

COMMONWEALTH OF PENNSYLVANIA
STATE EMPLOYEES' RETIREMENT SYSTEM
BOAS SCHOOL BUILDING
909 GREEN STREET
HARRISBURG, PENNSYLVANIA 17102-2999
(717) 787-6293

ANNUAL REPORT OF OPERATIONS
FOR THE YEAR ENDED
DECEMBER 31, 1989

WILLIAM J. MORAN
ACTING CHAIRMAN
STATE EMPLOYEES' RETIREMENT BOARD

JOHN R. BROSIUS
EXECUTIVE DIRECTOR

REPORT PREPARED BY
THE STAFF OF
THE STATE EMPLOYEES' RETIREMENT SYSTEM

Call #: JK3660.P4P48 1984

Location: 2P

Pieces: 8

any years 1984-1991.

Maxcost: 35.00IFM

O'Neill Library - Boston College
ILL Rm.306
140 Commonwealth Ave
Chestnut Hill, MA 02467

Email: ill@bc.edu
Phone: 617-552-3209

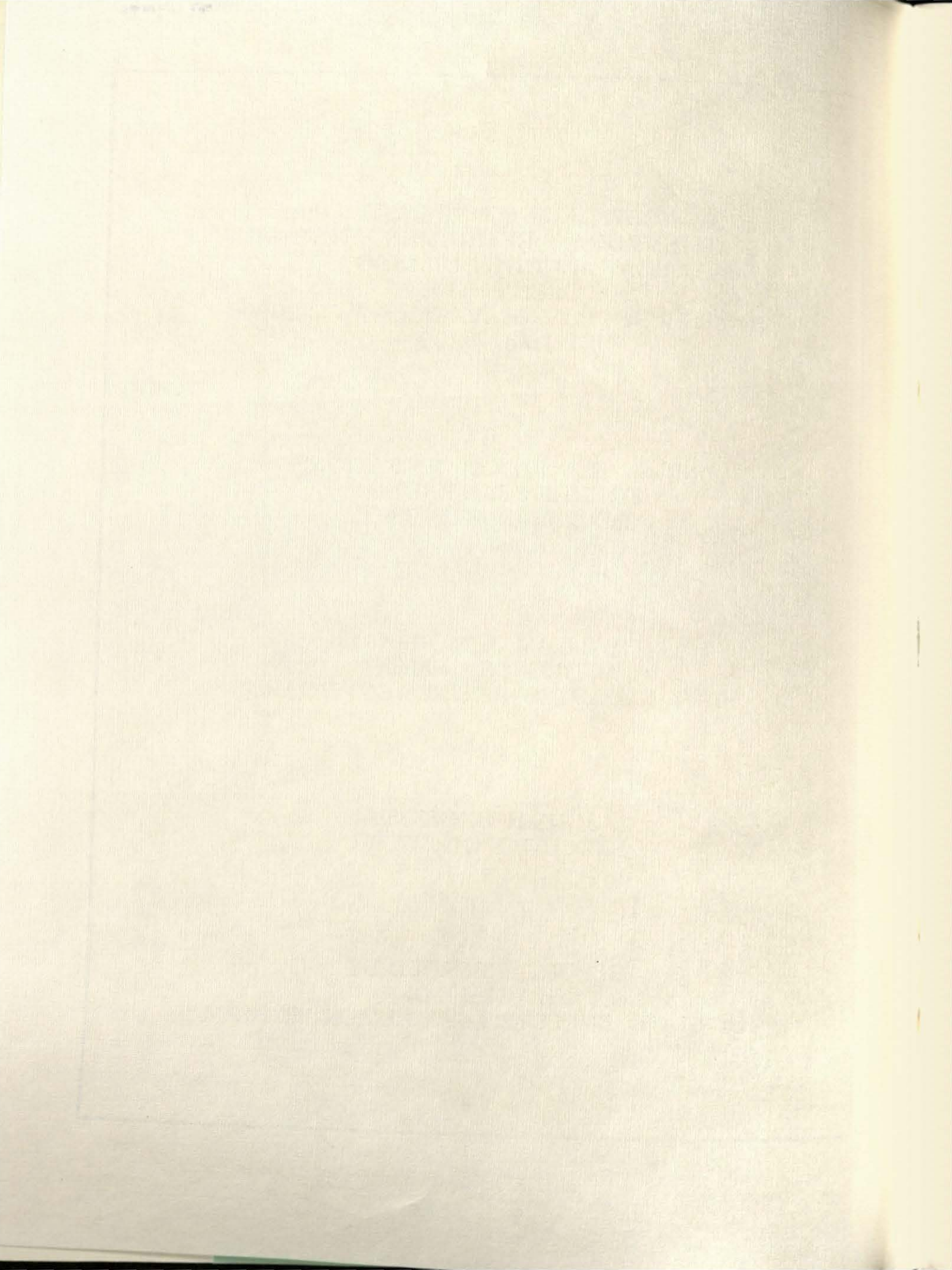
COMMONWEALTH OF PENNSYLVANIA
STATE EMPLOYEES' RETIREMENT SYSTEM
BOAS SCHOOL BUILDING
909 GREEN STREET
HARRISBURG, PENNSYLVANIA 17102-2999
(717) 787-6293

ANNUAL REPORT OF OPERATIONS
FOR THE YEAR ENDED
DECEMBER 31, 1989

WILLIAM J. MORAN
ACTING CHAIRMAN
STATE EMPLOYEES' RETIREMENT BOARD

JOHN R. BROSIUS
EXECUTIVE DIRECTOR

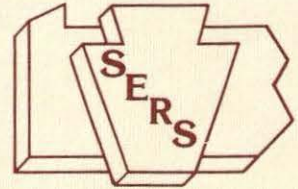
REPORT PREPARED BY
THE STAFF OF
THE STATE EMPLOYEES' RETIREMENT SYSTEM





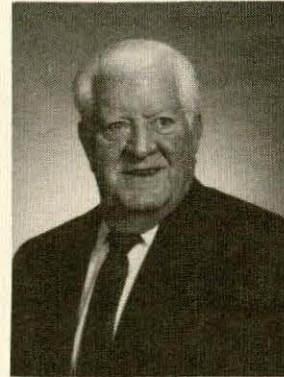
COMMONWEALTH OF PENNSYLVANIA
STATE EMPLOYEES' RETIREMENT SYSTEM

BOAS SCHOOL BUILDING
909 GREEN STREET
HARRISBURG, PENNSYLVANIA 17102-2999
TELEPHONE: 717-787-6293



Honorable Robert P. Casey,
Governor, Commonwealth of Pennsylvania

Members, Pennsylvania General Assembly
Members, Pennsylvania State Employees'
Retirement System



Dear Governor Casey, Legislators and Members:

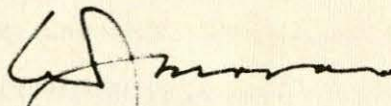
The Pennsylvania State Employees' Retirement Board is very pleased to present its 1989 Annual Report reflecting another successful year of operations. This report includes investment highlights, financial reports, actuarial data, and other statistical information of interest. Additionally, an independent audit of the Fund by Coopers & Lybrand for 1988 was completed and a separate report on those findings is included. The consulting actuary Hay/Huggins, has attested to the soundness of the Fund and that report is contained herein.

The Fund had a total market value as of December 31, 1989, of \$9.7 billion and a total investment rate of return of 17.8% for 1989. The Fund has experienced a 14.3% average annual rate of return over the past 5 years. Please refer to the Investments Section of this report for additional information regarding investment highlights for the year.

Total membership in the Retirement System has increased by 14,200 members (8.3%) over the past ten years. This change is composed of an increase of 23,900 (48.9%) in the number of retirees and beneficiaries and an offsetting decline of 9,700 (8.0%) in active membership during this time period.

The Retirement Board remains committed to the prudent investments of the Fund and the continuing improvement of services to the membership.

Respectfully submitted,



William J. Moran
Acting Chairman



Faint, illegible text block, possibly a header or introductory paragraph.

Faint, illegible text block, possibly a second paragraph.

Faint, illegible text block, possibly a third paragraph.

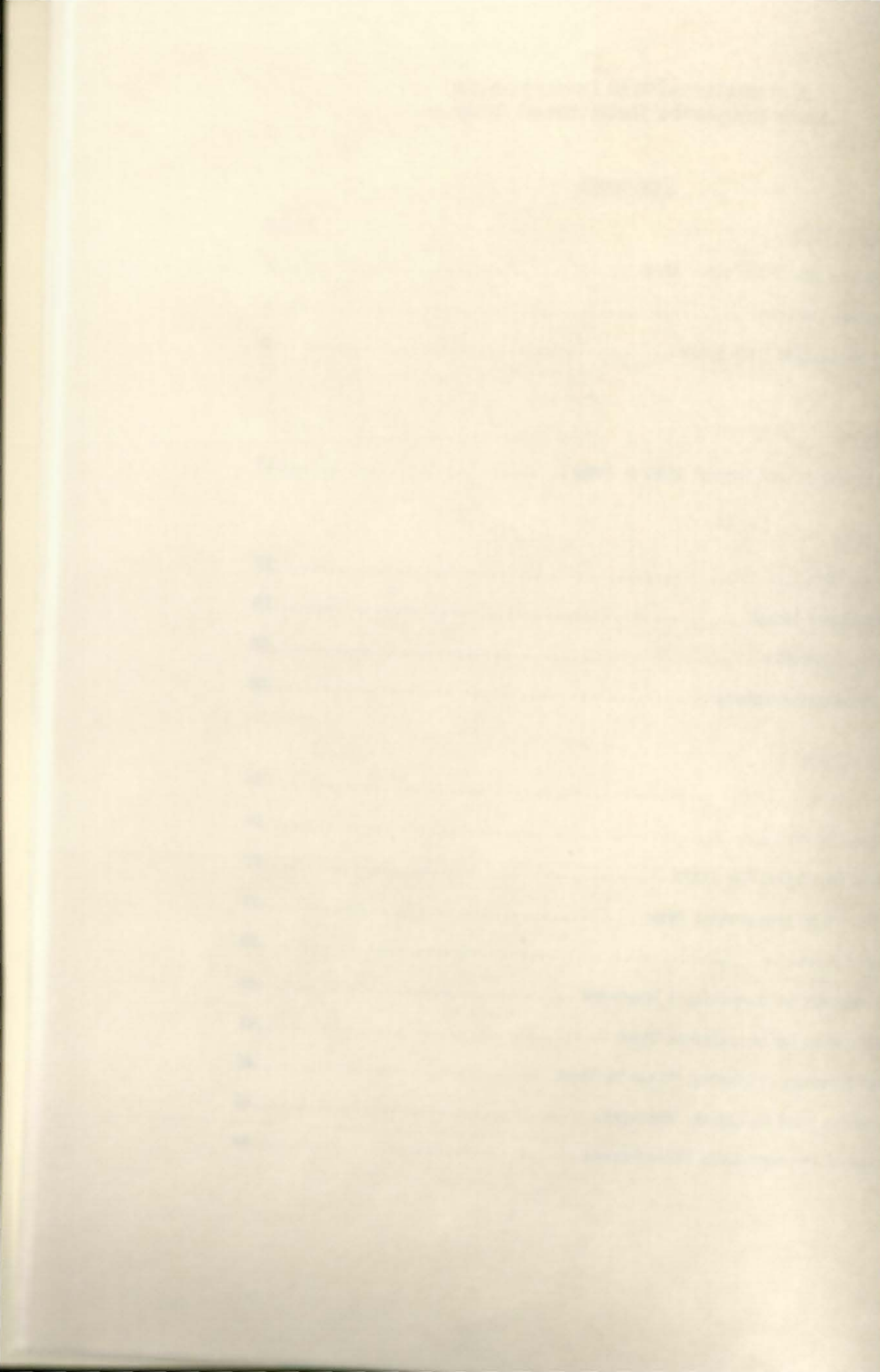
Faint, illegible text block, possibly a fourth paragraph.

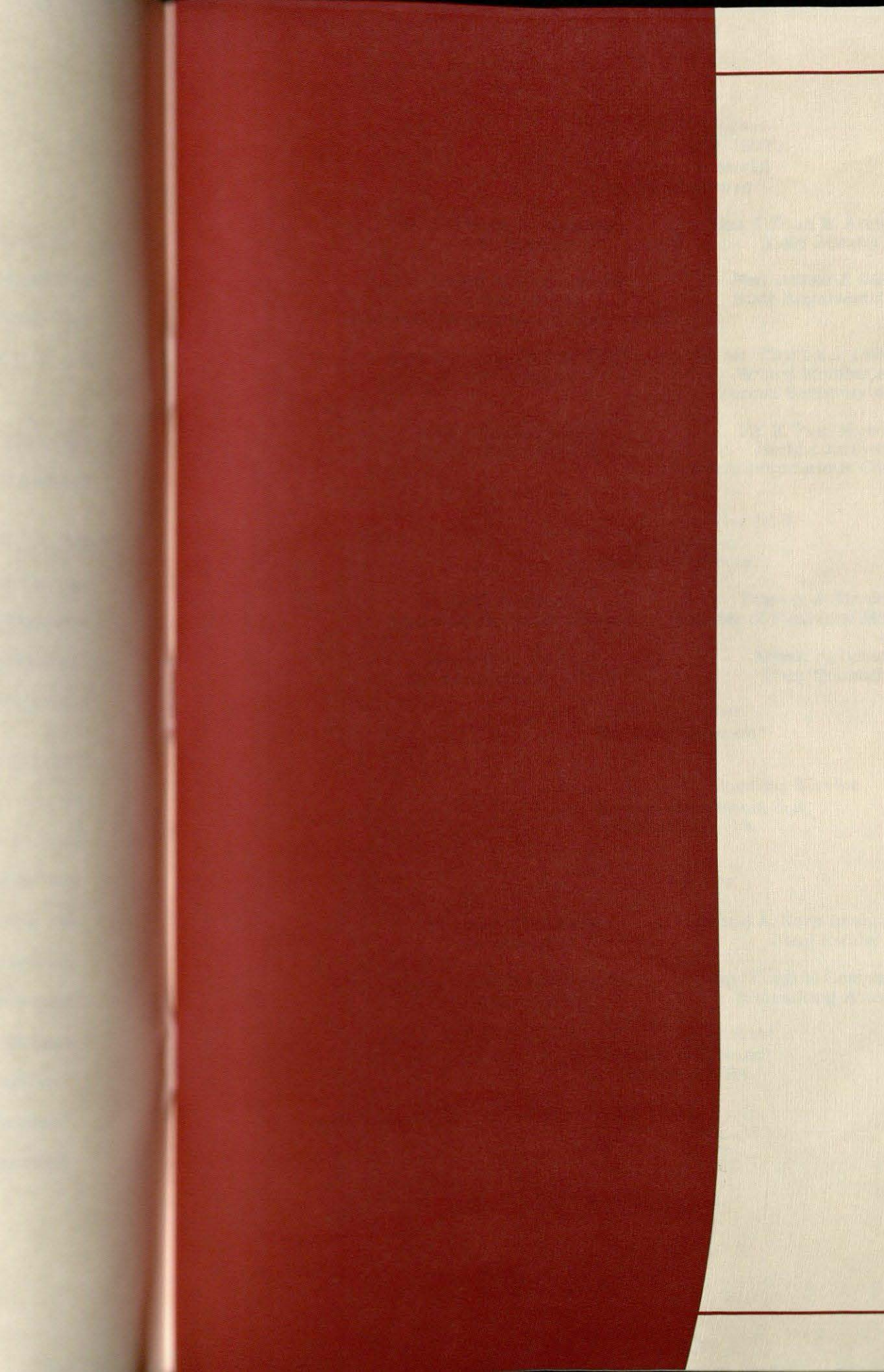
Faint, illegible text block, possibly a signature or footer.

**Commonwealth of Pennsylvania
State Employees' Retirement System**

Contents

<u>ADMINISTRATIVE SECTION</u>	<u>PAGE</u>
SERS Board and Administrative Staff	3
Plan Provisions Overview	4
Administrative Budget Summary	9
<u>FINANCIAL SECTION</u>	
Coopers & Lybrand Audit Report 1987 & 1988	13
<u>ACTUARIAL SECTION</u>	
Actuary's Opinion	27
Actuarial Balance Sheet	28
Membership Statistics	29
Membership Demographics	30
<u>INVESTMENTS SECTION</u>	
Investment Policy	35
Investment Objectives	36
Investment Highlights for 1989	37
Rate of Return by Investment Type	37
Investment Advisors	38
Asset Allocation by Investment Manager	40
Asset Allocation by Investment Type	41
Five Year Investment Market Value by Type	42
Commissions Paid to Equity Managers	43
Summary of Pennsylvania Investments	44





ADMINISTRATIVE SECTION:

**SERS Board Members
(as of December 31, 1989*)**

Mr. William J. Moran
Acting Chairman

Hon. Anthony B. Andrezeski
State Senator

Hon. Gibson E. Armstrong
State Senator

Mr. Robert A. Bittenbender
Executive Director
Senate Appropriations Committee (R)

Hon. James J. Gallen
State Representative

Hon. Catherine Baker Knoll
State Treasurer

Mr. Charles J. Lieberth
Retired Member and
Former Secretary of L&I

Hon. Nicholas Maiale
State Representative

Mr. K. Paul Muench
Budget Analyst
House Appropriations Committee (R)

SERS Administrative Staff

John Brosius
Executive Director

Dale Everhart
Assistant Executive Director

Francis J. Donlevy
Director of Financial Management

Kenneth G. Mertz, II
Chief Investment Officer

Abbott A. Leban
Chief Counsel

Fund Custodian
The State Treasurer

Agent Bank and Trust Accounting Service

First Pennsylvania Bank, N.A.
Philadelphia, PA

Consultants

Wilshire Associates
(Investments)

Ronald A. Karp Associates, Inc.
(Real Estate)

Springhouse Associates, Inc.
(Venture Capital)

Hay/Huggins Company, Inc.
(Consulting Actuary)

Independent Auditor

Coopers & Lybrand
Harrisburg, PA

*There are currently two vacant seats on the Board.

STATE EMPLOYEES' RETIREMENT SYSTEM PLAN PROVISIONS OVERVIEW

The Pennsylvania State Employees' Retirement System (SERS), established in 1923, is one of the nation's oldest statewide retirement plans for public employes. SERS also ranks among the top public plans in pension assets with over 184,900 members and approximately \$9.1 billion in assets. A brief overview of the major elements of the plan follows.

PURPOSE

The SERS provides regular and disability retirement benefits for state employes and elected state officials. The SERS is responsible for administering retirement law in accordance with the expressed intent of the General Assembly and bears a fiduciary obligation to the Commonwealth of Pennsylvania, the taxpayers and the state employes who are the plan beneficiaries.

ADMINISTRATION

The Retirement Code provides that the administration of the SERS and the fiduciary responsibility for management of the Fund be vested in an eleven member Board of Trustees. Six of the members are appointed by the Governor and confirmed by the Senate; two members are appointed by the President Pro Tempore of the Senate; and two members are appointed by the Speaker of the House of Representatives. The State Treasurer serves as a member of the Board, ex-officio.

The management of the SERS is the responsibility of the Executive Director. The Executive Director functions as the Chief Administrative Officer and Agent of the Board on all matters pertaining to the System and, with the approval of the Board, contracts for professional services and employs the staff needed to operate the System.

MEMBERSHIP ELIGIBILITY

Permanent full-time state employes and employes of certain independent agencies are required to join the SERS. Permanent, part-time employes who are paid a salary must also join the System. All part-time employes who are paid by the hour or day must join SERS if they work 750 hours or 100 days in a calendar year.

Members and employes of the Legislature, certain elected persons in the executive branch, department heads, and certain school employes are not required to join the SERS.

CONTRIBUTIONS

The SERS member contribution rates are applied to gross pay. The basic contribution rate is 5% of gross pay for those in continuous membership since July 21, 1983. For those employes becoming a member of SERS on or after July 22, 1983 the contribution rate is 6.25% of gross pay. These contributions are deposited into an individually identified account and are credited with interest each quarter. A member's own contributions and credited interest vest immediately and are returned upon termination of service if the member is not eligible for other benefits. After each annual actuarial valuation of the liabilities and reserve requirements of the Fund, the employer's contribution rate is set. For 1989, employers contributed at a composite rate of 13.3% of employe payroll.

SERVICE

The amount of credited service a member has is one of the factors used to determine the eligibility for and amount of benefits. Credited service is defined as state service and creditable non-state service. Creditable non-state service is limited to: Intervening military service; Non-intervening military service; Out-of-state educational service; and Other governmental service.

CREDITABLE STATE SERVICE

Currently, state service is credited on the basis of the hours for which a member is paid. One thousand six hundred and fifty (1650) hours in a calendar year are credited as one year of service.

CREDITABLE NON-STATE SERVICE

INTERVENING MILITARY SERVICE is creditable for that military service rendered during a leave of absence from state employment. Service is limited to required military service.

NON-INTERVENING MILITARY SERVICE is limited to five years of credit, with certain prohibitions due to a member's use of this service toward another pension.

OUT-OF-STATE EDUCATIONAL SERVICE is limited to ten years of credit. Certain restrictions apply as to the type of service which is creditable. For example, only service as an administrator, teacher, or instructor may be considered.

OTHER GOVERNMENTAL SERVICE is creditable if former service with some other governmental agency was ended because of a transfer, by law, to the State.

RETIREMENT BENEFITS

ELIGIBILITY FOR MONTHLY RETIREMENT BENEFITS

A member is eligible for monthly benefits if, upon leaving employment, the member has ten or more years of credited service at any age or the member has reached normal retirement age with at least three years of credited state service.

NORMAL RETIREMENT

Normal retirement age is age 60 or the age at which a member has 35 years of service, whichever occurs first. There are some exceptions to this: normal retirement age for members of the Legislature, corrections officers, liquor law enforcement officers, psychiatric security aides, and officers of the state police is age 50.

A member is eligible for unreduced retirement benefits upon reaching normal retirement age if the member has at least three years of credited service.

EARLY RETIREMENT

A member can retire prior to normal retirement age if the member has at least ten years of credited service. The early retirement benefit amount is reduced for the number of years the member is under normal retirement age.

RETIREMENT BENEFIT CALCULATION

The amount of normal unreduced retirement benefits depends on three things: years of service; final average salary; and the member's age. The formula for the annual full retirement allowance is $.02 \times \text{years of service} \times \text{final average salary}$. The final average salary, generally speaking, is the average of the three highest years of compensation. Members electing early retirement will receive a reduced pension.

RETIREMENT OPTIONS

The retiring member may select among several retirement payment options.

FULL RETIREMENT ALLOWANCE. This plan provides the maximum amount of pension per month to which the member is entitled. Monthly pension payments will be made for life. When the member dies, his/her beneficiary will receive the member's Accumulated Deductions less the amount of pension payments that the member received.

OPTION 1. Under this plan the member will receive a smaller pension per month than under a Full Retirement Allowance. Monthly pension payments to the member are for life. This plan provides greater death benefit protection than Full Retirement. When the member dies, his/her beneficiary will receive the account's Present Value at retirement less the amount of pension payments that the member received.

OPTION 2 . This plan will also provide the member with less money per month than a Full Retirement Allowance. This plan provides a lifetime monthly pension to the member and, upon the member's death, to his/her Designated Survivor for that person's lifetime. Upon the member's death his/her Designated Survivor will begin to receive the same monthly pension that the member received.

OPTION 3 . This plan also provides the member with a monthly pension that is less than a Full Retirement Allowance. This plan provides a lifetime monthly pension to the member and, upon the member's death, to his/her Designated Survivor for that person's lifetime. Upon the member's death, his/her Designated Survivor will begin to receive one-half of the monthly pension the member had received.

OPTION 4 . This plan allows the member to withdraw all or any part of his/her contributions plus interest. The member may elect to receive this withdrawal in up to four installment payments. Once the election is made, it may not be changed for any reason. The installment payments will earn interest at the rate of 4% per year until the time they are paid to the member. This will make the member's lifelong monthly pension smaller since his/her pension is then computed on the remainder of the account's Present Value. If the member elects this option, the member must also elect one of the monthly payment plans listed above. Option 4 is a one-time option and must be selected at the time the member applies for his/her retirement benefit.

SPECIAL OPTION PLAN. If none of these plans suit the member's personal needs, the member may request a Special Option which he/she must design. Approval by the Retirement Board is required in advance of the member's actual retirement.

DISABILITY RETIREMENT ELIGIBILITY

To be eligible to apply for a disability pension, a member must have at least five years of credited service. State police and liquor law enforcement officers have no minimum service requirement. The member must be physically or mentally incapable of performing the duties of the member's present job. A member will not qualify for disability benefits unless the medical evidence, which documents the disability, is approved by the Board's physician(s).

DEATH BENEFITS

If a member should die in state service before normal retirement age, and with less than ten years of credited service, the member's contributions plus interest will be paid to the member's beneficiary.

Should a member die while still in state service and after becoming eligible for a monthly retirement benefit, it will be assumed that the member retired under Option 1 the day before the member's death. In that event, the present value of the member's annuity will be payable to the member's beneficiary. If the present value is \$5,000 or more, the beneficiary may choose to receive the death benefit in either monthly payments or a lump sum payment.

VESTING

If a member leaves state employment prior to normal retirement age with ten or more years of credited service and does not want an immediate benefit, the member may elect to vest. When vesting, the member's contributions plus interest remain in the Fund allowing the member to defer receiving a benefit until a later time. By vesting, the member's monthly benefit will increase as the member approaches normal retirement age. Interest is credited on the member's contributions during the vesting period.

TAXATION OF BENEFITS

Pennsylvania law provides that no Pennsylvania state or local taxes are payable on any payments received from SERS. Generally, all payments are subject to federal taxation. Since the Tax Reform Act of 1986, certain payments made prior to age 59 1/2 may also be subject to an additional tax. Members are advised to obtain reliable tax advice prior to selection of a retirement option.

COST OF LIVING ADJUSTMENTS

Cost of living adjustments are granted by the Legislature periodically on an ad hoc basis. Cost of living adjustments were granted by the Legislature in 1968, 1974, 1979, and 1984. The most recent cost of living increase to eligible members was January 1, 1989.

The 1989 cost of living increase was based upon the number of full years of service in the System and the number of full years a member has been on retirement. The formula for the most recent monthly increase is as follows:

1. Full years of credited service times \$2.00 plus
2. Full years on retirement as of July 1, 1988 times \$.50

To qualify, a member had to retire before July 1, 1987.

SPECIAL EARLY RETIREMENT PROVISION

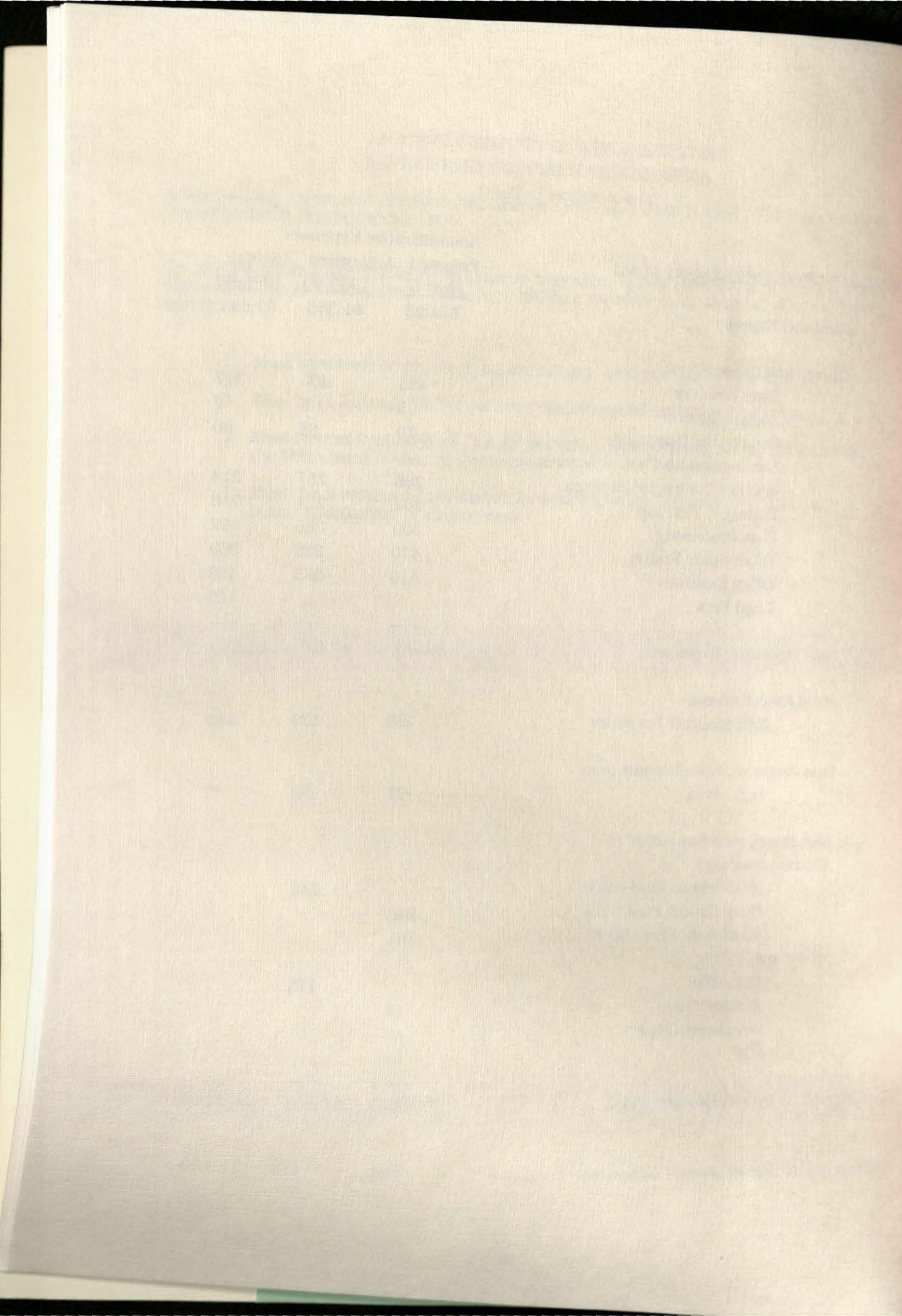
A special early retirement provision has been in effect since July 1, 1985. The closing date of this provision is September 30, 1991.

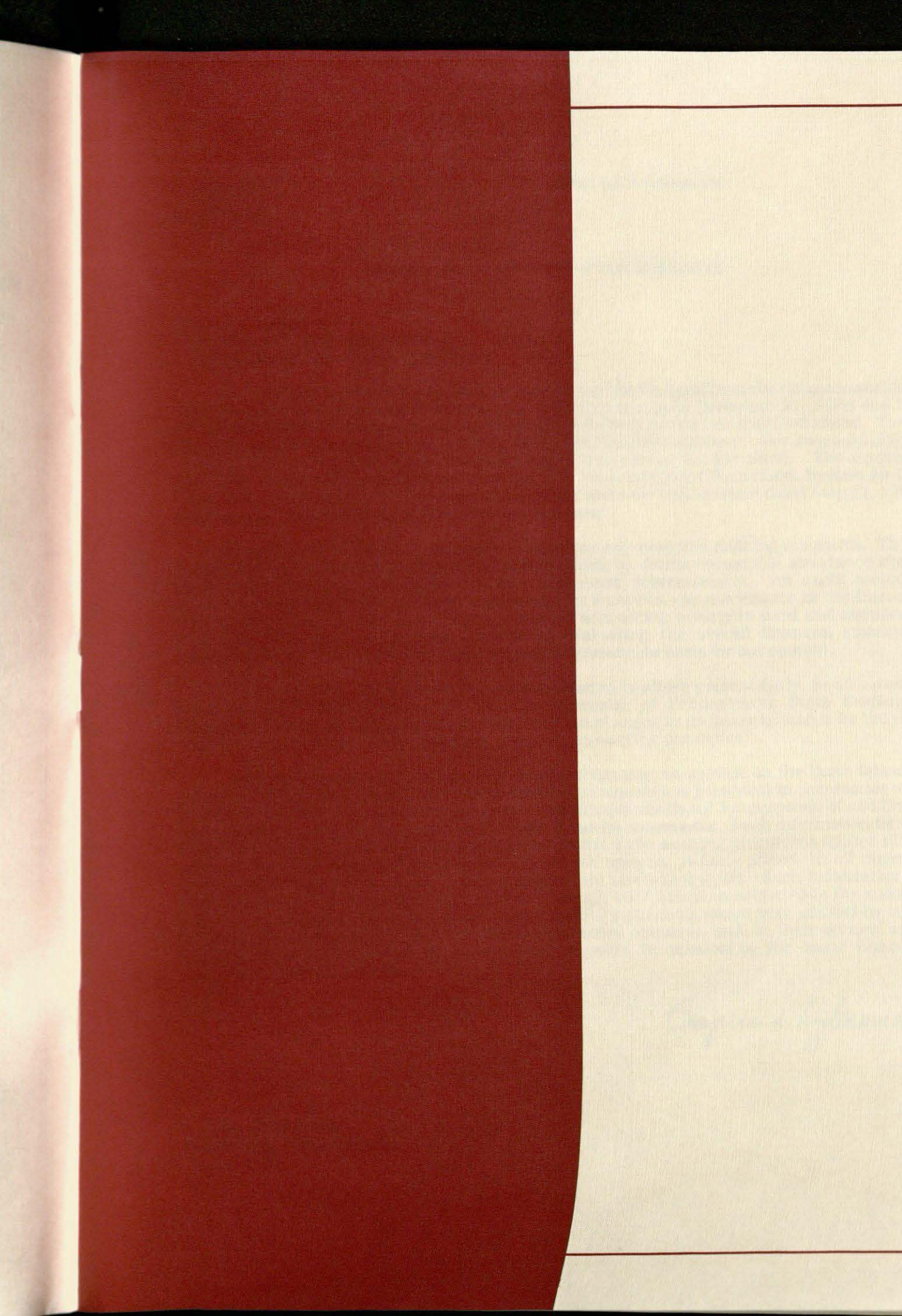
To qualify for the special early retirement provision, which reduces and in some cases eliminates the early retirement reduction factor, a member must meet all of the following conditions:

1. Must terminate employment between July 1, 1985 and September 30, 1991.
2. Must be at least age 50, but not have reached age 60, at time of termination.
3. Must have at least 30 years, but no more than 34.9999 years, of credited service in the Retirement System at termination.
4. Must file a retirement application for benefits before September 30, 1991 and before termination of employment.

STATE EMPLOYEES' RETIREMENT SYSTEM
ADMINISTRATIVE BUDGET SUMMARY
(Thousands of Dollars)

STATE EMPLOYEES' RETIREMENT FUND	Administrative Expenses		
	Proposed	Authorized	Actual
	<u>1990-91</u>	<u>1989-90</u>	<u>1988-89</u>
Personnel Expense	\$5,020	\$4,355	\$3,613
Operational Expense			
State Treasury	425	400	377
Auditor General	5	5	2
Comptroller Operations	70	66	60
Commonwealth Central Services & Other Contracted Services	286	257	213
Postage & Printing	301	271	216
Data Processing	300	285	192
Office Space Rental	470	388	309
Office Expense	410	355	466
Legal Fees			115
	-----	-----	-----
Total Operating Expenses	\$2,267	\$2,027	\$1,950
Fixed Asset Expense			
Equipment & Furniture	126	139	185
Less Augmentation: Revenue from Legal Fees	-75	-75	
New Programs & Expansion of Existing Programs:			
Philadelphia Field Office		244	
State College Field Office	280		
Harrisburg Field Office	151		
Additional Staffing:			
Legal Staff		115	
Administrative	13		
Investment Office	43		
EDP	95		
	-----	-----	-----
Total State Employees' Retirement Fund	\$7,920	\$6,805	\$5,748
Number of Full-time Positions (Authorized)	153	133	120





КНИЖНИЦА

REPORT OF INDEPENDENT ACCOUNTANTS

Board of Trustees
Commonwealth of Pennsylvania
State Employees' Retirement System:

We have audited the statement of net assets available for benefits of the Commonwealth of Pennsylvania State Employees' Retirement System (System) as of December 31, 1988 and the related statement of changes in net assets available for benefits for the year then ended. These financial statements are the responsibility of the System's management. Our responsibility is to express an opinion on these financial statements based on our audit. The financial statements of the Commonwealth of Pennsylvania State Employees' Retirement System for the year ended December 31, 1987 were audited by other auditors, whose report dated May 13, 1988, expressed an unqualified opinion on those statements.

We conducted our audit in accordance with generally accepted auditing standards. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audit provides a reasonable basis for our opinion.

In our opinion, the financial statements referred to above present fairly, in all material respects, the financial status of the Commonwealth of Pennsylvania State Employees' Retirement System as of December 31, 1988, and the changes in its financial status for the year then ended in conformity with generally accepted accounting principles.

Our audit was conducted for the purpose of forming an opinion on the basic financial statements taken as a whole. The Supplementary Information is presented in accordance with Statement No. 5 of the Governmental Accounting Standards Board for purposes of additional analysis and is not a required part of the basic financial statements. Such information for the years 1982 through 1984 and 1988 has been subjected to the auditing procedures applied in the audit of the basic financial statements and, in our opinion, is fairly stated, in all material respects, in relation to the basic financial statements taken as a whole. Such information for the years ended 1978 through 1981 and 1985 through 1987 has been subjected to the auditing procedures applied in the audits of the basic financial statements which were audited by other auditors, whose reports thereon expressed unqualified opinions, and, in their opinion such information is fairly stated in all material respects in relation to the basic financial statements taken as a whole.

Coopers & Lybrand

5 North Fifth Street
Harrisburg, Pennsylvania
June 1, 1989

**COMMONWEALTH OF PENNSYLVANIA
STATE EMPLOYEES' RETIREMENT SYSTEM**

STATEMENTS OF NET ASSETS AVAILABLE FOR BENEFITS

December 31, 1988 and 1987

ASSETS	<u>1988</u>	<u>1987</u>
	(000's omitted)	
Investments at fair value:		
United States Government securities	\$1,069,735	\$1,809,646
Corporate and foreign bonds and notes	1,273,451	912,035
Common and preferred stocks, including collective trust funds	3,921,550	3,044,177
Temporary investments	669,771	426,563
Mortgage loans	556,548	490,811
Real estate	566,432	421,293
Venture capital	82,479	61,272
	<hr/>	<hr/>
Total investments	8,139,966	7,165,797
Contributions receivable:		
Employers	98,853	97,168
Emploees	5,350	6,393
Accrued investment income receivable	66,467	72,024
Due from brokers	15,777	35,191
Cash	1	4
	<hr/>	<hr/>
Total assets	8,326,414	7,376,577
	<hr/>	<hr/>
LIABILITIES		
Accounts payable and accrued expenses	(6,333)	(6,911)
Due to brokers	(8,251)	(2,624)
	<hr/>	<hr/>
Total liabilities	(14,584)	(9,535)
	<hr/>	<hr/>
Contingencies (Note 7)		
NET ASSETS AVAILABLE FOR BENEFITS	\$8,311,830	\$7,367,042
	<hr/> <hr/>	<hr/> <hr/>

The accompanying notes are an integral part
of the financial statements.

**COMMONWEALTH OF PENNSYLVANIA
STATE EMPLOYES' RETIREMENT SYSTEM**

STATEMENTS OF CHANGES IN NET ASSETS AVAILABLE FOR BENEFITS

for the years ended December 31, 1988 and 1987

	<u>1988</u>	<u>1987</u>
	(000's omitted)	
ADDITIONS:		
Investment income:		
Net appreciation (depreciation) in fair value of investments	\$ 450,932	\$ (200,895)
Interest and dividends	491,644	437,091
	<hr/>	<hr/>
Less investment expenses	942,576	236,196
	12,798	12,814
	<hr/>	<hr/>
Contributions:	929,778	223,382
Employers	382,413	366,463
Employes	153,131	147,061
	<hr/>	<hr/>
Total additions	1,465,322	736,906
	<hr/>	<hr/>
DEDUCTIONS:		
Benefits and refunds paid to participants	515,143	485,269
Administrative expenses	5,391	4,811
	<hr/>	<hr/>
Total deductions	520,534	490,080
	<hr/>	<hr/>
Net increase	944,788	246,826
Net assets available for benefits at beginning of year	7,367,042	7,120,216
	<hr/>	<hr/>
Net assets available for benefits at end of year	\$8,311,830	\$7,367,042
	<hr/> <hr/>	<hr/> <hr/>

The accompanying notes are an integral part
of the financial statements.

**COMMONWEALTH OF PENNSYLVANIA
STATE EMPLOYES' RETIREMENT SYSTEM**

NOTES TO FINANCIAL STATEMENTS

1. Description of the System:

The State Employees' Retirement System (System) is the administrator of a cost-sharing multiple-employer retirement system established by the Commonwealth of Pennsylvania (Commonwealth) to provide pension benefits for employes of state government and certain independent agencies. At December 31, 1988, there were 110 participating state and independent agencies. The System is considered part of the Commonwealth of Pennsylvania financial reporting entity and is included in the Commonwealth's financial reports as a pension trust fund.

Membership in the System is mandatory for most state employes, members and employes of the legislature and certain elected persons in the executive branch. Certain other employes are not required, but are given the option to participate. At December 31, 1988, System membership consisted of:

Retirees and beneficiaries currently receiving benefits and terminated employes entitled to benefits but not yet receiving them	74,559
Current employes:	
Vested	65,789
Nonvested	43,822
Total members	<u>184,170</u>

The System provides retirement, death, and disability benefits. Retirement benefits vest after 10 years of credited service. Employes who retire at age 60, or with 35 years of service if under age 60, are entitled to a normal annual retirement benefit. Members of the legislature and certain law enforcement officers can retire with full benefits at age 50.

The general annual benefit is 2% of the member's high three-year average salary times years of service. Members of the legislature who were members of the System before March 1, 1974 are entitled to a benefit of 7.5% of average salary for each year of legislative service. Judges who were members of the System before March 1, 1974 are entitled to a benefit of 3% to 4% of average salary for each year of judicial service.

Covered employes are required to contribute to the System at a rate of 5% of their gross pay, except for employes hired on or after July 22, 1983, who contribute at a rate of 6.25% of their gross pay. Increased contributions are required of previously noted legislators and judges (18.75% and 7.5% to 10.0% of gross pay, respectively) who are entitled to increased benefits. The contributions are recorded in an individually identified account which is also credited with interest, calculated quarterly to yield 4% per annum, as mandated by statute. Accumulated employe contributions and credited interest, which amounted to \$1,602,386,000 and \$1,491,286,000 as of December 31, 1988 and 1987, respectively, vest immediately and are returned upon termination of service if the employe is not eligible for other benefits.

1. Description of the System, continued:

Participating agency contributions are also mandated by statute and are based upon an actuarially determined percentage of gross pay that is necessary to provide the System with assets sufficient to meet the benefits to be paid to System members.

According to the retirement code, all obligations of the System will be assumed by the Commonwealth should the System terminate.

2. Significant Accounting Policies:

Basis of Accounting:

The financial statements are prepared using the accrual basis of accounting. The System has adopted Statements No. 3, "Deposits with Financial Institutions, Investments (including Repurchase Agreements), and Reverse Repurchase Agreements," and No. 5, "Disclosure of Pension Information by Public Employee Retirement Systems and State and Local Governmental Employers," of the Governmental Accounting Standards Board (GASB) for reporting and disclosure purposes.

Valuation of Investments:

Marketable securities are stated at fair value. Temporary investments are valued at cost, which closely approximates market value. Securities traded on a national securities exchange are valued at the last reported sales price on the last day of business of each plan year. Securities which were not traded on the last day of the plan year or which were not traded on a national securities exchange are valued by the plan advisor based on similar securities sales.

The fair value of the participation units owned by the System in the collective trust funds was based on quoted redemption value on the last business day of the plan year.

Mortgage loans are valued by the mortgage advisors using a discounted cash flow method. Real estate and venture capital pools are stated at appraised value.

Realized gains or losses on sales of investments are determined on a specific identification or average cost basis, depending upon the type of investment, and included in the statements of changes in net assets available for benefits.

Reclassifications:

Certain 1987 balances have been reclassified to conform with the 1988 financial statement presentation.

3. Funding Status and Progress:

The amount shown as "pension benefit obligation" is a standardized disclosure measure of the present value of pension benefits, adjusted for the effects of projected salary increases, estimated to be payable in the future as a result of employee service to date. The measure is the actuarial present value of credited projected benefits and is intended, on an ongoing basis, to facilitate the assessment of System funding status and progress made in accumulating sufficient assets to pay benefits when due and to allow for appropriate comparison of this data among public employee retirement systems. The pension benefit obligation is calculated based on GASB Statement No. 5 and is independent of the actuarial funding method used to determine contributions to the System as discussed in Note 4.

3. Funding Status and Progress, continued:

The pension benefit obligation was determined as part of an actuarial valuation at December 31, 1988 and 1987. Significant actuarial assumptions used include (a) a rate of return on the investment of present and future assets of 8.75% per year compounded annually in 1988 and 1987, (b) projected salary increases of 4% per year compounded annually, attributable to inflation in 1988 and 1987, (c) additional projected salary increases of approximately 2.2% and 1.6% in 1988 and 1987, respectively, attributable to merit/promotion, and (d) no post-retirement benefit increases.

The pension benefit obligation at December 31, 1988 and 1987 is as follows:

	<u>1988</u>	<u>1987</u>
	(000's omitted)	
Pension benefit obligation:		
Retirees and beneficiaries currently receiving benefits and terminated employes entitled to benefits but not yet receiving them	\$3,330,537	\$2,980,107
Current employes:		
Accumulated employe contributions	1,602,386	1,491,286
Employer-financed, vested	3,004,531	2,612,733
Employer-financed, nonvested	319,760	300,181
	<hr/>	<hr/>
Total pension benefit obligation	8,257,214	7,384,307
Net assets available for benefits, at fair value (Note 2)	8,311,830	7,367,042
	<hr/>	<hr/>
Net assets in excess of (unfunded) pension benefit obligation	\$ 54,616	\$ (17,265)
	<hr/> <hr/>	<hr/> <hr/>

A comparative ten-year summary of the pension benefit obligation, which has been calculated in conformance with the requirements of GASB Statement No. 5, is presented as supplementary information following the notes to the financial statements. This information is presented for purposes of additional analysis of System progress in accumulating sufficient assets to pay benefits when due. The calculation of the pension benefit obligation under GASB Statement No. 5 differs from the calculation required under Financial Accounting Standards Board (FASB) Statement No. 35 of the actuarial present value of accumulated plan benefits principally by the consideration of future salary increases.

The significant actuarial assumptions used in the valuations of the actuarial present value of accumulated plan benefits under FASB Statement No. 35 as of December 31, 1988 and 1987 are as follows:

3. Funding Status and Progress, continued:

Mortality:	
Superannuation (normal retirement) and early retirement:	The 1971 Group Annuity Mortality Table
Disability:	Modifications of the 1965 Railroad Retirement Board Mortality among Totally Disabled Annuitants
Assumed rate of return on investments	7.75% in 1988 and 1987

The accumulated plan benefit information at December 31, 1988 and 1987 is as follows:

	<u>1988</u>	<u>1987</u>
	(000's omitted)	
Actuarial present value of accumulated plan benefits:		
Vested benefits:		
Participants currently receiving payments	\$3,685,141	\$3,118,766
Other participants	3,523,943	3,401,188
	<hr/>	<hr/>
Nonvested benefits	7,209,084	6,519,954
	240,864	234,305
	<hr/>	<hr/>
Total	\$7,449,948	\$6,754,259
	<hr/> <hr/>	<hr/> <hr/>

The changes in the actuarial present value of accumulated plan benefits for the year ended December 31, 1988 are as follows:

	(000's omitted)
Actuarial present value of accumulated plan benefits at January 1, 1988	\$6,754,259
Increase during the year attributable to:	
Due to passage of time	481,210
Due to plan provision changes	214,479
	<hr/>
	\$7,449,948
	<hr/> <hr/>

4. Contributions:

The System funding policy provides for periodic member contributions at statutory rates and employer contributions at actuarially determined rates (expressed as a percentage of annual gross pay) that are sufficient to accumulate assets to pay benefits when due. All required contributions were made for the years 1988 and 1987.

Employer contribution rates are determined using the entry age normal actuarial cost method, with amortization of the unfunded actuarial liability and of supplemental

4. Contributions, continued:

annuities arising from cost of living and other adjustments over varying periods ending June 30, 2004. These rates are computed based upon actuarial valuations on the Commonwealth's fiscal year of June 30; therefore the employer contribution rates in effect for the System's year of December 31 reflect a blended average of the rates as calculated. The blended contribution rates were as follows:

	<u>1988</u>	<u>1987</u>
Employer normal cost	4.59%	4.03%
Amortization of unfunded actuarial liability	6.87	7.35
Amortization of supplemental annuities	1.63	1.71
Total employer cost	<u>13.09%</u>	<u>13.09%</u>

Significant actuarial assumptions used to compute contribution requirements are the same as those used to compute the pension benefit obligation, except for an assumed rate of return on investments of 5.5% per annum and certain revisions to salary increase assumptions. The salary growth assumption was increased by .25% of payroll per year in the 1988 and 1987 valuations. The effect of this change in the salary increase assumption resulted in an increase in the employer contribution of \$32,791,000 and \$14,913,000 in 1988 and 1987, respectively. Other factors in the actuarial valuation had the effect of offsetting this increase.

5. Investments:

As provided by statute, the System's Board of Trustees (Board) has exclusive control and management responsibility of System funds and full power to invest the funds. In exercising its fiduciary responsibility to System membership, the Board is governed by the "prudent man" rule, which requires the exercise of due care in establishing investment policy, and has adopted its Statement of Investment Policy to formally document investment objectives and responsibilities. This policy, as well as applicable state law, defines permissible investments of the System, including all investment types held in the portfolio at December 31, 1988 and 1987 and at all times during the years.

The investments of the System at December 31, 1988 and 1987 have been categorized to indicate the level of risk assumed by the System. In accordance with a contractual relationship between the Commonwealth's Treasury Department and a custodial agent, substantially all securities subject to categorization are held in book entry form in a unique account so as to be identified at all times as the possession of the Commonwealth; all such investments, as well as certain securities held in physical form at the Commonwealth's Treasury Department, the statutory custodian of the Fund, are reflected in Category 1, which is defined as securities insured or registered, or held by the System or its agent in the System's name. GASB Statement No. 3 provides for Category 2 and 3 investments, which reflect a higher risk. The System has no holdings of these types at December 31, 1988 and 1987. Certain investments have not been categorized because securities are not used as evidence of the investment. The investments not categorized include ownership interests in collective trust funds and mortgage loans, real estate and venture capital pools.

5. Investments, continued:

Summary of Investment Risk

	<u>Fair Value</u>	
	<u>1988</u>	<u>1987</u>
	(000's omitted)	
<u>Category 1</u>		
United States Government securities	\$ 353,548	\$ 714,575
Corporate and foreign bonds and notes	1,259,048	881,990
Common and preferred stocks	1,658,407	1,525,163
Mortgage loans	1,361	1,778
	<u>3,272,364</u>	<u>3,123,506</u>
<u>Not Categorized</u>		
Investments held by broker/dealers under reverse repurchase agreements:		
United States government securities	716,187	1,095,071
Corporate and foreign bonds and notes	14,403	30,045
Common and preferred stocks	60,354	59,030
Collective trust funds	2,202,789	1,459,984
Treasury Department investment pool	669,771	426,563
Mortgage loans	555,187	489,033
Real estate	566,432	421,293
Venture capital	82,479	61,272
	<u>4,867,602</u>	<u>4,042,291</u>
 Total investments	 <u>\$8,139,966</u>	 <u>\$7,165,797</u>

The System participates in a security lending program, whereby certain securities are transferred to an independent broker/dealer in exchange for collateral equal to 102% of the market value of securities on loan (reverse repurchase agreements). As the System represents only one of several Commonwealth agencies participating in the security lending program and, as collateral received by the custodial agent in exchange for System securities is not specifically identifiable by agency, the System does not record the receipt of such collateral or the corresponding liability to return collateral via repurchase of securities under loan. Securities under loan, however, are maintained on the System's financial records and have been classified accordingly in the summary of investment risk.

The System has minimized its exposure to credit risk due to broker/dealer default by having the custodial agent determine daily that required collateral meets 102% of the market value of securities on loan. The System has not experienced any losses due to credit risk on security lending activity since implementation of the program.

Security lending income, which represents the investment return on collateral, less certain fees paid to the custodial agent and broker/dealer, totalled \$1,642,000 and \$2,978,000 for 1988 and 1987, respectively, and is included in investment income.

The System's investments, including investments bought, sold, as well as held during the year appreciated (depreciated) in fair value by \$450,932,000 and (\$200,895,000) in 1988 and 1987, respectively, as follows:

5. Investments, continued:

	<u>1988</u> (000's omitted)	<u>1987</u>
Fair value as determined by quoted market price or the system advisor:		
United States Government securities	\$ (7,000)	\$(124,053)
Corporate and foreign bonds and notes	(7,778)	(31,871)
Common and preferred stocks, including collective trust funds	431,246	(57,604)
	<hr/>	<hr/>
	416,468	(213,528)
Fair value estimated by using discounted cash flow or appraised value:		
Mortgage loans	4,522	(12,882)
Real estate	29,593	26,131
Venture capital	349	(616)
	<hr/>	<hr/>
Total appreciation (depreciation)	\$ 450,932	\$(200,895)
	<hr/> <hr/>	<hr/> <hr/>

The fair value of individual investments that represent 5% or more of the System's net assets available for benefits are as follows:

	<u>1988</u> (000's omitted)	<u>1987</u>
Wells Fargo Bank:		
Equity Index Fund - 23,679,726 and 26,311,421 units	\$1,239,135	\$1,180,840
Asset Allocation Fund - 35,775,781 units	626,624	-

6. Income Taxes:

Management believes the System meets the definition of a Governmental Plan and in the System's communications with the Internal Revenue Service (IRS) has been treated as a qualified plan. Therefore, the System has not requested a determination letter from the IRS relating to the status of the System under the Internal Revenue Code.

7. Contingencies:

The System is involved in various lawsuits which, if settled adversely, would not have a material effect on the financial statements in management's opinion. However, the individual cases involve legal issues that, if extended to the entire membership, may result in significant costs to the System. If such an event were to occur, the additional costs would be recovered by the System through adjustments to the employer contribution rate.

**COMMONWEALTH OF PENNSYLVANIA
STATE EMPLOYEES' RETIREMENT SYSTEM**

**TEN-YEAR HISTORICAL TREND INFORMATION
Revenues by Source and Expenses by Type
(in thousands of dollars)
at December 31, 1988**

Fiscal Year	Revenues by Source				Employer Contributions as a Percentage of Covered Payroll
	Employee Contributions	Employer Contributions*	Investment Income**	Total	
1979	\$105,480	\$268,143	\$ 340,639	\$ 714,262	13.5%
1980	110,531	305,547	300,700	716,778	14.3
1981	116,283	325,688	14,070	456,041	14.9
1982	121,589	383,519	758,038	1,263,146	16.4
1983	135,841	413,809	488,266	1,037,916	17.3
1984	121,929	439,835	363,365	925,129	17.9
1985	132,695	460,435	1,105,778	1,698,908	19.0
1986	139,454	407,276	916,323	1,463,053	16.2
1987	147,061	366,463	223,382	736,906	13.8
1988	153,131	382,413	929,778	1,465,322	13.8

* Contributions were made in accordance with actuarially determined contribution requirements.

** Includes net realized and unrealized appreciation or depreciation in fair value of investments.

Fiscal Year	Expenses by Type			Total
	Benefit Payments	Refunds of Employee Contributions	Administrative Expenses	
1979	\$232,332	\$28,473	\$2,323	\$263,128
1980	281,343	13,922	2,466	297,731
1981	311,838	13,862	3,001	328,701
1982	335,342	11,785	2,938	350,065
1983	360,434	8,528	2,856	371,818
1984	384,406	11,247	4,044	399,697
1985	447,556	10,680	5,472	463,708
1986	483,603	11,338	4,938	499,879
1987	474,598	10,671	4,811	490,080
1988	504,697	10,446	5,391	520,534

**COMMONWEALTH OF PENNSYLVANIA
STATE EMPLOYES' RETIREMENT SYSTEM**

**TEN-YEAR HISTORICAL TREND INFORMATION
Analysis of Funding Progress
(in millions of dollars)
at December 31, 1988**

Fiscal Year	(1) Net Assets Available for Benefits*	(2) Pension Benefit Obligation	(3) Percentage Funded (1)/(2)	(4) Unfunded (Assets in Excess of) Pension Benefit Obligation (2)-(1)	(5) Annual Covered Payroll	(6) Unfunded (Assets in Excess of) Pension Benefit Obligation as a Percentage Covered Payroll (4)/(5)
1979	\$2,424	\$4,869	49.8%	\$2,445	\$1,985	123.2%
1980	2,689	6,120	43.9	3,431	2,130	161.1
1981	2,817	6,456	43.6	3,639	2,187	166.4
1982	3,730	5,931	62.9	2,201	2,334	94.3
1983	4,396	6,367	69.0	1,971	2,386	82.6
1984	4,922	6,896	71.4	1,974	2,464	80.1
1985	6,157	6,565	93.8	408	2,427	16.8
1986	7,120	6,984	101.9	(136)	2,518	(5.4)
1987	7,367	7,384	99.8	17	2,663	0.6
1988	8,312	8,257	100.7	(55)	2,779	(2.0)

Analysis of the dollar amounts of net assets available for benefits, pension benefit obligation, and unfunded pension benefit obligation in isolation can be misleading. Expressing the net assets available for benefits as a percentage of the pension benefit obligation provides one indication of the System's funding status on a going-concern basis. Analysis of this percentage over time indicates whether the System is becoming financially stronger or weaker. Generally the greater this percentage, the stronger the Plan. Trends in unfunded pension benefit obligation and annual covered payroll are both affected by inflation. Expressing the unfunded pension benefit obligation as a percentage of annual covered payroll approximately adjusts for the effects of inflation and aids analysis of the System's progress made in accumulating sufficient assets to pay benefits when due. Generally, the smaller this percentage, the stronger the Plan.

* Reflects investment valuation at fair value (Note 2).

ACTUARIAL SECTION:

COLLEGE SECTION

Hay/Huggins Company, Inc.
Actuarial and Benefits Consultants
1500 K Street, N.W.
Suite 1000
Washington, DC 20005
(202) 637-6600
Fax: (202) 637-0160

March 6, 1990

Hay/Huggins
Company

Retirement Board
Pennsylvania State Employees'
Retirement System
909 Green Street
Harrisburg, PA 17102-2999

Dear Board Members:

An actuarial valuation was last performed as of December 31, 1988 to determine actuarial liabilities under the State Employees' Retirement System. The valuation was carried out in accordance with sound actuarial principles in a manner which, in my opinion, reflects the applicable provisions of the State Employees' Retirement Code. The valuation also served as the basis for determining the contributions required to be made by the Commonwealth to fund the liabilities of the System.

Valuations are made annually based on data supplied by the staff of the Retirement Board. The experience under the Retirement System is reviewed every five years. The last such review was for the period of 1981 to 1985. The results of the review were used to develop the assumptions underlying the actuarial valuations. Thus, required contributions are determined on a sound actuarial basis reflecting actual experience under the system.

Sincerely,



Edwin C. Husted
Senior Vice President

**ACTUARIAL BALANCE SHEET
AS OF DECEMBER 31, 1988
(IN THOUSANDS OF \$\$\$\$)**

ASSETS

* ACTUARIAL VALUE OF ASSETS IN THE FUND		\$7,510,933
PRESENT VALUE OF FUTURE PROJECTED CONTRIBUTIONS:		
MEMBER CONTRIBUTIONS (1)	\$1,370,143	
EMPLOYER NORMAL CONTRIBUTIONS (2)	\$1,230,911	
ACCRUED LIABILITY CONTRIBUTIONS (3) . . .	\$1,726,686	
SUPPLEMENTAL ANNUITY CONTRIBUTIONS (4) .	\$596,098	\$4,923,838
TOTAL ASSETS		<u>\$12,434,771</u> =====

LIABILITIES

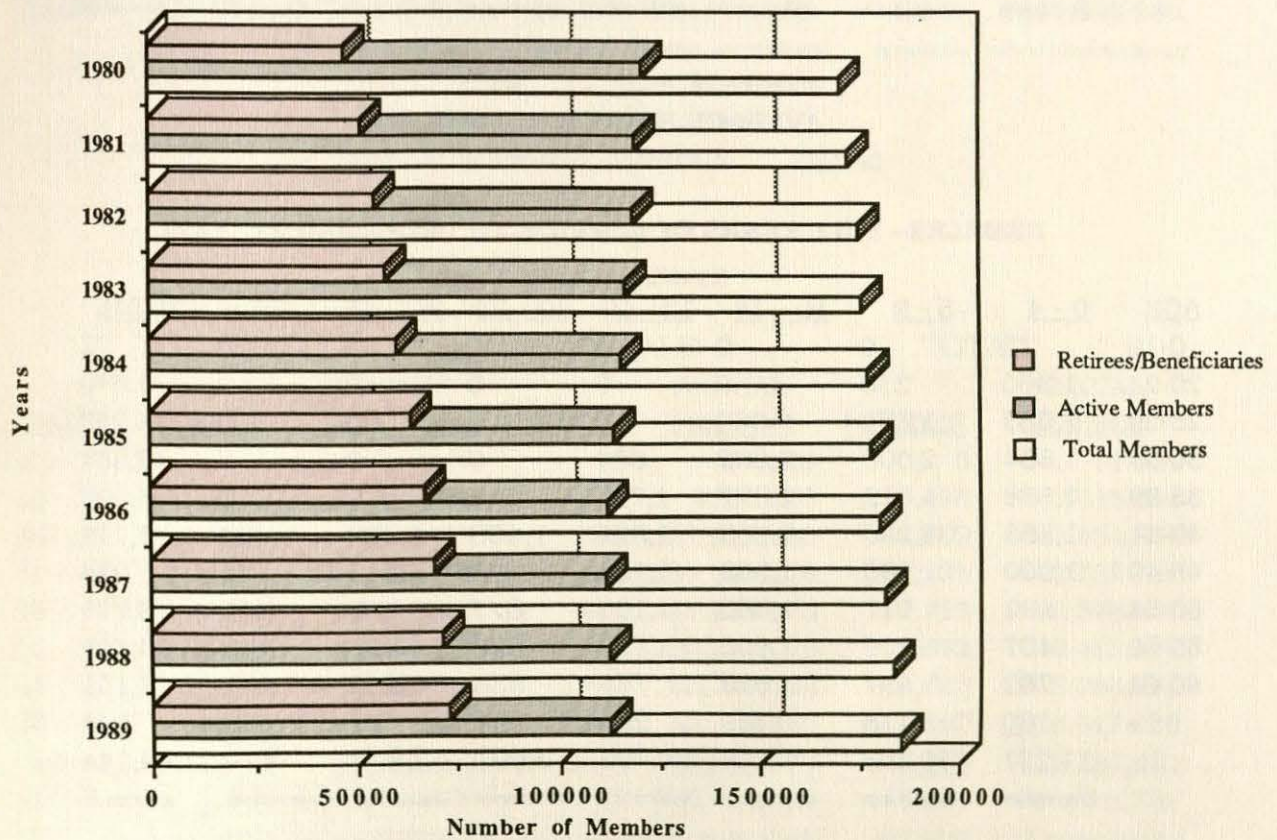
PRESENT VALUE OF BENEFITS PAYABLE TO ANNUITANTS & BENEFICIARIES		\$4,089,254
PRESENT VALUE OF PROJECTED BENEFITS PAYABLE TO ACTIVE & INACTIVE MEMBERS		\$8,345,517
TOTAL LIABILITIES		<u>\$12,434,771</u> =====

- (1) PRESENT VALUE OF CONTRIBUTIONS THAT CURRENT ACTIVE MEMBERS WILL MAKE.
- (2) PRESENT VALUE OF THE NORMAL CONTRIBUTIONS EMPLOYERS WILL MAKE ON BEHALF OF CURRENT ACTIVE MEMBERS INCLUDING CONTRIBUTIONS ON BEHALF OF SPECIAL ENFORCEMENT OFFICERS AND STATE POLICE.
- (3) PRESENT VALUE OF THE CONTRIBUTIONS NECESSARY TO PAY OFF THE ACCRUED LIABILITIES OF THE PENSION PLAN. THE LIABILITY IS COMPRISED OF TWO PARTS. A \$1.2 BILLION SEGMENT IS BEING FUNDED OVER 30 YEARS FROM JULY 1, 1969; THE REMAINDER IS BEING FUNDED OVER 30 YEARS FROM JULY 1, 1974.
- (4) PRESENT VALUE OF THE CONTRIBUTIONS NECESSARY TO FUND THE COST-OF-LIVING INCREASES GRANTED IN 1969, 1974, 1979, 1984, AND 1989. THESE LIABILITIES ARE BEING FUNDED OVER SEPARATE 20 YEAR PERIODS.
- * THE ACTUARIAL VALUE OF THE FUND ASSETS IS DETERMINED BY USING THE FIVE-YEAR MOVING AVERAGE METHOD WHICH RECOGNIZES THE DIFFERENCE BETWEEN THE EXPECTED ACTUARIAL VALUE OF ASSETS AND THE MARKET VALUE OF ASSETS OVER A FIVE-YEAR PERIOD.

STATE EMPLOYES' RETIREMENT SYSTEM COMPARATIVE MEMBERSHIP STATISTICS

Ending December 31,	Total Members	% Change	Active Members	% Change	Retirees & Beneficiaries	% Change
1989	184,945	1.02%	112,259	0.32%	72,686	2.12%
1988	183,076	1.06%	111,901	0.14%	71,175	2.55%
1987	181,147	0.95%	111,743	-0.10%	69,404	2.68%
1986	179,448	0.84%	111,855	-1.83%	67,593	5.59%
1985	177,953	0.66%	113,940	-1.71%	64,013	5.18%
1984	176,786	0.50%	115,923	-1.33%	60,863	4.17%
1983	175,915	0.44%	117,488	-1.72%	58,427	5.10%
1982	175,139	1.68%	119,548	-0.15%	55,591	5.84%
1981	172,250	0.87%	119,724	-1.84%	52,526	7.67%
1980	170,756	-0.11%	121,973	-2.27%	48,783	5.74%

**State Employees' Retirement System
Comparative Membership Statistics ***



* Membership figures are subject to minor adjustments during Actuarial Review.

STATE EMPLOYES' RETIREMENT SYSTEM
AGE AND SERVICE PROFILE OF ACTIVE MEMBERS AS OF DECEMBER 31, 1988

ALL EMPLOYEES

MALES - FULL YEARS OF SERVICE TO DECEMBER 31, 1988

<u>AGE</u>	<u>0 - 4</u>	<u>5 - 9</u>	<u>10 - 14</u>	<u>15 - 19</u>	<u>20 - 24</u>	<u>25 - 29</u>	<u>30 +</u>	<u>TOTAL</u>
0-19	20	0	0	0	0	0	0	20
20-24	981	56	0	0	0	0	0	1,037
25-29	2,785	1,502	183	0	0	0	0	4,470
30-34	2,349	2,604	1,598	267	0	0	0	6,818
35-39	2,048	2,240	2,736	2,715	238	0	0	9,977
40-44	1,600	1,697	1,960	4,369	2,415	100	0	12,141
45-49	1,048	1,005	1,098	2,080	2,641	1,249	104	9,225
50-54	843	849	835	1,300	1,479	1,279	801	7,386
55-59	735	717	826	1,184	1,181	943	1,209	6,795
60-64	424	529	670	866	733	572	663	4,457
65 +	<u>131</u>	<u>202</u>	<u>232</u>	<u>247</u>	<u>234</u>	<u>149</u>	<u>189</u>	<u>1,384</u>
	12,964	11,401	10,138	13,028	8,921	4,292	2,966	63,710
	=====	=====	=====	=====	=====	=====	=====	=====

AVERAGE AGE 44.2
AVERAGE SERVICE . . . 13.5

FEMALES - FULL YEARS OF SERVICE TO DECEMBER 31, 1988

<u>AGE</u>	<u>0 - 4</u>	<u>5 - 9</u>	<u>10 - 14</u>	<u>15 - 19</u>	<u>20 - 24</u>	<u>25 - 29</u>	<u>30 +</u>	<u>TOTAL</u>
0-19	72	0	0	0	0	0	0	72
20-24	1,360	210	0	0	0	0	0	1,570
25-29	2,033	1,858	366	0	0	0	0	4,257
30-34	1,854	2,008	2,088	634	0	0	0	6,584
35-39	1,868	1,612	2,037	2,799	510	0	0	8,826
40-44	1,553	1,298	1,505	1,821	1,403	132	0	7,712
45-49	1,000	1,086	1,238	1,188	876	515	72	5,975
50-54	692	917	1,060	1,194	677	460	271	5,271
55-59	467	709	800	1,183	828	497	300	4,784
60-64	262	437	619	768	536	296	231	3,149
65 +	<u>60</u>	<u>118</u>	<u>185</u>	<u>208</u>	<u>191</u>	<u>77</u>	<u>105</u>	<u>944</u>
	11,221	10,253	9,898	9,795	5,021	1,977	979	49,144
	=====	=====	=====	=====	=====	=====	=====	=====

AVERAGE AGE 42.7
AVERAGE SERVICE . . . 11.7

STATE EMPLOYES' RETIREMENT SYSTEM
AGE & BENEFIT PROFILE OF RETIREES & BENEFICIARIES
AS OF DECEMBER 31, 1988

REGULAR RETIREMENTS

AGE	MALE		FEMALE		TOTAL	
	NUMBER	ANNUAL PENSION	NUMBER	ANNUAL PENSION	NUMBER	ANNUAL PENSION
UNDER 50	1	\$11,213	0	\$0	1	\$11,213
50 - 54	116	\$1,803,297	1	\$20,835	117	\$1,824,132
55 - 59	367	\$5,439,904	47	\$586,704	414	\$6,026,608
60 - 64	3,267	\$35,396,155	2,228	\$15,302,594	5,495	\$50,698,749
65 - 69	6,616	\$52,788,561	5,032	\$27,997,183	11,648	\$80,785,744
70 - 74	6,206	\$37,381,399	4,826	\$22,478,249	11,032	\$59,859,648
75 - 79	5,156	\$28,673,339	3,956	\$18,359,659	9,112	\$47,032,998
80 - 84	2,769	\$14,578,235	2,121	\$9,240,619	4,890	\$23,818,854
85 - 89	969	\$5,320,778	930	\$3,847,500	1,899	\$9,168,278
OVER 90	<u>311</u>	<u>\$1,722,335</u>	<u>325</u>	<u>\$1,356,623</u>	<u>636</u>	<u>\$3,078,958</u>
TOTAL	25,778	\$183,115,216	19,466	\$99,189,966	45,244	\$282,293,969
	=====	=====	=====	=====	=====	=====

AVERAGE AGE 72.3
AVERAGE ANNUAL PENSION . . . \$6,240

EARLY RETIREMENTS

AGE	MALE		FEMALE		TOTAL	
	NUMBER	ANNUAL PENSION	NUMBER	ANNUAL PENSION	NUMBER	ANNUAL PENSION
UNDER 30	0	\$0	5	\$4,224	5	\$4,224
30 - 34	102	\$86,658	394	\$326,855	496	\$413,513
35 - 39	623	\$606,621	1,286	\$1,247,940	1,909	\$1,854,561
40 - 44	1,272	\$1,694,685	963	\$1,193,379	2,235	\$2,888,064
45 - 49	1,098	\$2,236,562	655	\$1,139,575	1,753	\$3,376,137
50 - 54	957	\$4,279,146	725	\$2,204,028	1,682	\$6,483,174
55 - 59	1,555	\$12,361,744	1,108	\$5,726,554	2,663	\$18,088,298
60 - 64	1,375	\$11,316,740	1,282	\$6,730,330	2,657	\$18,047,070
65 +	<u>1,554</u>	<u>\$8,812,902</u>	<u>1,511</u>	<u>\$6,917,778</u>	<u>3,065</u>	<u>\$15,730,680</u>
TOTAL	8,536	\$41,395,058	7,929	\$25,490,663	16,465	\$66,885,721
	=====	=====	=====	=====	=====	=====

AVERAGE AGE 53.7
AVERAGE ANNUAL PENSION . . . \$4,062

STATE EMPLOYEES' RETIREMENT SYSTEM
AGE & BENEFIT PROFILE OF DISABLED AND BENEFICIARY & SURVIVOR RETIREES
AS OF DECEMBER 31, 1988

DISABILITY RETIREMENTS

AGE	MALE		FEMALE		TOTAL	
	NUMBER	ANNUAL PENSION	NUMBER	ANNUAL PENSION	NUMBER	ANNUAL PENSION
UNDER 30	0	\$0	3	\$15,892	3	\$15,892
30 - 34	17	\$100,061	25	\$129,642	42	\$229,703
35 - 39	62	\$347,525	75	\$391,578	137	\$739,103
40 - 44	157	\$938,729	107	\$591,668	264	\$1,530,397
45 - 49	200	\$1,284,852	129	\$705,898	329	\$1,990,750
50 - 54	239	\$1,560,034	172	\$1,055,697	411	\$2,615,731
55 - 59	368	\$2,421,370	270	\$1,452,092	638	\$3,873,462
60 - 64	500	\$2,946,221	357	\$1,680,381	857	\$4,626,602
65 +	<u>626</u>	<u>\$2,823,205</u>	<u>639</u>	<u>\$2,324,437</u>	<u>1,265</u>	<u>\$5,147,642</u>
TOTAL	2,169	\$12,421,997	1777	\$8,347,285	3,946	\$20,769,282

AVERAGE AGE 59.0
AVERAGE ANNUAL PENSION . . . \$5,263

BENEFICIARIES & SURVIVOR RETIREMENTS

AGE	MALE		FEMALE		TOTAL	
	NUMBER	ANNUAL PENSION	NUMBER	ANNUAL PENSION	NUMBER	ANNUAL PENSION
UNDER 25	0	\$0	3	\$5,203	3	\$5,203
25 - 29	8	\$41,634	3	\$13,848	11	\$55,482
30 - 34	6	\$27,075	7	\$19,098	13	\$46,173
35 - 39	13	\$60,267	12	\$76,087	25	\$136,354
40 - 44	21	\$74,759	27	\$87,171	48	\$161,930
45 - 49	26	\$63,496	46	\$144,926	72	\$208,422
50 - 54	23	\$76,335	93	\$286,348	116	\$362,683
55 - 59	24	\$125,532	181	\$851,817	205	\$977,349
60 - 64	25	\$123,905	456	\$2,124,076	481	\$2,247,981
65 - 69	46	\$183,776	779	\$3,050,868	825	\$3,234,644
70 - 74	66	\$199,127	1143	\$4,087,604	1,209	\$4,286,731
75 - 79	36	\$120,550	1121	\$4,021,486	1,157	\$4,142,036
80 - 84	28	\$86,496	814	\$2,701,351	842	\$2,787,847
85 - 89	7	\$19,107	435	\$1,182,834	442	\$1,201,941
90 +	<u>2</u>	<u>\$3,970</u>	<u>210</u>	<u>\$455,540</u>	<u>212</u>	<u>\$459,510</u>
TOTAL	331	\$1,206,029	5330	\$19,108,257	5,661	\$20,314,286

AVERAGE AGE 73.0
AVERAGE ANNUAL PENSION . . . \$3,588

INVESTMENT SECTION:

INVESTMENT SECTION

Investment Policy

The State Employees' Retirement Board adopted a formal Statement of Investment Policy in 1979 which has been revised to reflect and incorporate legislative changes governing investments.

The purpose of the Statement is to formalize the Board's investment objectives, policies, and procedures, to establish guidelines for the investment of the assets of the Fund, and to define the duties and responsibilities of the various entities involved in the investment process.

The major elements of the Statement are:

As fiduciaries, the Board will exercise that degree of judgment, skill, and care under the circumstances then prevailing which persons of prudence, discretion, and intelligence, who are familiar with such matters, exercise in the management of their own affairs in investment matters;

Where investment characteristics, including yield, risk, and liquidity, are equivalent, the Board's policy favors investments which have a positive impact on the economy of Pennsylvania;

The Fund's overall investment objective is to provide a Total Rate of Return, over full economic cycles, which exceeds the return of a fully diversified market portfolio within each asset class. The Board seeks to meet this objective within acceptable risk parameters through adherence to a policy of diversification of investments by type, industry, quality, and geographic location;

The Board contracts with highly qualified investment advisors and counselors to provide expert, professional judgment in all investment decisions;

Guidelines are established for each category of assets used by the Fund's investment advisors to provide a framework for monitoring quality, diversification, and liquidity;

An annual Investment Plan is prepared to control the allocation of funds during the year among investment advisors and categories of assets; and

All records of investment transactions are available for public inspection at the offices of the State Employees' Retirement System.

Investment Objectives

To assure an adequate accumulation of reserves in the Fund at the least cost to the citizens of the Commonwealth and to provide some protection against the erosion of principal by inflation, the minimum total return objectives of the Fund, including income and both realized and unrealized gains and losses over full economic cycles, are:

- A. Achieve and maintain State Employees' Retirement Fund in excess of Accrued Benefit Liability;
- B. Achieve a Real Total Rate of Return (as measured by the GNP Implicit Price Deflator). Achieve an Absolute Total Rate of Return not less than the actuarial investment return assumption (currently 5 1/2%);
- C. Achieve in Equity Securities (Common Stock, Convertible Preferred Stock, and Convertible Bonds) a total return that exceeds the total return of the Standard and Poor's 500 Stock Composite Index;
- D. Achieve in Bonds/Mortgages a total return that exceeds the total return of the Shearson Lehman Aggregate Bond Index.
- E. Achieve in residential mortgage investments a total return superior to the total return of the Salomon Brothers Mortgage Pass-Through Security Total Rate of Return Index. Commercial mortgage investment return should be competitive with the total return on similar institutional portfolios and on other fixed income investments;
- F. Achieve in Equity Real Estate Investments a total return that is competitive with market returns for similar types of real estate investments;
- G. Achieve in Short-Term Securities relative performance better than U.S. Treasury Bills (90 days).

Total return includes income and both realized and unrealized gains and losses and is computed on market value.

The Board seeks to meet these objectives within acceptable risk parameters through adherence to a policy of diversification of investments by type, industry, investment manager style, and geographic location. In addition, investments are selected in accordance with quality guidelines.

Investment Highlights

The market value of the State Employees' Retirement System investments including accruals, was \$9,676.0 million as of December 31, 1989. This was an increase of \$1,535.1 million from the \$8,140.9 million market value as of December 31, 1988. The increase was from investment income, changes in asset market values, net realized and unrealized gains and losses, and from net contributions (employer and employee contributions minus benefit and administrative payments). Based on market value of assets, SERS is the 20th largest public pension fund in the nation and the 38th largest public and corporate pension fund.

For the year ended December 31, 1989, SERS realized a 17.8% total investment rate of return after fees. This return exceeded the 3.4% for the 1989 GNP Implicit Price Deflator and the 5.5% actuarial investment return assumption. The Fund achieved in equity securities a 27.9% total return compared to the 31.5% total return of the S&P 500 Index. The Fund achieved in bonds & mortgages an 11.6% total return compared to the 14.5% total return of the Shearson Lehman Aggregate Bond Index. SERS annualized five year investment rate of return was 14.3%.

SERS invests in six asset classes and uses multiple external investment advisors with various investment styles as a method to ensure overall fund diversification. As of December 31, 1989, the asset class allocation was: 46.4% stocks; 29.8% bonds & mortgages; 8.6% real estate; 14.3% cash; 0.7% venture capital; and 0.2% alternative investments. As of December 31, 1989 SERS had retained the services of 48 external investment advisors to manage 59 portfolios.

As of December 31, 1989, SERS had \$972 million, 10% of SERS total fund, invested in Pennsylvania. Of this amount, SERS had placed over \$733 million in portfolios which were specially designed for Pennsylvania investment. The Pennsylvania portfolios include: a stock index fund; a private placement long term loan account; a mortgage - conventional commercial, FHA projects, and residential properties - portfolio; several real estate portfolios; two LBO limited partnerships; and 12 venture capital limited partnerships. SERS has committed additional amounts to these portfolios and to several new Pennsylvania portfolios.

COMMONWEALTH OF PENNSYLVANIA STATE EMPLOYES' RETIREMENT SYSTEM Rate of Return

Asset Class	5 years 1985-89	1989	1988	1987	1986	1985
SERS - Stocks	18.4%	27.9%	17.5%	1.5%	17.0%	30.5%
S&P 500 Index	20.4%	31.5%	16.8%	5.2%	18.6%	32.0%
SERS - Bonds & Mortgages	12.2%	11.6%	8.9%	3.7%	16.2%	21.6%
Shearson Lehman Aggregate Bond Index	12.3%	14.5%	7.9%	2.8%	15.3%	22.1%
SERS - Real Estate	8.5%	7.1%	7.9%	9.0%	7.8%	10.0%
FRC Property Index	6.1%	5.7%	6.1%	4.3%	5.4%	8.9%
SERS - Cash	8.4%	10.7%	7.5%	6.6%	6.5%	9.4%
90-Day Treasury Bills	7.0%	9.0%	6.7%	5.4%	6.1%	7.7%
SERS - Total Fund*	14.3%	17.8%	12.8%	3.3%	15.2%	23.1%
Inflation - GNP Implicit Price Deflator	3.2%	3.4%	4.3%	3.0%	2.0%	3.5%
Inflation - Consumer Price Index	3.6%	4.6%	4.4%	4.4%	1.1%	3.8%
Actuarial Investment Return	5.5%	5.5%	5.5%	5.5%	5.5%	5.5%

* Includes the Wells Fargo Asset Allocation Fund, venture capital and alternative investments. The venture capital and alternative investments rates of return were estimated.

Investment Advisors

Aetna Life Insurance Company
Hartford, CT
(real estate)

APA/Fostin Pennsylvania Venture Capital
Fund
Philadelphia, PA and Pittsburgh, PA
(venture capital)

Barrow, Hanley, Mewhinney & Strauss, Inc.
Dallas, TX
(stocks)

Brentwood Associates Buyout Fund, L.P.
Los Angeles, CA
(alternative investments)

Butcher & Singer/Keystone Venture II, L.P.
Philadelphia, PA
(venture capital)

CEO Venture Fund-S
CEO Venture Fund II
Pittsburgh, PA
(venture capital)

Code, Hennessy & Simmons, L.P.
Chicago, IL
(alternative investments)

Connecticut General Life Insurance
Company
Hartford, CT and Philadelphia, PA
(bonds & mortgages)

Copley Real Estate Advisors
Boston, MA
(real estate)

Corporate Property Advisors
New York, NY
(real estate)

Delaware Investment Advisers
Philadelphia, PA
(bonds & mortgages)

F.I.A. Associates, Inc.
Sacramento, CA
(real estate)

Fostin Capital Associates
Fostin Capital Associates II
Pittsburgh, PA
(venture capital)

Geewax Terker & Company
Phoenixville, PA
(stocks)

Genesis Seed Fund, Ltd.
Philadelphia, PA
(venture capital)

Heitman Advisory Corporation
Chicago, IL
(real estate)

JMB Institutional Realty Corporation
Chicago, IL
(real estate)

John Hancock Mutual Life Insurance
Company
Boston, MA
(real estate)

Maverick Pennsylvania Fund
Pittsburgh, PA
(alternative investments)

McGlenn Capital Management, Inc.
Wyomissing, PA
(stocks)

Mellon Bank, N.A.
Pittsburgh, PA
(stocks)

Mellon Bond Associates
Philadelphia, PA
(bonds & mortgages)

Mellon Equity Associates
Pittsburgh, PA
(stocks)

Metric Institutional Realty Advisors
Foster City, CA
(real estate)

Investment Advisors

Fidelity Bank, N.A. and Latimer & Buck
Financial Services, Inc.
Philadelphia, PA
(bonds & mortgages)

Murphy & Fauver, L.P.
New York, NY
(alternative investments)

NEPA Venture Fund, L.P.
Bethlehem, PA
(venture capital)

Payden & Rygel
Los Angeles, CA
(cash)

Pennsylvania Fund #1
RR&Z Capital Group Inc.
Pittsburgh, PA
(alternative investments)

Pilgrim, Baxter, Greig and Associates
Wayne, PA
(stocks)

Pittsburgh Seed Fund
Pittsburgh, PA
(venture capital)

PNC Venture Group I
Pittsburgh, PA
(venture capital)

Provident Investment Counsel
Pasadena, CA
(stocks)

The Prudential Asset Management
Company, Inc.
Newark, NJ
(real estate)

Miller, Anderson & Sherrerd
Bala Cynwyd, PA
(stocks, bonds & mortgages)

PSI Institutional Realty
Glendale, CA
(real estate)

Sentinel Corporation
New York, NY
(real estate)

SunBank Capital Management, N.A.
Orlando, FL
(stocks)

TDH II Limited
Radnor, PA
(venture capital)

Trinity Investment Management
Corporation
Bellefonte, PA
(stocks)

Wells Fargo Investment Advisors
San Francisco, CA
(stocks, TAA)

W.R. Huff Asset Management
Morristown, NJ
(bonds & mortgages)

Zero Stage Capital II - Central
Pennsylvania Limited Partnership
State College, PA
(venture capital)

**COMMONWEALTH OF PENNSYLVANIA
STATE EMPLOYEES' RETIREMENT SYSTEM**

**Asset Allocation
December 31, 1989
(\$ in millions)**

Investment Manager - Portfolio	Stocks (with accruals)	Bonds & Mortgages (with accruals)	Real Estate	Cash	Venture Capital	Alternative Investments	Total Market Value	Percent of Total Market Value
Barrow, Hanley, Mewhinney & Strauss, Inc.	\$528.1						\$528.1	5.5%
Geewax, Terker & Company	78.0						78.0	0.8%
McGlinn Capital Management, Inc.	83.6						83.6	0.9%
Mellon Capital Management- PA Index	141.4						141.4	1.5%
Mellon Equity Associates - Special Equity	271.9						271.9	2.8%
Miller, Anderson & Sherrerd	172.2						172.2	1.8%
Pilgrim, Baxter, Greig & Associates	143.2						143.2	1.5%
Provident Investment Counsel, Inc.	169.8						169.8	1.8%
SunBank Capital Management, N.A.	304.0						304.0	3.1%
Trinity Investment Management Corporation	317.6						317.6	3.3%
Wells Fargo - Equity Index Fund (S&P 500)	1,629.9						1,629.9	16.8%
Wells Fargo - Extended Equity Market Fund	416.0						416.0	4.3%
Wells Fargo - Hedge Account	24.9						24.9	0.3%
Miller, Anderson & Sherrerd - International	63.9						63.9	0.7%
Wells Fargo - Enhanced Asset Allocation Fund	140.1			\$560.3			700.3	7.2%
Cigna - PA Private Placement		\$2.5					2.5	0.0%
Delaware Investment Advisers		122.9					122.9	1.3%
W. R. Huff Asset Management		145.9					145.9	1.5%
Mellon Bond Associates - bond index		598.8					598.8	6.2%
Miller, Anderson & Sherrerd		1,159.6					1,159.6	12.0%
U. S. Treasury bonds & notes		226.6					226.6	2.3%
Fidelity Bank, N. A. and Latimer & Buck		630.4					630.4	6.5%
Heitman Advisory Corporation - separate account			\$219.4				219.4	2.3%
JMB - separate account			161.9				161.9	1.7%
Aetna - 4 pooled funds			132.4				132.4	1.4%
Corporate Property Investors			110.2				110.2	1.1%
JMB Group Trust III			47.2				47.2	0.5%
10 other real estate pooled funds			161.9				161.9	1.7%
Payden & Rygel				652.1			652.1	6.7%
PA State Treasury - Treasury Investment Pool Fund *				174.1			174.1	1.8%
APA/Fostin Pennsylvania Venture Capital Fund**					\$20.6		20.6	0.2%
11 other PA venture capital limited partnerships **					46.8		46.8	0.5%
5 LBO limited partnerships **						\$21.9	21.9	0.2%
investment manager cash in transit				(4.1)			(4.1)	0.0%
TOTAL MARKET VALUE	\$4,484.7	\$2,886.6	\$833.0	\$1,382.4	\$67.4	\$21.9	\$9,676.0	100.0%
PERCENT OF TOTAL MARKET VALUE	46.3%	29.8%	8.6%	14.3%	0.7%	0.2%	100%	
1990 Investment Plan Policy - Target	45%	35%	10%	8%	1%	1%	100%	
1990 Investment Plan Policy - Range	40%-50%	30%-40%	7.5%-12.5%	5.5%-10.5%	0%-1%	0%-1%		

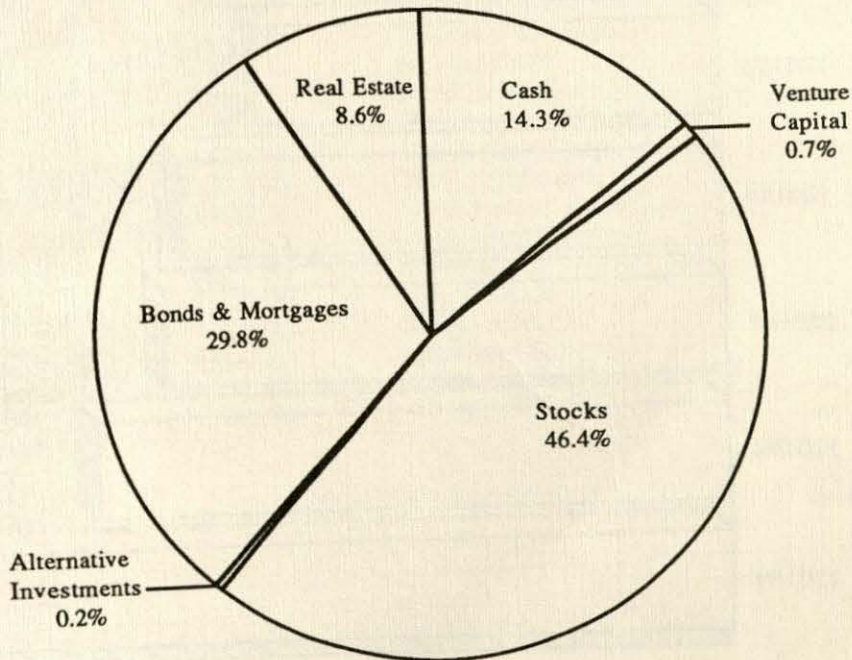
* Treasury Investment Pool Fund values are at cost.

** Venture capital & LBO limited partnerships market values are estimates.

**COMMONWEALTH OF PENNSYLVANIA
STATE EMPLOYES' RETIREMENT SYSTEM
Asset Allocation
1985-89**

Asset Class	12/31/89	12/31/88	12/31/87	12/31/86	12/31/85
Stocks	46.4%	42.2%	43.9%	44.8%	39.3%
Bonds & Mortgages	29.8%	32.8%	37.8%	38.3%	37.1%
Real Estate	8.6%	7.0%	5.9%	5.6%	5.9%
Cash	14.3%	17.0%	11.6%	10.9%	17.5%
Venture Capital	0.7%	0.8%	0.7%	0.4%	0.2%
Alternative Investments	0.2%	0.2%	0.1%		
Total Fund	100.0%	100.0%	100.0%	100.0%	100.0%

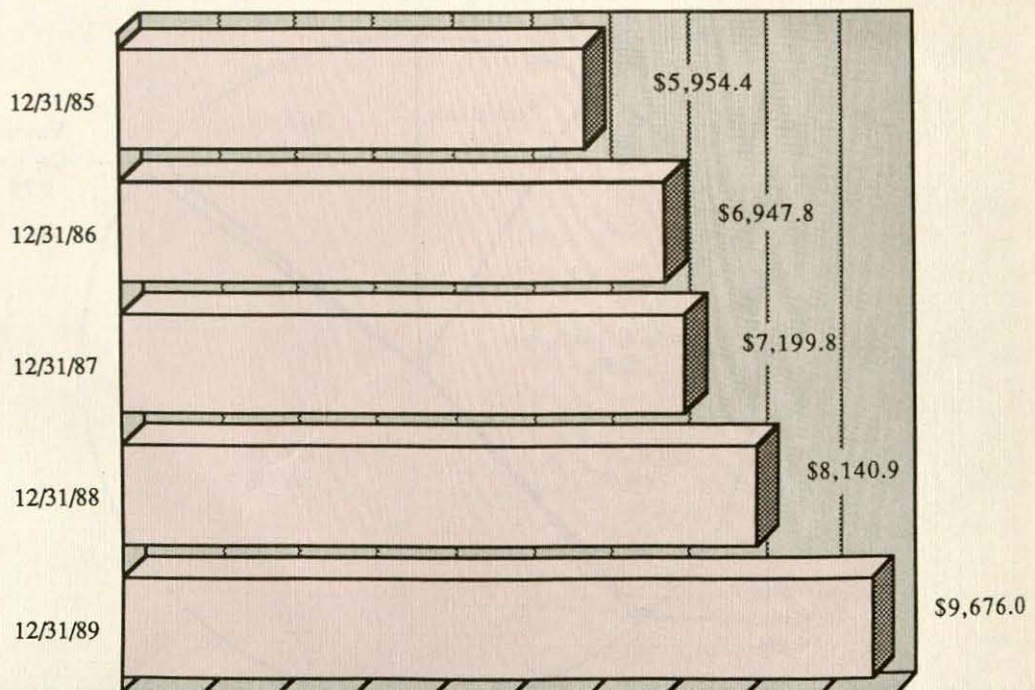
**COMMONWEALTH OF PENNSYLVANIA
STATE EMPLOYES' RETIREMENT SYSTEM
Asset Allocation
December 31, 1989**



**COMMONWEALTH OF PENNSYLVANIA
STATE EMPLOYES' RETIREMENT SYSTEM**
Market Value
1985-89
(\$ in millions)

Asset Class	12/31/89	12/31/88	12/31/87	12/31/86	12/31/85
Stocks	\$4,484.7	\$3,431.5	\$3,164.4	\$3,113.1	\$2,337.8
Bonds & Mortgages	2,886.6	2,673.4	2,720.2	2,660.2	2,210.0
Real Estate	833.0	566.5	421.3	387.2	350.3
Cash	1,382.4	1,387.0	832.6	755.4	1,042.1
Venture Capital	67.4	62.8	53.3	31.9	14.2
Alternative Investments	21.9	19.7	8.0		
Total Fund	\$9,676.0	\$8,140.9	\$7,199.8	\$6,947.8	\$5,954.4

**COMMONWEALTH OF PENNSYLVANIA
STATE EMPLOYES' RETIREMENT SYSTEM**
Market Value
1985-89
(\$ in millions)



**COMMISSIONS
PAID BY SERS EQUITY MANAGERS
1989**

<u>Commissions</u>		<u>Commissions</u>	
<u>BROKER</u>	<u>PAID</u>	<u>BROKER</u>	<u>PAID</u>
Alex Brown & Sons	\$ 19,337.50	Mabon Nugent	\$ 9,300.00
Alpha Management, Inc.	24,316.00	McKinley/Allsopp Sec.	3,346.00
Antranet, Inc.	7,020.00	Merrill Lynch	202,098.07
Bear Stearns	99,519.60	Miller Tabak Hirsch	40,269.00
Brandt, Robert & Co.	12,547.66	Montgomery Securities	61,599.80
Bridge Trading	17,194.50	Morgan Stanley	120,509.18
Broadcor	144,926.96	Neuberger & Berman	3,960.00
Burns Fry Hoare Govett Inc.	11,525.00	O'Neill, William & Co.	6,456.00
Butcher & Singer	15,150.00	Oppenheimer & Co.	295,011.01
Cantor Fitzgerald	60,218.00	Paine Webber Jackson Curtis	24,289.00
Capital Institutional Svcs.	31,884.00	Pennsylvania Group Inc.	83,546.00
County Natwest Sec. Corp.	8,350.00	Pershing Div. of DL & J	92,339.00
Cowen & Co.	23,227.00	Prescott Ball & Turben	3,206.00
Cyrus J. Lawrence	60,205.00	Prudential/Bache Sec.	64,963.40
Daniels & Bell, Inc.	17,517.00	Pryor Govan & Counts	47,440.58
Dean Witter Reynolds	18,337.00	Q & R Clearing Corp.	11,200.00
Dillon Read	7,679.00	Reynders Gray & Co.	3,203.00
Drexel Burnham Lambert Inc.	175,268.76	Roney & Co.	5,316.00
Ewing Capital	25,675.50	Salomon Brothers	112,603.08
Execution Services	8,845.68	Sanford C. Bernstein	18,009.25
First Boston Corp.	101,874.50	Shearson Lehman Hutton Inc.	105,210.20
First Manhattan Co.	9,449.00	Shields Capital	4,378.00
Furman Selz Mager Dietz, NY	4,565.00	Smith Barney Harris Upham	108,268.00
Goldman Sachs	188,485.50	Standard & Poors	5,491.00
Gordon Hasket	13,393.00	Sterling Grace	7,579.00
Gruss, Oscar & Son, Inc.	7,889.00	Stifel Nicolaus Co.	13,776.00
Hambrecht & Quist, Inc.	14,695.00	The Chapman Company	21,508.50
Helfant Trading Inc.	6,626.76	The Chicago Corp.	3,438.00
Instinet	45,875.25	Tucker Anthony	11,501.00
Invemed Associates	5,820.00	W. R. Lazard & Laidlaw	33,406.00
Jefferies & Co.	106,872.50	Wall Street Discount	5,731.00
Johnston, Lemon & Co.	3,457.50	Warburg, S. G. & Co. Inc.	9,992.00
Josephthal & Co.	7,770.00	Weeden & Co.	82,980.23
Kidder Peabody & Co.	121,600.00	Wertheim & Co.	33,194.00
Lazard Freres & Co.	4,571.00	Wertheim Schroder	24,003.00
Legg Mason Wood Walker	14,496.00	Wilshire Assoc.	223,089.59
Lynch, Jones & Ryan	272,691.78	Other Brokers	<u>68,816.03</u>

Total Commissions Paid:

\$3,689,901.87

State Employees' Retirement System (SERS) Pennsylvania Investments

Members of the State Employees' Retirement Board (SERB), employees of SERS, and agents of the Board stand in a fiduciary relationship to the members of the System regarding the investments and disbursements of the Fund. Subject to restrictions on investments contained in the Retirement Code and the Fiscal Code, the Board has exclusive control and management of the Fund and full power to invest the assets of the Fund. The SERB adopted a formal Statement of Investment Policy in 1979 which has been revised to reflect and incorporate legislative changes governing investments. Where investment characteristics including yield, risk and liquidity are equivalent, the Board's policy favors investments which have a positive impact on the economy of Pennsylvania.

SERS investment portfolios have always had substantial investments in Pennsylvania firms, as some of the largest national firms are headquartered in the Pittsburgh, Philadelphia and Harrisburg areas. These firms include Bell Atlantic, Westinghouse, Sun, Rohm & Haas, and AMP. In addition, SERS has invested in portfolios which were designed to give emphasis to investments in Pennsylvania. As of December 31, 1989, SERS had \$972 million, 10% of SERS total fund, invested in Pennsylvania. Of this amount, SERS had placed over \$733 million in portfolios which were specially designed for Pennsylvania investment.

Stocks

SERS designed the Pennsylvania Equity Index Fund which increases the exposure in smaller "in-state" corporations. The fund consists of 239 corporations that are either Pennsylvania based or employ Pennsylvanians equal to at least 25% of its total corporate employment. Mellon Bank manages this passive fund for SERS. Research conducted in 1986 indicated past performance of the Pennsylvania Equity Index Fund had substantially outperformed the Standard & Poor's 500 Composite Index for the previous 10 year, 5 year and 3 year periods. The market value of the Pennsylvania Equity Index Fund was \$141.4 million as of December 31, 1989.

Bonds & Mortgages

SERS committed \$15 million to the Pennsylvania Private Placement Separate Account which was designed by the Milrite Council and is managed by CIGNA. The account has \$72.5 million of commitments including \$15 million by the Pennsylvania Public School Employees' Retirement System. The purpose of the fund is to provide long term, fixed rate loans to established Pennsylvania firms that do not have access to the public bond markets. Two investments have been made to date. The investment period for this account was from May 1, 1988 through April 30, 1990.

SERS has \$305.4 million invested in Pennsylvania mortgages (conventional commercial, FHA projects and residential properties). The residential segment of this portfolio is comprised of \$119.3 million of competitive rate mortgages that are distributed throughout Pennsylvania. Latimer & Buck, SERS mortgage advisor, has committed on a best efforts basis under their fiduciary responsibility, to invest at least 50% of the SERS \$630.4 million portfolio in Pennsylvania based mortgages.

Real Estate

In 1987 SERS established two separate account real estate portfolios which are managed by Heitman Advisory and JMB Institutional Realty. To date, these managers have met their commitment to invest 50% of SERS portfolio in Pennsylvania properties. As of December 31, 1989, these two portfolios had \$203.4 million invested in seven Pennsylvania properties.

As of September 30, 1989, SERS had an interest in \$8.6 million of various Pennsylvania properties through pooled real estate funds. In 1988, SERS hired Copley Advisors and Metric Realty Advisors, two pooled fund managers who committed to invest \$24.5 million in Pennsylvania during the next two to three years.

Venture Capital

SERS committed \$95 million to 17 Pennsylvania based venture capital partnership funds. These funds are diversified among various geographic regions and financing stages (including four seed funds designated by the Ben Franklin Partnership). SERS, in conjunction with the Pennsylvania Public School Employees' Retirement System (PSERS), created the Pennsylvania Venture Capital Fund with the commitment of \$20 million from each fund. The partnership of Alan Patricof Associates/Fostin Capital manages this venture capital fund.

A key aspect of SERS venture capital investments is the attraction of national funds into Pennsylvania investments. Alan Patricof Associates' expertise as the lead investor in the majority of their investments should provide Pennsylvania with a flow of venture capital money from numerous out-of-state funds and investors. The progress of Pennsylvania within the national venture capital community should reap substantial rewards in future years for both Pennsylvania and the SERS Fund.

An entrepreneurial environment is necessary to enhance returns on venture capital investing and to continue an expansion of various business opportunities. A continuous effort to create this business environment, along with the availability of venture capital money, encourage continued economic growth as has been exhibited in such states as California and Massachusetts.

The limited partnerships funded by SERS had invested in 59 Pennsylvania companies as of 9-30-89. As of 9-30-89 the Pennsylvania portfolio companies plus non-Pennsylvania based companies employed 6,510 Pennsylvanians and had an estimated payroll of \$96,644,700.

Alternative Investments

SERS committed \$18 million to two LBO limited partnership funds with a Pennsylvania focus. These LBO funds invest in non-hostile, "friendly," privately negotiated, non-auction deals which are completed with present management in place. The LBO funds focus on small-to-medium capitalization companies (between \$5 and \$100 million). SERS believes that this particular focus offers the largest potential returns based on the risk levels for these types of investments.