	3.8	4.6	5.3	6.1
35000	NEW	27.8	34.8	41.7	48.7	55.6
40000	CSR	33.9	43.3	52.6	62.0	71.3
40000	TOT	30.9	38.6	46.3	54.0	61.8
40000	SUP	2.7	3.3	4.0	4.7	5.3
40000	NEW	28.2	35.3	42.3	49.4	56.4
45000	CSR	33.9	43.3	52.6	62.0	71.3
45000	TOT	30.9	38.6	46.3	54.0	61.8
45000	SUP	2.4	3.0	3.6	4.2	4.8
45000	NEW	28.5	35.6	42.8	49.9	57.0
50000	CSR	33.9	43.3	52.6	62.0	71.3
50000	TOT	30.9	38.6	46.3	54.0	61.8
50000	SUP	2.1	2.7	3.2	3.7	4.3
50000	NEW	28.7	35.9	43.1	50.3	57.5

**RETIRED AT AGE 60**  
**BENEFIT AT AGE 62**

PROJECTED CSR BENEFITS - ADD-ON FORMULA  
 AGE 60 RETIREMENT  
 BENEFIT BEFORE AGE 62  
 PROJECTED TO 1985 AND DISCOUNTED AT 6.5% TO 1979  
 REPLACEMENT RATIOS

FINAL SALARY		SERVICE				
		20	25	30	35	40
\$10000	CSR	33.9	43.3	52.6	62.0	71.3
10000	TOT	25.3	31.6	37.9	44.2	50.5
10000	SUP	0.	0.	0.	0.	0.
10000	NEW	25.3	31.6	37.9	44.2	50.5
15000	CSR	33.9	43.3	52.6	62.0	71.3
15000	TOT	25.3	31.6	37.9	44.2	50.5
15000	SUP	0.	0.	0.	0.	0.
15000	NEW	25.3	31.6	37.9	44.2	50.5
20000	CSR	33.9	43.3	52.6	62.0	71.3
20000	TOT	25.3	31.6	37.9	44.2	50.5
20000	SUP	0.	0.	0.	0.	0.
20000	NEW	25.3	31.6	37.9	44.2	50.5
25000	CSR	33.9	43.3	52.6	62.0	71.3
25000	TOT	25.3	31.6	37.9	44.2	50.5
25000	SUP	0.	0.	0.	0.	0.
25000	NEW	25.3	31.6	37.9	44.2	50.5
30000	CSR	33.9	43.3	52.6	62.0	71.3
30000	TOT	25.3	31.6	37.9	44.2	50.5
30000	SUP	0.	0.	0.	0.	0.
30000	NEW	25.3	31.6	37.9	44.2	50.5
35000	CSR	33.9	43.3	52.6	62.0	71.3
35000	TOT	25.3	31.6	37.9	44.2	50.5
35000	SUP	0.	0.	0.	0.	0.
35000	NEW	25.3	31.6	37.9	44.2	50.5
40000	CSR	33.9	43.3	52.6	62.0	71.3
40000	TOT	25.3	31.6	37.9	44.2	50.5
40000	SUP	0.	0.	0.	0.	0.
40000	NEW	25.3	31.6	37.9	44.2	50.5
45000	CSR	33.9	43.3	52.6	62.0	71.3
45000	TOT	25.3	31.6	37.9	44.2	50.5
45000	SUP	0.	0.	0.	0.	0.
45000	NEW	25.3	31.6	37.9	44.2	50.5
50000	CSR	33.9	43.3	52.6	62.0	71.3
50000	TOT	25.3	31.6	37.9	44.2	50.5
50000	SUP	0.	0.	0.	0.	0.
50000	NEW	25.3	31.6	37.9	44.2	50.5



CIVIL SERVICE RETIREMENT COMPARED TO SOCIAL SECURITY  
 AGE 60 RETIREMENT  
 BENEFIT AFTER AGE 62  
 PROJECTED TO 1985 AND DISCOUNTED AT 6.5% TO 1979  
 REPLACEMENT RATIOS

FINAL SALARY		SERVICE				
		20	25	30	35	40
\$10000	CSR	33.9	43.3	52.6	62.0	71.3
10000	SS	18.3	23.6	28.5	33.3	33.5
15000	CSR	33.9	43.3	52.6	62.0	71.3
15000	SS	15.6	19.7	24.0	28.3	28.6
20000	CSR	33.9	43.3	52.6	62.0	71.3
20000	SS	13.5	16.9	20.4	24.0	24.1
25000	CSR	33.9	43.3	52.6	62.0	71.3
25000	SS	11.4	14.3	17.1	20.0	20.0
30000	CSR	33.9	43.3	52.6	62.0	71.3
30000	SS	9.0	12.0	14.4	16.8	16.8
35000	CSR	33.9	43.3	52.6	62.0	71.3
35000	SS	6.2	10.3	12.3	14.4	14.4
40000	CSR	33.9	43.3	52.6	62.0	71.3
40000	SS	7.2	9.0	10.8	12.6	12.6
45000	CSR	33.9	43.3	52.6	62.0	71.3
45000	SS	6.4	8.0	9.6	11.2	11.2
50000	CSR	33.9	43.3	52.6	62.0	71.3
50000	SS	5.8	7.2	8.7	10.1	10.1

PROJECTED CSR BENEFITS - MINIMUM CHANGE FORMULA  
 AGE 60 RETIREMENT  
 BENEFIT AFTER AGE 62  
 PROJECTED TO 1985 AND DISCOUNTED AT 6.5% TO 1979  
 REPLACEMENT RATIOS

FINAL SALARY		SERVICE				
		20	25	30	35	40
\$10000	CSR	33.9	43.3	52.6	62.0	71.3
10000	TOT	36.6	49.6	60.5	71.4	77.6
10000	SS	18.8	23.6	28.5	33.3	33.5
10000	NEW	19.9	25.9	32.0	38.1	44.1
15000	CSR	33.9	43.3	52.6	62.0	71.3
15000	TOT	36.8	47.4	58.0	68.6	75.1
15000	SS	15.6	19.7	24.0	28.3	28.6
15000	NEW	21.3	27.6	33.9	40.2	46.5
20000	CSR	33.9	43.3	52.6	62.0	71.3
20000	TOT	35.7	45.7	55.9	66.1	72.9
20000	SS	13.5	16.9	20.4	24.0	24.1
20000	NEW	22.2	28.9	35.5	42.1	48.8
25000	CSR	33.9	43.3	52.6	62.0	71.3
25000	TOT	34.5	44.3	54.1	63.9	70.8
25000	SS	11.4	14.3	17.1	20.0	20.0
25000	NEW	23.1	30.0	37.0	43.9	50.8
30000	CSR	33.9	43.3	52.6	62.0	71.3
30000	TOT	33.5	43.0	52.5	62.1	69.2
30000	SS	9.6	12.0	14.4	16.8	16.8
30000	NEW	23.9	31.0	38.2	45.3	52.4
35000	CSR	33.9	43.3	52.6	62.0	71.3
35000	TOT	32.7	42.1	51.4	60.7	68.0
35000	SS	8.2	10.3	12.3	14.4	14.4
35000	NEW	24.5	31.8	39.0	46.3	53.6
40000	CSR	33.9	43.3	52.6	62.0	71.3
40000	TOT	32.1	41.3	50.5	59.7	67.1
40000	SS	7.2	9.0	10.8	12.6	12.6
40000	NEW	24.9	32.3	39.7	47.1	54.5
45000	CSR	33.9	43.3	52.6	62.0	71.3
45000	TOT	31.7	40.8	49.9	58.9	66.4
45000	SS	6.4	8.0	9.6	11.2	11.2
45000	NEW	25.3	32.8	40.2	47.7	55.2
50000	CSR	33.9	43.3	52.6	62.0	71.3
50000	TOT	31.3	40.3	49.3	58.3	65.9
50000	SS	5.8	7.2	8.7	10.1	10.1
50000	NEW	25.5	33.1	40.7	48.2	55.8

PROJECTED CSR BENEFITS - STEP RATE FORMULA  
 AGE 60 RETIREMENT  
 BENEFIT AFTER AGE 62  
 PROJECTED TO 1985 AND DISCOUNTED AT 6.5% TO 1979  
 REPLACEMENT RATIOS

FINAL SALARY		SERVICE				
		20	25	30	35	40
10000	CSR	33.9	43.3	52.6	62.0	71.3
10000	TOT	40.3	50.5	60.7	71.0	76.5
10000	SS	18.6	23.6	28.5	33.3	33.5
10000	NEW	21.5	26.9	32.3	37.7	43.0
15000	CSR	33.9	43.3	52.6	62.0	71.3
15000	TOT	39.3	49.4	59.6	69.9	76.1
15000	SS	15.6	19.7	24.0	28.3	28.6
15000	NEW	23.8	29.7	35.6	41.6	47.5
20000	CSR	33.9	43.3	52.6	62.0	71.3
20000	TOT	39.3	48.8	58.7	68.7	75.2
20000	SS	13.5	16.9	20.4	24.0	24.1
20000	NEW	25.5	31.9	38.3	44.7	51.1
25000	CSR	33.9	43.3	52.6	62.0	71.3
25000	TOT	36.0	47.5	57.0	66.6	73.2
25000	SS	11.4	14.3	17.1	20.0	20.0
25000	NEW	26.6	33.3	39.9	46.6	53.2
30000	CSR	33.9	43.3	52.6	62.0	71.3
30000	TOT	36.9	46.1	55.4	64.6	71.4
30000	SS	9.6	12.0	14.4	16.8	16.8
30000	NEW	27.3	34.1	41.0	47.8	54.6
35000	CSR	33.9	43.3	52.6	62.0	71.3
35000	TOT	36.0	45.1	54.1	63.1	70.1
35000	SS	8.2	10.3	12.3	14.4	14.4
35000	NEW	27.8	34.8	41.7	48.7	55.6
40000	CSR	33.9	43.3	52.6	62.0	71.3
40000	TOT	35.4	44.3	53.1	62.0	69.0
40000	SS	7.2	9.0	10.8	12.6	12.6
40000	NEW	28.2	35.3	42.3	49.4	56.4
45000	CSR	33.9	43.3	52.6	62.0	71.3
45000	TOT	34.9	43.6	52.4	61.1	68.2
45000	SS	6.4	8.0	9.6	11.2	11.2
45000	NEW	28.5	35.6	42.8	49.9	57.0
50000	CSR	33.9	43.3	52.6	62.0	71.3
50000	TOT	34.5	43.1	51.8	60.4	67.6
50000	SS	5.6	7.2	8.7	10.1	10.1
50000	NEW	28.7	35.9	43.1	50.3	57.5

PROJECTED CSR BENEFITS - OFFSET FORMULA  
 AGE 60 RETIREMENT  
 BENEFIT AFTER AGE 62  
 PROJECTED TO 1985 AND DISCOUNTED AT 6.5% TO 1979  
 REPLACEMENT RATIOS

FINAL SALARY		SERVICE				
		20	25	30	35	40
\$10000	CSR	33.9	43.3	52.6	62.0	71.3
10000	TOT	41.4	51.9	62.3	72.8	78.5
10000	SS	18.8	23.6	28.5	33.3	33.5
10000	NEW	22.7	28.3	33.9	39.5	45.0
15000	CSR	33.9	43.3	52.6	62.0	71.3
15000	TOT	39.6	49.7	59.8	70.0	76.1
15000	SS	15.6	19.7	24.0	28.3	28.6
15000	NEW	24.1	30.0	35.8	41.6	47.5
20000	CSR	33.9	43.3	52.6	62.0	71.3
20000	TOT	38.5	48.1	57.8	67.5	73.8
20000	SS	13.5	16.9	20.4	24.0	24.1
20000	NEW	25.0	31.2	37.4	43.5	49.7
25000	CSR	33.9	43.3	52.6	62.0	71.3
25000	TOT	37.3	46.6	55.9	65.3	71.8
25000	SS	11.4	14.3	17.1	20.0	20.0
25000	NEW	25.9	32.4	36.8	45.3	51.7
30000	CSR	33.9	43.3	52.6	62.0	71.3
30000	TOT	36.3	45.3	54.4	63.5	70.2
30000	SS	9.6	12.0	14.4	16.8	16.8
30000	NEW	26.7	33.4	40.0	46.7	53.3
35000	CSR	33.9	43.3	52.6	62.0	71.3
35000	TOT	35.5	44.4	53.3	62.1	69.0
35000	SS	8.2	10.3	12.3	14.4	14.4
35000	NEW	27.3	34.1	40.9	47.7	54.6
40000	CSR	33.9	43.3	52.6	62.0	71.3
40000	TOT	34.9	43.7	52.4	61.1	68.1
40000	SS	7.2	9.0	10.8	12.6	12.6
40000	NEW	27.7	34.7	41.6	48.5	55.5
45000	CSR	33.9	43.3	52.6	62.0	71.3
45000	TOT	34.5	43.1	51.7	60.3	67.4
45000	SS	6.4	8.0	9.6	11.2	11.2
45000	NEW	28.1	35.1	42.1	49.1	56.2
50000	CSR	33.9	43.3	52.6	62.0	71.3
50000	TOT	34.1	42.6	51.2	59.7	66.8
50000	SS	5.8	7.2	8.7	10.1	10.1
50000	NEW	28.4	35.4	42.5	49.6	56.7

PROJECTED CSR BENEFITS - ADD-ON FORMULA  
 AGE 60 RETIREMENT  
 BENEFIT AFTER AGE 62  
 PROJECTED TO 1985 AND DISCOUNTED AT 6.5% TO 1979  
 REPLACEMENT RATIOS

FINAL SALARY		SERVICE				
		20	25	30	35	40
\$10000	CSR	33.9	43.3	52.6	62.0	71.3
10000	TOT	44.0	55.2	66.3	77.5	84.0
10000	SS	18.8	23.6	28.5	33.3	33.5
10000	NEW	25.3	31.6	37.9	44.2	50.5
15000	CSR	33.9	43.3	52.6	62.0	71.3
15000	TOT	40.8	51.3	61.9	72.6	79.1
15000	SS	15.6	19.7	24.0	28.3	28.6
15000	NEW	25.3	31.6	37.9	44.2	50.5
20000	CSR	33.9	43.3	52.6	62.0	71.3
20000	TOT	38.8	48.4	58.3	68.2	74.6
20000	SS	13.5	16.9	20.4	24.0	24.1
20000	NEW	25.3	31.6	37.9	44.2	50.5
25000	CSR	33.9	43.3	52.6	62.0	71.3
25000	TOT	36.7	45.9	55.0	64.2	70.6
25000	SS	11.4	14.3	17.1	20.0	20.0
25000	NEW	25.3	31.6	37.9	44.2	50.5
30000	CSR	33.9	43.3	52.6	62.0	71.3
30000	TOT	34.9	43.6	52.3	61.0	67.3
30000	SS	9.6	12.0	14.4	16.8	16.8
30000	NEW	25.3	31.6	37.9	44.2	50.5
35000	CSR	33.9	43.3	52.6	62.0	71.3
35000	TOT	33.5	41.9	50.2	58.6	64.9
35000	SS	8.2	10.3	12.3	14.4	14.4
35000	NEW	25.3	31.6	37.9	44.2	50.5
40000	CSR	33.9	43.3	52.6	62.0	71.3
40000	TOT	32.5	40.6	48.7	56.8	63.1
40000	SS	7.2	9.0	10.8	12.6	12.6
40000	NEW	25.3	31.6	37.9	44.2	50.5
45000	CSR	33.9	43.3	52.6	62.0	71.3
45000	TOT	31.7	39.6	47.5	55.4	61.7
45000	SS	6.4	8.0	9.6	11.2	11.2
45000	NEW	25.3	31.6	37.9	44.2	50.5
50000	CSR	33.9	43.3	52.6	62.0	71.3
50000	TOT	31.0	38.8	46.5	54.3	60.6
50000	SS	5.8	7.2	8.7	10.1	10.1
50000	NEW	25.3	31.6	37.9	44.2	50.5

**RETIRED AT AGE 62**

CIVIL SERVICE RETIREMENT COMPARED TO SOCIAL SECURITY  
AGE 62 RETIREMENT  
PROJECTED TO 1985 AND DISCOUNTED AT 6.5% TO 1979  
REPLACEMENT RATIOS

FINAL SALARY		SERVICE							
		5	10	15	20	25	30	35	40
\$10000	CSR	7.0	15.2	24.6	33.9	43.3	52.6	62.0	71.3
10000	SS	4.6	9.2	13.9	18.6	23.4	28.3	33.2	38.4
15000	CSR	7.0	15.2	24.6	33.9	43.3	52.6	62.0	71.3
15000	SS	3.7	7.5	11.4	15.4	19.5	23.7	28.1	28.3
20000	CSR	7.0	15.2	24.6	33.9	43.3	52.6	62.0	71.3
20000	SS	3.2	6.3	9.5	12.7	15.9	19.1	22.4	22.5
25000	CSR	7.0	15.2	24.6	33.9	43.3	52.6	62.0	71.3
25000	SS	2.6	5.2	7.8	10.4	13.1	15.7	18.3	18.3
30000	CSR	7.0	15.2	24.6	33.9	43.3	52.6	62.0	71.3
30000	SS	2.2	4.4	6.5	8.7	10.9	13.1	15.3	15.3
35000	CSR	7.0	15.2	24.6	33.9	43.3	52.6	62.0	71.3
35000	SS	1.9	3.7	5.6	7.5	9.4	11.2	13.1	13.1
40000	CSR	7.0	15.2	24.6	33.9	43.3	52.6	62.0	71.3
40000	SS	1.6	3.3	4.9	6.5	8.2	9.8	11.5	11.5
45000	CSR	7.0	15.2	24.6	33.9	43.3	52.6	62.0	71.3
45000	SS	1.5	2.9	4.4	5.8	7.3	8.7	10.2	10.2
50000	CSR	7.0	15.2	24.6	33.9	43.3	52.6	62.0	71.3
50000	SS	1.3	2.6	3.9	5.2	6.5	7.9	9.2	9.2

PROJECTED CSR BENEFITS - MINIMUM CHANGE FORMULA  
 AGE 62 RETIREMENT  
 PROJECTED TO 1985 AND DISCOUNTED AT 6.5% TO 1979  
 REPLACEMENT RATIOS

FINAL SALARY		SERVICE							
		5	10	15	20	25	30	35	40
\$10000	CSR	7.0	15.2	24.6	33.9	43.3	52.6	62.0	71.3
10000	TOT	9.1	17.8	27.7	38.5	49.4	60.4	71.3	77.5
10000	SS	4.6	9.2	13.9	18.6	23.4	28.3	33.2	33.4
10000	NEW	4.5	8.6	13.8	19.9	26.0	32.1	38.1	44.1
15000	CSR	7.0	15.2	24.6	33.9	43.3	52.6	62.0	71.3
15000	TOT	8.6	16.9	26.3	36.7	47.2	57.8	68.4	75.0
15000	SS	3.7	7.5	11.4	15.4	19.5	23.7	28.1	28.3
15000	NEW	4.9	9.3	14.9	21.3	27.7	34.1	40.4	46.6
20000	CSR	7.0	15.2	24.6	33.9	43.3	52.6	62.0	71.3
20000	TOT	8.3	16.2	25.3	35.2	45.2	55.2	65.2	72.1
20000	SS	3.2	6.3	9.5	12.7	15.9	19.1	22.4	22.5
20000	NEW	5.1	9.9	15.7	22.5	29.3	36.1	42.8	49.6
25000	CSR	7.0	15.2	24.6	33.9	43.3	52.6	62.0	71.3
25000	TOT	8.0	15.6	24.3	33.9	43.6	53.3	62.9	70.0
25000	SS	2.6	5.2	7.8	10.4	13.1	15.7	18.3	18.3
25000	NEW	5.4	10.3	16.5	23.5	30.5	37.6	44.6	51.7
30000	CSR	7.0	15.2	24.6	33.9	43.3	52.6	62.0	71.3
30000	TOT	7.7	15.1	23.5	33.0	42.4	51.8	61.2	68.5
30000	SS	2.2	4.4	6.5	8.7	10.9	13.1	15.3	15.3
30000	NEW	5.6	10.7	17.0	24.3	31.5	38.7	46.0	53.2
35000	CSR	7.0	15.2	24.6	33.9	43.3	52.6	62.0	71.3
35000	TOT	7.6	14.7	23.0	32.3	41.5	50.7	60.0	67.4
35000	SS	1.9	3.7	5.6	7.5	9.4	11.2	13.1	13.1
35000	NEW	5.7	11.0	17.4	24.8	32.2	39.5	46.9	54.3
40000	CSR	7.0	15.2	24.6	33.9	43.3	52.6	62.0	71.3
40000	TOT	7.4	14.5	22.7	31.7	40.9	50.0	59.1	66.5
40000	SS	1.6	3.3	4.9	6.5	8.2	9.8	11.5	11.5
40000	NEW	5.8	11.2	17.7	25.2	32.7	40.2	47.6	55.1
45000	CSR	7.0	15.2	24.6	33.9	43.3	52.6	62.0	71.3
45000	TOT	7.3	14.3	22.3	31.3	40.4	49.4	58.4	65.9
45000	SS	1.5	2.9	4.4	5.8	7.3	8.7	10.2	10.2
45000	NEW	5.9	11.4	18.0	25.5	33.1	40.6	48.2	55.7
50000	CSR	7.0	15.2	24.6	33.9	43.3	52.6	62.0	71.3
50000	TOT	7.2	14.1	22.1	31.0	39.9	48.9	57.8	65.4
50000	SS	1.3	2.6	3.9	5.2	6.5	7.9	9.2	9.2
50000	NEW	5.9	11.5	18.2	25.8	33.4	41.0	48.6	56.2



PROJECTED CSR BENEFITS - STEP RATE FORMULA  
 AGE 62 RETIREMENT  
 PROJECTED TO 1985 AND DISCOUNTED AT 6.5% TO 1979  
 REPLACEMENT RATIOS

FINAL SALARY		SERVICE							
		5	10	15	20	25	30	35	40
\$10000	CSR	7.0	15.2	24.6	33.9	43.3	52.6	62.0	71.3
10000	TOT	10.0	20.0	30.0	40.1	50.3	60.6	70.9	76.4
10000	SS	4.6	9.2	13.9	18.6	23.4	28.3	33.2	33.4
10000	NEW	5.4	10.8	16.1	21.5	26.9	32.3	37.7	43.0
15000	CSR	7.0	15.2	24.6	33.9	43.3	52.6	62.0	71.3
15000	TOT	9.6	19.4	29.2	39.2	49.2	59.4	69.6	75.8
15000	SS	3.7	7.5	11.4	15.4	19.5	23.7	28.1	28.3
15000	NEW	5.9	11.9	17.8	23.8	29.7	35.6	41.6	47.5
20000	CSR	7.0	15.2	24.6	33.9	43.3	52.6	62.0	71.3
20000	TOT	9.5	19.1	28.7	38.2	47.8	57.4	67.1	73.5
20000	SS	3.2	6.3	9.5	12.7	15.9	19.1	22.4	22.5
20000	NEW	6.4	12.8	19.2	25.5	31.9	38.3	44.7	51.1
25000	CSR	7.0	15.2	24.6	33.9	43.3	52.6	62.0	71.3
25000	TOT	9.2	18.5	27.8	37.0	46.3	55.6	64.8	71.5
25000	SS	2.6	5.2	7.8	10.4	13.1	15.7	18.3	18.3
25000	NEW	6.6	13.3	20.0	26.6	33.3	39.9	46.6	53.2
30000	CSR	7.0	15.2	24.6	33.9	43.3	52.6	62.0	71.3
30000	TOT	9.0	18.0	27.0	36.0	45.0	54.0	63.1	69.9
30000	SS	2.2	4.4	6.5	8.7	10.9	13.1	15.3	15.3
30000	NEW	6.8	13.7	20.5	27.3	34.1	41.0	47.8	54.6
35000	CSR	7.0	15.2	24.6	33.9	43.3	52.6	62.0	71.3
35000	TOT	8.8	17.6	26.5	35.3	44.1	52.9	61.8	68.7
35000	SS	1.9	3.7	5.6	7.5	9.4	11.2	13.1	13.1
35000	NEW	6.9	13.9	20.9	27.8	34.8	41.7	48.7	55.6
40000	CSR	7.0	15.2	24.6	33.9	43.3	52.6	62.0	71.3
40000	TOT	8.6	17.4	26.1	34.7	43.4	52.1	60.8	67.9
40000	SS	1.6	3.3	4.9	6.5	8.2	9.8	11.5	11.5
40000	NEW	7.0	14.1	21.2	28.2	35.3	42.3	49.4	56.4
45000	CSR	7.0	15.2	24.6	33.9	43.3	52.6	62.0	71.3
45000	TOT	8.5	17.2	25.7	34.3	42.9	51.5	60.1	67.2
45000	SS	1.5	2.9	4.4	5.8	7.3	8.7	10.2	10.2
45000	NEW	7.1	14.3	21.4	28.5	35.6	42.8	49.9	57.0
50000	CSR	7.0	15.2	24.6	33.9	43.3	52.6	62.0	71.3
50000	TOT	6.4	17.0	25.5	34.0	42.5	51.0	59.5	66.6
50000	SS	1.3	2.6	3.9	5.2	6.5	7.9	9.2	9.2
50000	NEW	7.1	14.4	21.6	28.7	35.9	43.1	50.3	57.5

PROJECTED CSR BENEFITS - OFFSET FORMULA  
 AGE 62 RETIREMENT  
 PROJECTED TO 1985 AND DISCOUNTED AT 6.5% TO 1979  
 REPLACEMENT RATIOS

FINAL SALARY		SERVICE							
		5	10	15	20	25	30	35	40
\$10000	CSR	7.0	15.2	24.6	33.9	43.3	52.6	62.0	71.3
10000	TOT	10.3	20.6	31.0	41.3	51.8	62.2	72.7	78.5
10000	SS	4.6	9.2	13.9	18.6	23.4	28.3	33.2	33.4
10000	NEW	5.7	11.4	17.1	22.7	28.3	33.9	39.5	45.1
15000	CSR	7.0	15.2	24.6	33.9	43.3	52.6	62.0	71.3
15000	TOT	9.8	19.7	29.6	39.5	49.6	59.7	69.6	75.9
15000	SS	3.7	7.5	11.4	15.4	19.5	23.7	28.1	28.3
15000	NEW	6.1	12.2	18.2	24.1	30.1	35.9	41.8	47.6
20000	CSR	7.0	15.2	24.6	33.9	43.3	52.6	62.0	71.3
20000	TOT	9.5	19.0	28.5	38.0	47.5	57.1	66.6	73.0
20000	SS	3.2	6.3	9.5	12.7	15.9	19.1	22.4	22.5
20000	NEW	6.3	12.7	19.0	25.3	31.7	38.0	44.2	50.5
25000	CSR	7.0	15.2	24.6	33.9	43.3	52.6	62.0	71.3
25000	TOT	9.1	18.4	27.6	36.7	45.9	55.1	64.3	70.9
25000	SS	2.6	5.2	7.8	10.4	13.1	15.7	18.3	18.3
25000	NEW	6.5	13.2	19.7	26.3	32.9	39.5	46.0	52.6
30000	CSR	7.0	15.2	24.6	33.9	43.3	52.6	62.0	71.3
30000	TOT	8.9	17.9	26.8	35.8	44.7	53.7	62.6	69.4
30000	SS	2.2	4.4	6.5	8.7	10.9	13.1	15.3	15.3
30000	NEW	6.7	13.5	20.3	27.1	33.8	40.6	47.4	54.1
35000	CSR	7.0	15.2	24.6	33.9	43.3	52.6	62.0	71.3
35000	TOT	8.7	17.5	26.3	35.1	43.9	52.6	61.4	68.3
35000	SS	1.9	3.7	5.6	7.5	9.4	11.2	13.1	13.1
35000	NEW	6.9	13.8	20.7	27.6	34.5	41.4	48.3	55.2
40000	CSR	7.0	15.2	24.6	33.9	43.3	52.6	62.0	71.3
40000	TOT	8.6	17.3	25.9	34.6	43.2	51.8	60.5	67.5
40000	SS	1.6	3.3	4.9	6.5	8.2	9.8	11.5	11.5
40000	NEW	6.9	14.0	21.0	28.0	35.0	42.0	49.0	56.0
45000	CSR	7.0	15.2	24.6	33.9	43.3	52.6	62.0	71.3
45000	TOT	8.5	17.1	25.6	34.1	42.7	51.2	59.8	66.8
45000	SS	1.5	2.9	4.4	5.8	7.3	8.7	10.2	10.2
45000	NEW	7.0	14.2	21.3	28.3	35.4	42.5	49.6	56.7
50000	CSR	7.0	15.2	24.6	33.9	43.3	52.6	62.0	71.3
50000	TOT	8.4	16.9	25.4	33.8	42.3	50.7	59.2	66.3
50000	SS	1.3	2.6	3.9	5.2	6.5	7.9	9.2	9.2
50000	NEW	7.1	14.3	21.4	28.6	35.7	42.9	50.0	57.2

PROJECTED CSR BENEFITS - ADD-ON FORMULA  
 AGE 62 RETIREMENT  
 PROJECTED TO 1985 AND DISCOUNTED AT 6.5% TO 1979  
 REPLACEMENT RATIOS

FINAL SALARY		SERVICE							
		5	10	15	20	25	30	35	40
\$10000	CSR	7.0	15.2	24.6	33.9	43.3	52.6	62.0	71.3
10000	TOT	10.9	21.8	32.8	43.8	55.0	66.2	77.4	83.9
10000	SS	4.6	9.2	13.9	18.6	23.4	28.3	33.2	33.4
10000	NEW	6.3	12.6	19.0	25.3	31.6	37.9	44.2	50.5
15000	CSR	7.0	15.2	24.6	33.9	43.3	52.6	62.0	71.3
15000	TOT	10.0	20.1	30.4	40.7	51.1	61.6	72.3	78.9
15000	SS	3.7	7.5	11.4	15.4	19.5	23.7	28.1	28.3
15000	NEW	6.3	12.6	18.9	25.3	31.6	37.9	44.2	50.5
20000	CSR	7.0	15.2	24.6	33.9	43.3	52.6	62.0	71.3
20000	TOT	9.5	19.0	28.5	38.0	47.5	57.0	66.6	73.0
20000	SS	3.2	6.3	9.5	12.7	15.9	19.1	22.4	22.5
20000	NEW	6.3	12.6	18.9	25.3	31.6	37.9	44.2	50.5
25000	CSR	7.0	15.2	24.6	33.9	43.3	52.6	62.0	71.3
25000	TOT	8.9	17.9	26.8	35.7	44.6	53.6	62.5	68.9
25000	SS	2.6	5.2	7.8	10.4	13.1	15.7	18.3	18.3
25000	NEW	6.3	12.6	18.9	25.3	31.6	37.9	44.2	50.5
30000	CSR	7.0	15.2	24.6	33.9	43.3	52.6	62.0	71.3
30000	TOT	8.4	17.0	25.5	34.0	42.5	51.0	59.5	65.8
30000	SS	2.2	4.4	6.5	8.7	10.9	13.1	15.3	15.3
30000	NEW	6.3	12.6	18.9	25.3	31.6	37.9	44.2	50.5
35000	CSR	7.0	15.2	24.6	33.9	43.3	52.6	62.0	71.3
35000	TOT	8.2	16.4	24.6	32.7	40.9	49.1	57.3	63.6
35000	SS	1.9	3.7	5.6	7.5	9.4	11.2	13.1	13.1
35000	NEW	6.3	12.6	18.9	25.3	31.6	37.9	44.2	50.5
40000	CSR	7.0	15.2	24.6	33.9	43.3	52.6	62.0	71.3
40000	TOT	7.9	15.9	23.9	31.8	39.8	47.7	55.7	62.0
40000	SS	1.6	3.3	4.9	6.5	8.2	9.8	11.5	11.5
40000	NEW	6.3	12.6	18.9	25.3	31.6	37.9	44.2	50.5
45000	CSR	7.0	15.2	24.6	33.9	43.3	52.6	62.0	71.3
45000	TOT	7.7	15.5	23.3	31.1	38.9	46.6	54.4	60.7
45000	SS	1.5	2.9	4.4	5.8	7.3	8.7	10.2	10.2
45000	NEW	6.3	12.6	18.9	25.3	31.6	37.9	44.2	50.5
50000	CSR	7.0	15.2	24.6	33.9	43.3	52.6	62.0	71.3
50000	TOT	7.6	15.2	22.9	30.5	38.1	45.8	53.4	59.7
50000	SS	1.3	2.6	3.9	5.2	6.5	7.9	9.2	9.2
50000	NEW	6.3	12.6	18.9	25.3	31.6	37.9	44.2	50.5

**RETIRED AT AGE 65**

CIVIL SERVICE RETIREMENT COMPARED TO SOCIAL SECURITY  
 AGE 65 RETIREMENT  
 PROJECTED TO 1985 AND DISCOUNTED AT 6.5% TO 1979  
 REPLACEMENT RATIOS

FINAL SALARY		SERVICE								
		5	10	15	20	25	30	35	40	45
\$10000	CSR	7.0	15.2	24.6	33.9	43.3	52.6	62.0	71.3	74.9
10000	SS	5.5	11.1	16.9	22.7	28.9	35.2	41.5	41.7	41.8
15000	CSR	7.0	15.2	24.6	33.9	43.3	52.6	62.0	71.3	74.9
15000	SS	4.7	9.4	14.3	19.5	24.8	30.3	35.6	35.8	35.9
20000	CSR	7.0	15.2	24.6	33.9	43.3	52.6	62.0	71.3	74.9
20000	SS	3.9	7.9	11.9	16.0	19.9	24.1	28.1	28.2	28.2
25000	CSR	7.0	15.2	24.6	33.9	43.3	52.6	62.0	71.3	74.9
25000	SS	3.3	6.6	9.9	13.1	16.4	19.8	23.1	23.2	23.2
30000	CSR	7.0	15.2	24.6	33.9	43.3	52.6	62.0	71.3	74.9
30000	SS	2.7	5.5	8.2	11.0	13.7	16.5	19.3	19.3	19.3
35000	CSR	7.0	15.2	24.6	33.9	43.3	52.6	62.0	71.3	74.9
35000	SS	2.3	4.7	7.1	9.4	11.8	14.1	16.5	16.5	16.5
40000	CSR	7.0	15.2	24.6	33.9	43.3	52.6	62.0	71.3	74.9
40000	SS	2.1	4.1	6.2	8.2	10.3	12.4	14.5	14.5	14.5
45000	CSR	7.0	15.2	24.6	33.9	43.3	52.6	62.0	71.3	74.9
45000	SS	1.8	3.7	5.5	7.3	9.2	11.0	12.8	12.9	12.9
50000	CSR	6.9	15.2	24.6	33.9	43.3	52.6	62.0	71.3	74.9
50000	SS	1.6	3.3	5.0	6.6	8.3	9.9	11.6	11.6	11.6

PROJECTED CSR BENEFITS - MINIMUM CHANGE FORMULA  
 AGE 65 RETIREMENT  
 PROJECTED TO 1985 AND DISCOUNTED AT 6.5% TO 1979  
 REPLACEMENT RATIOS

FINAL SALARY		SERVICE								
		5	10	15	20	25	30	35	40	45
\$10000	CSR	7.0	15.2	24.6	33.9	43.3	52.6	62.0	71.3	74.9
10000	TOT	9.6	18.9	29.4	40.8	52.5	64.3	76.0	81.7	81.7
10000	SS	5.5	11.1	16.9	22.7	28.9	35.2	41.5	41.7	41.8
10000	NEW	4.1	7.8	12.5	18.1	23.6	29.1	34.5	40.0	39.9
15000	CSR	7.0	15.2	24.6	33.9	43.3	52.6	62.0	71.3	74.9
15000	TOT	9.2	17.9	27.9	39.1	50.2	61.5	72.7	78.7	78.7
15000	SS	4.7	9.4	14.3	19.5	24.8	30.3	35.6	35.8	35.9
15000	NEW	4.5	8.5	13.6	19.5	25.4	31.2	37.0	42.9	42.9
20000	CSR	7.0	15.2	24.6	33.9	43.3	52.6	62.0	71.3	74.9
20000	TOT	8.7	17.1	26.6	37.0	47.5	58.0	68.5	74.9	74.9
20000	SS	3.9	7.9	11.9	16.0	19.9	24.1	28.1	28.2	28.2
20000	NEW	4.8	9.2	14.7	21.1	27.5	33.9	40.3	46.7	46.7
25000	CSR	7.0	15.2	24.6	33.9	43.3	52.6	62.0	71.3	74.9
25000	TOT	8.4	16.3	25.4	35.4	45.5	55.6	65.6	72.4	72.4
25000	SS	3.3	6.6	9.9	13.1	16.4	19.8	23.1	23.2	23.2
25000	NEW	5.1	9.8	15.6	22.3	29.1	35.8	42.5	49.2	49.2
30000	CSR	7.0	15.2	24.6	33.9	43.3	52.6	62.0	71.3	74.9
30000	TOT	8.0	15.7	24.5	34.3	44.0	53.7	63.5	70.5	70.5
30000	SS	2.7	5.5	8.2	11.0	13.7	16.5	19.3	19.3	19.3
30000	NEW	5.3	10.2	16.3	23.3	30.3	37.2	44.2	51.2	51.2
35000	CSR	7.0	15.2	24.6	33.9	43.3	52.6	62.0	71.3	74.9
35000	TOT	7.8	15.3	23.9	33.4	42.9	52.4	61.9	69.1	69.1
35000	SS	2.3	4.7	7.1	9.4	11.8	14.1	16.5	16.5	16.5
35000	NEW	5.5	10.6	16.8	23.9	31.1	38.3	45.4	52.6	52.6
40000	CSR	7.0	15.2	24.6	33.9	43.3	52.6	62.0	71.3	74.9
40000	TOT	7.6	15.0	23.4	32.7	42.1	51.4	60.8	68.1	68.1
40000	SS	2.1	4.1	6.2	8.2	10.3	12.4	14.5	14.5	14.5
40000	NEW	5.6	10.8	17.2	24.5	31.7	39.0	46.3	53.6	53.6
45000	CSR	7.0	15.2	24.6	33.9	43.3	52.6	62.0	71.3	74.9
45000	TOT	7.5	14.7	23.0	32.2	41.4	50.6	59.9	67.3	67.3
45000	SS	1.8	3.7	5.5	7.3	9.2	11.0	12.8	12.9	12.9
45000	NEW	5.7	11.0	17.5	24.9	32.2	39.6	47.0	54.4	54.4
50000	CSR	6.9	15.2	24.6	33.9	43.3	52.6	62.0	71.3	74.9
50000	TOT	7.4	14.5	22.7	31.8	40.9	50.0	59.1	66.6	66.6
50000	SS	1.6	3.3	5.0	6.6	8.3	9.9	11.6	11.6	11.6
50000	NEW	5.8	11.2	17.7	25.2	32.6	40.1	47.6	55.0	55.0

PROJECTED CSR BENEFITS - OFFSET FORMULA  
 AGE 65 RETIREMENT  
 PROJECTED TO 1985 AND DISCOUNTED AT 6.5% TO 1979  
 REPLACEMENT RATIOS

FINAL SALARY		SERVICE								
		5	10	15	20	25	30	35	40	45
510000	CSR	7.0	15.2	24.6	33.9	43.3	52.6	62.0	71.3	74.9
100000	TOT	10.6	21.7	32.7	43.6	54.8	66.1	77.4	82.6	82.6
100000	SS	5.5	11.1	16.9	22.7	28.9	35.2	41.5	41.7	41.8
100000	NEW	5.3	10.6	15.8	20.9	26.0	30.9	35.9	40.9	40.9
150000	CSR	7.0	15.2	24.6	33.9	43.3	52.6	62.0	71.3	74.9
150000	TOT	10.3	20.7	31.2	41.9	52.6	63.4	74.1	79.7	79.7
150000	SS	4.7	9.4	14.3	19.5	24.8	30.3	35.6	35.8	35.9
150000	NEW	5.7	11.3	16.9	22.3	27.7	33.1	38.4	43.9	43.8
200000	CSR	7.0	15.2	24.6	33.9	43.3	52.6	62.0	71.3	74.9
200000	TOT	9.9	19.9	29.9	39.9	49.8	59.9	69.9	75.8	75.9
200000	SS	3.9	7.9	11.9	16.0	19.9	24.1	28.1	28.2	28.2
200000	NEW	6.0	12.0	17.9	23.9	29.9	35.8	41.7	47.7	47.7
250000	CSR	7.0	15.2	24.6	33.9	43.3	52.6	62.0	71.3	74.9
250000	TOT	9.5	19.1	28.7	38.3	47.8	57.4	67.0	73.3	73.3
250000	SS	3.3	6.6	9.9	13.1	16.4	19.8	23.1	23.2	23.2
250000	NEW	6.2	12.0	18.8	25.1	31.4	37.7	43.9	50.2	50.2
300000	CSR	7.0	15.2	24.6	33.9	43.3	52.6	62.0	71.3	74.9
300000	TOT	9.2	18.5	27.8	37.1	46.3	55.6	64.9	71.4	71.4
300000	SS	2.7	5.5	8.2	11.0	13.7	16.5	19.3	19.3	19.3
300000	NEW	6.5	13.0	19.6	26.1	32.6	39.1	45.6	52.1	52.1
350000	CSR	7.0	15.2	24.6	33.9	43.3	52.6	62.0	71.3	74.9
350000	TOT	9.0	18.1	27.1	36.2	45.2	54.3	63.3	70.0	70.0
350000	SS	2.3	4.7	7.1	9.4	11.8	14.1	16.5	16.5	16.5
350000	NEW	6.6	13.4	20.1	26.8	33.4	40.1	46.8	53.5	53.5
400000	CSR	7.0	15.2	24.6	33.9	43.3	52.6	62.0	71.3	74.9
400000	TOT	8.8	17.8	26.6	35.5	44.4	53.3	62.2	69.0	69.0
400000	SS	2.1	4.1	6.2	8.2	10.3	12.4	14.5	14.5	14.5
400000	NEW	6.6	13.6	20.5	27.3	34.1	40.9	47.7	54.5	54.5
450000	CSR	7.0	15.2	24.6	33.9	43.3	52.6	62.0	71.3	74.9
450000	TOT	8.7	17.5	26.3	35.0	43.8	52.5	61.3	68.2	68.2
450000	SS	1.8	3.7	5.5	7.3	9.2	11.0	12.8	12.9	12.9
450000	NEW	6.6	13.8	20.8	27.7	34.6	41.5	48.4	55.3	55.3
500000	CSR	6.9	15.2	24.6	33.9	43.3	52.6	62.0	71.3	74.9
500000	TOT	8.6	17.3	25.9	34.0	43.2	51.9	60.6	67.5	67.5
500000	SS	1.0	3.3	5.0	6.6	8.3	9.9	11.6	11.6	11.6
500000	NEW	6.9	14.0	21.0	28.0	35.0	42.0	49.0	56.0	56.0

PROJECTED CSR BENEFITS - STEP RATE FORMULA  
AGE 65 RETIREMENT  
PROJECTED TO 1985 AND DISCOUNTED AT 6.5% TO 1979  
REPLACEMENT RATIOS

FINAL SALARY		SERVICE								
		5	10	15	20	25	30	35	40	45
\$10000	CSR	7.0	15.2	24.6	33.9	43.3	52.6	62.0	71.3	74.9
10000	TOT	10.9	21.9	33.0	44.2	55.8	67.5	79.1	84.7	84.8
10000	SS	5.5	11.1	16.9	22.7	28.9	35.2	41.5	41.7	41.8
10000	NEW	5.4	10.8	16.1	21.5	26.9	32.3	37.7	43.0	43.0
15000	CSR	7.0	15.2	24.6	33.9	43.3	52.6	62.0	71.3	74.9
15000	TOT	10.6	21.3	32.1	43.3	54.5	65.9	77.2	83.3	83.4
15000	SS	4.7	9.4	14.3	19.5	24.8	30.3	35.6	35.8	35.9
15000	NEW	5.9	11.9	17.8	23.8	29.7	35.6	41.6	47.5	47.5
20000	CSR	7.0	15.2	24.6	33.9	43.3	52.6	62.0	71.3	74.9
20000	TOT	10.3	20.7	31.1	41.5	51.9	62.4	72.8	79.2	79.3
20000	SS	3.9	7.9	11.9	16.0	19.9	24.1	28.1	28.2	28.2
20000	NEW	6.3	12.8	19.2	25.5	31.9	38.3	44.7	51.1	51.1
25000	CSR	7.0	15.2	24.6	33.9	43.3	52.6	62.0	71.3	74.9
25000	TOT	9.9	19.9	29.8	39.7	49.7	59.7	69.7	76.4	76.4
25000	SS	3.3	6.6	9.9	13.1	16.4	19.8	23.1	23.2	23.2
25000	NEW	6.6	13.3	20.0	26.6	33.3	39.9	46.6	53.2	53.2
30000	CSR	7.0	15.2	24.6	33.9	43.3	52.6	62.0	71.3	74.9
30000	TOT	9.5	19.1	28.7	38.3	47.9	57.4	67.1	73.9	73.9
30000	SS	2.7	5.5	8.2	11.0	13.7	16.5	19.3	19.3	19.3
30000	NEW	6.8	13.7	20.5	27.3	34.1	41.0	47.8	54.6	54.6
35000	CSR	7.0	15.2	24.6	33.9	43.3	52.6	62.0	71.3	74.9
35000	TOT	9.2	18.6	27.9	37.2	46.6	55.9	65.2	72.2	72.2
35000	SS	2.3	4.7	7.1	9.4	11.8	14.1	16.5	16.5	16.5
35000	NEW	6.9	13.9	20.9	27.8	34.8	41.7	48.7	55.6	55.6
40000	CSR	7.0	15.2	24.6	33.9	43.3	52.6	62.0	71.3	74.9
40000	TOT	9.0	18.2	27.3	36.5	45.6	54.7	63.8	70.9	70.9
40000	SS	2.1	4.1	6.2	8.2	10.3	12.4	14.5	14.5	14.5
40000	NEW	7.0	14.1	21.2	28.2	35.3	42.3	49.4	56.4	56.4
45000	CSR	7.0	15.2	24.6	33.9	43.3	52.6	62.0	71.3	74.9
45000	TOT	8.9	17.9	26.9	35.8	44.8	53.8	62.7	69.9	69.9
45000	SS	1.8	3.7	5.5	7.3	9.2	11.0	12.8	12.9	12.9
45000	NEW	7.1	14.3	21.4	28.5	35.6	42.8	49.9	57.0	57.0
50000	CSR	6.9	15.2	24.6	33.9	43.3	52.6	62.0	71.3	74.9
50000	TOT	8.8	17.7	26.5	35.4	44.2	53.0	61.9	69.1	69.1
50000	SS	1.6	3.3	5.0	6.6	8.3	9.9	11.6	11.6	11.6
50000	NEW	7.1	14.4	21.6	28.7	35.9	43.1	50.3	57.5	57.5



PROJECTED CSR BENEFITS - ADD-ON FORMULA  
AGE 65 RETIREMENT  
PROJECTED TO 1985 AND DISCOUNTED AT 6.5% TO 1979  
REPLACEMENT RATIOS

FINAL SALARY		SERVICE								
		5	10	15	20	25	30	35	40	45
\$10000	CSR	7.0	15.2	24.6	33.9	43.3	52.6	62.0	71.3	74.9
10000	TOT	11.8	23.7	35.8	48.0	60.4	73.1	85.7	92.2	92.3
10000	SS	5.5	11.1	16.9	22.7	28.9	35.2	41.5	41.7	41.8
10000	NEW	6.3	12.6	19.0	25.3	31.6	37.9	44.2	50.5	50.5
15000	CSR	7.0	15.2	24.6	33.9	43.3	52.6	62.0	71.3	74.9
15000	TOT	11.0	22.0	33.3	44.8	56.4	68.2	79.9	86.3	86.4
15000	SS	4.7	9.4	14.3	19.5	24.8	30.3	35.6	35.8	35.9
15000	NEW	6.3	12.6	18.9	25.3	31.6	37.9	44.2	50.5	50.5
20000	CSR	7.0	15.2	24.6	33.9	43.3	52.6	62.0	71.3	74.9
20000	TOT	10.2	20.6	30.9	41.2	51.5	62.0	72.3	78.7	78.7
20000	SS	3.9	7.9	11.9	16.0	19.9	24.1	28.1	28.2	28.2
20000	NEW	6.3	12.6	18.9	25.3	31.6	37.9	44.2	50.5	50.5
25000	CSR	7.0	15.2	24.6	33.9	43.3	52.6	62.0	71.3	74.9
25000	TOT	9.6	19.2	28.8	38.4	48.0	57.7	67.3	73.7	73.7
25000	SS	3.3	6.6	9.9	13.1	16.4	19.8	23.1	23.2	23.2
25000	NEW	6.3	12.6	18.9	25.3	31.6	37.9	44.2	50.5	50.5
30000	CSR	7.0	15.2	24.6	33.9	43.3	52.6	62.0	71.3	74.9
30000	TOT	9.0	18.1	27.2	36.3	45.3	54.4	63.5	69.8	69.8
30000	SS	2.7	5.5	8.2	11.0	13.7	16.5	19.3	19.3	19.3
30000	NEW	6.3	12.6	18.9	25.3	31.6	37.9	44.2	50.5	50.5
35000	CSR	7.0	15.2	24.6	33.9	43.3	52.6	62.0	71.3	74.9
35000	TOT	8.6	17.4	26.0	34.7	43.4	52.0	60.7	67.1	67.1
35000	SS	2.3	4.7	7.1	9.4	11.8	14.1	16.5	16.5	16.5
35000	NEW	6.3	12.6	18.9	25.3	31.6	37.9	44.2	50.5	50.5
40000	CSR	7.0	15.2	24.6	33.9	43.3	52.6	62.0	71.3	74.9
40000	TOT	8.3	16.8	25.1	33.5	41.9	50.3	58.7	65.0	65.0
40000	SS	2.1	4.1	6.2	8.2	10.3	12.4	14.5	14.5	14.5
40000	NEW	6.3	12.6	18.9	25.3	31.6	37.9	44.2	50.5	50.5
45000	CSR	7.0	15.2	24.6	33.9	43.3	52.6	62.0	71.3	74.9
45000	TOT	8.1	16.3	24.4	32.6	40.8	48.9	57.1	63.4	63.4
45000	SS	1.8	3.7	5.5	7.3	9.2	11.0	12.8	12.9	12.9
45000	NEW	6.3	12.6	18.9	25.3	31.6	37.9	44.2	50.5	50.5
50000	CSR	6.9	15.2	24.6	33.9	43.3	52.6	62.0	71.3	74.9
50000	TOT	7.9	15.9	23.9	31.9	39.8	47.8	55.8	62.1	62.1
50000	SS	1.6	3.3	5.0	6.6	8.3	9.9	11.6	11.6	11.6
50000	NEW	6.3	12.6	18.9	25.3	31.6	37.9	44.2	50.5	50.5