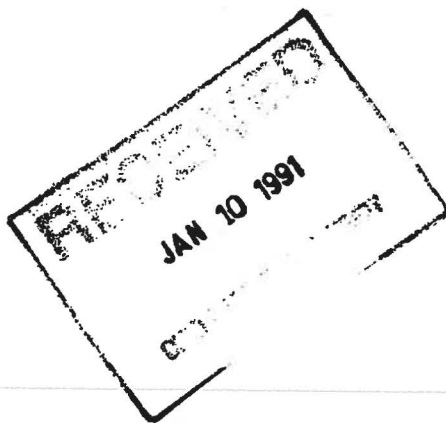


REPORT ON AN ACTUARIAL VALUATION OF THE
STATE TEACHERS RETIREMENT SYSTEM OF OHIO
PREPARED AS OF JUNE 30, 1990



BUCK CONSULTANTS

Xerox Centre
55 West Monroe Street Suite 1700
Chicago, Illinois 60603

November 21, 1990

The Retirement Board
The State Teachers
Retirement System of Ohio
275 East Broad Street
Columbus, Ohio 43215

Ladies and Gentlemen:

This report presents the results of the actuarial valuation of the assets and liabilities of The State Teachers Retirement System of Ohio as of July 1, 1990, prepared in accordance with Section 3307.20 of Chapter 3307 of the Ohio Revised Code.

The valuation was based on the same actuarial assumptions and methods used in last year's valuation. During fiscal year 1989/90 there were no significant modifications in the benefit or contribution provisions which needed to be reflected in the current valuation.

The valuation indicates that the unfunded accrued liability of the System is equal to \$7,641 million as of July 1, 1990. Based on the assumption that the STRS payroll will grow in the future at the rate of 5.875% per annum, the unfunded amount of \$7,641 million will be liquidated over a period of 34 years commencing July 1, 1990.

As of last year's valuation, the major improvements in benefits under H.B. 293 were incorporated in the assets and liabilities of STRS. These improvements make STRS one of the most competitive pension benefit programs for teachers in the nation. It should be noted that based upon the current valuation, the funding provisions of H.B. 293 have been maintained in that the funding period of the deficiency of STRS remains within the original 35-year requirement as of July 1, 1989 without any increase in employer contributions.

The valuation also indicates that the assets of the System include reserves which have been established for the following specific purposes:

- (1) A reserve of \$53 million established as of July 1, 1989 to be used for future benefit improvements for members.
- (2) A reserve of \$200 million established as of July 1, 1990 to cover additional liabilities expected to emerge over the next 3 years on account of adverse actuarial experience which may not be offset by additional investment earnings.

The Retirement Board
The State Teachers
Retirement System of Ohio
November 21, 1990
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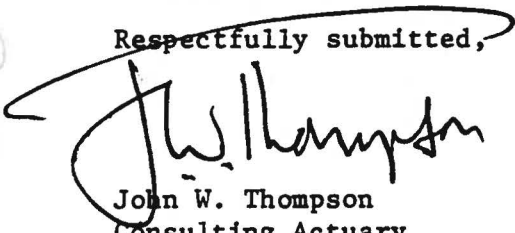
The reserve of \$53 million indicated above has been used to establish a portfolio of bonds whose income is dedicated to providing the anticipated future benefit improvements for members. This action is consistent with the Board's policy established in 1983 under which benefit improvements for retired members would generally be financed by the use of a dedicated bond portfolio.

If the reserve of \$200 million had not been established as of July 1, 1990, the unfunded accrued liability of the System would have been \$7,441 million as of July 1, 1990 and the liquidation period would have been 32-3/4 years.

It should be noted that the current funding period of 34 years is ahead of the original 1983 Management Improvement Plan objective of attaining a funding period of 40 years as of January 1, 1986, which is equivalent to a period of 35½ years as of July 1, 1990. As already noted, it is also consistent with the funding provisions of House Bill 293 which required a funding period of no greater than 35 years as of July 1, 1989.

The Table of Contents, which immediately follows, outlines the material contained in the report.

Respectfully submitted,



John W. Thompson
Consulting Actuary

THE STATE TEACHERS
RETIREMENT SYSTEM OF OHIO

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REPORT ON AN ACTUARIAL VALUATION OF THE
STATE TEACHERS RETIREMENT SYSTEM OF OHIO
PREPARED AS OF JULY 1, 1990

SECTION I - SUMMARY OF PRINCIPAL RESULTS

1. This report presents the results of an actuarial valuation of The State Teachers Retirement System of Ohio prepared as of July 1, 1990. For convenience of reference, the principal results of the valuation and a comparison with the preceding year's results are summarized in Table I below.

TABLE I

<u>Valuation Date</u>	7/1/90	7/1/89
Active members included in valuation:		
Number	157,650	153,830
Annual salaries	\$ 4,941,916,397	\$ 4,624,118,605
Number of inactive members included in valuation:		
Eligible for pensions	16,193	15,814
Eligible for refunds only	69,663	67,819
Retirees and beneficiaries in receipt of benefits as of the valuation date:		
Number	68,739	66,453
Annual allowances	\$ 854,536,192	\$ 773,339,143
Assets (book value)	\$ 18,242,453,340	\$ 16,407,002,188
Normal Contribution Rate (excluding Health Care)	15.03%	15.03%
Health Care Cost Allocation as % of payroll	2.00%	2.00%
Unfunded Accrued Liability (excluding Health Care)	\$ 7,640,885,439	\$ 7,211,686,041
Liquidation Period	34 years	34½ years

2. The valuation balance sheet showing the results of the valuation is presented in Table V of Section IV.
3. Comments on the valuation results are presented in Section V, while the gain and loss analysis during the valuation year is presented in Section VI.
4. Exhibit A of this report outlines the full set of actuarial assumptions and methods employed. Exhibit B presents a summary of the benefit and contribution provisions of the System.

SECTION II - MEMBERSHIP DATA

Data regarding the membership of the System which was used as a basis for the valuation were furnished by the System's office. The following tables summarize the membership of the System as of July 1, 1990 upon which the valuation was based. Detailed tabulations of the data are given in Exhibit C.

Table II following shows the number and annual salaries of active members as of July 1, 1990.

TABLE II

THE NUMBER AND ANNUAL SALARIES OF ACTIVE
MEMBERS AS OF JULY 1, 1990

GROUP	NUMBER	ANNUAL SALARIES
Men	55,215	\$ 2,065,528,002
Women	102,435	2,876,388,395
Total	157,650	\$ 4,941,916,397

Table III following shows the number of inactive members as of July 1, 1990.

TABLE III

THE NUMBER OF INACTIVE MEMBERS
AS OF JULY 1, 1990

GROUP	ELIGIBLE FOR ALLOWANCES	ELIGIBLE FOR REFUNDS ONLY
Men	4,570	22,239
Women	11,623	47,424
Total	16,193	69,663

Table IV on the following page shows the number and annual retirement allowances of retirees and beneficiaries as of July 1, 1990.

TABLE IV

THE NUMBER AND ANNUAL RETIREMENT ALLOWANCES OF
RETIREES AND BENEFICIARIES AS OF JULY 1, 1990

GROUP	NUMBER	ANNUAL ALLOWANCES AS OF JULY 1, 1990		
		Basic	Cost-of-Living Increases	Total
Superannuation retirees:				
Men	18,969	\$ 287,520,340	\$ 46,105,697	\$ 333,626,031
Women	38,047	327,979,903	70,535,278	398,515,181
Subtotal	57,016	\$ 615,500,243	\$ 116,640,969	\$ 732,141,212
Disability retirees:				
Men	1,739	\$ 26,432,177	\$ 4,265,205	\$ 30,697,382
Women	2,764	29,699,856	5,229,496	34,929,352
Subtotal	4,503	\$ 56,132,033	\$ 9,494,701	\$ 65,626,734
Beneficiaries receiving optional allowances:				
Men	771	\$ 3,738,822	\$ 1,077,337	\$ 4,816,159
Women	3,051	20,656,745	6,589,561	27,246,336
Subtotal	3,822	\$ 24,395,597	\$ 7,666,898	\$ 32,062,495
Total	65,341	\$ 696,027,873	\$ 133,802,568	\$ 829,830,441
Survivors' Benefit Fund beneficiaries:				
Men	827	\$ 4,325,366	\$ 838,923	\$ 5,164,289
Women	2,192	14,240,089	3,513,229	17,753,318
Orphans	379	1,492,556	295,588	1,788,144
Total	3,398	\$ 20,058,011	\$ 4,647,740	\$ 24,705,751
Grand Total	68,739	\$ 716,085,884	\$ 138,450,308	\$ 854,536,192

In addition, 140 beneficiaries of deceased active members entitled to annual deferred allowances of \$1,029,684 were included in the valuation.

SECTION III - EMPLOYEE DATA

1. The valuation was based on detailed data submitted by the System covering 157,650 active members with annual compensation of \$4,941,916,397, 65,341 retired members and beneficiaries in receipt of total annual retirement allowances of \$829,830,441, 3,398 beneficiaries covered under the Survivors' Benefit Fund who are in receipt of annual retirement allowances of \$24,705,751, 140 beneficiaries of deceased active members entitled to annual deferred allowances of \$1,029,684, 16,193 inactive members eligible for allowances and 69,663 inactive members eligible for refunds only.

2. Tables 1 and 2 of Exhibit C show the number and annual compensation of active members distributed by age and years of service as of July 1, 1990. Table 3 shows the number of inactive members eligible for allowances distributed by age, while Table 4 shows the number of inactive members eligible for refunds distributed by age as of July 1, 1990. Tables 5 through 8 of Exhibit C show the number and annual retirement allowances of retired members and contingent annuitants included in the valuation.

SECTION IV - VALUATION BALANCE SHEET

The following valuation balance sheet shows the assets and liabilities of the Retirement System as of July 1, 1990.

The liabilities of the funds are equal to the actuarially determined present values of benefits payable.

TABLE V

VALUATION BALANCE SHEET SHOWING THE PRESENT
AND PROSPECTIVE ASSETS AND LIABILITIES OF THE
STATE TEACHERS RETIREMENT SYSTEM OF OHIO
PREPARED AS OF JULY 1, 1990

ASSETS			
Present assets:			:
Annuity and Pension			:
Reserve Fund [See Note (1)]	\$ 9,147,308,386		:
Survivors' Benefit Fund	281,742,757		:
Teachers' Savings Fund	3,729,945,386		:
Employers' Trust Fund	<u>5,083,456,811</u>	\$18,242,453,340	:
			:
Prospective assets:			:
Present value of future			:
state appropriations			:
to finance House Bills			:
204(1979) and 248(1971):			:
Annuity and Pension			:
Reserve Fund	\$ 32,136,603		:
Survivors' Benefit			:
Fund	<u>1,029,632</u>	\$ 33,166,235	:
			:
Present value of members'			:
future contributions to			:
Teachers' Savings Fund	4,895,200,927		:
			:
Present value of employers'			:
future contributions to			:
the Employers' Trust			:
Fund:			:
Normal contributions	\$3,058,837,547		:
Accrued liability			:
contributions	<u>7,640,885,439</u>	<u>10,699,722,986</u>	:
			:
Total prospective			:
contributions		<u>15,628,090,148</u>	:
			:
Total Assets		\$33,870,543,488	:
			:

Note (1): Includes \$102,659,432 attributable to dedicated bond portfolio I, \$64,513,923 attributable to dedicated bond portfolio II, and \$84,657,171 attributable to dedicated bond portfolio III. Also included is an amount of \$534,701 representing additional death benefits to be provided by voluntary member contributions.

TABLE V

VALUATION BALANCE SHEET SHOWING THE PRESENT
AND PROSPECTIVE ASSETS AND LIABILITIES OF THE
STATE TEACHERS RETIREMENT SYSTEM OF OHIO
PREPARED AS OF JULY 1, 1990

LIABILITIES		:
Present value of benefits payable on account of present retirees and beneficiaries from the following funds:		:
Annuity and Pension Reserve Fund		:
[See Note (2)]	\$ 9,293,733,579	:
Survivors' Benefit Fund	282,772,389	:
Total liabilities for retirees and beneficiaries		:
		: \$ 9,576,505,968
Reserves held in the Health Care Premium Stabilization Fund		:
		: 340,311,936
Reserves established for additional members' benefits		:
		: 53,000,000
Reserves established on account of adverse actuarial experience which may occur in the near-term		:
		: 200,000,000
Present value of benefits payable on account of active and inactive members from contributions to the Teachers' Savings Fund and Employers' Trust Fund:		:
Superannuation allowances	\$ 20,697,949,772	:
Disability allowances	1,430,464,130	:
Survivor benefits	655,122,462	:
Refunds	904,442,052	:
Retirement death benefits	12,747,168	:
Total liabilities for active and inactive members		:
		: \$ 23,700,725,584
Total Liabilities		: \$ 33,870,543,488

Note (2): Includes \$102,659,432 attributable to dedicated bond portfolio I, and \$44,178,931 attributable to dedicated bond portfolio II. Also included is an amount of \$534,701 representing additional death benefits to be provided by voluntary member contributions.

SECTION V - COMMENTS ON VALUATION

The valuation balance sheet gives the following information in regard to the funds of the System as of July 1, 1990.

Annuity and Pension Reserve Fund

The Annuity and Pension Reserve Fund is the fund from which is paid all retirement allowances for which reserves have been transferred from the Teachers' Savings Fund and the Employers' Trust Fund. The present assets credited to the fund as of July 1, 1990 amounted to \$9,147,308,386, which included \$102,659,432 attributable to dedicated bond portfolio I which was established July 1, 1985, \$64,513,923 attributable to dedicated bond portfolio II which was established July 1, 1988, and \$84,657,171 attributable to dedicated bond portfolio III which was established July 1, 1990. In addition, future state appropriations to finance House Bills 204 (1979) and 248 (1971) amounted to \$32,136,603. Therefore, the present and future assets amounted to \$9,179,444,989. The liabilities of the fund amounted to \$9,293,733,579 as of July 1, 1990, including additional death benefits of \$534,701 to be provided by voluntary member contributions. The difference between the assets and liabilities, or \$114,288,590, represents the deficit in the fund as of July 1, 1990. It should be noted that this deficit represents the effect of inter-fund transfers within STRS. It is recommended that periodic ad hoc transfers be continued between the fund and the Employers' Trust Fund in order to bring the fund more closely into balance. Such transfers would have a neutral effect on the unfunded accrued liability of STRS, since any surplus or deficit in the fund is applied to reduce the unfunded in the Employers' Trust Fund.

Survivors' Benefit Fund

The Survivors' Benefit Fund is the fund from which is paid the benefits to survivors of members who die in active service or after disability retirement. The liabilities of the fund were equal to \$282,772,389 as of July 1, 1990. The present assets credited to the fund as of July 1, 1990 amounted to \$281,742,757 and future state appropriations to finance House Bills 204 (1979) and 248 (1971) amounted to \$1,029,632. Therefore, the total present and future assets were also equal to \$282,772,389. Thus, the Survivors' Benefit Fund is in balance as of July 1, 1990.

Health Care Premium Stabilization Fund

The assets of the Health Care Premium Stabilization Fund as of July 1, 1990 are equal to \$340,311,936, which are included in the Employers' Trust Fund. Provisions are made at the rate of 2.00% of payroll to be applied against the one year term cost of health care.

Teachers' Savings Fund

The Teachers' Savings Fund is the fund to which members' contributions are credited and from which is paid all refunds of members' contributions upon withdrawal or upon death where no other survivor benefit is payable. Upon retirement a member's contributions are transferred from this fund to the Annuity and Pension Reserve Fund and upon death where a benefit is paid to a survivor, his contributions are transferred to the Survivors' Benefit Fund.

The present assets credited to the Teachers' Savings Fund amounted to \$3,729,945,386 as of July 1, 1990.

Employers' Trust Fund

The Employers' Trust Fund is the fund to which the employers' contributions are credited. At retirement or death the reserves necessary to provide the benefits payable less the members' contributions are transferred from this fund to the Annuity and Pension Reserve Fund, or to the Survivors' Benefit Fund. The assets in the Employers' Trust Fund amounted to \$5,083,456,811 as of July 1, 1990.

There is a special reserve of \$53 million in the Employers' Trust Fund which was established as of July 1, 1989 to be used for additional benefit improvements for members.

In addition, there is a special reserve of \$200 million which was established as of July 1, 1990 as a provision to cover additional liabilities expected to emerge over the near-term on account of adverse actuarial experience.

Employers' Future Contributions

The present value of the liabilities to be covered by contributions to the Teachers' Savings Fund and Employers' Trust Fund amounts to \$23,700,725,584 for active and inactive members, plus \$340,311,936 for health care payments, plus reserves of \$53,000,000 established July 1, 1989, plus reserves of \$200,000,000 established July 1, 1990, or a total of \$24,294,037,520. If the present assets of \$3,729,945,386 in the Teachers' Savings Fund plus \$5,083,456,811 in the Employers' Trust Fund, or a total of \$8,813,402,197, are subtracted from these liabilities, there remains \$15,480,635,323 to be met by future contributions of members and employers. The present value of members' future contributions was \$4,895,200,927 as of the valuation date, leaving \$10,585,434,396 to be met by future contributions of the employers.

The normal contribution rate payable is equal to 15.03% based upon the entry age rate for members with less than two years of service, of which 9.25% of payroll is to be met by members' contributions, and the remainder, or 5.78% of payroll is included in the employer contribution rate. A detailed breakdown of the normal contribution rate by liability category is presented below.

TABLE VI

NORMAL CONTRIBUTION RATE

CATEGORY	:	RATE AS % OF PAYROLL
Superannuation Allowances	:	11.58%
Disability Allowances	:	1.30
Survivor Benefits	:	.64
Refunds	:	1.49
Retirement Death Benefits	:	.02
Total	:	15.03%

Future normal contributions by employers have a present value of \$3,058,837,547. If this amount is subtracted from \$10,585,434,396, the present value of future contributions by employers, there remains \$7,526,596,849 as the total amount of unfunded accrued liability exclusive of the deficit in the Annuity and Pension Reserve Fund. If the deficit of \$114,288,590 in the Annuity and Pension Reserve Fund is added to the amount of \$7,526,596,849, the resulting total unfunded accrued liability is equal to \$7,640,885,439. Employers pay 14.00% of payroll, of which 5.78% is payable toward the normal contribution and 2.00% is payable for health care, leaving 6.22% of payroll available to liquidate the unfunded accrued liability. Based upon an assumed increase in payroll of 5.875% per annum, the unfunded accrued liability would be liquidated in 34 years.

SECTION VI - GAIN AND LOSS ANALYSIS

The expected unfunded accrued liability as of July 1, 1990 amounts to \$7,495 million, based on an expected deficiency period equal to last year's period of 34½ years less 1 year, or 33½ years. The actual unfunded accrued liability amounts to \$7,641 million reflecting the special reserves established this year of \$200 million. Thus, there is an increase of \$7,641 million minus \$7,495 million, or \$146 million in the expected deficiency. The sources of this increase are analyzed below:

(i) Investment Income

Income on investments during the year ended June 30, 1990, net of expenses, was earned at a rate of 9.94% based on book value of assets, but excluding the effect of the dedicated bond portfolios I, II, and III.

\$200 million of the investment income, after meeting the valuation interest rate of 7.75%, is to be established as a reserve.

There was investment income of \$356 million, net of administrative expenses, earned in excess of the valuation interest rate of 7.75% during the year ended June 30, 1990. Of this excess investment income, approximately \$38 million will be paid out to eligible retirees and beneficiaries in December, 1990 and \$200 million is to be used to establish a special reserve, leaving a net gain of \$118 million.

(ii) Salary Increases

Salary increases to active members were in excess of those expected and increased the unfunded accrued liability by approximately \$25 million.

(iii) Retiree Mortality

Mortality and termination experience among retirees and beneficiaries resulted in a loss of approximately \$15 million.

(iv) Separation Experience Among Active Members and New Entrants

The actual number of members who retired on account of both service and disability was greater than expected. In addition, the actual number of withdrawals and deaths was less than expected. This overall experience resulted in net losses to the System of approximately \$139 million.

There was a loss of approximately \$50 million from new entrants.

(v) Purchase of Service

The purchase of service by members during the year ended June 30, 1990 produced an additional liability to the System not covered by the premiums paid by the members of approximately \$35 million.

A summary of the gain and loss analysis is presented on the following page.

Summary of Gain and Loss Analysis

	<u>Amount in Millions</u>
Items that <u>increased</u> the unfunded accrued liability:	
Salary increases above those expected	\$ 25
Separation experience	139
New entrants	50
Purchase of service	35
Experience among retirees and beneficiaries	<u>15</u>
Total increases	\$ 264
Items that <u>decreased</u> the unfunded accrued liability:	
Excess investment earnings	\$ 118
Total decreases	<u>118</u>
Net increase in unfunded accrued liability	\$ 146

Deficiency Period

If there had been no actuarial gains or losses during the year ended June 30, 1990, the expected remaining period to fund the unfunded accrued liability as of July 1, 1990 would have been 33½ years, i.e., one year less than the period of 34½ years as of June 30, 1989.

The net actuarial loss of \$146 million described above has the effect of increasing the funding period by approximately .9 years. In addition, because the payroll of the total membership increased at a rate (6.9%) greater than the expected rate of 5.5%, the application of the accrued liability rate of 6.22% to the increased payroll base will generate contribution income greater than expected in the future. This actuarial gain in the form of increased income has the effect of reducing the required funding period by approximately .4 years. The net effect of these two factors is to increase the expected

funding period by .9 years less .4 years, or .5 years. This produces a funding period as of July 1, 1990 of 33.5 years plus .5 years, or 34 years.

These points may be summarized as follows:

	<u>Funding Period</u>
Expected period as of July 1, 1990	33.5 years
Increase due to actuarial loss of \$154 million	.9
Decrease due to additional accrued liability contribution income	(.4)
Funding period as of July 1, 1990	<u>34.0 years</u>

SECTION VII - PENSION BENEFIT OBLIGATION INFORMATION

1. Statement No. 5 of the Governmental Accounting Standards Board (GASB) requires in part that a computation and disclosure of a standardized measure of the pension obligation for public employee retirement systems, and state and local governmental employers be made for purposes of assessing the funding status and funding progress of these systems and employers.

This measure is the actuarial present value (APV) as of the valuation date of credited projected benefits prorated on service, which is referred to in Statement No. 5 as the "pension benefit obligation" (PBO).

2. The determination of the pension benefit obligation as of July 1, 1990 includes an adjustment for the effects of projected salary increases, estimated to be payable in the future as a result of employee service to July 1, 1990.

Significant actuarial assumptions used to determine the pension benefit obligation as of July 1, 1990 include the following:

- (1) An assumed rate of return on the investment of present and future assets of 7-3/4% per annum, compounded annually.
- (2) Assumed projected annual salary increases ranging from 10.50% at age 20 to 4.50% at age 65, which reflect an allowance for inflation and merit or seniority increases.
- (3) Assumed annual post-retirement benefit increases equal to 3% of the member's benefit at retirement, based on the assumption that the change in Consumer Price Index will equal or exceed 3% each year in the future.

The relevant amounts as of July 1, 1990 are shown below:

Pension benefit obligation:

Retirees and beneficiaries currently receiving benefits	\$ 9,576,505,968
Terminated vested members not yet receiving benefits	<u>946,343,160</u>
Sub-total	\$10,522,849,128
Current members -	
Accumulated member contributions with interest	\$ 3,509,868,380
Employer-financed vested	3,668,863,967
Employer-financed non-vested	<u>6,043,077,358</u>
Sub-total	\$13,221,809,705
Total pension benefit obligation	\$23,744,658,833

The actuarial present value of credited projected benefits for active members is the portion of the total projected benefits allocated to the accrued liability using the unit credit actuarial cost method.

EXHIBIT A

STATEMENT OF ACTUARIAL ASSUMPTIONS AND METHODS

INTEREST RATE: 7-3/4% per annum, compounded annually.

SEPARATIONS FROM ACTIVE SERVICE: Representative values of the assumed rates of separation and annual rates of salary increase are as follows:

<u>Age</u>	<u>Withdrawal</u>	<u>Death</u>	<u>Disability</u>	<u>ANNUAL RATES OF</u>			<u>Salary Increase</u>
				<u>Superannuation</u>			
				<u>30</u> <u>Years</u> <u>Service</u>	<u>25-29</u> <u>Years</u> <u>Service</u>	<u>Under</u> <u>25 Years</u> <u>Service</u>	
<u>MEN</u>							
20	.0855	.0009	-	-	-	-	.1050
30	.0655	.0010	.0003	-	-	-	.0850
40	.0295	.0016	.0009	-	-	-	.0650
50	.0150	.0035	.0054	.2250	-	-	.0530
55	.0153	.0054	.0077	.2070	.0495	-	.0500
60	.0163	.0096	-	.2475	.0675	.0765	.0475
65	.0163	.0177	-	.3825	.3600	.2565	.0450
70	-	.0309	-	.3600	.3600	.3150	.0450
<u>WOMEN</u>							
20	.0566	.0003	-	-	-	-	.1050
30	.0599	.0004	.0005	-	-	-	.0850
40	.0248	.0007	.0012	-	-	-	.0650
50	.0149	.0016	.0048	.2250	-	-	.0530
55	.0126	.0029	.0070	.2250	.0900	-	.0500
60	.0117	.0054	-	.2610	.1305	.1440	.0475
65	.0123	.0099	-	.4050	.3600	.2970	.0450
70	-	.0174	-	.3600	.3150	.2700	.0450

DEATH AFTER RETIREMENT: According to the 1955 American Annuity Table with ages set back two years for men and seven years for women. Special mortality tables are used for the period after disability retirement.

VALUATION METHOD: Projected benefit method with level percentage entry age normal cost and open-end unfunded accrued liability. Gains and losses are reflected in the accrued liability.

ASSET VALUATION METHOD: Cost value.

PAYROLL GROWTH: Assumed to grow at 5.875% per annum for purposes of determining the liquidation period of the unfunded accrued liability.

EXHIBIT A

STATEMENT OF ACTUARIAL ASSUMPTIONS AND METHODS

(Continued)

PENSION BENEFIT OBLIGATION: The measure of the actuarial present value (APV) as of the valuation date of credited projected benefits prorated on service, or pension benefit obligation (PBO) as referred to in Statement No. 5 of the Governmental Accounting Standards Board (GASB), includes an adjustment for the effects of projected salary increases, estimated to be payable in the future as a result of employee service to July 1, 1990. Significant actuarial assumptions used to determine the pension benefit obligation as of July 1, 1990 include the following:

- (1) An assumed rate of return on the investment of present and future assets of 7-3/4% per annum, compounded annually.
- (2) Assumed projected annual salary increases ranging from 10.50% at age 20 to 4.50% at age 65, which reflect an allowance for inflation and merit or seniority increases.
- (3) Assumed annual post-retirement benefit increases equal to 3% of the member's benefit at retirement, based on the assumption that the change in Consumer Price Index will equal or exceed 3% each year in the future.

EXHIBIT B

SUMMARY OF BENEFIT AND CONTRIBUTION PROVISIONS

Eligibility for membership Immediate

Service Retirement

 Eligibility Age 60 with 5 years of service, or age 55 with 25 years of service, or 30 years of service regardless of age.

 Benefits Greater of (i) 2.1% of final average salary for the three highest paid years, multiplied by years of total Ohio service credit, except that for years of Ohio contributing service credit in excess of 30 a formula percentage of 2.5% will apply, or (ii) \$86 multiplied by years of service credit, and adjusted by the following percentage:

<u>Attained</u> <u>Age</u>	or	<u>Years</u> <u>of Ohio</u> <u>Service</u> <u>Credit</u>	<u>% of</u> <u>Base</u> <u>Amount</u>
58		25	75%
59		26	80
60		27	85
61		28	88
62		29	90
63		30	91
64		31	94
65		32	95
		33	97
		34 or more	97
		35 or more	100

Maximum benefit - 100% of average annual salary for three highest paid years.

Minimum benefit - the sum of the annuity provided by the member's accumulated contributions, a pension equal to the annuity and an additional pension of \$40 multiplied by the number of years of prior and military service.

Optional Forms of Benefit Option 1 - 100% joint and survivorship. Reduced retirement allowance payable to the member continuing for life to the member's sole beneficiary named at retirement after the member's death.

EXHIBIT B

SUMMARY OF BENEFIT AND CONTRIBUTION PROVISIONS

(Continued)

Option 2 - A joint and survivorship annuity payable during the lifetime of the member, with the member's sole beneficiary named at retirement to receive some other portion of the member's annuity after the member's death.

Option 3 - The member's reduced retirement allowance provided under Option 1 or Option 2 is to be paid for life to the member's sole beneficiary named at retirement after the member's death, except that in the event of the death of the sole beneficiary or termination of marriage between the retirant and the sole beneficiary, the retirant may elect to return to his single lifetime benefit equivalent which would be available for an actuarially computed charge as determined by the Board. In the case of termination of marriage the election may be made with the written consent of the beneficiary or by court order.

Option 4 - A life annuity payable during the lifetime of the member, with a guarantee that upon the member's death before the expiration of a certain period, his benefit will continue for the remainder of such period to his beneficiary. Joint beneficiaries may receive the present value of any remaining payments in a lump sum settlement. If all beneficiaries die before the expiration of the certain period, the present value of all payments that remain to be paid are to be paid to the estate of the beneficiary last receiving.

Option 5 - A plan of payment established by the Board combining any of the features of Option 1, 2, and 4.

Disability Retirement

Eligibility

Completion of 5 or more years of service, under age 60 and permanently incapacitated for the performance of duty.

Benefits

(1) Annuity with a reserve equal to the member's accumulated contributions, plus

EXHIBIT B

SUMMARY OF BENEFIT AND CONTRIBUTION PROVISIONS

(Continued)

(2) The difference between (1) and the greater of 2.1% of the average salary during the 3 highest paid years, except that for service in excess of 30 years the 2.5% formula will apply, or \$86 times total service plus years and months from date of disability to age 60. Maximum allowance is 75% of final average salary. Minimum allowance is 30% of final average salary.

Death after Retirement Lump sum payment of \$1,000 upon death after service or disability retirement.

Survivor's Benefit

Eligibility Upon death after at least 1-1/2 years of credit for Ohio service with at least 1/4 year of such service in the 2-1/2 years preceding death or upon death of a disability retirant.

Benefits If member is eligible for retirement, spouse or other sole dependent beneficiary may elect to receive option 1 benefit in lieu of return of contributions.

If member is not eligible for retirement certain designated beneficiaries may elect to receive the following benefits in lieu of return of contributions.

<u>Number of Qualified Dependents</u>	<u>% of Average Annual Salary for 3 Highest Paid Years</u>	<u>Minimum Annual Benefit</u>
1	25%	\$1,152
2	40	2,232
3	50	2,832
4	55	2,832
5 or more	60	2,832

Qualified beneficiaries are spouse, dependent children and/or dependent parents over age 65.

Refund of Contributions

A member's contributions are refunded upon termination of employment where no other benefit is payable. Upon death after retirement or upon death of a survivor in receipt of benefits, the member's accumulated contributions at retirement less payments made are returned to the designated beneficiary.

EXHIBIT B

SUMMARY OF BENEFIT AND CONTRIBUTION PROVISIONS

(Continued)

Cost-of-living Benefits	The basic benefit is increased by 3% each year provided the change in Consumer Price Index equals or exceeds 3%.
Health Care	Retirants, their spouses and dependent children are covered by comprehensive medical expense health care plan.
Contribution:	
By Members	9.25% of salary effective July 1, 1990.
By Employers	14.00% of salaries of their employees who are members.

EXHIBIT C

DISTRIBUTIONS OF
ACTIVE MEMBERS, INACTIVE MEMBERS,
RETIRED MEMBERS AND BENEFICIARIES

TABLE 1

THE NUMBER AND ANNUAL SALARIES
OF ACTIVE MEMBERS DISTRIBUTED BY
AGE AS OF JULY 1, 1990

AGE	MEN		WOMEN	
	NUMBER	AMOUNT	NUMBER	AMOUNT
20	\$		2	19,092
21			12	128,614
22	4	66,370	72	750,495
23	163	2,353,579	932	12,730,161
24	374	5,806,269	1,564	23,608,191
25	509	8,636,316	1,656	27,649,331
26	569	10,852,998	1,713	30,848,908
27	636	13,017,641	1,833	35,775,371
28	683	15,193,849	1,869	38,130,049
29	791	18,166,045	1,919	40,668,341
30	806	19,180,608	1,840	39,387,729
31	837	21,336,221	1,859	41,913,723
32	985	26,929,333	2,030	47,563,220
33	1,213	34,350,852	2,354	57,670,949
34	1,239	37,266,248	2,517	62,796,616
35	1,385	42,866,389	2,941	76,770,871
36	1,507	47,797,646	3,136	82,799,220
37	1,730	57,163,185	3,489	94,384,364
38	2,048	69,270,311	4,284	117,994,476
39	2,265	80,073,845	4,651	131,253,044
40	2,322	83,168,649	4,799	136,412,488
41	2,648	97,342,463	5,016	143,385,854
42	2,615	98,273,945	4,720	137,704,500
43	3,202	123,422,063	5,216	154,376,374
44	2,686	106,035,633	4,337	130,167,178
45	2,162	86,466,850	3,321	101,430,195
46	2,061	84,363,812	3,225	98,497,843
47	2,237	92,727,636	3,422	106,019,846
48	2,127	89,763,557	3,307	104,074,097
49	1,915	82,434,107	2,814	88,896,165
50	1,684	73,510,416	2,463	79,413,516
51	1,542	68,108,048	2,258	72,796,949
52	1,432	64,910,411	2,218	72,659,706
53	1,252	57,232,537	1,970	64,246,938
54	1,134	50,828,461	1,788	59,059,494
55	969	45,457,457	1,556	51,152,202
56	861	39,590,813	1,424	47,363,093
57	719	32,713,639	1,143	37,740,823
58	668	30,373,291	1,159	38,939,814
59	659	30,625,038	1,109	37,042,910
60	588	26,947,559	1,113	36,842,286
61	459	21,393,111	766	25,911,770
62	347	16,098,997	647	22,269,149
63	307	14,057,912	548	18,475,749
64	211	9,648,403	400	13,740,459

TABLE 1
 THE NUMBER AND ANNUAL SALARIES
 OF ACTIVE MEMBERS DISTRIBUTED BY
 AGE AS OF JULY 1, 1990

CONTINUED

AGE	MEN		WOMEN	
	NUMBER	AMOUNT	NUMBER	AMOUNT
65	190	8,596,368	351	12,420,710
66	151	7,239,487	217	7,537,994
67	111	5,078,868	138	4,764,018
68	64	3,001,145	105	3,435,370
69	57	2,664,597	70	2,353,297
70	43	1,786,220	52	1,695,509
71	14	435,767	34	1,149,937
72	10	247,735	22	646,865
73	6	300,789	16	517,060
74	3	31,139	5	162,041
75	5	66,350	6	135,952
76	7	152,438	5	101,736
77			1	2,938
78	1	23,731		
79			1	2,805
81	1	32,161		
86	1	48,694		
TOTAL	55,215	\$2,065,528,002	102,435	\$2,876,388,395

TABLE 1A

THE NUMBER AND ANNUAL SALARIES
OF ACTIVE MEMBERS DISTRIBUTED BY
AGE AS OF JULY 1, 1990

AGE	NUMBER	AMOUNT
20	2	\$ 19,092
21	12	128,614
22	76	816,865
23	1,095	15,083,740
24	1,938	29,414,460
25	2,165	36,285,647
26	2,282	41,701,906
27	2,469	48,793,012
28	2,552	53,323,898
29	2,710	58,834,386
30	2,646	58,568,337
31	2,696	63,249,944
32	3,015	74,492,553
33	3,567	92,021,801
34	3,756	100,062,864
35	4,326	119,637,260
36	4,643	130,596,866
37	5,219	151,547,549
38	6,332	187,264,787
39	6,916	211,326,889
40	7,121	219,581,137
41	7,664	240,726,934
42	7,335	235,978,445
43	8,418	277,799,820
44	7,023	236,202,811
45	5,483	187,897,045
46	5,286	182,861,655
47	5,659	198,747,482
48	5,434	193,837,654
49	4,729	171,330,272
50	4,147	152,923,932
51	3,800	140,904,997
52	3,650	137,570,117
53	3,222	121,479,475
54	2,922	109,887,955

TABLE 1A

THE NUMBER AND ANNUAL SALARIES
OF ACTIVE MEMBERS DISTRIBUTED BY
AGE AS OF JULY 1, 1990

CONTINUED

AGE	NUMBER	AMOUNT
55	2,525	\$ 96,609,659
56	2,285	86,953,906
57	1,862	70,454,462
58	1,827	69,313,105
59	1,768	67,667,948
60	1,701	63,789,845
61	1,225	47,304,881
62	994	38,368,146
63	855	32,533,661
64	611	23,388,862
65	541	21,017,078
66	368	14,777,481
67	249	9,842,886
68	169	6,436,515
69	127	5,017,894
70	95	3,481,729
71	48	1,585,704
72	32	894,600
73	22	817,849
74	8	193,180
75	11	202,302
76	12	254,174
77	1	2,938
78	1	23,731
79	1	2,805
81	1	32,161
86	1	48,694
TOTAL	157,650	\$4,941,916,397

TABLE 2

THE NUMBER AND ANNUAL SALARIES
OF ACTIVE MEMBERS DISTRIBUTED BY
YEARS OF SERVICE AS OF JULY 1, 1990

YEARS OF SERVICE	MEN		WOMEN	
	NUMBER	AMOUNT	NUMBER	AMOUNT
0	777\$	8,257,767	1,897\$	17,690,956
1	3,315	62,322,397	8,822	133,287,471
2	2,457	60,577,674	5,883	106,792,579
3	2,137	58,720,779	5,069	102,034,347
4	1,943	57,575,169	4,750	104,032,993
5	1,889	60,103,497	4,425	102,713,592
6	1,698	55,270,730	4,288	104,052,719
7	1,453	49,857,090	3,724	92,843,592
8	1,132	40,892,612	3,018	76,285,006
9	1,174	42,804,495	2,953	77,348,764
10	1,480	55,288,474	3,476	98,241,744
11	1,559	59,034,950	3,773	111,102,225
12	1,709	66,658,911	4,061	124,196,839
13	1,642	63,738,738	3,796	119,671,505
14	1,736	68,422,285	3,570	115,232,956
15	1,765	69,902,321	3,591	118,862,082
16	1,886	74,600,559	3,693	124,947,746
17	1,990	80,248,059	3,915	134,283,572
18	2,298	94,315,640	3,630	127,701,575
19	2,041	85,526,943	3,109	109,941,081
20	1,995	85,075,591	3,097	110,851,877
21	2,437	105,655,084	2,910	106,058,202
22	2,192	94,644,238	2,457	89,838,303
23	1,959	86,493,906	2,138	78,192,887
24	1,747	77,096,599	1,859	69,003,870
25	1,480	66,283,380	1,643	61,303,440
26	1,361	60,306,761	1,352	50,351,695
27	1,201	54,087,766	1,187	44,550,809
28	988	44,634,457	971	36,483,409
29	852	38,455,956	851	31,618,770
30	710	32,837,420	722	27,147,363
31	535	24,911,825	523	19,965,067
32	415	19,535,458	360	13,873,825
33	344	16,664,458	268	10,318,010
34	256	12,112,146	205	7,799,337
35	182	8,681,956	127	4,895,871
36	138	6,500,575	91	3,718,656
37	89	4,528,619	57	2,393,855
38	70	3,356,927	43	1,713,326
39	59	2,924,289	43	1,591,179
40	39	2,063,895	29	1,168,490
41	25	1,336,053	13	478,491
42	23	1,227,966	12	485,376

TABLE 2
 THE NUMBER AND ANNUAL SALARIES
 OF ACTIVE MEMBERS DISTRIBUTED BY
 YEARS OF SERVICE AS OF JULY 1, 1990

CONTINUED

YEARS OF SERVICE	MEN		WOMEN	
	NUMBER	AMOUNT	NUMBER	AMOUNT
43	12	617,293	9	369,671
44	12	626,699	8	295,453
45	5	261,701	3	106,687
46	3	196,604	3	122,480
47	3	174,290	4	146,329
48	2	117,000	3	136,765
50			1	41,595
51			2	64,050
53			1	39,913
TOTAL	55,215	\$2,065,528,002	102,435	\$2,876,388,395

TABLE 2A

THE NUMBER AND ANNUAL SALARIES
OF ACTIVE MEMBERS DISTRIBUTED BY
YEARS OF SERVICE AS OF JULY 1, 1990

YEARS OF SERVICE	NUMBER	AMOUNT
0	2,674	\$ 25,948,723
1	12,137	195,609,868
2	8,340	167,370,253
3	7,206	160,755,126
4	6,693	161,608,162
5	6,314	162,817,089
6	5,986	159,323,449
7	5,177	142,700,682
8	4,150	117,177,618
9	4,127	120,153,259
10	4,956	153,530,218
11	5,332	70,137,175
12	5,770	190,855,750
13	5,438	183,410,243
14	5,306	183,655,241
15	5,356	188,764,403
16	5,579	199,548,305
17	5,905	214,532,432
18	5,928	222,015,832
19	5,150	195,468,024
20	5,092	195,927,468
21	5,347	211,713,868
22	4,649	184,482,541
23	4,097	164,686,793
24	3,606	146,100,469
25	3,123	127,586,820
26	2,713	110,658,456
27	2,388	98,638,575
28	1,959	81,117,866
29	1,703	70,074,726
30	1,432	59,984,783
31	1,058	44,876,892
32	775	33,409,283
33	612	26,982,468
34	461	19,911,483

TABLE 2A

THE NUMBER AND ANNUAL SALARIES
OF ACTIVE MEMBERS DISTRIBUTED BY
YEARS OF SERVICE AS OF JULY 1, 1990

CONTINUED

YEARS OF SERVICE	NUMBER	AMOUNT
35	309	\$ 13,577,827
36	229	10,219,231
37	146	6,922,474
38	113	5,070,253
39	102	4,515,468
40	68	3,232,385
41	38	1,814,544
42	35	1,713,342
43	21	986,964
44	20	922,152
45	8	368,388
46	6	319,084
47	7	320,619
48	5	253,765
50	1	41,595
51	2	64,050
53	1	39,913
TOTAL	157,650	\$4,941,916,397

TABLE 3
THE NUMBER OF INACTIVE MEMBERS ELIGIBLE FOR
FUTURE ALLOWANCES DISTRIBUTED BY
AGE AS OF JULY 1, 1990

AGE	MEN	WOMEN
27		1
28	3	20
29	12	50
30	11	73
31	17	123
32	23	183
33	33	225
34	63	278
35	59	339
36	81	396
37	89	408
38	107	464
39	132	516
40	164	580
41	166	507
42	196	559
43	248	547
44	223	444
45	157	376
46	212	387
47	240	430
48	210	425
49	175	415
50	168	346
51	165	362
52	190	353
53	173	385
54	159	322
55	147	347
56	163	297
57	142	273
58	143	306
59	158	301

TABLE 3
THE NUMBER OF INACTIVE MEMBERS ELIGIBLE FOR
FUTURE ALLOWANCES DISTRIBUTED BY
AGE AS OF JULY 1, 1990

CONTINUED

AGE	MEN	WOMEN
60	142	266
61	56	96
62	41	63
63	26	48
64	23	29
65	17	26
66	9	16
67	8	9
68	6	9
69	10	5
70	1	4
71		4
72		4
73	1	
74	1	
75		1
76		2
80		1
82		1
84		1
TOTAL	4,570	11,623

TABLE 3A
 THE NUMBER OF INACTIVE MEMBERS ELIGIBLE FOR
 FUTURE ALLOWANCES DISTRIBUTED BY
 AGE AS OF JULY 1, 1990

AGE	NUMBER	
27	1	\$ 10,000
28	23	230,000
29	62	620,000
30	84	840,000
31	140	1,400,000
32	206	2,060,000
33	258	2,580,000
34	341	3,410,000
35	398	3,980,000
36	477	4,770,000
37	497	4,970,000
38	571	5,710,000
39	648	6,480,000
40	744	7,440,000
41	673	6,730,000
42	755	7,550,000
43	795	7,950,000
44	667	6,670,000
45	533	5,330,000
46	599	5,990,000
47	670	6,700,000
48	635	6,350,000
49	590	5,900,000
50	514	5,140,000
51	527	5,270,000
52	543	5,430,000
53	558	5,580,000
54	481	4,810,000
55	494	4,940,000
56	460	4,600,000
57	415	4,150,000
58	449	4,490,000
59	459	4,590,000

TABLE 3A
 THE NUMBER OF INACTIVE MEMBERS ELIGIBLE FOR
 FUTURE ALLOWANCES DISTRIBUTED BY
 AGE AS OF JULY 1, 1990

CONTINUED

AGE	NUMBER	
60	408	\$ 4,080,000
61	152	1,520,000
62	104	1,040,000
63	74	740,000
64	52	520,000
65	43	430,000
66	25	250,000
67	17	170,000
68	15	150,000
69	15	150,000
70	5	50,000
71	4	40,000
72	4	40,000
73	1	10,000
74	1	10,000
75	1	10,000
76	2	20,000
80	1	10,000
82	1	10,000
84	1	10,000
TOTAL	16,193	\$161,930,000

TABLE 4
 THE NUMBER OF INACTIVE MEMBERS ELIGIBLE FOR
 REFUNDS ONLY DISTRIBUTED BY
 AGE AS OF JULY 1, 1990

AGE	MEN	WOMEN
19	2	1
20		1
21	7	6
22	17	129
23	95	377
24	187	613
25	242	767
26	300	894
27	359	879
28	404	973
29	419	1,088
30	421	1,124
31	489	1,173
32	493	1,232
33	599	1,340
34	622	1,328
35	688	1,359
36	777	1,538
37	761	1,717
38	891	1,914
39	881	1,970
40	972	1,896
41	990	2,028
42	1,024	1,986
43	1,101	2,284
44	898	1,986
45	709	1,564
46	653	1,453
47	624	1,521
48	597	1,413
49	516	1,164
50	423	1,002
51	390	831
52	361	752
53	358	740
54	348	681
55	313	550
56	319	564
57	250	447
58	285	463
59	226	426

TABLE 4
THE NUMBER OF INACTIVE MEMBERS ELIGIBLE FOR
REFUNDS ONLY DISTRIBUTED BY
AGE AS OF JULY 1, 1990

CONTINUED

AGE	MEN	WOMEN
60	280	421
61	220	339
62	203	315
63	193	258
64	164	248
65	138	202
66	128	188
67	143	133
68	108	136
69	97	132
70	97	117
71	67	99
72	56	90
73	53	70
74	39	55
75	37	62
76	37	56
77	28	38
78	26	40
79	14	30
80	18	35
81	13	32
82	15	28
83	14	13
84	6	17
85	10	19
86	1	18
87	5	17
88	4	13
89	6	6
91	3	11
92	3	8
93	2	4
TOTAL	22,239	47,424

TABLE 4A
 THE NUMBER OF INACTIVE MEMBERS ELIGIBLE FOR
 REFUNDS ONLY DISTRIBUTED BY
 AGE AS OF JULY 1, 1990

AGE	NUMBER	
19	3	\$ 30,000
20	1	10,000
21	13	130,000
22	146	1,460,000
23	472	4,720,000
24	800	8,000,000
25	1,009	10,090,000
26	1,194	11,940,000
27	1,238	12,380,000
28	1,377	13,770,000
29	1,507	15,070,000
30	1,545	15,450,000
31	1,662	16,620,000
32	1,725	17,250,000
33	1,939	19,390,000
34	1,950	19,500,000
35	2,047	20,470,000
36	2,315	23,150,000
37	2,478	24,780,000
38	2,805	28,050,000
39	2,851	28,510,000
40	2,868	28,680,000
41	3,018	30,180,000
42	3,010	30,100,000
43	3,385	33,850,000
44	2,884	28,840,000
45	2,273	22,730,000
46	2,106	21,060,000
47	2,145	21,450,000
48	2,010	20,100,000
49	1,680	16,800,000
50	1,425	14,250,000
51	1,221	12,210,000
52	1,113	11,130,000
53	1,098	10,980,000
54	1,029	10,290,000
55	863	8,630,000
56	883	8,830,000
57	697	6,970,000
58	748	7,480,000
59	652	6,520,000

TABLE 4A
 NUMBER OF INACTIVE MEMBERS ELIGIBLE FOR
 REFUNDS ONLY DISTRIBUTED BY
 AGE AS OF JULY 1, 1990

CONTINUED

AGE	NUMBER	
60	701	\$ 7,010,000
61	559	5,590,000
62	518	5,180,000
63	451	4,510,000
64	412	4,120,000
65	340	3,400,000
66	316	3,160,000
67	276	2,760,000
68	244	2,440,000
69	229	2,290,000
70	214	2,140,000
71	166	1,660,000
72	146	1,460,000
73	123	1,230,000
74	94	940,000
75	99	990,000
76	93	930,000
77	66	660,000
78	66	660,000
79	44	440,000
80	53	530,000
81	45	450,000
82	43	430,000
83	27	270,000
84	23	230,000
85	29	290,000
86	19	190,000
87	22	220,000
88	17	170,000
89	12	120,000
91	14	140,000
92	11	110,000
93	6	60,000
TOTAL	69,663	\$696,630,000

TABLE 5
 THE NUMBER AND ANNUAL RETIREMENT
 ALLOWANCES OF BENEFICIARIES
 DISTRIBUTED BY AGE AS OF JULY 1, 1990

SUPERANNUATION RETIREES

AGE	MEN		WOMEN	
	NUMBER	ANNUAL ALLOWANCE	NUMBER	ANNUAL ALLOWANCE
49	2 ‡	40,925	3 ‡	54,290
50	3	72,056	10	204,731
51	36	1,004,051	38	754,559
52	95	2,453,976	84	1,839,770
53	180	4,589,729	142	2,984,786
54	322	7,776,424	217	4,565,994
55	392	9,410,116	243	4,995,236
56	457	10,428,005	308	5,973,699
57	521	11,897,271	345	6,734,330
58	623	14,435,463	399	7,713,472
59	640	14,926,673	494	9,042,295
60	725	15,958,693	621	9,876,808
61	821	17,090,694	953	13,350,952
62	873	17,610,670	1,043	13,382,247
63	939	18,450,750	1,154	14,761,586
64	924	17,230,796	1,156	14,417,883
65	977	18,533,800	1,178	14,638,024
66	922	16,673,731	1,171	14,401,812
67	856	15,438,521	1,213	14,173,354
68	796	13,635,014	1,237	14,955,876
69	761	12,795,400	1,342	14,845,271
70	706	11,647,744	1,316	14,376,938
71	520	8,490,403	1,251	13,373,748
72	562	8,765,218	1,388	14,431,767
73	535	7,584,645	1,353	13,244,528
74	444	5,909,969	1,321	12,613,526
75	461	6,275,534	1,285	12,179,375
76	413	5,272,105	1,266	11,653,078
77	401	5,320,872	1,301	11,356,109
78	356	4,351,103	1,335	11,341,086
79	338	4,022,271	1,212	9,890,367

TABLE 5
 THE NUMBER AND ANNUAL RETIREMENT
 ALLOWANCES OF BENEFICIARIES
 DISTRIBUTED BY AGE AS OF JULY 1, 1990

SUPERANNUATION RETIREES

CONTINUED

AGE	MEN		WOMEN	
	NUMBER	ANNUAL ALLOWANCE	NUMBER	ANNUAL ALLOWANCE
80	300	\$ 3,523,431	1,273	\$ 10,684,508
81	320	3,802,598	1,208	9,869,594
82	283	3,228,624	1,348	10,600,968
83	284	2,984,133	1,166	9,216,595
84	228	2,456,361	1,086	8,273,900
85	200	2,085,093	1,091	8,340,115
86	166	1,607,309	917	6,885,909
87	150	1,538,629	790	5,869,265
88	114	1,152,850	653	4,684,364
89	100	1,008,342	532	3,857,953
90	58	562,993	393	2,935,688
91	43	451,665	301	2,201,800
92	36	363,486	270	2,037,967
93	21	197,405	172	1,355,515
94	17	158,519	148	1,139,611
95	20	173,224	105	813,230
96	9	88,222	58	485,613
97	4	35,767	58	443,168
98	5	43,749	42	282,851
99	4	12,191	18	104,327
100	6	58,818	19	145,355
101			13	108,916
102			3	18,578
103			2	17,408
104			1	7,285
105			1	7,201
TOTAL	18,969	\$333,626,031	38,047	\$398,515,181

SUMMARY

NO OPTION	4,653	\$ 69,419,542	27,057	\$271,540,430
OPTION 1	7,709	136,429,270	4,120	40,204,933
OPTION 2	3,645	66,703,679	2,439	30,100,598
OPTION 3	2,155	45,123,023	3,210	43,744,265
OPTION 4	632	11,241,763	1,188	12,469,747
OPTION 5	114	2,909,925	18	207,224
OPTION 6	38	1,168,710	7	93,325
OPTION 7	23	630,119	8	154,659

TABLE 5A
THE NUMBER AND ANNUAL RETIREMENT
ALLOWANCES OF BENEFICIARIES
DISTRIBUTED BY AGE AS OF JULY 1, 1990

SUPERANNUATION RETIREES

AGE	NUMBER	AMOUNT
49	5 \$	95,215
50	13	276,787
51	74	1,758,610
52	179	4,293,746
53	322	7,574,515
54	539	12,342,418
55	635	14,405,352
56	765	16,401,704
57	866	18,631,601
58	1,022	22,148,935
59	1,134	23,968,968
60	1,346	25,835,501
61	1,774	30,441,646
62	1,916	30,992,917
63	2,093	33,212,336
64	2,080	31,648,679
65	2,155	33,171,824
66	2,093	31,075,543
67	2,069	29,611,875
68	2,033	28,590,890
69	2,103	27,640,671
70	2,022	26,024,682
71	1,771	21,864,151
72	1,950	23,196,985
73	1,888	20,829,173
74	1,765	18,523,495
75	1,746	18,454,909
76	1,679	16,925,183
77	1,702	16,676,981
78	1,691	15,692,189
79	1,550	13,912,638

TABLE 5A
 THE NUMBER AND ANNUAL RETIREMENT
 ALLOWANCES OF BENEFICIARIES
 DISTRIBUTED BY AGE AS OF JULY 1, 1990

SUPERANNUATION RETIREES

CONTINUED

AGE	NUMBER	AMOUNT
80	1,573	\$ 14,207,939
81	1,528	13,672,192
82	1,631	13,829,592
83	1,450	12,200,728
84	1,314	10,730,261
85	1,291	10,425,208
86	1,083	8,493,218
87	940	7,407,894
88	767	5,837,214
89	632	4,866,295
90	451	3,498,681
91	344	2,653,465
92	306	2,401,453
93	193	1,552,920
94	165	1,298,130
95	125	986,454
96	67	573,835
97	62	478,935
98	47	326,600
99	22	116,518
100	25	204,173
101	13	108,916
102	3	18,578
103	2	17,408
104	1	7,285
105	1	7,201
TOTAL	57,016	\$732,141,212

SUMMARY

NO OPTION	31,710	\$340,959,972
OPTION 1	11,829	176,634,203
OPTION 2	6,084	96,804,277
OPTION 3	5,365	88,867,288
OPTION 4	1,820	23,711,510
OPTION 5	132	3,117,149
OPTION 6	45	1,262,035
OPTION 7	31	784,778

TABLE 6
THE NUMBER AND ANNUAL RETIREMENT
ALLOWANCES OF BENEFICIARIES
DISTRIBUTED BY AGE AS OF JULY 1, 1990

AGE	DISABILITY RETIREES		DISABILITY RETIREES	
	MEN	WOMEN	MEN	WOMEN
	NUMBER	ANNUAL ALLOWANCE	NUMBER	ANNUAL ALLOWANCE
28	1 †	16,372		
29			1 †	15,621
30			1	14,827
31	2	36,629		
33			4	56,562
34			7	104,175
35	2	29,074	15	235,909
36	3	53,057	20	330,197
37	6	100,447	13	186,587
38	6	92,240	32	471,313
39	9	178,107	28	475,752
40	14	246,362	27	452,186
41	13	231,624	49	798,101
42	31	589,235	41	669,726
43	26	476,124	47	729,843
44	30	658,238	47	778,001
45	24	496,180	42	714,993
46	28	526,952	43	752,430
47	43	788,351	62	985,828
48	44	851,039	69	1,194,669
49	39	753,821	49	790,735
50	33	682,108	49	758,786
51	49	1,117,141	62	995,908
52	46	910,269	65	1,001,222
53	43	826,356	73	1,091,038
54	55	1,152,063	63	968,210
55	65	1,397,736	80	1,265,240
56	67	1,209,223	87	1,322,571
57	76	1,522,983	74	1,141,493
58	84	1,670,792	80	1,252,979
59	80	1,556,625	99	1,362,291
60	85	1,618,681	101	1,348,320
61	73	1,235,679	95	1,086,589
62	84	1,452,129	99	1,254,324
63	67	1,141,398	109	1,327,204
64	80	1,250,828	100	1,095,929
65	71	1,162,141	93	1,046,326
66	55	847,711	79	809,569
67	47	764,713	79	806,389
68	46	629,279	79	771,371
69	55	739,721	72	714,091

TABLE 6

THE NUMBER AND ANNUAL RETIREMENT
ALLOWANCES OF BENEFICIARIES
DISTRIBUTED BY AGE AS OF JULY 1, 1990

DISABILITY RETIREES

CONTINUED

AGE	MEN		WOMEN	
	NUMBER	ANNUAL ALLOWANCE	NUMBER	ANNUAL ALLOWANCE
70	23	\$ 331,260	67	\$ 622,686
71	26	353,413	65	540,768
72	21	250,306	69	544,861
73	22	189,829	41	280,884
74	10	91,572	40	286,524
75	12	102,826	46	304,311
76	10	117,315	23	160,563
77	4	43,601	27	168,602
78	2	11,976	28	185,184
79	3	27,754	15	83,839
80	2	10,223	18	104,026
81	2	23,549	7	43,116
82			9	47,810
83	4	28,758	13	71,610
84	2	8,719	14	62,578
85	2	9,984	12	63,888
86	3	18,763	9	45,557
87	1	9,837	9	53,639
88	4	24,054	5	25,697
89	3	24,937	3	12,235
90			2	6,695
91			2	14,414
92			2	9,634
93			1	3,112
94	1	7,278		
95			1	6,830
97			1	2,984
TOTAL	1,739	\$ 30,697,382	2,764	\$ 34,929,352

TABLE 6A
 THE NUMBER AND ANNUAL RETIREMENT
 ALLOWANCES OF BENEFICIARIES
 DISTRIBUTED BY AGE AS OF JULY 1, 1990

DISABILITY RETIREES

AGE	NUMBER	AMOUNT
28	1 †	16,372
29	1	15,621
30	1	14,827
31	2	36,629
33	4	56,562
34	7	104,175
35	17	264,983
36	23	383,254
37	19	287,034
38	38	563,553
39	37	653,859
40	41	698,548
41	62	1,029,725
42	72	1,258,961
43	73	1,205,967
44	77	1,436,239
45	66	1,211,173
46	71	1,279,382
47	105	1,774,179
48	113	2,045,708
49	88	1,544,556
50	82	1,440,894
51	111	2,113,049
52	111	1,911,491
53	116	1,917,394
54	118	2,120,273
55	145	2,662,976
56	154	2,531,794
57	150	2,664,476
58	164	2,923,771
59	179	2,918,916
60	186	2,967,001
61	168	2,322,268
62	183	2,706,453
63	176	2,468,602
64	180	2,346,757
65	164	2,208,467
66	134	1,657,280
67	126	1,571,102
68	125	1,400,650
69	127	1,453,812

TABLE 6A

THE NUMBER AND ANNUAL RETIREMENT
ALLOWANCES OF BENEFICIARIES
DISTRIBUTED BY AGE AS OF JULY 1, 1990

DISABILITY RETIREES

CONTINUED

AGE	NUMBER	AMOUNT
70	90	\$ 953,946
71	91	894,181
72	90	795,167
73	63	470,713
74	50	378,096
75	58	407,137
76	33	277,878
77	31	212,203
78	30	197,160
79	18	111,593
80	20	114,249
81	9	66,665
82	9	47,810
83	17	100,368
84	16	71,297
85	14	73,872
86	12	64,320
87	10	63,476
88	9	49,751
89	6	37,172
90	2	6,695
91	2	14,414
92	2	9,634
93	1	3,112
94	1	7,278
95	1	6,830
97	1	2,984
TOTAL	4,503	\$ 65,626,734

TABLE 7
 THE NUMBER AND ANNUAL RETIREMENT
 ALLOWANCES OF BENEFICIARIES
 DISTRIBUTED BY AGE AS OF JULY 1, 1990

CONTINGENT ANNUITANTS

AGE	MEN		WOMEN	
	NUMBER	ANNUAL ALLOWANCE	NUMBER	ANNUAL ALLOWANCE
8	1	\$ 512		
10	1	8,177		
21			1	\$ 13,684
26			1	17,085
28			1	18,301
29	1	23,677		
30	1	5,588		
31			2	59,585
32			1	7,416
35			2	6,292
36	1	7,319	2	4,605
37			3	38,754
38	1	987	2	7,703
39	1	2,889		
40			5	42,656
41			2	9,009
42			4	35,751
43	1	1,953	2	5,115
44	2	47,879	2	32,602
45	2	7,365	1	8,947
46	3	35,712	3	41,676
47	3	19,060	3	64,737
48			1	9,149
49			3	28,571
50	1	6,551	3	10,019
51			7	154,611
52			5	75,483
53	2	24,738	7	110,461
54	2	25,163	10	109,912
55			12	172,025
56	4	39,667	11	153,965
57			13	195,150
58	6	82,035	19	248,571
59	2	38,685	27	402,042
60	1	5,803	33	452,543
61	8	51,819	37	590,005
62	4	67,253	44	496,528
63	8	36,572	40	482,144
64	13	118,684	54	677,201
65	14	101,893	67	680,356
66	13	100,409	71	876,135
67	14	108,222	61	589,826
68	13	97,357	69	692,699
69	26	155,717	70	823,402

TABLE 7

THE NUMBER AND ANNUAL RETIREMENT
ALLOWANCES OF BENEFICIARIES
DISTRIBUTED BY AGE AS OF JULY 1, 1990

CONTINGENT ANNUITANTS

CONTINUED

AGE	MEN		WOMEN	
	NUMBER	ANNUAL ALLOWANCE	NUMBER	ANNUAL ALLOWANCE
70	29 \$	187,844	91 \$	855,892
71	27	169,852	67	598,401
72	39	250,506	80	742,549
73	28	158,409	95	869,036
74	34	179,907	95	956,219
75	37	197,114	102	843,356
76	40	222,822	113	972,101
77	37	203,225	127	991,673
78	31	215,787	127	978,384
79	26	151,996	122	921,363
80	33	177,509	142	1,069,731
81	22	119,999	130	962,549
82	27	173,244	128	1,015,129
83	32	190,159	112	798,491
84	31	169,979	111	843,739
85	33	169,613	136	1,001,613
86	30	187,379	96	786,993
87	24	118,893	97	751,360
88	13	63,023	78	576,697
89	10	64,337	59	456,508
90	10	57,024	48	375,122
91	5	27,936	48	373,009
92	12	74,451	41	281,969
93	4	17,080	27	206,515
94	1	6,201	19	149,174
95	2	10,560	19	143,267
96	3	20,604	12	75,875
97			11	80,954
98	1	5,908	6	40,330
99	1	3,112	7	55,515
100			1	7,080
101			2	13,720
103			1	7,306
TOTAL	771 \$	4,816,159	3,051 \$	27,246,336

TABLE 7A
 THE NUMBER AND ANNUAL RETIREMENT
 ALLOWANCES OF BENEFICIARIES
 DISTRIBUTED BY AGE AS OF JULY 1, 1990

CONTINGENT ANNUITANTS

AGE	NUMBER	AMOUNT
8	1 \$	512
10	1	8,177
21	1	13,684
26	1	17,085
28	1	18,301
29	1	23,677
30	1	5,588
31	2	59,585
32	1	7,416
35	2	6,292
36	3	11,924
37	3	38,754
38	3	8,690
39	1	2,889
40	5	42,656
41	2	9,009
42	4	35,751
43	3	7,068
44	4	80,481
45	3	16,312
46	6	77,388
47	6	83,797
48	1	9,149
49	3	28,571
50	4	16,570
51	7	154,611
52	5	75,483
53	9	135,199
54	12	135,075
55	12	172,025
56	15	193,632
57	13	195,150
58	25	330,606
59	29	440,727
60	34	458,346
61	45	641,824
62	48	563,781
63	48	518,716
64	67	795,885
65	81	782,249
66	84	976,544
67	75	698,048
68	82	790,056
69	96	979,119

TABLE 7A
 THE NUMBER AND ANNUAL RETIREMENT
 ALLOWANCES OF BENEFICIARIES
 DISTRIBUTED BY AGE AS OF JULY 1, 1990

CONTINGENT ANNUITANTS

CONTINUED

AGE	NUMBER	AMOUNT
70	120	\$ 1,043,736
71	94	768,253
72	119	993,055
73	123	1,027,445
74	129	1,136,126
75	139	1,040,470
76	153	1,194,923
77	164	1,194,898
78	158	1,194,171
79	148	1,073,359
80	175	1,247,240
81	152	1,082,548
82	155	1,188,373
83	144	988,650
84	142	1,013,718
85	169	1,171,226
86	126	974,372
87	121	870,253
88	91	639,720
89	69	520,845
90	58	432,146
91	53	400,945
92	53	356,420
93	31	223,595
94	20	155,375
95	21	153,827
96	15	96,479
97	11	80,954
98	7	46,238
99	8	58,627
100	1	7,080
101	2	13,720
103	1	7,306
TOTAL	3,822	\$ 32,062,495

TABLE 8
 THE NUMBER AND ANNUAL RETIREMENT
 ALLOWANCES OF BENEFICIARIES
 DISTRIBUTED BY AGE AS OF JULY 1, 1990

BENEFICIARIES RECEIVING ALLOWANCES
 UNDER SURVIVORS BENEFIT FUND

AGE	MEN		WOMEN	
	NUMBER	ANNUAL ALLOWANCE	NUMBER	ANNUAL ALLOWANCE
22			1	\$ 19,289
24			1	11,590
27			1	17,436
28			1	5,989
29	1	\$ 4,137	2	10,398
30			1	7,313
31			1	7,747
32	1	5,978	1	7,014
34	1	4,890	1	7,013
35	3	13,674	1	7,328
36	1	4,637	6	42,628
37	5	25,302	3	16,344
38	2	11,313	8	71,109
39	3	15,632	10	67,486
40	9	54,283	12	81,703
41	4	23,975	12	135,677
42	3	19,995	18	149,240
43	7	38,029	20	153,903
44	8	38,669	15	130,301
45	8	58,391	25	211,669
46	6	33,811	25	223,781
47	13	63,872	25	194,874
48	13	94,322	26	227,244
49	9	56,993	27	275,727
50	9	55,024	26	296,016
51	6	39,124	27	275,930
52	13	66,493	31	269,931
53	13	75,213	41	381,661
54	6	41,718	38	304,523
55	14	89,856	36	420,376
56	14	86,367	36	411,090
57	11	78,678	28	281,357
58	15	103,990	53	589,197
59	20	157,754	56	591,916
60	20	131,573	44	486,013
61	22	176,152	65	651,373
62	23	167,240	69	623,750
63	32	227,179	70	676,962
64	41	318,097	82	755,646
65	32	224,217	86	661,059
66	33	192,002	59	516,153
67	33	221,903	67	535,926
68	29	170,499	70	593,751
69	31	205,832	70	592,714

TABLE 8
THE NUMBER AND ANNUAL RETIREMENT
ALLOWANCES OF BENEFICIARIES
DISTRIBUTED BY AGE AS OF JULY 1, 1990

BENEFICIARIES RECEIVING ALLOWANCES
UNDER SURVIVORS BENEFIT FUND

CONTINUED

AGE	MEN		WOMEN	
	NUMBER	ANNUAL ALLOWANCE	NUMBER	ANNUAL ALLOWANCE
70	34	\$ 195,363	57	\$ 463,703
71	29	161,292	48	387,787
72	19	147,448	50	339,001
73	20	105,832	59	392,784
74	23	133,507	44	262,475
75	34	203,708	45	253,870
76	16	85,448	46	313,533
77	13	73,701	53	335,799
78	20	93,755	42	259,230
79	13	73,211	51	274,937
80	13	63,679	50	315,424
81	10	65,872	44	262,816
82	11	54,264	61	371,930
83	6	28,881	53	311,198
84	10	48,817	35	194,427
85	10	55,934	30	165,937
86	7	29,377	31	203,746
87	5	36,366	31	196,054
88	4	25,102	17	115,944
89	4	36,232	14	92,248
90	3	10,736	6	43,573
91	4	16,941	7	52,109
92	5	22,009	5	39,143
93			7	48,461
94			3	17,126
95			2	20,109
97			2	10,244
98			1	2,540
101			1	9,023
TOTAL	827	\$ 5,164,289	2,192	\$ 17,753,318

TABLE 8A

THE NUMBER AND ANNUAL RETIREMENT
ALLOWANCES OF BENEFICIARIES
DISTRIBUTED BY AGE AS OF JULY 1, 1990

BENEFICIARIES RECEIVING ALLOWANCES
UNDER SURVIVORS BENEFIT FUND

AGE	NUMBER	AMOUNT
22	1 \$	19,289
24	1	11,590
27	1	17,436
28	1	5,989
29	3	14,535
30	1	7,313
31	1	7,747
32	2	12,992
34	2	11,903
35	4	21,002
36	7	47,265
37	8	41,646
38	10	82,422
39	13	83,118
40	21	135,986
41	16	159,652
42	21	169,235
43	27	191,932
44	23	168,970
45	33	270,060
46	31	257,592
47	38	258,746
48	39	321,566
49	36	332,720
50	35	351,040
51	33	315,054
52	44	336,424
53	54	456,874
54	44	346,241
55	50	510,232
56	50	497,457
57	39	360,035
58	68	693,187
59	76	749,670
60	64	617,586
61	87	827,525
62	92	790,990
63	102	904,141
64	123	1,073,743
65	118	885,276
66	92	708,155
67	100	757,829
68	99	764,250
69	101	798,546

TABLE 8A

THE NUMBER AND ANNUAL RETIREMENT
ALLOWANCES OF BENEFICIARIES
DISTRIBUTED BY AGE AS OF JULY 1, 1990

BENEFICIARIES RECEIVING ALLOWANCES
UNDER SURVIVORS BENEFIT FUND

CONTINUED

AGE	NUMBER	AMOUNT
70	91 \$	659,066
71	77	549,079
72	69	486,449
73	79	498,616
74	67	395,982
75	79	457,578
76	62	398,981
77	66	409,500
78	62	352,985
79	64	348,148
80	63	379,103
81	54	328,688
82	72	426,194
83	59	340,079
84	45	243,244
85	40	221,871
86	38	233,123
87	36	232,420
88	21	141,046
89	18	128,480
90	9	54,309
91	11	69,050
92	10	61,152
93	7	48,461
94	3	17,126
95	2	20,109
97	2	10,244
98	1	2,540
101	1	9,023
TOTAL	3,019 \$	22,917,607