SOUTH CAROLINA RETIREMENT SYSTEM REPORT OF THE ACTUARY ON THE SEVENTEENTH ANNUAL VALUATION

Prepared as of June 30, 1962

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February 24, 1964

State Budget and Control Board South Carolina Retirement System Columbia, South Carolina

Gentlemen:

I transmit herewith my report on the seventeenth actuarial valuation of the South Carolina Retirement System, prepared as of June 30, 1962.

The valuation indicates that the total contribution rate payable on account of teachers may be continued at 6.17 per cent of earnable compensation and on account of employees at 3.98 per cent of earnable compensation.

I trust that the report is in satisfactory form for use by the Board.

Respectfully submitted,

Actuary.

REPORT OF THE ACTUARY ON THE SEVENTEENTH ANNUAL VALUATION OF THE SOUTH CAROLINA RETIREMENT SYSTEM

The South Carolina Retirement System was established as of July 1, 1945. The system is supported by the joint contributions of members and employers. The contributions to be made by employers are to be set from time to time on the basis of periodic actuarial valuations.

This report presents the results of an actuarial valuation of the contingent assets and liabilities of the system as of June 30, 1962, and gives the percentage rates of contribution payable by employers as determined on the basis of the valuation. Appended to the report are tables showing the distribution of the members classified by age and by years of service, and of retired members and beneficiaries classified by age.

SUMMARY OF MAIN BENEFIT AND CONTRIBUTION PROVISIONS

A summary of the main benefit provisions of the system, as interpreted in preparing the actuarial valuation, and a summary of the sources of revenue from which benefits are paid is presented in the following digest. Under the act, "out-of-State service" means continuous service rendered by a member of the system for any state other than the State of South Carolina, excluding any such service rendered after he first became eligible for membership in the system or which terminated more than six months prior to the inception of his service within the State of South Carolina. Out-of-State service is not considered creditable service, nor is it taken into account in determining the eligibility for any benefit under the system.

BENEF ITS

Service Retirement Benefit

Condition for Allowance

A retirement allowance is payable upon the request of any teacher or employee who has attained age 60 or has rendered 35 or more years of creditable service.

An employee must retire at age 70 except that with the approval of both his employer and the Board, an employee may remain in service to age 72, or for such period of time as may be necessary for such employee to qualify for coverage under the old age and survivors insurance provision of Title II of the Federal Social Security Act, as amended.

A teacher must retire at age 65 or upon the completion of the scholastic year in which he attains age 65, except that with the approval of his employer, a teacher may remain in service to age 72.

Amount of Allowance

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On service retirement, a member receives a retirement allowance which consists of:

- (a) An employee annuity which is the actuarial equivalent of the member's accumulated contributions at the time of his retirement; and
- (b) An employer annuity equal to the employee annuity allowable at age 65, or at age of retirement, whichever is less, on the basis of contributions made prior to age 65; and
- (c) If the member has credit for service rendered prior to the date of establishment, an additional employer annuity allowable at age 65, or at age of retirement, whichever is less, equal to the employee annuity which would have been provided by twice the contributions which he would have made during such prior service had the system been in force and he contributed* thereunder during the period of such prior service; and

*In determining the contributions which would have been made during prior service, the Board is authorized to use, in lieu of the actual compensation received by the member, the compensation rates which on the basis of the salary scale adopted by the Board would have resulted in the actual average compensation received by the member during the five years immediately preceding the establishment of the system.

- (d) If the member has credit for outof-State service rendered prior to July 1, 1945, an additional employer annuity allowable at age 65, or at age of retirement, whichever is less, equal to the excess of
 - (i) an employer annuity computed on the basis of the part of his out-of State service and his creditable service rendered prior to July 1, 1945 over
 - (ii) an employer annuity computed on the basis of his creditable service rendered prior to July 1, 1945.

If the member's creditable service does not, at his retirement, exceed twice his out-of-State service, the employer annuity based on his out-of-State service under (b) and (d) above shall be reduced in the proportion which his creditable service bears to twice his out-of State service.

<u>Disability Retirement</u> Benef**i**t

Condition for Allowance

A disability retirement allowance is payable to any member who while in service becomes permanently incapacitated for duty mentally or physically, and who has had 10 or more years of creditable service.

Amount of Allowance

Upon disability retirement, a member who has attained age 60 or has 35 years of creditable service, receives a service retirement allowance, otherwise a disability retirement allowance which consists of:

- (a) An employee annuity which is the actuarial equivalent of the member's accumulated contributions at the time of retirement; and
- (b) An employer annuity equal to 75% of the employer annuity that would have been payable upon service retirement at age 60 had he continued in service to such date without further change in compensation, and had his contributions been at the rate of 4 per cent of such compensation from the date of disability to such date; and

(c) For members in positions covered by Social Security, an additional employer annuity of \$6.00 per annum for each full year of membership service after July 1, 1955 payable only to age 65 and not subject to optional modification as defined below.

Deferred Retirement Benefit

Condition for Allowance

A deferred retirement allowance, commencing at age 60, is payable to any member who ceases to be a teacher or an employee after he has rendered at least 20 years of creditable service, provided he leaves his contributions in the system.

Amount of Allowance

The deferred retirement allowance is computed like a service retirement allowance, except that the employee annuity is the actuarial equivalent at age 60 of the member's contributions with such interest credits as are allowed.

Return of Contributions and Death Benefit

Upon the withdrawal of a member without a retirement benefit, he is paid his total contributions without interest.

Upon the death of a member before retirement, his accumulated contributions are payable to his designated beneficiary or to his estate.

Upon the death of a member before retirement who had 35 years of creditable service or attained age 65, or who had twenty years of creditable service and attained age sixty, the person nominated to receive the amount of the member's accumulated contributions may elect to receive, in lieu of such accumulated contributions, an allowance for life in an amount as if the member had retired on the date of his death under Option 2 as described below.

Optional Allowance

Until the first payment on account of any benefit becomes normally due, any member may elect to receive his retirement allowance in accordance with one of the following forms, which are computed to be actuarially equivalent:

Option 1. A reduced retirement allowance payable during the retired member's life, with the provision that at his death the excess, if any, of his accumulated contributions at retirement over the total of the employee annuity payments he has received shall be paid to a designated person.

Option 2. A reduced retirement allowance payable during the retired member's life, with the provision that after his death the reduced retirement allowance is to be continued to a designated beneficiary.

Option 3. A reduced retirement allowance payable during the retired member's life, with the provision that after his death one-half the reduced retirement allowance is to be continued to a designated beneficiary.

Option 4. A retirement allowance in such amount that, together with his Social Security benefit, he will receive approximately the same income per annum before and after age 65.

CONTRIBUTIONS

Members contribute, by deduction from each payroll, at the rate of 4% of their earnable compensation.

After July 1, 1955, members in positions covered by Social Security, contribute at the rate of 3% of earnable compensationnot in excess of the amount taxable under the Federal Insurance Contributions Act (at present \$4,800 per annum) plus 5% of earnable compensation not so taxable.

Employers make annual contributions consisting of a "normal contribution" and an "accrued liability contribution". The "normal contribution" rate is determined by the actuary after each valuation. The "accrued liability contribution" rate is determined by the first actuarial valuation of the system, provided, however, that such rate shall be increased on the basis of subsequent valuations if benefits are increased. Such rate may be decreased if the actuary engaged by the Board certifies that such reduction will not impair the system. Each year's accrued liability payment is to be at least 3% greater than the preceding annual accrued liability payment subject to the preceding sentence. On and after July 1, 1946, all employers' contributions for teachers are paid by the State.

By Members

By Employers

MEMBERSHIP OF THE SYSTEM

The following table shows the number and annual earnable compensation of active members, as of June 30, 1962, on the basis of which the valuation was prepared.

TABLE I

THE NUMBER AND EARNABLE COMPENSATION OF ACTIVE MEMBERS

AS OF JUNE 30, 1962

: TOTAL		TEACHERS		EMPLOYEES		
GROUP	Number	Earnable Compensation	Number	Earnable Compensation	Number	Earnable Compensation
Men	40,124	\$121,878,612	9,427	: :\$ 32,470,237	30 , 697:\$	89,408,375
Women	: : 43,045	: 116,757,238	26,090	76,571,479	16,955	40,185,759
		\$238,635,850				

The following table shows the number and annual amount of retirement allowances payable to retired members and to beneficiaries of deceased retired members as of June 30, 1962.

TABLE II

THE NUMBER AND ANNUAL RETIREMENT ALLOWANCES OF RETIRED MEMBERS AND BENEFICIARIES ON THE ROLL AS OF JUNE 30, 1962

GROUP	NUMBER	: TOTAL : ANNUAL :RETIREMENT ALLOWANCES
<u>Ser</u>	vice Retir	: ements
Teachers: Men Women		: :\$ 261,420 : 1,020,324
Employees: Men Women		828,804 317,748
Total	4,024	: :\$ 2,428,296 :
<u>Disabilit</u>	y Retireme	: nts
Teachers: Men Women	33 149	:\$ 17,616 : 50,484
Employees: Men	106 44	58,884 16,440
Total	332	: :\$ 143,424
Beneficiaries of and Ac	Deceased R	
Men	31	: :\$ 12,180 : 196,152
Total	340	:\$ 208,332 :
Grand Total	4,696	\$ 2,780,052

In addition, an amount of \$3,228 per annum is currently payable for temporary disability employer annuities.

VALUATION OF ASSETS AND LIABILITIES

The following valuation balance sheet shows the assets and liabilities of the system as of June 30, 1962. The amounts of the present assets shown on the balance sheet were taken from financial information submitted by the Director of the system.

TABLE III

VALUATION BALANCE SHEET SHOWING THE ASSETS AND LIABILITIES OF THE SOUTH CAROLINA RETIREMENT SYSTEM AS OF JUNE 30, 1962

ASSETS
Present assets of system creditable to:
Employee Annuity Savings Fund\$ 54,253,309
Employer Annuity Accumulation Fund 104,549,641
Total Present Assets\$ 158,802,950
Prospective contributions to the Employer Annuity Accumulation Fund:
Normal contributions\$ 69,472,720
Accrued liability contributions 22,767,785
Total Prospective Contributions by Employers
Total Assets\$ 251,043,455
LIABILITIES
Present value of benefits on account of which contributions have been accumulated to date in the Employee Annuity Savings Fund\$ 54,253,309
Present value of benefits payable on account of retired members or their beneficiaries now drawing benefits from the Employer Annuity Accumulation Fund
Present value of benefits to active members to be paid by contributions of the employers into the Employer Annuity Accumulation Fund
Total Liabilities \$ 251,043,455

RESULTS OF VALUATION

The valuation balance sheet gives the following information with respect to the funds of the system.

Employee Annuity Savings Fund

The Employee Annuity Savings Fund is the fund to which are credited the contributions made by members together with interest thereon. When a member retires, the amount of his accumulated contributions is transferred from the Employee Annuity Savings Fund to the Employer Annuity Accumulation Fund and his annuity is paid from the latter fund. The assets credited to the Employee Annuity Savings Fund on June 30, 1962, which represent the accumulated contributions of members to that date, amounted to \$54,253,309. The liabilities of this fund are also shown as \$54,253,309, because the employee annuities which members' contributions will provide will be equal in value to their contributions with interest. Future contributions into this fund and benefits payable from such contributions are considered to be of equivalent value and hence are not shown in the balance sheet.

Employer Annuity Accumulation Fund

The Employer Annuity Accumulation Fund is the fund to which the contributions made by employers are credited and from which are paid all benefits on account of retired members and their beneficiaries.

The present assets creditable to the Employer Annuity Accumulation Fund on June 30, 1962, amounted to \$104,549,641. The liabilities on account of active members amounted to \$173,564,747. In addition, the balance sheet indicates liabilities of \$23,225,399 on account of all benefits payable to retired members or their beneficiaries from the Employer Annuity Accumulation Fund. The total liabilities, therefore, amounted to \$196,790,146. The difference between these liabilities and the present assets credited to this fund is \$92,240,505, which represents the present value of future contributions to be made by the employers. Of this amount \$69,472,720 represents the present value of prospective normal contributions by the employers and the balance of \$22,767,785 represents the present value of prospective accrued liability contributions.

The retirement act provides that the contributions of employers shall consist of a normal contribution to cover the liability on account of service currently rendered and an accrued liability contribution on account of liabilities assumed due to service rendered prior to the establishment of the system.

The valuation indicates that, in the case of teachers, the normal contribution rate may be continued at 3.54 per cent of earnable compensation. The valuation also indicates that, in the case of employees, the normal contribution rate may be continued at 2.05 per cent of earnable compensation.

The valuation further indicates that the accrued liability contribution rates determined on the basis of the valuation may be continued at 2.63 per cent of earnable compensation in the case of teachers, and at 1.93 per cent of earnable compensation in the case of employees.

The total employer contribution rate for teachers may therefore be continued at 6.17 per cent of earnable compensation. The corresponding rate for employees may be continued at 3.98 per cent of earnable compensation.

RATES OF PAYMENT TO EMPLOYER ANNUITY ACCUMULATION FUND

The valuation balance sheet gives the basis for determining the percentage rates for fixing the contributions to be made by employers to the Employer Annuity Accumulation Fund under the provisions of the retirement act. The following table gives the rates of contribution payable by employers, as determined on the basis of the present valuation.

TABLE IV

RATES OF CONTRIBUTION RECOMMENDED FOR PAYMENT BY EMPLOYERS
ON THE BASIS OF THE VALUATION AS OF JUNE 30, 1962

RATES OF CONTRIBUTION	TEACHERS	EMPLOYEES
Normal	3.54%	2.05%
Accrued Liability	2,63	1.93
Total	•	3.98%

BASIS FOR VALUATION

The valuation of the retirement system was made on the basis of the mortality and service tables adopted by the Board under date of February 18, 1946. An interest rate of 4 per cent per annum was used.

A detailed record of each member of the system on the valuation date was required as a basis for determining the contingent assets and liabilities of the system. The data provided by these records, which were furnished to the actuary by the Director, were transferred to tabulating machine cards for use in making the necessary tabulations. Summaries of the tabulations of the data submitted are given in the following tables.

TABLE 1

THE NUMBER AND EARNABLE COMPENSATION OF MEMBERS DISTRIBUTED BY AGE AS OF JUNE 30 1962

•	М	EN	w o	MEN
AGE	NUMBER	AMOUNT	NUMBER	AMOUNT
111112222222223333333333334444444444555555555	8857521973234201494320502960826371724790 1531615537055697012859458527994259215546 2578890901222011099999998878887888776	2247950226960499640949585836304586140343979367688380973597066688151018935046883897779866588174898983767111111122222233323333333333333322222222	0763714437322639594164400313828976721110 1366933211111201111100900097054029656633 1111111111111111 1111 1	87983805727664621409999629102120338213745 1288298363363204132273333011627356200053386 807938565346320413227333301 80793856534613227333301 2684580411740054443502946090502314500831 111333222222222222222222222222222222

TABLE 1

THE NUMBER AND EARNABLE COMPENSATION OF MEMBERS DISTRIBUTED BY AGE AS OF JUNE 30 1962

CONTINUED

	MEN	WOMEN
AGE	NUMBER AMOUNT	NUMBER AMOUNT
6789012345678901234567890123456789	675 289 639 289 639 289 630 289 630 289 630 289 630 289 640 289 650 289 640 289 140 289 140 289 140 289 140 399 140 399 140 399 140 399 140 399 140 399 140 399 140 399 141 399 143 399 143 399 144 399 145 399 146 319 147 319 148 319 149 319 140 319 140 319 140 319 140 319 140 319 140 3	768 751 2493071 2397254 24937254 23817254 23817254 23817254 24937254 23817254 24937254 24937254 24937254 24937254 24937254 244490 2511153 267926 267626 2700 287664 2876764 28
TOTAL	40124 121878612	43045 116757238
SUMMARY		
TEACHERS	9427 32470237	
EMPLOYEE	\$30697 89408375°	16955 40185759

TABLE 2

THE NUMBER AND EARNABLE COMPENSATION OF MEMBERS DISTRIBUTED BY YEARS OF SERVICE AS OF JUNE 30 1962

YEARS	MEN	WOMEN
OF SERVICE	NUMBER AMOUNT	NUMBER AMOUNT
012345678901234567890123456789012345 111111111112222222222333333	2175 439 1988 1991 1988	1752 4740 13297117 201321750 13297117 201321750 13297117 201321750 13297117 201321750 13297117 201321750 13297117 201321750 13297117 201321750 13297117 201321750 13297117 201321750 13297117 201321 2013217 201321 2013217 2

TABLE 2

THE NUMBER AND EARNABLE COMPENSATION OF MEMBERS DISTRIBUTED BY YEARS OF SERVICE AS OF JUNE 30 1962

CONTINUED

YEARS		MEN	W	OMEN
OF SERVICE	NUMBER	AMOUNT	NUMBER	AMOUNT
3789012345678901238 444444445555555	9662436495031 11321	640911 530782 397168 3397168 3342772 254360 218268 181346 765652 12240 1077239 46238 12208	28192799822106121 107553211	8 2 7 7 1 0 7 7 8 1 6 1 9 6 2 9 4 4 3 8 0 6 5 6 6 5 3 5 5 3 5 3 5 5 3 5 5 3 5 5 3 5 5 3 5 5 6 8 6 7 1 3 5 5 6 8 6 7 1 3 5 6 8 6 7 1 4 5 5 6 8 6 7 6 7 6 7 6 7 6 7 6 7 6 7 6 7 6 7
TOTAL	40124	121878612	43045	116757238
SUMMARY	9427	32470237	26090	76571479
TEACHERS EMPLOYEE	_	89408375	16955	40185759

TABLE 3

THE DISTRIBUTION OF THE NUMBER AND MONTHLY RETIREMENT ALLOWANCES OF RETIRED MEMBERS AND BENEFICIARIES BY AGE AS OF JUNE 30 1962

SERVICE RETIREMENTS. AND BENEFICIARIES

	MEI	N	WO	MEN
AGE	NUMBER	AMOUNT	NUMBER	AMOUNT
16 24 29 30	4	4.0	1 1 2 2	8 27 114 107
3 4 3 6 3 7 4 0	1	4 8 1 7	1 1 2	23 9 37
41 42 43 44	1	19 5	1 1 3	49 19 58
4 5 4 6 4 8	1	17	1 3 2 3 1 5 6 3	61 132 31
49 50 51	3	5 5 8	5 6 3 6	132 244 123 201
5 3 5 4 5 5 5 6	1	3 0	8 9 5 7	123 201 413 243 179 295
578901234567890	13135860439525 113389829 19	34 52 103 10685 18689 189018 19018 61009 53	10 18 12 18 12 47 89 75 18 77 19 19 19	56219 56219 75779 10776612 10771853 1077185 1077

TABLE 3

THE DISTRIBUTION OF THE NUMBER AND MONTHLY RETIREMENT ALLOWANCES OF RETIRED MEMBERS AND BENEFICIARIES BY AGE AS OF JUNE 30 1962

SERVICE RETIREMENTS AND BENEFICIARIES

CONTINUED

	МЕ	N .	WOI	MEN
AGE	NUMBER	AMOUNT	NUMBER	AMOUNT
777777778901234567890123450 12345678901234567890123450	89885654423221 1 1 1 1 1 1	5770839342756657612416951 4867934020308508439422128342030850843942212182030850843404040404040404040404040404040404040	181415617740075119736313121 1111111111111111111111111111111	897653813769429644429892704 17525711 1752653813769429644429892704 1752211 1799212 1111 1111 1111 1111 1111 11
TOTAL	1414	91867	2950	127852
UMMARY NO OPTIO OPTION 1	281	5 2 2 5 3 2 0 8 7 9	2 3 5 8 2 2 4 3 0	99381 10024 923
OPTION 3		5116 12604	2 9 3 0	1178
BENEFIC LARIES	3 1	1015	309	16346

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TABLE 4

THE DISTRIBUTION OF THE NUMBER AND MONTHLY RETIREMENT ALLOWANCES OF RETIRED MEMBERS BY AGE AS OF JUNE 30 1962

DISABILITY RETIREMENTS

	MEN	4	w o	MEN
AGE	NUMBER	AMOUNT	NUMBER	AMOUNT
3 5	1	68	1	4 4
37 38 39 40	1 1 1	23 87 168	. 1 1	3 4 4 3
444444445555555555566666666666666666666	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	837630564983841809035982272067 23677641365559025644860811 12613 6343332 2 11	1133222473589599281639757442221112	9550705652394201058556283141992384 1 1221122422323131131 1 221122422323131131
TOTAL	139	6375	193	5577

TABLE 4

THE DISTRIBUTION OF THE NUMBER AND MONTHLY RETIREMENT ALLOWANCES OF RETIRED MEMBERS BY AGE AS OF JUNE 30 1962

DISABILITY RETIREMENTS

CONTINUED

	MEN	1	WOI	MEN
AGE	NUMBER	AMOUNT	NUMBER	AMOUNT
SUMMARY				
NO OPTION OPTION 1 OPTION 2 OPTION 3	9 0 2 0 2 2 7	4461 1216 409 289	170 18 4 1	4985 482 74 36

IN ADDITION AN AMOUNT OF 269 DOLLARS PERMONTH IS CURRENTLY PAYABLE FOR TEMPORARY DISABILITY PENSIONS