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STATEMENT TO EMPLOYEES JUNE 30, 1971

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MINNESOTA STATE
RETIREMENT SYSTEM

MINNESOTA STATE RETIREMENT SYSTEM

529 Jackson Street
St. Paul, Minnesota 55101
296-2761

BOARD OF DIRECTORS

ELECTED

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Rochester State Hospital
Herbert C. Schultz, Vice Chairman
State Highway Department
Carolyn Anderson
University of Minnesota
Francis Hage
Department of Conservation

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Paul L. Groschen, Executive Director
Arne Ulvi, Assistant Director

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STATE OF MINNESOTA

FOREWORD

This report covers the operation of the Minnesota State Retirement System for the fiscal year ended June 30, 1971. The previous report was for the six month period ended June 30, 1970. Prior to 1970 our operations and reports were on a calendar year basis.

When comparative figures are shown in this report it should be kept in mind that the June 30, 1970 financial data is for a six month period. All other financial data except analysis of income and deductions from income is on an annual basis. Statistical data in this report covers an eighteen month period ended June 30, 1971 and a 12 month period ended December 31, 1969.

EXHIBITS

The exhibits in this report are presented as prescribed in Minnesota Statutes, Chapter 356.

Respectfully submitted,

Burdine Erickson

Chairman of the Board

Paul L. Grochen

Executive Director

ACTUARIAL INVESTIGATION

The System's actuary conducted an investigation of the experience of the Retirement System as of June 30, 1971 with respect to rates of separation from active service, salary progression scales for covered employees and mortality rates among retired employees. This analysis permits the actuary to develop appropriate assumptions as to each of these contingencies for use in making a valuation of the plan. The previous investigation was carried out as of December 31, 1967.

The System's actuary advises that the results of the current investigation show the former assumption of death in active service for both male and female employees produced more "expected" deaths than actually occurred. The rates of mortality used for the current valuation reflect about 16% lower mortality than the previous rates. The investigation also disclosed that the rates of service retirements developed by the December 31, 1967 investigation were no longer appropriate. The rates of service retirement used for the current valuation are about 14% higher than the old rates.

The results of the current investigation also show for the first time, fewer actual deaths among retired employees than those expected by the 1937 Standard Annuity Mortality table used by the System. The actuary recommends continuation of the use of this table pending possible confirmation of this trend by a later investigation.

The results of the investigation also disclosed that all other withdrawal rates and the salary scales developed as of December 31, 1967 are appropriate for continued use.

ACTUARIAL VALUATION

The actuarial valuation made as of June 30, 1971 reflects the improvements made to the plan by the 1971 amendments to the retirement law.

The law requires that the valuation be carried out on the basis of an entry age normal cost method of funding using a 3½% interest assumption and based upon the actuarial assumptions developed during the course of the investigation. Under these assumptions the normal cost of the plan increased from 5.78% at December 31, 1969 to 5.96% at June 30, 1971. The normal cost under this method of funding is the level contribution rate which, if contributed on behalf of all new employees from the dates of employment to the dates of separation from service, will be adequate to provide all of their benefits. The normal cost contribution rate is 6% of salary (3% of salary contributed by the employee and a matching contribution by the State).

The report on the actuarial valuation shows continued improvement in the financial condition of the fund. The unfunded accrued liability decreased from \$21,934,733 at December 31, 1969 to \$21,098,246 at June 30, 1971 even though law changes were enacted which increased the costs of the retirement plan. Under the present benefit structure and support rate, the unfunded accrued liability will be liquidated in approximately nine years. The funding ratio, that is the ratio of assets to accrued liabilities, increased from 85.8% at December 31, 1969 to 88.3% at June 30, 1971.

The actuary must adopt certain assumptions in carrying out a valuation of the assets and liabilities of a fund. An important assumption is the interest assumption, that is, the interest earnings that will be realized on the fund over many years in the future.

The Board of Directors requested the actuary to conduct a valuation of the system on the basis of a 4% interest assumption as well as the 3½% assumption required by law. The results of the calculations on the basis of a 4% interest assumption indicate that the normal cost is 5.47% of salary; the unfunded accrued liability is \$9,974,082; and the funding ratio is 94.1%.

1971 LEGISLATIVE IMPROVEMENTS

Some very necessary and beneficial changes which were recommended or approved by the Retirement Board and the Legislative Retirement Study Commission were enacted into law. However, the Retirement Board's proposal to base the computation of the retirement and disability benefit on the average of the highest five consecutive years of covered salary was again rejected by the Legislature. Our actuary had estimated that the normal cost of the retirement plan, if all of the Board's proposals were adopted, would increase to 8.79% of payroll. The Board had recommended an increase of 0.5% in the employee's contribution rate and a 2.29% increase in the State's normal cost contribution to finance the increased cost of a final salary plan. The Board also recommended that the State continue to pay an additional contribution equal to one-third of the employee's contribution.

Some of the most important changes enacted were: improved death benefits, improved deferred annuities, increased portability of pensions from one level of State government to another, an increase for retired employees, a separate retirement program for certain unclassified employees, and the simplification of the filing for service and disability benefits.

INCREASE IN ANNUITIES

The Minnesota Adjustable Fixed Benefit Fund was established by the 1969 Legislature. Each participating retirement fund transfers to the MAFB Fund for each retiring employee an amount necessary to fully fund the benefit expected to be paid the retired employee during his retirement according to actuarial tables. If the fund investments grow sufficiently so as to exceed the reserve requirement by at least 2%, benefit payments are increased. If investment value declines, the benefit payments are reduced but never reduced below the amount initially granted.

The actuarial valuation as of June 30, 1971, determined that a reserve of \$45,036,704.00 was required for the retired employees on the annuity roll at that date. The value of the MSRS participation in the assets of the Minnesota Adjustable Fixed Benefit Fund, as determined from figures supplied by the State Board of Investment was \$45,982,892.26 on June 30, 1971. Because the participation exceeded the reserve requirement by 2.1%, the annuities of all employees who were retired as of June 30, 1970, were increased by 2%.

INVESTMENTS

Total invested assets in the portfolio of the State Employees Retirement Fund and MSRS' share of participation in the assets of the Minnesota Adjustable Fixed Benefit Fund were \$153,740,140.49 as of June 30, 1971 compared to \$137,231,965.88 at June 30, 1970.

The fixed income investments for MSRS increased 4.9 million to \$68,264,133 at June 30, 1971. Investment in corporate stocks increased 8.3 million to \$39,493,115 at June 30, 1971. The yield on fixed income debt securities was 5.39% as of June 30, 1971 compared to 4.93% as of June 30, 1970. This rather sharp increase was due to a combination of high interest rates on debt securities purchased in fiscal 1971 and the maturing of over a million dollars of low yielding municipal bonds during the year. More than \$7 million in high grade corporate debt securities were purchased at an average yield of 9.11%.

The average yield on corporate stocks was 3.47% in fiscal year 1971 compared to 3.55% in the six months ended June 30, 1970. The yield on stocks (based on cost) is much lower than the yield on fixed income debt securities. Stocks are purchased for growth potential as well as income with the expectation that over a period of time, appreciation plus income will

be as good as or better than the return on fixed income securities. The market value of the corporate stock in the MSRS portfolio was \$44,514,062 at June 30, 1971. This is an appreciation of 12.7% over cost.

Short term investments of over \$22 million during the year provided an average yield of 5.73% compared to a yield of 8.39% in the previous period.

DEFERRED YIELD ADJUSTMENT ACCOUNT

Laws 1971, Chapter 197, required the establishment of a Deferred Yield Adjustment Account. This account provides for amortizing of losses on sales of debt securities over a period of time equal to the remaining life of the securities which were sold. Such annual amortization (or write-off) is deducted from investment income in determining the rate of return. Chapter 197 was made effective July 1, 1969 and applicable to reports issued after July 1, 1971.

The State Board of Investment has not sold any debt securities from the MSRS portfolio since July 1, 1969. However, a book adjustment was made as of November 1, 1969 to reflect an adjustment in the book value of debt securities transferred to the Minnesota Adjustable Fixed Benefit Fund. It was assumed that debt securities with a book value of \$582,658.40 and paying interest at the rate of 4.85% were sold to the MAFB Fund to yield 7.30% to maturity of 15 years and 4 months:

Book value of assumed sale	\$582,658.40
Market value	<u>452,429.59</u>
Loss on assumed sale	\$130,228.81

Annual amortization (or write-off) over 15½ years is \$8,493.18 and the balances in the Deferred Yield Adjustment Account are:

December 31, 1969	\$128,813.28
June 30, 1970	124,566.69
June 30, 1971	116,073.51

The comparative statement has been adjusted to reflect the changes in the assets and reserves. The rates of return have been revised to reflect the rate of return on the 12 month average of invested assets at book value, the Deferred Yield Adjustment Account, and cash. Such 12 month average is divided into investment income as reduced by the amount of the deferred yield adjustment account amortized in the period.

The rates of return for the 3 accounting periods ended December 31, 1969, June 30, 1970 and June 30, 1971 as recalculated are 4.47%, 4.57% and 4.60% respectively, compared to 4.47%, 4.58% and 4.62% before establishing the deferred yield adjustment account.

It should be noted that MSRS has never included realized gains or losses in computing the rate of return because it tends to distort year-to-year comparison of rates. If investment income were adjusted to include realized gains (or losses) on equities for the periods ended December 31, 1969, June 30, 1970 and June 30, 1971 the rates of return would be 4.79%, 4.78% and 4.65% respectively.

REVENUES

Employee and employer contributions were \$7,280,704 and \$9,704,353 respectively, in fiscal year 1971. The figures for the six month period ended June 30, 1970 were \$3,407,159 and \$5,084,658. Income on invested assets in the MSRS portfolio was \$4,781,661 in fiscal 1971 and income on invested assets of the Minnesota Adjustable Fixed Benefit Fund, attributable to MSRS participation amounted to \$2,634,801.94. It should be noted that appreciation or depreciation in stock values is reflected in recognized income of the MAFB Fund.

EXPENDITURES

Annuity and disability benefits are paid by this office by withdrawal of funds from the Minnesota Adjustable Fixed Benefit Fund. Benefit and interest payments totaled \$5,135,815 in fiscal year 1971 and \$2,450,897 in the six month period ended June 30, 1970:

	June 30, 1971 <u>12 months</u>	1970 <u>6 months</u>
Service retirement annuities	\$4,854,220	\$2,311,060
Disability retirement annuities	169,681	77,951
Survivor benefit payments: spouses	29,943	15,329
children	207	390
Interest on covered employee deaths	79,676	45,161
Interest to compulsory retirees	2,088	1,006
	<u>\$5,135,815</u>	<u>\$2,450,897</u>

The survivor benefit payments and interest are paid from the MSRS Fund. In addition to the service retirement annuities shown above, supplemental benefits, payable from the State General Fund, amounting to \$166,385 were paid in fiscal 1971 and \$88,685 in the six months ended June 30, 1970. The law provides that for purposes of economy supplemental benefits are to be included with the annuity checks. MSRS is reimbursed monthly from the General Revenue Fund.

Refundments in the fiscal year 1971 totaled \$2,104,401. Refundments in the six month period ended June 30, 1970 totaled \$1,053,486. Operating expenses for fiscal year 1971 were \$389,295.

STATISTICAL DATA

Important Note: The statistics presented here are for an 18 month period ending June 30, 1971 and for a 12 month period ending December 31, 1969.

EMPLOYEE STATISTICS

	June 30, 1971 <u>1971</u>	December 31, 1969 <u>1969</u>
Active employees at	37,129	36,406
Inactive accounts at	7,759	7,905
New employees and former employees returned	13,090	10,249
Refundments	9,151	6,476
Deaths	251	127
Retirements	631	384
Became disabled	52	25
Net increase in active employees	723	1,815

"Average" as used in this report is defined as the arithmetic mean. "Median" is the mid-point, that is, one-half of the total is below and one-half is above the median point.

The following is a comparison of the "average" employee as of the dates shown:

		<u>Age</u>	<u>Credited Service</u>	<u>Accumulated Contributions</u>
Male Employee	12/31/68	41.8 yrs.	8.6 yrs.	\$1,340.90
	12/31/69	41.7 yrs.	8.5 yrs.	1,401.26
	6/30/71	40.3 yrs.	8.7 yrs.	1,568.99
Female Employee	12/31/68	36.7 yrs.	5.1 yrs.	639.50
	12/31/69	36.4 yrs.	5.0 yrs.	665.09
	6/30/71	35.2 yrs.	5.3 yrs.	734.05

The average and median ages were:

		<u>Male</u>		<u>Female</u>	
		<u>Median</u>	<u>Average</u>	<u>Median</u>	<u>Average</u>
New Employees	12/31/68	27.0 yrs.	31.5 yrs.	22.0 yrs.	27.4 yrs.
	12/31/69	26.0 yrs.	31.1 yrs.	22.0 yrs.	26.8 yrs.
	6/30/71	28.0 yrs.	32.7 yrs.	24.0 yrs.	28.1 yrs.
All Active Employees	12/31/68	42.0 yrs.	41.8 yrs.	33.0 yrs.	36.7 yrs.
	12/31/69	42.0 yrs.	41.7 yrs.	32.0 yrs.	36.4 yrs.
	6/30/71	42.0 yrs.	40.3 yrs.	33.0 yrs.	35.2 yrs.

33.4% of the male active employees and 16.8% of the females for a total of 9,217 of the active employees had at least 10 years of credited service at June 30, 1971, compared to 9,008 in 1969 and 8,873 in 1968. Those age 65 and older show:

	<u>1971</u>	<u>1969</u>	<u>1968</u>
Total active employees age 65 or older	1,177	932	895
Age 65 or over and at least 10 years service	811	654	622

The average age and service forfeited by those who took refundments was:

	<u>Male</u>		<u>Female</u>	
	<u>Age</u>	<u>Service</u>	<u>Age</u>	<u>Service</u>
12/31/68	33.2 yrs.	4.4 yrs.	28.2 yrs.	2.0 yrs.
12/31/69	33.4 yrs.	2.6 yrs.	28.2 yrs.	1.8 yrs.
6/30/71	34.7 yrs.	2.2 yrs.	29.3 yrs.	1.8 yrs.

Analysis shows that in the 18 month period ending June 30, 1971, 2.3% forfeited 10 or more years of service credit by refundment compared to 2.9% in 1969 and 9.0% in 1968. The 1968 statistics are distorted because the refundments include 852 National Guard Technicians who elected to terminate MSRS coverage for coverage under the Federal Civil Service Retirement System.

Inactive accounts totaled 7,759 at June 30, 1971 compared to 7,905 at the end of 1969 and 7,377 at the end of 1968. Of these inactive accounts, 333 have sufficient service credit to be entitled to a deferred annuity at age 65.

Comparison of the inactive accounts with 10 or more years of service credit shows:

		<u>Number</u>	<u>Avg. Age</u>	<u>Avg. Deferred Annuity</u>
Males	12/31/68	188	55	\$55.53
	12/31/69	180	56	56.67
	6/30/71	164	56	73.23
Females	12/31/68	142	57	\$50.35
	12/31/69	172	55	54.00
	6/30/71	169	57	67.37

The increase in the average deferred annuity as of June 30, 1971 was due to the augmentation of deferred annuities provided in Laws 1971, Chapter 274.

ANNUITANT STATISTICS

	<u>June 30, 1971</u>	<u>June 30, 1970</u>	<u>Dec. 31, 1969</u>	<u>Dec. 31, 1968</u>
Age and service retirements	4,442	4,235	4,096	3,899
Disability benefits	198	178	174	167
Survivor benefits	33	35	36	37
Benefits authorized during period	430	253	418	516
Deaths	214	114	225	191

Average monthly benefits authorized in 1968, 1969 and the 12 month period ending June 30, 1971 also showing average age, service, and salaries:

		<u>Age at Retirement</u>		<u>Salary Before</u>	<u>Salary After</u>	<u>Service:</u>		<u>Avg. Benefit</u>
		<u>Yrs.</u>	<u>Mo.</u>	<u>7/1/57</u>	<u>6/30/57</u>	<u>Yrs.</u>	<u>Mo.</u>	
Service	12/31/68	67	4	\$288.64	\$405.90	24	4	\$102.98
	12/31/69	66	2	281.90	421.76	23	2	104.06
	6/30/71	65	11	261.37	425.91	22	5	102.38
Disability	12/31/68	58	5	\$258.54	\$379.42	21	2	\$ 82.21
	12/31/69	57	1	262.02	395.99	20	4	79.77
	6/30/71	60	4	262.30	443.25	21	4	97.43

The average and median monthly benefits of all service and disability retirements for the 12 month periods ending:

		<u>Average</u>	<u>Median</u>
Service retirements	12/31/68	\$88.31	\$71.94
	12/31/69	92.26	73.29
	6/30/71	93.33	73.79
Disability retirements	12/31/68	66.55	53.11
	12/31/69	70.81	57.42
	6/30/71	74.60	79.57

In addition to the MSRS benefits listed above, employees who have retired since 1957 are entitled to Social Security benefits as a result of State employment. Also, since 1967, certain retired employees have received a supplemental retirement benefit payable from the State General Revenue Fund.

The average age at death and the average length of retirement for service and disability retirements for the 12 month periods ending:

		Male		Female	
		<u>Age</u>	<u>Retirement</u>	<u>Age</u>	<u>Retirement</u>
Service	12/31/68	76.1	9.2	75.2	8.9
	12/31/69	77.0	9.9	78.3	10.9
	6/30/71	76.9	10.2	77.2	10.6
Disability	12/31/68	65.5	6.9	59.0	4.1
	12/31/69	62.9	3.2	64.3	4.6
	6/30/71	60.9	6.5	65.3	8.7

Of the 198 service annuitants who died in the fiscal year 1971, 89.5% received annuity payments greater than their accumulated employee contributions. The average service annuitant received in annuity payments 4.4 times the amount he had contributed.

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TELEPHONE
AREA CODE 213 681-4455

February 4, 1972

Board of Directors
Minnesota State Retirement System
529 Jackson Street
St. Paul, Minnesota 55101

Gentlemen:

We hereby certify that we made an Actuarial Survey and Valuation of your Retirement System as of June 30, 1971. As required by Minnesota Statutes 1969, Chapter 356, as amended by Laws of 1971, the Survey covered the experience of the System for the period January 1, 1968 through June 30, 1971 and the Valuation as of June 30, 1971 was made on the following basis:

1. Interest assumption - $3\frac{1}{2}\%$,
2. Other actuarial assumptions as determined during the course of our current investigation into the experience of the System for the three and one-half year period ending June 30, 1971, and
3. Use of the entry age normal cost method of funding to determine unfunded accrued liability.

We further certify that the results of the valuation referred to in the foregoing paragraph indicate that the contributions required from the employees and from the State under Minnesota Statutes 1969, Chapter 352, as amended by Laws of 1971, as presently constituted are adequate to provide the benefits that will be paid from the System.

Very truly yours,

COATES, HERFURTH & ENGLAND
Consulting Actuaries

By

Robert H. Little, F.S.A.

RHL:th

MINNESOTA STATE RETIREMENT SYSTEM
EXHIBIT REQUIRED BY MINNESOTA STATUTES 1967,
CHAPTER 356, SECTION 356.20, SUBDIVISION 4(1)
AS OF JUNE 30, 1971

ASSETS AND UNFUNDED ACCRUED LIABILITY

Assets

Cash in office	\$ 25.00
Deposits in banks	172,952.17
Short term investments (at cost)	1,944,729.08
Accounts receivable:	
(a) Accrued employee contributions	249,149.60
(b) Accrued employer contributions	334,095.17
(c) Employee back payments	27,453.63
(d) Investment maturities and sales	412,295.37
(e) Other	6,328.06
Accrued interest in investments	1,032,521.51
Dividends declared and payable, but not yet received	167,711.51
Investment in debt securities at amortized cost	68,264,133.10
Investment in equities at cost (Market Value \$44,514,062.00)	39,493,115.13
Equipment at depreciated cost	5,992.43
Prepaid postage	2,000.00
Participation in MAFB Fund	45,982,892.26
Deferred Yield Adjustment Account	116,073.51
Deferred Charges to Future Participation in the MAFB Fund	502,390.15
TOTAL ASSETS	<u>\$158,713,857.68</u>

Unfunded Accrued Liability

Unfunded Accrued Liability to be funded by portion of State's 3% "Matching Contribution" in excess of State's share of entry age normal cost contribution and Operating Expenses	\$ 817,471.00
Unfunded Accrued Liability to be funded by State's "Additional" contribution	20,280,774.93
TOTAL UNFUNDED ACCRUED LIABILITY	<u>\$ 21,098,245.93</u>
TOTAL ASSETS AND UNFUNDED ACCRUED LIABILITY	<u>\$179,812,103.61</u>

CURRENT LIABILITIES AND RESERVES REQUIRED

Current Liabilities

Accounts Payable:	
(a) Annuities	\$ 1,606.70
(b) Survivor Benefits	2,608.97
(c) Annuitant deposits	1,386.45
(d) Accrued expenses	28,035.15
(e) Overpaid dividends and prepaid postage	1,145.17
(f) Security purchases	105,890.88
Suspense Item	3,495.88
TOTAL CURRENT LIABILITIES	<u>\$ 144,169.20</u>

Reserves Required

Total Reserves Required per attached schedule	<u>\$179,667,934.41</u>
TOTAL CURRENT LIABILITIES AND RESERVES REQUIRED	<u>\$179,812,103.61</u>

Note: Accumulated contributions, without interest, of members not yet retired amounted to \$43,718,603.03 as of June 30, 1971.

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 STATE OF MINNESOTA

MINNESOTA STATE RETIREMENT SYSTEM

DETERMINATION OF RESERVES REQUIRED

AS OF JUNE 30, 1971

<u>Benefits For:</u>	(1) Present Value of Benefits	(2) Present Value of Applicable Portion of Normal Cost Contribution	(3) Reserves Required (1) - (2)
Active Members:			
(a) Retirement Benefits	\$194,895,659.00	\$ 78,068,438.00	\$116,827,221.00
(b) Disability Benefits	16,575,350.00	10,218,382.00	6,356,968.00
(c) Refundments due to death or withdrawal	31,619,593.00	27,385,264.00	4,234,329.00
(d) Surviving Spouse Benefits	4,997,508.00	2,248,044.00	2,749,464.00
Deferred Annuitants	2,270,350.00	—	2,270,350.00
Former Members Without Vested Rights	426,016.00	—	426,016.00
Survivors	318,304.00	—	318,304.00
Benefits Payable from MAFB Fund:			
(a) Reserve for Participation	45,982,892.26	—	45,982,892.26
(b) Annuity Stabilization Reserve	502,390.15	—	502,390.15
Total	\$297,588,062.41	\$117,920,128.00	\$179,667,934.41

MINNESOTA STATE RETIREMENT SYSTEM
EXHIBIT REQUIRED BY MINNESOTA STATUTES 1967,
CHAPTER 356, SECTION 356.20, SUBDIVISION 4(2) and (3)
EIGHTEEN MONTHS ENDING JUNE 30, 1971

ANALYSIS OF INCOME AND DEDUCTIONS FROM INCOME

Income

From Employees		
Employee contributions	\$10,202,363.49	
Employee accrued contributions receivable	465,815.38	
Employee contributions accounts receivable	19,684.07	
From Employers		
Employer contributions	10,209,399.91	
Employer additional contributions	3,921,322.19	
Employer accrued contributions receivable	658,290.12	
From Investments		
Interest on debt securities (net)	5,239,682.31	
Dividends on corporate stock	1,767,230.66	
Premium on bonds called	1,484.52	
MAFB Fund income	3,903,522.91	
Other Revenues		
Interest on back payments by employees	21,486.27	
Employer payments in lieu of interest	452.96	
Adjustment in prior year benefit payments	4,972.39	
Unclaimed benefits cancelled into fund	523.38	
Gain on sales/transfers of securities	152,482.67	
Deferred yield adjustment account	128,813.28	
Annuity Stabilization reserve	502,390.15	
TOTAL INCOME	<u>\$37,199,916.66</u>	

Deductions from Income

Benefits		
Retirement benefits	\$ 7,412,912.64	
Survivor benefits	45,869.04	
Interest paid—deaths and compulsory retirees	127,930.64	
Refundments		
Left service	2,488,262.99	
Coverage by other systems	109,490.92	
Employee deaths	469,899.55	
Annuitant deaths	57,811.80	
Erroneous deductions	32,421.78	
Operating Expenses	584,449.26	
Miscellaneous		
Interest transferred to TRA Fund	4,616.06	
Increase in Total Reserves Required		
Reserves Required 12-31-69	\$154,638,169.68	
Reserves Required 6-30-71	<u>179,667,934.41</u>	<u>25,029,764.73</u>
TOTAL DEDUCTIONS FROM INCOME		\$36,363,429.41
EXCESS OF INCOME OVER DEDUCTIONS FROM INCOME		836,487.25
REDUCTION IN UNFUNDED ACCRUED LIABILITY:		
Unfunded Accrued Liability 12-31-69	\$ 21,934,733.18	
Unfunded Accrued Liability 6-30-71	<u>21,098,245.93</u>	<u>836,487.25</u>
		3½ %

COMPARATIVE STATEMENT

	Period Ended:	June 30, 1971	June 30, 1970	December 31, 1969	December 31, 1968	December 31, 1967
Revenues						
Employee contributions		\$ 7,280,704	\$ 3,407,159	\$ 6,422,341	\$ 6,025,000	\$ 5,014,460
Employer contributions		9,704,354	5,084,658	10,115,866	9,823,351	8,176,275
Net interest, dividends, premiums		4,764,870	2,243,527	4,989,396	4,788,135	4,103,673
Participation in MAFB Fund income		2,634,802	1,268,721	—	—	—
Gain on sale/transfer of securities		45,272	107,211	363,259	93,792	107,676
Miscellaneous revenues		17,470	9,965	14,325	189,110	149,794
Total		\$ 24,447,472	\$ 12,121,241	\$ 21,905,187	\$ 20,919,388	\$ 17,551,878
Distribution of Revenues						
Benefits paid		\$ 5,135,815	\$ 2,450,897	\$ 4,526,757	\$ 4,202,740	\$ 3,806,131
Refundments paid		2,104,401	1,053,486	2,123,996	3,341,062	1,795,574
Operating expenses		389,295	195,154	365,713	329,320	314,186
Miscellaneous expenses		—	4,616	1,187	1,220,154	—
Increase in reserves		16,817,961	8,417,088	14,887,534	11,826,112	11,635,987
Total		\$ 24,447,472	\$ 12,121,241	\$ 21,905,187	\$ 20,919,388	\$ 17,551,878
Assets						
Cash and temporary investments		\$ 2,117,706	\$ 2,842,270	\$ 3,946,623	\$ 3,662,481	\$ 1,824,018
Accounts receivable:						
Accrued contributions		583,245	540,861	581,321	519,359	316,696
Accrued investment items		1,612,528	932,341	1,011,815	1,098,713	944,325
Other accruals		33,782	25,679	61,346	202,499	1,086,949
Investments at amortized cost		107,757,248	94,463,109	98,494,748	113,811,736	101,984,780
Deferred yield adjustment account		116,074	124,567	128,813	—	—
Deferred charges to future MAFB partic.		502,390	—	—	—	—
Participation in MAFB Fund		45,982,892	42,768,856	28,644,469	—	—
Other assets		7,992	9,194	10,020	9,581	10,301
Total		\$158,713,857	\$141,706,877	\$132,879,155	\$119,304,369	\$106,167,069
Liabilities and Reserves						
Current liabilities		\$ 144,169	\$ 457,540	\$ 46,906	\$ 1,359,654	\$ 48,466
Reserve for employee contributions		43,718,603	39,959,919	38,380,059	35,390,037	34,361,928
Reserve for retmt./survivor benefits		318,304	339,504	11,930,191	38,714,939	34,977,860
Reserve for participation in MAFB Fund		45,982,892	42,768,856	28,644,469	—	—
Annuity stabilization reserve		502,390	—	—	—	—
State contribution reserve		68,047,499	58,181,058	53,877,530	43,839,739	36,778,815
Total		\$158,713,857	\$141,706,877	\$132,879,155	\$119,304,369	\$106,167,069
Rate of return on avg. invested assets, cash and deferred yield adj. account		4.60%	4.57%	4.47%	4.32%	4.19%
Average yield to maturity (or call) of debt securities		5.39%	4.93%	4.91%	4.73%	4.52%

**FIXED INCOME PORTFOLIO AND DISTRIBUTION
OF TOTAL INVESTMENT PORTFOLIO; ALSO RATE
OF RETURN ON INVESTED ASSETS AND CASH**

FISCAL YEAR ENDED JUNE 30, 1971

	<u>Book Value</u>	<u>Par Value</u>	<u>Yield (to maturity or call)</u>
Fixed income portfolio at June 30, 1970	\$63,351,313.74	\$63,531,314.35	4.93%
Deduct: Securities matured and called	2,206,034.13	2,207,038.74	
Add: Fixed income, debt securities purchased	7,107,500.00	7,100,000.00	9.11%
Net amortization	<u>11,353.49</u>	<u>—</u>	
Fixed income portfolio at June 30, 1971	<u>\$68,264,133.10</u>	<u>\$68,424,275.61</u>	5.39%
Distribution of total portfolio, including fixed income debt securities at amortized cost and corporate stock at cost:			

	<u>Book Value</u>		<u>Distribution</u>	
	<u>June 30, 1971</u>	<u>June 30, 1970</u>	<u>June 30, 1971</u>	<u>June 30, 1970</u>
Federal, State and Municipals	\$ 15,703,186.37	\$16,910,768.15	14.57%	17.90%
Merchant Marine, 100% Gov. Guar.	552,000.00	555,000.00	.51%	.59%
Canadian Government	3,701,704.49	1,989,439.93	3.44%	2.11%
Corporate debt securities	<u>48,307,242.24</u>	<u>43,896,105.66</u>	<u>44.83%</u>	<u>46.47%</u>
Total debt securities	\$ 68,264,133.10	\$63,351,313.74	63.35%	67.07%
Corporate stocks	<u>39,493,115.13</u>	<u>31,111,795.59</u>	<u>36.65%</u>	<u>32.93%</u>
Total investments	<u>\$107,757,248.23</u>	<u>\$94,463,109.33</u>	100.00%	100.00%

Calculation of rate of return on 12 months average of invested assets, deferred yield adjustment account and cash (including short term investments:

Interest on fixed income, debt securities (on an accrual basis adjusted for amortization of premiums and discounts and amortization of capitalized losses)	\$ 3,433,387
Interest on short term investments	146,129
Dividends on corporate stock	1,184,349
Interest on back payments by employees	16,791
Premium on bonds called	<u>1,005</u>
Total income from invested funds	<u>\$ 4,781,661</u>
12 month average of invested assets, deferred yield adjustment account and cash	<u>\$103,845,649</u>
Rate of return	4.604%

CORPORATE STOCK ACCOUNT
FISCAL YEAR ENDED JUNE 30, 1971 AND
SIX MONTHS ENDED JUNE 30, 1970

	<u>June 30,</u>	
	1971 (12 months)	1970 (6 months)
Beginning balances	\$31,111,795.59	\$33,544,964.90
Add: Market purchases	<u>12,151,907.32</u>	<u>326,751.75</u>
	\$43,263,702.91	\$33,871,716.65
Deduct: Stock rights sold	7,038.55	8,463.81
Frac. shares stock dividends sold	160.42	61.75
Stock sold	3,763,388.81	
Stock transferred to MAFB Fund		2,751,395.50
Ending balances	<u>\$39,493,115.13</u>	<u>\$31,111,795.59</u>

The average yield (based on cost) was 3.47% in fiscal year 1971 compared to 3.55% in the six month period ended June 30, 1970. The dividend yield on stocks is less than the yield on fixed income debt securities because stocks are purchased for growth potential as well as income, with the expectation that over a period of years appreciation plus income will exceed interest return on fixed income securities. The market value of stocks in the MSRS portfolio has exceeded the cost basis in every year since stock purchases were started in 1961 with the exception of the six month period ended June 30, 1970 when cost exceeded market value by 18.4%. Comparison since 1967 shows:

	June 30, 1971	June 30, 1970	Dec. 31, 1969	Dec. 31, 1968	Dec. 31, 1967
Market value	\$44,514,062	\$25,394,856	\$34,494,194	\$41,035,809	\$30,406,503
Cost basis	39,493,115	31,111,795	33,544,964	35,158,642	27,853,645
Appreciation (minus)	12.71%	(18.38%)	2.83%	16.71%	9.14%

Stocks sold in fiscal year 1971:

	No. Shares	Cost	Proceeds	Gain or (Loss)
ACF Industries	4,000	\$ 172,314.95	\$ 181,950.00	\$ 9,635.05
Atlantic Richfield	4,000	273,687.03	299,500.00	25,812.97
Avon Products	700	59,192.00	75,127.50	15,935.50
Boeing Company	4,100	300,538.01	80,821.25	(219,716.76)
Burlington Northern Pref.	1,900	18,362.02	12,590.53	(5,771.49)
Campbell Soup Company	3,800	116,631.22	119,769.99	3,138.77
Carrier Corporation	6,000	230,913.73	217,331.54	(13,582.19)
Corning Glass Works	1,300	318,945.13	333,322.08	14,376.95
Disney Productions	1,200	118,068.00	137,375.00	19,307.00
Georgia Pacific Corp.	1,700	72,318.00	92,650.00	20,332.00
Inland Steele Co.	4,000	163,509.41	114,000.00	(49,509.41)
International Tel & Tel. CV PFD	4,000	184,650.00	290,000.00	105,350.00
J. P. Morgan & Co.	1,500	72,330.00	102,345.00	30,015.00

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	<u>No.</u> <u>Shares</u>	<u>Cost</u>	<u>Proceeds</u>	<u>Gain or</u> <u>(Loss)</u>
National Lead	8,600	296,448.37	174,275.00	(122,173.37)
Norfolk & Western R.R.	2,800	277,065.28	211,899.06	(65,166.22)
Pan American World Airways	3,200	87,390.70	32,128.00	(55,262.70)
J. C. Penney & Co.	1,700	58,769.00	115,011.20	56,242.20
Southern Pacific Co.	5,000	194,319.01	198,750.00	4,430.99
Southern Railway Co.	4,500	247,468.75	326,923.54	79,454.79
Trans Union Corp.	12,500	288,986.42	429,842.22	140,855.80
Upjohn Co.	3,500	166,977.48	168,875.00	1,897.52
Viacom International, Inc.	752	15,659.30	10,398.82	(5,260.48)
Weyerhaeuser Corp.	1,500	28,845.00	83,775.00	54,930.00
	82,252	\$3,763,388.81	\$3,808,660.73	\$ 45,271.92

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