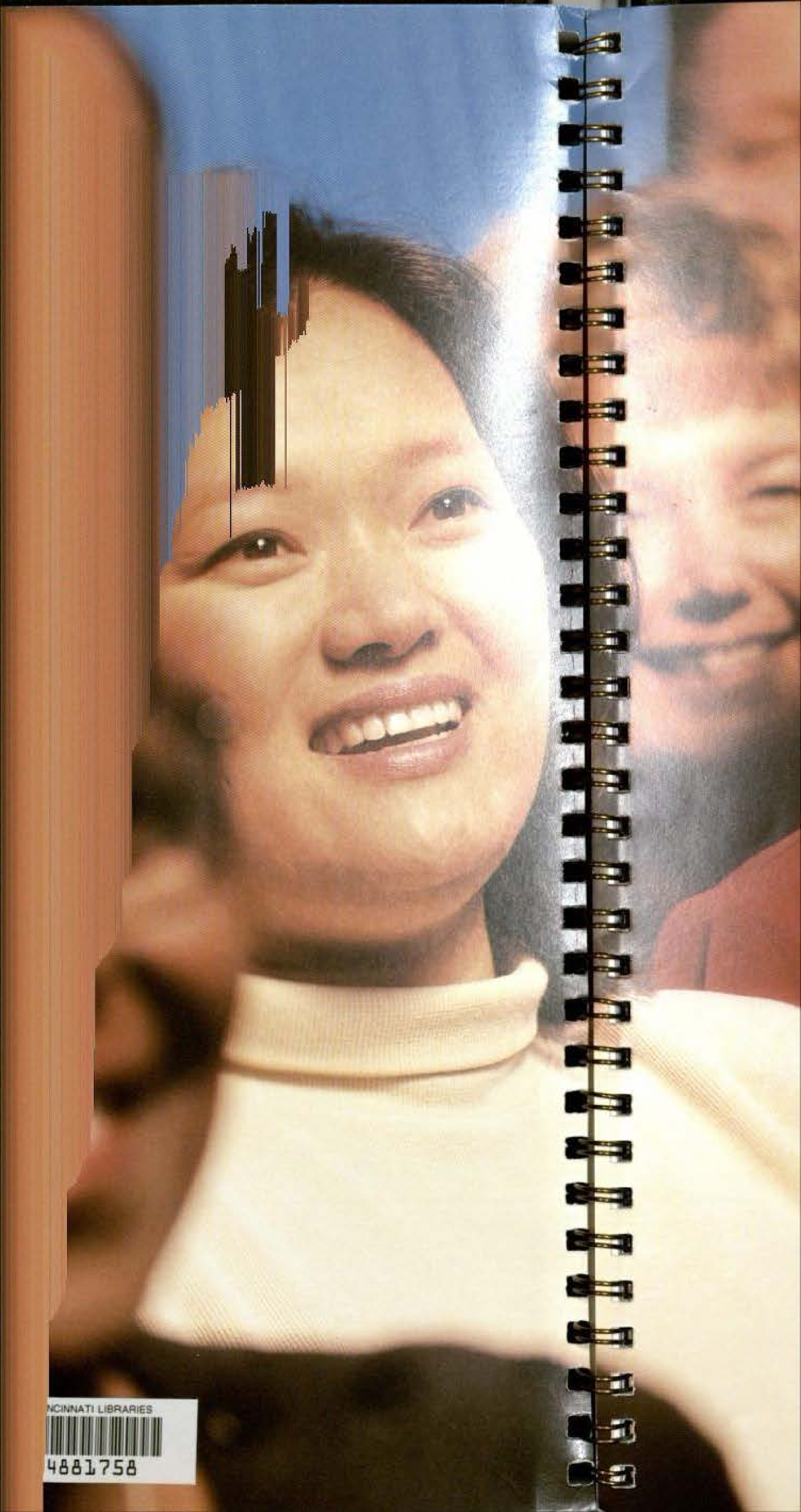
STATE TEACHERS RETIREMENT SYSTEM OF OHIO

COMPREHENSIVE ANNUAL FINANCIAL REPORT

Fiscal Year Ended June 30, 1999



State Teachers Retirement System of Ohio
Comprehensive Annual Financial Report

Fiscal Year Ended June 30, 1999

Prepared through the joint efforts of the STRS Ohio staff

Copies of this report are available from:
State Teachers Retirement System of Ohio
275 E. Broad St.
Columbus, Ohio 43215-3771
(614) 227-4090

Certificate of Achievement for Excellence in Financial Reporting

Presented to

The State Teachers Retirement System of Ohio

For its Comprehensive Annual Financial Report
for the Fiscal Year Ended
June 30, 1998

A Certificate of Achievement for Excellence in Financial Reporting is presented by the Government Finance Officers Association of the United States and Canada to government units and public employee retirement systems whose comprehensive annual financial reports (CAFRs) achieve the highest standards in government accounting and financial reporting.

Gary Bruebaker
President

Jeffrey L. Esser
Executive Director

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State Teachers Retirement System of Ohio
1999 Comprehensive Annual Financial Report

A review of the 1998-99 fiscal year

Professional Consultants: **Independent Public Accountants**, KPMG LLP; **Investment Consultants**, Frank Russell Company Consulting, Tacoma, Wash. & Wellington Management Company, Boston, Mass.; **Actuarial Consultants**, Buck Consultants, Chicago, Ill.

State Teachers Retirement Board

While more than 500 STRS Ohio associates handle the day-to-day operations of the retirement system, it is the Retirement Board that provides the direction, fiduciary oversight and policies that have enabled STRS Ohio to fulfill its mission of assuring financial security for Ohio's educators. Membership on the board includes six elected members — five active teachers and one

Kent Rinker

Representing Betty D. Montgomery, Attorney General. Ex officio member of the board since elected to office in 1995.

Robert P. Shreve

Retired teacher member since 1997. Delaware County

Hazel A. Sidaway

Teacher member since 1986. Canton City Schools, Stark County

Eugene E. Norris, Vice Chair

Teacher member since 1996. South-Western City Schools, Franklin County

O'Neal Saunders

Representing James M. Petro, Auditor of State. Ex officio member of the board since elected to office in 1995.

retired teacher — who devote thousands of volunteer hours every year in service to STRS Ohio. These six educators are joined at the board table by three ex officio voting members: the auditor of state, the attorney general and the superintendent of public instruction.

William A. Dorsey, Chair

Teacher member since 1990. Painesville City Local Schools, Lake County

Alice Gibson

Representing Susan Tave Zelman, Superintendent of Public Instruction. Ex officio member of the board since appointed to office in 1999.

Jack H. Chapman

Teacher member since 1990. Reynoldsburg City Schools, Franklin County

Herbert L. Dyer

Executive Director, State Teachers Retirement System of Ohio

Deborah Scott

Teacher member since 1994. Finneytown Local Schools, Hamilton County

Senior Staff Members

With the start of 1999 came the unveiling of a new corporate identity for the State Teachers Retirement System of Ohio. Shown here with the new logo for STRS Ohio are the members of senior staff. Pictured from left to right are: Sandra L. Knoesel, deputy executive director — Member Benefits; Adrian Mullins, director of Information Technology Services; Cynthia E. Hvizdos, staff counsel; G. Robert Bowers, deputy executive director — Administration; Joan M. Williams, director of Human Resource Services; Herbert L. Dyer, executive director; James W. Miller, director of Governmental Relations; Rebecca J. Stephenson, executive assistant; Robert A. Slater, deputy executive director — Finance and chief financial officer; Laura R. Ecklar, director of Communication Services; and Stephen A. Mitchell, deputy executive director — Investments.

STATE TEACHERS
RETIREMENT SYSTEM
OF OHIO

275 East Broad Street
Columbus, OH 43215-3771
614-227-4090
www.strsoh.org

Nov. 29, 1999

Members of the State Teachers Retirement Board:

We are pleased to present the *Comprehensive Annual Financial Report* of the State Teachers Retirement System of Ohio for the fiscal year ended June 30, 1999. This report is intended to provide readers with financial, investment, actuarial and statistical information in a single publication. STRS Ohio management is responsible for the accuracy of the data and for the completeness and fairness of the presentation.

STRS Ohio was created by legislative act on May 8, 1919, as an alternative to separate, often unstable local school district retirement plans. STRS Ohio is a cost-sharing, multiple-employer plan providing service retirement, disability, survivor and health care benefits to teachers and faculty members of public boards of education, state-supported colleges and universities, and the state of Ohio and its political subdivisions.

The *Comprehensive Annual Financial Report* is divided into five sections: (1) the Introductory Section includes this letter of transmittal and information about the administrative organization of STRS Ohio; (2) the Financial Section contains the general purpose financial statements and footnotes along with the report of the independent auditors; (3) the Investment Section includes a summary of investment assets and the Retirement Board's Objective and Policy Statement; (4) the Actuarial Section includes results of the annual actuarial valuation and the certification letter of Buck Consultants; and (5) the Statistical Section includes historical data showing the progress of the system.

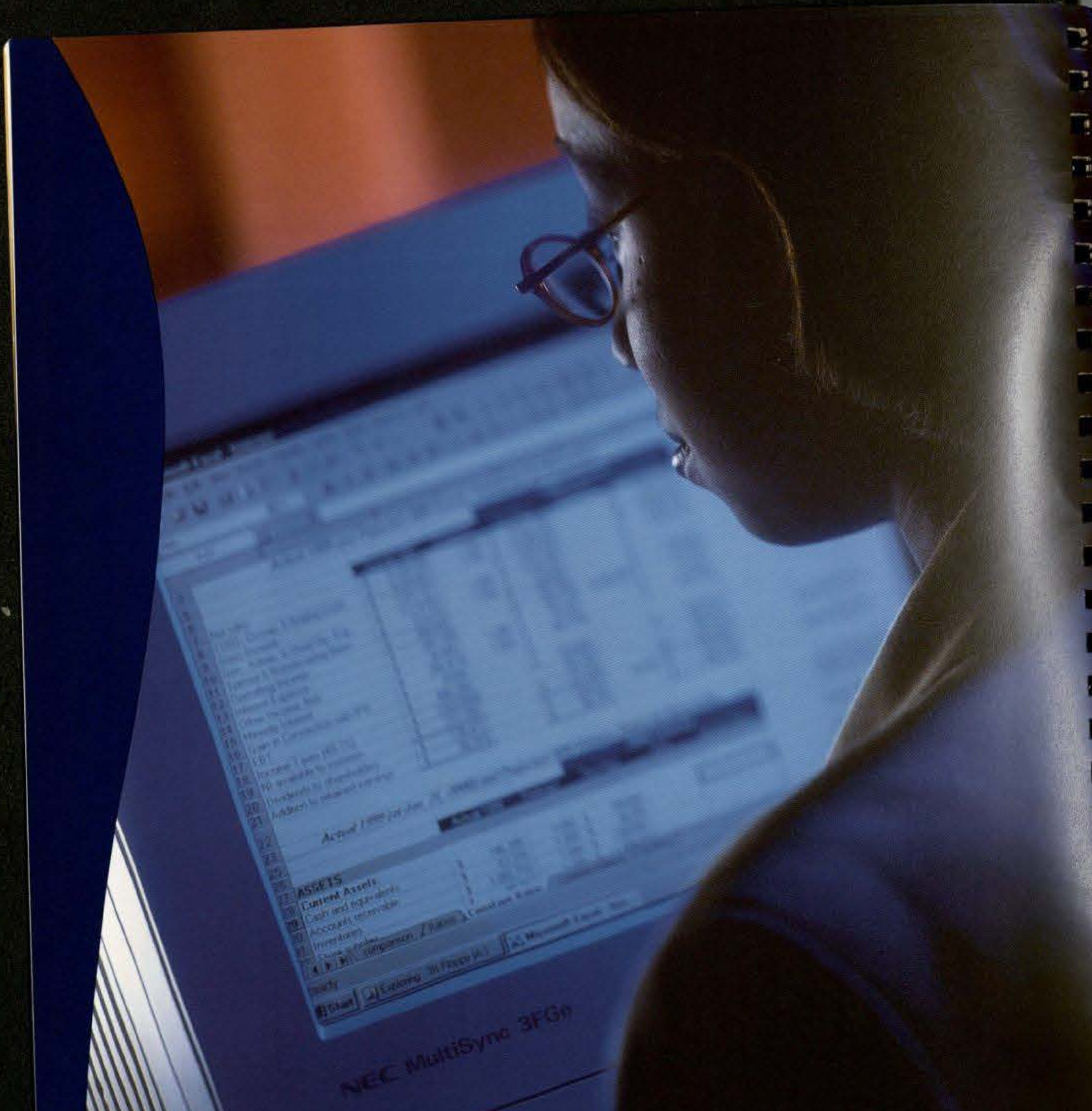
Major Initiatives

One of the most comprehensive benefit packages in STRS Ohio's history has been introduced in the Ohio legislature. If enacted, Senate Bill 190 will increase benefits for both active members and benefit recipients, as well as provide additional retirement options for new teachers. Future retirees would receive 2.2% of final average salary instead of the current 2.1% with additional benefits for long-service teachers. The proposal would restore at least 85% of the purchasing power of their original benefit to current benefit recipients. And new teachers could select an STRS Ohio defined-contribution plan instead of the current defined-benefit plan.

A change last year provides a permanent opportunity for members who temporarily left teaching because of pregnancy to get credit for that time. STRS Ohio members who were granted a leave of absence or resigned due to pregnancy prior to July 1, 1982, can purchase up to two years of service credit, unless they already purchased the time during previous "open-window" periods.

The Retirement Board expanded the Health Care Program for benefit recipients to a record number of plan options. New plans were added to increase coverage primarily in areas of Ohio not covered by existing health maintenance organizations (HMOs). The board also approved a managed prescription drug program for the year 2000. The program is designed to encourage more appropriate use of certain drugs that have high potential for exceeding dosage and duration limits.

For additional information on these and other 1998-99 highlights, refer to the *Year in Review* on Pages 11 through 14.



Thanks to COLAs, supplemental benefit PAYMENTS and legislatively enacted one-time INCREASES, STRS Ohio retirees have experienced less than a 10% loss in purchasing POWER since 1981.

Year in Review

July 1, 1998, through June 30, 1999

Retirement Board Approves Supplemental Benefit

December 1998 marked the 19th consecutive year that the Retirement Board approved a supplemental benefit payment. A total of $46.4 million of investment earnings was used to pay the benefit to those who had received a benefit payment for the 12 consecutive months before Jan. 1, 1999. The "unit value" of the payment was $14 for each year of service and each year on retirement. For example, a retiree with 30 years of service and nine years on retirement received $546.

The legislature has given the Retirement Board authority to grant this supplemental payment if investment earnings in the previous fiscal year exceed funding requirements.

Retirement Board Proposal Contains Significant Benefit Improvements

In May 1999, the Retirement Board voted to pursue legislation in the Ohio General Assembly that would contain one of the most significant benefit improvement packages in STRS Ohio's history. The board's proposals increase retirement benefits for active and many retired members.

For active teachers, the proposal:

- Increases the benefit formula to 2.2% (from the current 2.1%) of the final average salary (FAS). (Years of earned Ohio service beyond 30 would continue to be calculated at the current escalating formula of 2.5% for the 31st year, 2.6% for the 32nd year, 2.7% for the 33rd year, and so on until a maximum of 100% of the FAS is reached.)
- Increases the benefit formula to 2.5% of the FAS for the first 30 years of service if the teacher has accumulated 35 or more years of earned Ohio service.

For benefit recipients, the proposal:

- Recalculates the pension benefits for retired teachers using the current active teacher benefit formula of 2.1% per year of the FAS. Years of earned Ohio service beyond 30 would be calculated at the escalating formula of 2.5% of the FAS for the 31st year, 2.6% for the 32nd year, 2.7% for the 33rd year and so on until a maximum of 100% of the FAS is reached.
- Provides a one-time increase, if needed, to restore at least 85% of the benefit's original purchasing power.

The proposal also creates more choice for many educators by giving STRS Ohio the authority to establish a defined-contribution option in addition to STRS Ohio's current defined-benefit plan.

On Oct. 7, 1999, the Retirement Board's proposals were presented in Senate Bill 190, under the sponsorship of Sen. Louis Blessing Jr.

Cost-of-Living Payment Helps Protect Against Inflation

The Retirement Board approved cost-of-living adjustments (COLAs) for benefit recipients. Members who retired before July 1, 1990, received a 3% increase. Individuals who retired during the period of July 1, 1990, through June 30, 1995, received an increase based on the following schedule:

July 1, 1990, through June 30, 1991: 2.9%
July 1, 1991, through June 30, 1992: 1.3%
July 1, 1992, through June 30, 1993: 2.6%
July 1, 1993, through June 30, 1994: 2.7%
July 1, 1994, through June 30, 1995: 2.9%

For members who retired July 1, 1995, through June 30, 1999, the COLA was 1.3%.

Ohio law allows STRS Ohio to pay a COLA up to 3% based on the increase in the Consumer Price Index (CPI) over the previous calendar year. In 1998 the CPI increased 1.3%. The COLA is calculated on the retiree's base benefit and is paid on the anniversary date of retirement.

Health Care Program Changes Increase Options and Cost Savings

The STRS Ohio Health Care Program includes a record number of plan options for 2000 as a result of action taken by the Retirement Board in 1999. New plan administrators were added to broaden the range of options available primarily in areas of Ohio not covered by STRS Ohio-sponsored health maintenance organizations (HMOs). Benefit recipients' plan options are based on their permanent address and Medicare status.

In its continual effort to control rising health care and prescription drug costs, the Retirement Board also approved the implementation of a Managed Rx Coverage Program in January 2000. This program encourages more appropriate use of select drugs that have a high potential for exceeding dosage and duration limits according to "best practice" guidelines. Estimated savings from the program is about $1 million during the first year.

Board Adjusts Interest Rates and Cost Factors

As part of STRS Ohio's 1997-98 actuarial valuation, interest rates for money-purchase benefits, member withdrawals and reemployed retiree annuity benefit payments were adjusted to be more consistent with market rates on other fixed-income investments with similar risks.

Legislation Provides Enhancements for Educators and Benefit Recipients

House Bill 648, which became law in September 1998, provided for increased Medicare Part B reimbursements for 37,239 STRS Ohio benefit recipients. In addition, the bill reinstated survivor benefits for 350 individuals whose benefits had been suspended due to remarriage.

This bill also provided more portability between Ohio public retirement systems. Members are now able to transfer service from the State Highway Patrol Retirement System or Ohio Police and Fire Pension Fund to STRS Ohio.

Dorsey Wins Retirement Board Election

Incumbent William A. Dorsey was reelected as an active teacher member in the annual State Teachers Retirement Board election. Dorsey, who began his new four-year term in September 1999, ran unopposed.

New Workshop Eases Transition Into Retirement

A new workshop was developed specifically for teachers who are facing retirement in 12 to 18 months. "Retiring with Confidence" takes them through the steps of retirement on a month-by-month basis and provides a planning guidebook.

Pregnancy Resignation Legislation Becomes Permanent Statute

On Dec. 8, 1998, Gov. George Voinovich signed legislation that made the purchase of service credit for time lost due to pregnancy a permanent statute. STRS Ohio members who were granted a leave of absence for pregnancy or resigned due to pregnancy prior to July 1, 1982, can now purchase up to two years of service credit, unless they previously purchased the two years during "open-window" periods. Additional service credit for other leaves of absence may be purchased separately.

Web-Based Information Grows in Popularity Among Members and Retirees

As members and benefit recipients learn about the STRS Ohio Web site, use increases dramatically. During its first year, the site was accessed approximately 28,000 times. Just two years later, during 1998-99, visits exceeded 117,000 and the numbers are growing exponentially. The site's Personal Account Information section was particularly well received following its launch on July 1, 1998. Since then, more than 11,000 members and benefit recipients have requested passwords that enable them to access select account information online.

Phone Service Simplifies Health Care Enrollment

For the 1998-99 health care plan open-enrollment process, STRS Ohio eliminated the need for benefit recipients to complete and return paper forms to switch health care providers. More than 2,000 individuals enrolled through a convenient phone-in process handled by the Member Services Center.

Member Survey Shows High Ratings

Overall results of a study conducted by Convergys, a Cincinnati-based marketing research firm, showed that STRS Ohio continues to "greatly exceed" or "exceed" member expectations. The research also indicated that there is a direct correlation between member satisfaction and the number of contacts the member has with the pension fund.

STRS Ohio Addresses Y2K Issues

For several years, STRS Ohio worked on the "Year 2000 Challenge," also known as "Y2K." Because the system regularly deals with benefit estimates, annuities, long-term investment strategies and other long-range business functions, many potential Y2K issues surfaced early and were corrected. STRS Ohio's Information Technology Services' associates also tested and prepared all system hardware and software to be ready for 2000.

Social Security Debate Continues

The State Teachers Retirement Board continued to wage a vigorous education campaign about proposals in Congress to extend Social Security coverage to noncovered employees. Many other pension plans and a number of retirement, employer and employee groups across the country joined with STRS Ohio and the Coalition to Preserve Retirement Security in voicing formal opposition to mandatory coverage.

Building Expansion Moves Forward

Work continued on the 200,000-square-foot building addition to STRS Ohio offices in downtown Columbus. With the number of retirees expected to increase by 39,000 in the next decade, the retirement system will face increasing demand for services, especially in the benefits counseling, administration and health care areas. Growth in assets will also require additional associates to manage the system's investments. To accommodate this growth, the building addition includes office space, meeting rooms and a parking garage. The project will be completed in 2000.

STRS Ohio Adopts New Corporate Identity

With the start of 1999 came the unveiling of a new corporate identity for the system. Initial research for the project involved interviewing Retirement Board members, active teachers, benefit recipients and associates about the system. Concepts were then developed and tested through one-on-one focus group sessions. The result was a corporate identity that included a new logo and a new communicative name for the system — STRS Ohio.

Planning Begins for STRS Ohio's 80th Anniversary

In 2000, STRS Ohio will celebrate its 80th anniversary. To commemorate this significant milestone, the Retirement Board approved the creation of Discovery Park — the first park developed specifically to honor educators in Ohio's public schools. The park's centerpiece will be a bronze sculpture titled "Journey to Learning," created by noted artist and STRS Ohio member George Danhires. Funding for the project is being provided through donations for inscriptions that honor former and current STRS Ohio members on park bricks and granite pavers and benches. Tentative plans call for the park to be dedicated in June 2000.

System Receives Reporting and Communication Awards

For the ninth consecutive year, STRS Ohio was presented a Certificate of Achievement for Excellence in Financial Reporting from the Government Finance Officers Association. In addition, the Printing Industries of America presented its Certificate of Merit to STRS Ohio for the 1998 *Comprehensive Annual Financial Report.*

Associates Give Generously to the Community

With a goal of $75,000 (in honor of United Way's 75th anniversary), STRS Ohio associates exceeded everyone's expectations. Associates raised more than $80,390 for United Way, surpassing the goal by more than 7%. A new contribution record was also set for Operation Feed. Cash contributions totaled $4,495, while food donations weighed 240 pounds. Another highlight of the year was the "Toys for Tots" campaign that provided cash donations and toys for needy central Ohio families.

Independent Auditors' Report

KPMG

Two Nationwide Plaza
Columbus, OH 43215

Telephone 614 249 2300
Fax 614 249 2348

To the Retirement Board
The State Teachers Retirement System of Ohio:

We have audited the accompanying combining statements of plan net assets of the State Teachers Retirement System of Ohio (the System) as of June 30, 1999 and 1998, and the related combining statements of changes in plan net assets for the years 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 audits.

We conducted our audits in accordance with generally accepted auditing standards and the standards applicable to financial audits contained in *Government Auditing Standards,* issued by the Comptroller General of the United States. 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 audits provide a reasonable basis for our opinion.

In our opinion, the financial statements present fairly, in all material respects, the financial position of the System as of June 30, 1999 and 1998, and the changes in its plan net assets for the years then ended in conformity with generally accepted accounting principles.

In accordance with *Government Auditing Standards*, we have also issued a report dated November 22, 1999, on our consideration of the System's internal control over financial reporting and our tests of its compliance with certain provisions of laws, regulations, contracts and grants.

The schedules of funding progress and employer contributions and the year 2000 information on pages 26 and 27 are not a required part of the financial statements, but are supplementary information required by the Governmental Accounting Standards Board, and we did not audit and do not express an opinion on such information. We have applied to the schedules of funding progress and employer contributions certain limited procedures prescribed by professional standards, which consisted principally of inquiries of management regarding the methods of measurement and presentation of schedules. We were unable to apply certain of these limited procedures to the year 2000 information because of the nature of the subject matter underlying the disclosure requirements and because sufficiently specific criteria regarding matters to be disclosed have not been established. In addition, we do not provide assurance that the System is or will become year 2000 compliant, the System's year 2000 remediation efforts will be successful in whole or in part, or that parties with which the System does business are or will become year 2000 compliant.

Our audits were conducted for the purpose of forming an opinion on the basic financial statements taken as a whole. The additional information included on pages 28 and 29 is presented for the purpose of additional analysis and is not a required part of the basic financial statements. This additional information is the responsibility of the System's management. Such additional information has been subjected to the auditing procedures applied in our audits of the basic financial statements for the years ended June 30, 1999 and 1998, and, in our opinion, is fairly stated in all material respects in relation to the basic financial statements taken as a whole.

November 22, 1999

KPMG LLP

Combining Statements of Plan Net Assets

(in thousands)

	June 30, 1999 Pensions	June 30, 1999 Postemployment Health Care	June 30, 1999 Totals	June 30, 1998 Pensions	June 30, 1998 Postemployment Health Care	June 30, 1998 Totals
Assets:						
Cash and short-term investments	$ 1,770,059	$ 98,842	$ 1,868,901	$ 2,000,146	$ 96,206	$ 2,096,352
Receivables:						
Accrued interest and dividends	165,186	9,224	174,410	151,158	7,271	158,429
Employer contributions	168,767	9,424	178,191	172,057	8,276	180,333
Retirement incentive	36,811	2,056	38,867	40,816		40,816
Member contributions	128,264	7,163	135,427	136,494		136,494
Securities sold	169,931	9,489	179,420	479,531	23,065	502,596
Miscellaneous receivables	3,264	182	3,446	3,529		3,529
Total receivables	672,223	37,538	709,761	983,585	38,612	1,022,197
Investments, at fair value:						
Fixed income	10,613,327	592,661	11,205,988	10,444,173	502,361	10,946,534
Common and preferred stock	21,714,942	1,212,589	22,927,531	19,902,536	957,305	20,859,841
International	11,170,250	623,760	11,794,010	9,127,481	439,029	9,566,510
Real estate	4,484,852	250,440	4,735,292	3,772,539	181,458	3,953,997
Alternative investments	269,212	15,033	284,245	130,904	6,296	137,200
Total investments	48,252,583	2,694,483	50,947,066	43,377,633	2,086,449	45,464,082
Collateral on loaned securities	3,521,187	196,627	3,717,814	3,062,797	147,319	3,210,116
Fixed assets, at cost, net of accumulated depreciation of $32,510 and $27,521, respectively	79,364		79,364	55,151		55,151
Total assets	54,295,416	3,027,490	57,322,906	49,479,312	2,368,586	51,847,898
Liabilities:						
Securities purchased	178,339	9,959	188,298	606,214	29,159	635,373
Accrued expenses and other liabilities	17,700	988	18,688	11,818	568	12,386
Medical benefits payable		36,550	36,550		35,536	35,536
Obligations under securities lending program	3,521,187	196,627	3,717,814	3,062,797	147,319	3,210,116
Total liabilities	3,717,226	244,124	3,961,350	3,680,829	212,582	3,893,411
Net assets held in trust for pension and postemployment health care benefits: (A schedule of funding progress is presented on Page 27.)	$ 50,578,190	$ 2,783,366	$ 53,361,556	$ 45,798,483	$ 2,156,004	$ 47,954,487

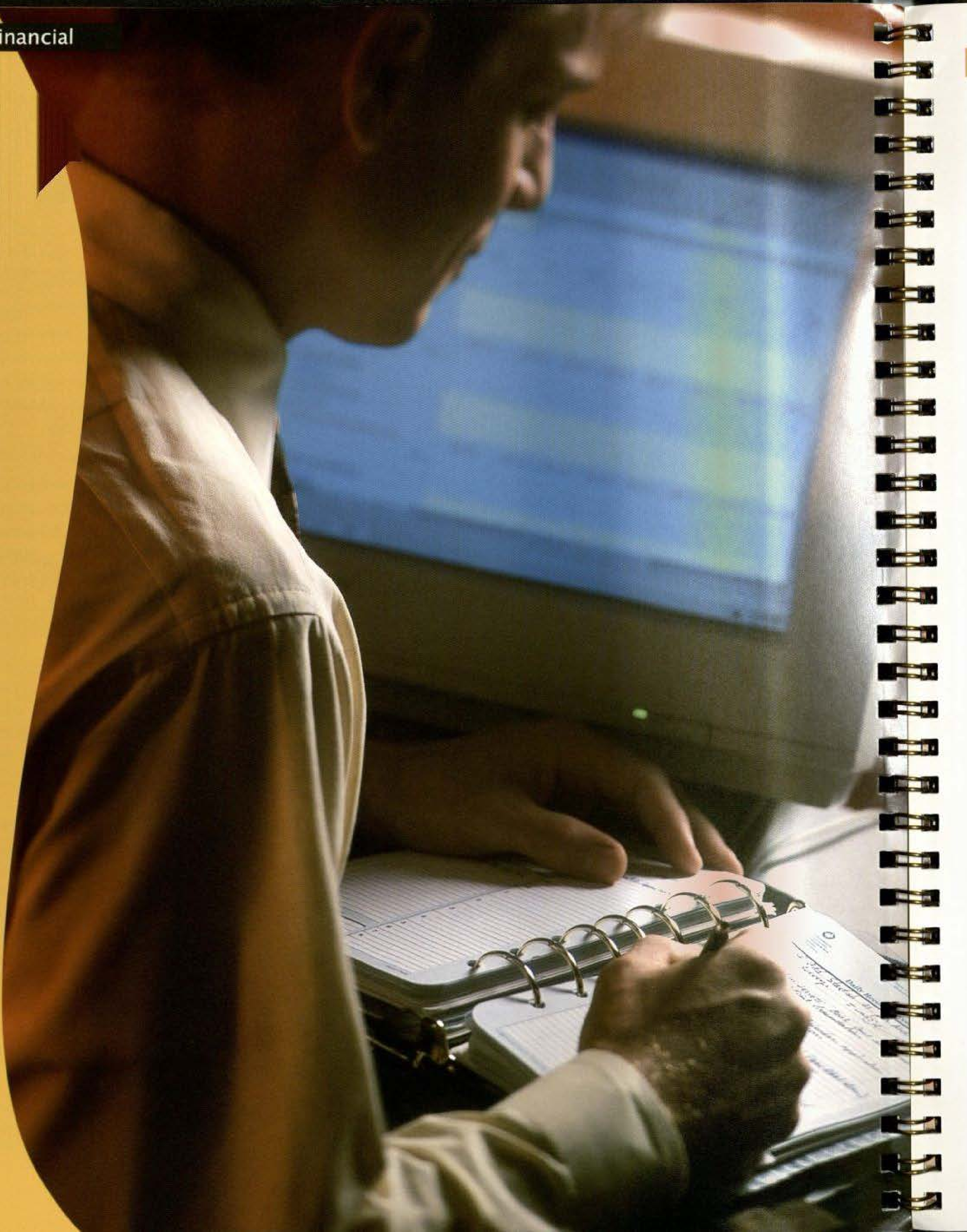
See accompanying Notes to Financial Statements.

Combining Statements of Changes in Plan Net Assets

(in thousands)

	Year Ending June 30, 1999			Year Ending June 30, 1998		
	Pensions	Postemployment Health Care	Totals	Pensions	Postemployment Health Care	Totals
Additions:						
Contributions:						
Member	$ 716,551		$ 716,551	$ 697,404		$ 697,404
Employer	450,479	$ 587,062	1,037,541	746,997	$ 248,928	995,925
Retirement incentive	39,338		39,338	40,298		40,298
State of Ohio appropriations	1,780		1,780	2,067		2,067
Benefit recipient health care premiums		47,819	47,819		39,682	39,682
Other retirement systems	7,738		7,738	4,705		4,705
Additional death benefits (net)	158		158	289		289
Total contributions	1,216,044	634,881	1,850,925	1,491,760	288,610	1,780,370
Investment income:						
From investing activities						
Net appreciation in fair value of investments	4,366,770	223,729	4,590,499	4,491,233	208,707	4,699,940
Interest	630,194	32,288	662,482	615,507	28,603	644,110
Dividends	427,540	21,905	449,445	423,391	19,675	443,066
Real estate income	293,213	15,022	308,235	247,938	11,522	259,460
	5,717,717	292,944	6,010,661	5,778,069	268,507	6,046,576
Less investment expenses	(15,719)	(805)	(16,524)	(13,219)	(614)	(13,833)
Net income from investing activities	5,701,998	292,139	5,994,137	5,764,850	267,893	6,032,743
From securities lending activities						
Securities lending income	156,612	8,024	164,636	116,846	5,430	122,276
Securities lending expenses	(147,613)	(7,563)	(155,176)	(110,216)	(5,124)	(115,340)
Net income from securities lending activities	8,999	461	9,460	6,630	306	6,936
Net investment income	5,710,997	292,600	6,003,597	5,771,480	268,199	6,039,679
Total additions	6,927,041	927,481	7,854,522	7,263,240	556,809	7,820,049
Deductions:						
Benefits:						
Service retirement	1,764,172		1,764,172	1,601,143		1,601,143
Disability retirement	139,296		139,296	130,429		130,429
Survivor benefits	52,863		52,863	47,920		47,920
Supplemental benefit	46,448		46,448	44,876		44,876
Health care		297,748	297,748		258,906	258,906
Other retirement systems	6,922		6,922	5,595		5,595
Total benefit payments	2,009,701	297,748	2,307,449	1,829,963	258,906	2,088,869
Refunds to members who have withdrawn	91,037		91,037	87,705		87,705
Administrative expenses	46,596	2,371	48,967	41,057	1,432	42,489
Total deductions	2,147,334	300,119	2,447,453	1,958,725	260,338	2,219,063
NET INCREASE	4,779,707	627,362	5,407,069	5,304,515	296,471	5,600,986
Net assets held in trust for pension and postemployment health care benefits						
BEGINNING OF YEAR	45,798,483	2,156,004	47,954,487	40,493,968	1,859,533	42,353,50
END OF YEAR	$ 50,578,190	$ 2,783,366	$ 53,361,556	$ 45,798,483	$ 2,156,004	$ 47,954,

See accompanying Notes to Financial Statements.



Notes to Financial Statements

Years ended June 30, 1999 and 1998

1. Summary of Significant Accounting Policies

The financial statements of the State Teachers Retirement System of Ohio (STRS Ohio) presented herein have been prepared on the accrual basis of accounting following the accounting policies set forth below.

a. **Organization** — STRS Ohio is a cost-sharing, multiple-employer plan that was created by Chapter 3307 of the Ohio Revised Code (Revised Code) and is administered by a board comprised of five active members, one retired teacher and three voting ex officio members.

   The accompanying financial statements comply with the provisions of the Governmental Accounting Standards Board (GASB) Statement No. 14, *Financial Reporting Entity*. This statement requires that financial statements of the reporting entity include all of the organizations, activities, functions and component units for which the reporting entity is financially accountable. Financial accountability is defined as the appointment of a voting majority of the component unit's board and either (1) the reporting entity's ability to impose its will over the component unit, or (2) the possibility that the component unit will provide a financial benefit to or impose a financial burden on the reporting entity. STRS Ohio does not have financial accountability over any entities.

b. **Investment Accounting** — Purchases and sales of investments are recorded as of their trade date. Dividend income is recognized on the ex-date. Interest and rental income is recognized as the income is earned.

   STRS Ohio has no individual investment that exceeds 5% of net assets available for benefits.

c. **Contributions and Benefits** — Employer and member contributions are recorded in the period the related member salaries are earned. Benefits and refunds are recognized when due and payable in accordance with the terms of the plan.

d. **Fixed Assets** — Fixed assets are recorded at historical cost. Depreciation is provided on a straight-line basis over estimated useful lives of five to 10 years for equipment and 40 years for building and building improvements.

e. **Method Used to Value Investments** — Investments are reported at fair value. Short-term investments are reported at amortized cost, which approximates fair value. Securities traded on a national or international exchange are valued at the last reported sales price at current exchange rates. Mortgages are valued based on their coupon rate relative to the coupon rate for similar mortgages. The fair value of real estate investments is based on independent appraisals and internal valuations. The value of alternative investments is based on estimated fair values established by valuation committees.

f. **Federal Income Tax Status** — STRS Ohio qualifies under Section 401(a) of the Internal Revenue Code and is exempt from federal income taxes.

2. Description of the STRS Ohio Plan

Plan Membership — STRS Ohio is a statewide retirement plan for certified teachers and other faculty members employed in the public schools of Ohio (the state) or any school, college, university, institution or other agency controlled, managed and supported, in whole or part, by the state or any political subdivision thereof.

See charts on Page 20 for participating employers and member and retiree data.

Plan Benefits — Plan benefits are established under Chapter 3307 of the Revised Code. Any member may retire who has (i) five years of service credit and attained age 60; (ii) 25 years of service credit and attained age 55; or (iii) 30 years of service credit regardless of age.

The maximum annual retirement allowance, payable for life, is the greater of the "formula benefit" or the "money-purchase benefit" calculation. Under the "formula benefit," the retirement allowance is based on years of credited service and final average salary, which is the average of the member's three highest salary years. The annual allowance is determined by multiplying final average salary by 2.5% for each year of Ohio contributing service in excess of 30 years and by 2.1% for all other years of credited service up to a maximum allowance of 100% of final average salary. Members retiring before age 65 with less than 30 years of service credit receive a percentage reduction in benefit amounts.

Effective August 1997, enacted legislation provided an adjustment for retirees whose benefits have not kept pace with the rate of inflation. This legislation also changed the formula for calculating the benefit for Ohio service greater than 30 years. Retroactively to July 1, 1997, each year over 30 years is increased incrementally by .1%, starting at 2.5% for the 31st year of Ohio service.

Under the "money-purchase benefit" calculation, a member's lifetime contributions plus interest at specified rates are matched by an equal amount from contributed employer funds. This total is then divided by an actuarially determined annuity factor to compute the maximum annual retirement allowance.

Participating Employers at June 30, 1999 and 1998

	1999	1998
City school districts	192	192
Local school districts	371	372
County educational service centers	63	65
Exempted village school districts	49	49
Joint vocational schools	49	49
Universities and colleges	37	37
County boards of mental retardation and developmental disabilities	82	82
Community schools	16	0
State of Ohio	1	1
Total	**860**	**847**

Member and Retiree Data at July 1, 1999 and 1998

	1999	1998
Current active members	170,854	170,126
Inactive members eligible for refunds only	101,707	112,322
Terminated members entitled to receive a benefit in the future	17,408	17,256
Retirees and beneficiaries currently receiving a benefit	95,796	91,999
Reemployed retirees	12,590	10,389
Total plan membership	**398,355**	**402,092**

Since the plan is tax-qualified, benefits are subject to limits established by Section 415 of the Internal Revenue Code.

After retirement, benefits are increased annually by the greater of the amount of the change in the Consumer Price Index (CPI) or the cumulative CPI increase since retirement, less previous cost-of-living increases, up to a maximum of 3% of the original base amount.

A retiree of STRS Ohio or other Ohio public retirement systems is eligible for reemployment as a teacher following the elapse of two months from the date of retirement. Contributions are made by the reemployed member and employer during the reemployment. Upon termination of reemployment or age 65, whichever comes later, the retiree is eligible for a money-purchase benefit or a lump-sum payment in addition to the original retirement allowance.

Death, Survivor and Disability Benefits — A member with five or more years of credited service who becomes disabled (illness or injury preventing individual's ability to teach) is entitled to a disability benefit. Additionally, monthly benefits are paid to eligible survivors of members who die prior to retirement. A death benefit of $1,000 is payable to the beneficiary of each deceased retired member. Additional death benefit coverage up to $2,000 can be purchased. Various other benefits are available to members' beneficiaries.

Health Care Benefits After Retirement — The plan provides comprehensive health care benefits to retirees and their dependents.

Coverage includes hospitalization, physicians' fees, prescription drugs and reimbursement of monthly Medicare premiums. Pursuant to the Revised Code, the State Teachers Retirement Board (the Retirement Board) has discretionary authority over how much, if any, of the associated health care costs will be absorbed by the plan. Most benefit recipients pay a portion of the heath care cost in the form of a monthly premium.

Under Ohio law, medical costs paid from the funds of the plan are included in the employer contribution rate, currently 14% of compensation. Historically, the Retirement Board has allocated employer contributions equal to 2% of covered payroll to the Health Care Reserve Fund within the Employers' Trust Fund from which payments for health care benefits are paid. For the fiscal year ended June 30, 1999, 8.0% of covered payroll was allocated to the Health Care Reserve Fund. For the fiscal year ending June 30, 2000, 8% of covered payroll will be allocated to the Health Care Reserve Fund.

Supplemental Benefits — In December of each year, if the Retirement Board determines that sufficient funds are available, a lump-sum supplemental benefit payment is made to eligible retirees. The payment is based on the retiree's years of service and date of retirement. The amount of the payment may vary and is not guaranteed from year to year.

Refunds — Upon termination of employment, a member may withdraw accumulated contributions made to STRS Ohio. Withdrawal cancels the individual's rights and benefits in STRS Ohio. Refunds of member contributions may include interest and 50% matching payments.

Alternative Retirement Plan — Eligible faculty of Ohio's public colleges and universities may choose to enroll in either STRS Ohio or an alternative retirement plan (ARP) offered by their employer.

Full-time faculty with less than five years of service credit have a one-time option to select an ARP instead of STRS Ohio. Employees hired after the ARP is established have 90 days from their hire date to select a retirement plan.

For employees who elect an ARP, the employer is required to remit 6% employer contributions on compensation paid. The employer contribution rate is based on independent actuarial studies. As of June 30, 1999, the ARP participant payroll totaled $105,938,000 and there were 2,390 participants.

3. Contribution Requirements and Reserves

Employer and member contribution rates are established by the Retirement Board and limited by Chapter 3307 of the Revised Code to 14% and 10%, respectively, of covered payroll. The employer and member contribution rates for the years ended June 30, 1999 and 1998, were 14% and 9.3%, respectively. Eight percent of the 14% employer rate was allocated for postemployment health care for the fiscal year ended June 30, 1999. For the fiscal year ended June 30, 1998, 3.5% of covered payroll was allocated to the Health Care Reserve Fund. For the fiscal year ending June 30, 2000, 8% of covered payroll will be allocated to the Health Care Reserve Fund.

Various funds are established under the Revised Code to account for contributions, reserves, income and administrative expenses.

- The Teachers' Savings Fund (TSF) is used to accumulate member contributions in trust. The TSF was fully funded according to the latest actuarial study dated July 1, 1999.
- The Employers' Trust Fund (ETF) is used to accumulate employer contributions in trust. The ETF includes assets allocated to the Health Care Reserve Fund from which payments for comprehensive health care benefits are made.
- The Annuity and Pension Reserve Fund (APRF) is the fund from which all annuities and pension payments to retired members are made. Reserves are transferred to this fund from the TSF and ETF at the time of retirement. The APRF was fully funded according to the latest actuarial study dated July 1, 1999.
- The Survivors' Benefit Fund is the fund from which all survivor benefit payments are made for which reserves have been transferred from the Teachers' Savings Fund and the Employers' Trust Fund. The Survivors' Benefit Fund was fully funded according to the latest actuarial study dated July 1, 1999.
- The Guarantee Fund is used to accumulate income derived from gifts, bequests and investments for the year.
- The Expense Fund is the fund from which all expenses for the administration and management of STRS Ohio are paid each year.

After interest is allocated to the various funds, the Guarantee Fund and the Expense Fund are closed into the Employers' Trust Fund at year-end.

Europe, Australia and Far East (EAFE) Index Fund — To increase diversification in international developed markets, STRS Ohio invests in an EAFE Index Fund. The EAFE Index Fund purchases foreign equities, futures and other traded investments to replicate the makeup of the EAFE benchmark.

Emerging Markets Free (EMF) Index Fund — STRS Ohio invests in an EMF Index Fund to increase diversification in emerging market countries. The fund invests in foreign equities, swaps and other traded investments to imitate the EMF Index.

EAFE Equity Swaps — Four international equity swap agreements were contracted during fiscal 1999 with maturity dates in fiscal 2000. In exchange for a negotiated LIBOR (London Interbank Offered Rate), STRS Ohio will receive dividends on a quarterly basis. At maturity, STRS Ohio will receive or pay the difference in the change in the various market indices included in the swap agreement. Fixed-income securities equal to the initial notional amount of the equity swaps have been set aside as security.

EMF Equity Swaps — Six international equity swap agreements were contracted during fiscal 1999 with maturity dates in fiscal 2000. These are similar to the EAFE Equity Swaps, except that at maturity, STRS Ohio will receive or pay the difference in the EMF Index. Fixed-income securities equal to the initial notional amount of the equity swaps have been set aside as security.

The market values of international investments held at June 30, 1999 and 1998, are shown in the chart on Page 25.

7. Real Estate Investments

General — STRS Ohio properties are geographically distributed throughout the United States. Real estate investments include retail single-tenant stores and malls, single and multitenant office properties, and warehouses, apartments, REITs and other.

REITs — Real estate investment trusts (REITs) are real estate company stocks with a high dividend-income component. REITs divide the ownership of the real estate company and its properties among all the shareholders. REITs are required to distribute 95% of the company's taxable income to their shareholders. Distributions are taxable to shareholders rather than the real estate company. STRS Ohio is exempt from federal and state income taxes.

Other — Other real estate investments include farmland, timberland and opportunity funds, that are externally managed, and private REITs. Farmland investments generate income primarily as a result of harvest proceeds. Income is generated from the sale of timber on timberland investments. Opportunity funds generate income as a result of operations and property sales, which are distributed to the investors. Finally, private REITs are privately traded real estate company stocks with a dividend-income component, similar to the public REIT investments discussed above.

8. Derivatives

Equity Swap Agreements — As discussed in Note 6, STRS Ohio has entered into 10 international equity swap agreements. No funds are required as collateral by either party; however, STRS Ohio has purchased fixed-income securities equivalent to the initial exposure, which are located in a subcustodial account at the Bank of New York. The market risk of the swap is the same as if STRS Ohio owned the underlying stocks that comprise the indexes. The net interest revenues and expenses resulting from these agreements have been recorded in the financial statements. See Note 6 for the related equity swap market values as of June 30, 1999 and 1998. Equity swaps were also used in the EMF Index Fund during 1999 and 1998. Of the total EMF holdings, $7 million and $36.4 million were invested in swap agreements at June 30, 1999 and 1998, respectively.

Forward Contracts — Forward contracts in various currencies were used to transact and hedge direct foreign equity investments that STRS Ohio maintains through the use of outside managers. Additionally, forward contracts were used to hedge currency exposure as a result of the EAFE Equity Swap agreements. During 1998, STRS Ohio began using currency forward contracts to also hedge exposure from the EAFE Index Fund and the Country Funds. STRS Ohio is obligated to deliver the foreign currency at a certain dollar price sometime in the future. To fulfill this obligation at maturity, STRS Ohio must obtain the currency in the open market.

Before the contract matures, STRS Ohio can enter into an offsetting forward contract that nets out the original contract. These events expose STRS Ohio to currency market risk, which can fluctuate. The external money managers hedged $1.56 and $1.89 billion of currency exposure in various currencies with varying maturities as of June 30, 1999 and 1998. At June 30, 1999, STRS Ohio hedged $16, $752.3 and $42.5 million of currency exposure on the EAFE Equity Swaps, EAFE Index Fund and the Country Funds, respectively. At June 30, 1998, STRS Ohio hedged $132.2, $644.8 and $39 million of currency exposure on the EAFE Equity Swaps, EAFE Index Fund and the Country Funds, respectively.

Futures — STRS Ohio had investments in S&P 500 index futures during the year. Index futures are designed to offer lower-cost and more efficient alternatives to buying individual stocks. The market and credit risk of the futures were the same as if STRS Ohio had owned the underlying stocks that comprise the index. From August 1998 to September 1998, S&P futures ranged from $49.7 million to $228 million. From August 1997 to June 1998, S&P futures ranged from $3.4 million to $57.3 million. Additionally, futures were used in the EAFE Index Fund. Of the total EAFE Index Fund holdings, $3.7 and $30.2 million was invested in futures at June 30, 1999 and 1998, respectively. External money managers also used futures. Approximately, $180.3 and $66 million of external money managers' holdings were invested in futures at June 30, 1999 and 1998, respectively.

Options — STRS Ohio writes option contracts on existing stock positions to enhance the return on the stock portfolio. In exchange for a premium, STRS Ohio gives the option buyer the right to buy or sell the underlying stock. Options are also purchased to "cover" existing written open option positions.

9. State Appropriations

From time to time, the legislature of the state has increased benefit payments to retirees. In certain instances, concurrent with the passage of such legislation, a provision for payment of these benefits through future state appropriations has been made.

STRS Ohio received approximately $1,780,000 and $2,067,000 from the state for increased benefits paid for the years ended June 30, 1999 and 1998, respectively. Funding for these increased benefits is on a pay-as-you-go basis by the state.

10. Pension Plan

Substantially all STRS Ohio employees are required to participate in a contributory retirement plan administered by the Public Employees Retirement System of Ohio (PERS). PERS is a cost-sharing, multiple-employer public employee retirement system.

Eligible employees are entitled to a retirement benefit, payable monthly for life, equal to 2.1% of their final average salary for each year of credited service up to 30 years and 2.5% for each year of service over 30 years. Final average salary is the employee's average salary over the highest three years of earnings. Benefits fully vest on reaching five years of service. Vested employees may retire at any age with 30 years of credited service, at age 55 with a minimum of 25 years of accredited service, and at age 60 with a minimum of five years of service. Employees retiring with less than 30 years of service and under age 65 receive reduced retirement benefits. Benefits are established by state statute.

Market Values of International Investments Held at June 30, 1999 and 1998 (in thousands)

	June 30, 1999	June 30, 1998
Externally managed		
International stocks	$6,821,456	$ 5,530,276
International fixed income	80,659	45,171
International currency and liquidity reserves	217,870	367,953
Forward contracts	24,109	13,050
Total externally managed	7,144,094	5,956,450
Internally managed		
Country Funds	345,542	199,067
EAFE Index Fund	1,554,555	1,363,120
EMF Index Fund	873,118	641,134
EAFE Equity Swaps	1,653,249	1,357,037
EMF Equity Swaps	223,452	49,702
Total internally managed	4,649,916	3,610,060
Total international	**$11,794,010**	**$ 9,566,510**

Employees covered by PERS are required by Ohio statute to contribute 8.5% of their salary to the plan. STRS Ohio is required by the same statute to contribute 13.55% of covered payroll; 9.35% is the portion used to fund pension obligations, with the remainder used to fund the health care program for retirees. The required employer contributions for the current year and the two preceding years are as follows:

Year Ended June 30	Annual Required Contributions	Percentage Contributed
1999	\$3,472,000	100%
1998	\$3,090,000	100%
1997	\$2,727,000	100%

Historical trend information showing the progress of PERS in accumulating sufficient assets to pay benefits when due is presented in the PERS *Comprehensive Annual Financial Report*. PERS issues a publicly available financial report for the plans. The report may be obtained by writing to PERS, 277 E. Town St., Columbus, Ohio 43215-4642.

PERS also provides postemployment health care coverage to age and service retirees with 10 or more years of qualifying Ohio service credit and to primary survivor recipients of such retirees. Health care coverage for disability recipients is available. The health care coverage provided by the retirement system is considered an Other Postemployment Benefit (OPEB) as described in GASB Statement No. 12. A portion of each employer's contribution to PERS is set aside for the funding of postemployment health care. The Revised Code provides statutory authority for employer contributions. The 1998 employer contribution rate for local government employees was 13.55% of covered payroll; 4.20% was the portion that was used to fund health care for the year.

PERS expenditures for OPEB during 1998 were \$440,596,663. The number of benefit recipients eligible for OPEB at Dec. 31, 1998, was 115,579.

11. Required Supplemental Schedules and Additional Information

The schedule of funding progress, the schedule of employer contributions, the notes to the trend data and the supplemental information regarding the year 2000 are required supplemental schedules. These schedules are presented below and on Page 27 and are designed to provide information about STRS Ohio's progress in accumulating sufficient assets to pay benefits when due and to disclose STRS Ohio's year 2000 remediation efforts. The schedule of administrative expenses and the schedule of investment expenses are included as additional information. These schedules are presented on Pages 28-29.

Required Supplemental Information Regarding the Year 2000 — Some of STRS Ohio's older computer programs were written using two digits rather than four to define the applicable year. As a result, those computer programs that recognize a date using "00" as the year may interpret the year 2000 as the year 1900. In a worst-case scenario, this could cause a computer system failure or a disruption in operational services.

STRS Ohio's board and associates have given top priority to a plan to ensure that its systems will remain operational in light of "Year 2000" concerns. The plan consists of an inventory and risk assessment of all systems, renovation and testing of systems, and implementation of updated systems where necessary. Included with the plan are tests of our benefit payment interface with our financial institution.

Through our communication with third parties who provide mission-critical services, STRS Ohio has been given no reason to believe that any of those parties will not be able to continue providing accurate and quality services into and beyond Year 2000.

As of November 1999, all mission-critical computer applications have been renovated and tested for Year 2000 (Y2K) readiness. STRS Ohio is not aware of any circumstances that would impede its plan for Y2K readiness. However, because of the unprecedented nature of the Year 2000 issue, its effects and the success of related remediation efforts will not be fully determinable until the Year 2000 and thereafter. Management cannot assure that STRS Ohio is or will be Year 2000 ready, that STRS Ohio's remediation efforts will be successful in whole or in part, or that parties with whom STRS Ohio does business will be Year 2000 ready.

Required Schedule of Employer Contributions For the years ended June 30, 1994–1999 (in thousands)

Year Ended June 30	Annual Required Contributions*	Percentage Contributed
1999	**$446,655**	**100%**
1998	746,773	100%
1997	816,696	100%
1996	786,437	100%
1995	759,246	100%
1994	727,299	100%

* The amounts reported in this schedule do not include contributions for postemployment health care benefits.

Required Schedule of Funding Progress For the years ended June 30, 1994–1999 (in thousands)

Valuation Year	Actuarial Accrued Liabilities (AAL)*	Valuation Assets*	Unfunded Actuarial Accrued Liability (UAAL)*	Ratio of Assets to AAL	Covered Payroll**	UAAL as % of Active Member Payroll
1999	**$51,979,974**	**$46,341,436**	**$5,638,538**	**89.2%**	**$7,444,243**	**76%**
1998	48,972,084	41,709,903	7,262,181	85.2%	7,112,124	102%
1997	44,704,237	36,883,739	7,820,498	82.5%	6,805,797	115%
1996	41,128,062	32,930,801	8,197,261	80.1%	6,553,642	125%
1995	38,483,947	29,913,449	8,570,498	77.7%	6,327,049	135%
1994	36,042,209	27,713,810	8,328,399	76.9%	6,060,828	137%

* The amounts reported in this schedule do not include assets or liabilities for postemployment health care benefits.

** Covered payroll includes salaries for alternative retirement plan participants. For 1999, alternative retirement plan participant payroll totaled $105,938.

Notes to the Trend Data*

Valuation date	July 1, 1999	July 1, 1998
Actuarial cost method	Entry age	Entry age
Amortization method	Level percent closed	Level percent closed
Remaining amortization period	16.3 years	24.2 years
Asset valuation method	4-year smoothed market with 91%/109% corridor	4-year smoothed market with 91%/109% corridor
Actuarial assumptions:		
Investment rate of return	7.50%	7.50%
Projected salary increases	9.25% at age 20 to 3.25% at age 65	9.25% at age 20 to 3.25% at age 65
Inflation assumption	3.50%	3.50%
Cost-of-living adjustments	3% simple	3% simple

* The information presented in the required supplemental schedules was determined as part of the actuarial valuations at the dates indicated. The information in the table is from the latest actuarial valuations.

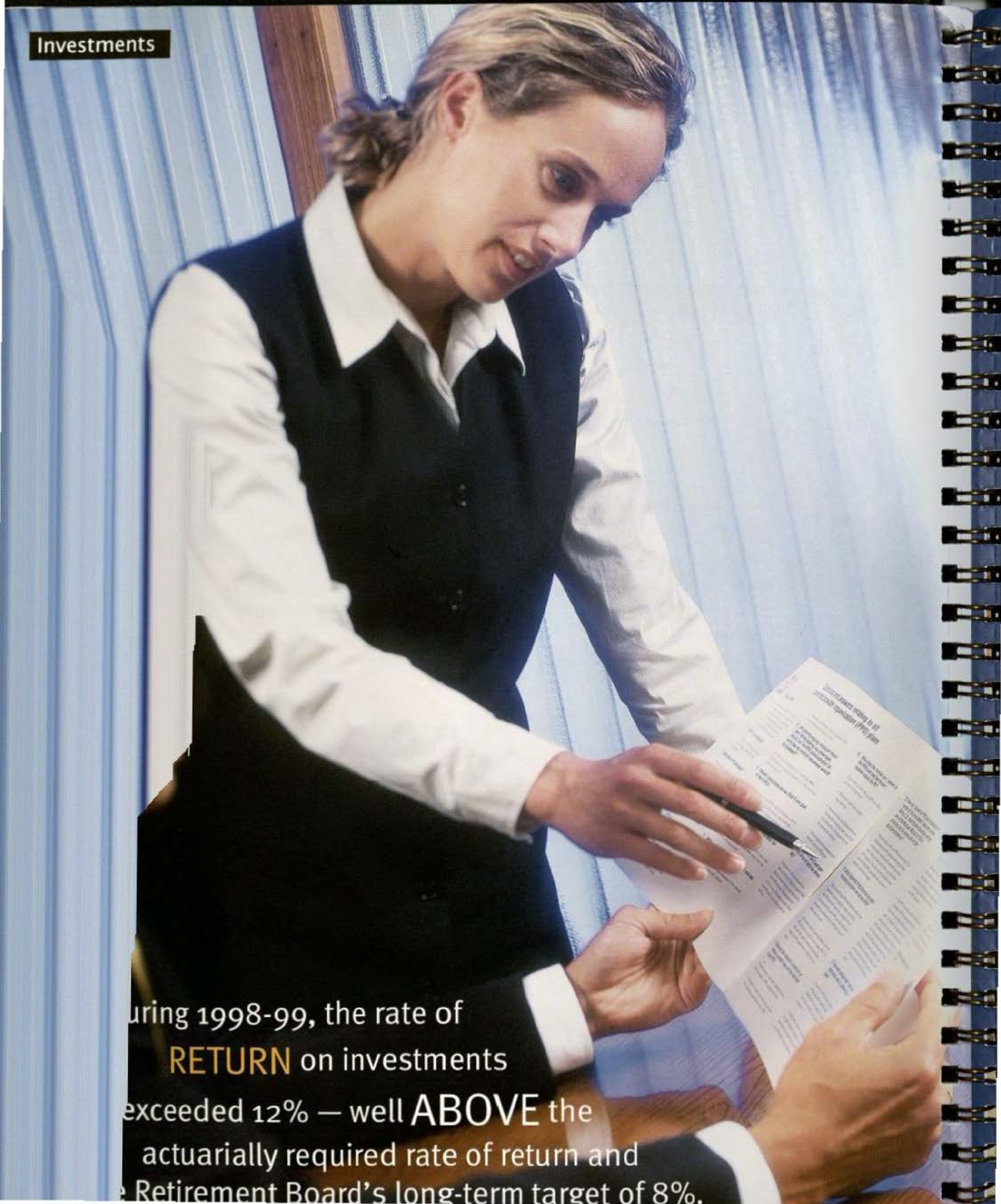
Schedule of Administrative Expenses
For the years ending June 30, 1999 and 1998

	1999	1998
Personnel		
Salaries and wages	$ 17,755,080	$ 15,448,459
Retirement contributions	2,341,857	2,034,575
Benefits	2,328,760	1,785,004
Total personnel	22,425,697	19,268,038
Professional and Technical Services		
Computer support services	6,622,961	5,991,105
Health care services	1,513,573	801,222
Actuary	496,078	354,533
Auditing	69,271	84,912
Legal	238,562	190,237
Total professional and technical services	8,940,445	7,422,009
Communications		
Postage and courier services	1,969,168	1,543,391
Printing and supplies	2,717,732	2,496,517
Telephone	589,019	507,176
Total communications	5,275,919	4,547,084
Other Expenses		
Equipment repairs and maintenance	1,243,077	1,275,409
Building utilities and maintenance	1,035,342	927,017
Transportation and travel	583,049	489,555
Recruitment fees	246,509	309,260
Equipment rental	2,212,939	2,174,618
Depreciation	5,384,814	4,897,402
Insurance	376,188	382,285
Memberships and subscriptions	102,332	137,078
Retirement study commission	211,476	159,234
Miscellaneous	781,036	755,543
Loss (Gain) on sale of assets	148,531	(255,958)
Total other expenses	12,325,293	11,251,443
Total Administrative Expenses	**$48,967,354**	**$42,488,574**

NOTE: Above amounts do not include investment administrative expenses, which are deducted from investment income.

Schedule of Investment Expenses
For the years ending June 30, 1999 and 1998

	1999	1998
Personnel		
Salaries and wages	$ 9,287,086	$ 7,878,318
Retirement contributions	1,130,604	1,055,247
Benefits	706,616	619,000
Total personnel	11,124,306	9,552,565
Professional and Technical Services		
Legal	31,177	(226,990)
Investment research	259,698	110,449
Real estate and international advisors	493,079	248,378
Investment advisors	391,388	281,965
Banking fees	2,845,644	2,548,254
Total professional and technical services	4,020,986	2,962,056
Other Expenses		
Printing and supplies	36,075	30,288
Equipment repairs and maintenance	2,717	179
Building utilities and maintenance	506,693	427,572
Travel	581,598	567,791
Equipment rental	104,286	143,346
Memberships and subscriptions	84,604	93,842
Miscellaneous	62,701	54,953
Total other expenses	1,378,674	1,317,971
Total Investment Expenses	**$16,523,966**	**$13,832,592**



uring 1998-99, the rate of
RETURN on investments
exceeded 12% — well ABOVE the
actuarially required rate of return and
Retirement Board's long-term target of 8%.

Investment Review

For the Fiscal Year July 1, 1998, through June 30, 1999

Economic activity steadies at a high rate of growth, while inflation remains low

Strong economic activity through the end of fiscal year 1999 helped push real gross domestic product (GDP) up 3.8% for the entire year — only slightly slower than the 4% growth recorded during fiscal 1998. Powerful consumer spending led the robust growth, but that was partially offset by the ballooning trade deficit resulting from the aftermath of the Asian financial crisis.

Real personal spending grew 5% during fiscal 1999, slightly weaker than the 5.4% pace recorded during fiscal 1998. Both rates exceeded the consensus view of roughly 3% long-term sustainable economic growth. Meanwhile, nonresidential investment grew by 7.4% versus the 14.2% growth of the prior fiscal year. That deceleration in growth was largely due to a slowdown in industrial equipment investment and investment in structures. Computer-related equipment spending continued to grow near the heady 24% pace of the prior fiscal year.

Apart from the first quarter of fiscal 1999, business inventories declined and dragged down total GDP growth. Residential investment remained strong throughout the fiscal year because of historically low interest rates, especially in the first half of the year. Solid real income growth also contributed to the 9% growth in residential investment. Real net exports took a chunk out of economic growth as the trade deficit grew throughout the fiscal year. Exports rose only 2.9%, while imports soared by 10.7%. Anemic foreign economic growth and the financial problems in Southeast Asia caused the dollar to climb in value. Those events led to the deterioration in the U.S. trade position versus most of our trading partners. Finally, federal, state and local government expenditures grew by 2.6%.

Growth in consumer prices continued to be modest, rising 2.1% over the fiscal year after a 1.6% gain in fiscal 1998. Excluding the rise in energy costs, which rose 1.9% during the fiscal year after falling 6.3% in the prior fiscal year, growth in consumer prices decelerated from 2.2% to 2.1%. Broader measures, like the GDP price index, also showed only a modest move up in growth.

In response to the financial markets' turmoil at the beginning of fiscal 1999, the Federal Reserve implemented a series of cuts in the federal funds rate. The rate fell to 4.75% from the 5.5% maintained throughout fiscal 1998. Since then, the unwavering growth of the U.S. economy and the expectation of a revival of foreign economies, notably Japan, has pushed long-term interest rates higher and has heightened inflationary concerns at the Federal Reserve. The 30-year Treasury bond began the fiscal year at nearly 5.5%, slid to about 4.75% in October and then rose steadily to slightly above 6.0% by the end of the year. Changes in mortgage rates closely followed movements in long-term Treasury rates, though the initial decline in rates was not as large. The 30-year fixed-rate mortgage began the

Fixed-income investments continue to exceed the benchmark

Generally, interest rates track closely with market expectations for economic growth and inflation in the economy. They rise when growth and inflation increase and fall when they decrease. Long-term interest rates began fiscal year 1999 at slightly above 5.5%. Economic growth had been strong, inflation was low and the stock market was at new highs. Many economists were predicting the Federal Reserve would raise rates to slow economic growth in order to avoid inflation. However, as the fiscal year progressed, economic problems that began in Asia spread to Russia and larger, more economically important countries. Mass investor risk aversion caused quality premiums to increase and a flight to quality drove long-term interest rates to 4.75%. In kind, the Federal Reserve aggressively lowered rates to provide liquidity to a near panic-stricken bond market. As interest rates reached a generational low, the bond market stabilized and the economy responded positively. The economy grew above expectations and interest rates began to climb as investors again became worried about potential inflation. The Federal Reserve began to tighten credit, and by the end of the fiscal year long-term interest rates had risen to above 6%.

At the start of the fiscal year, the STRS Ohio fixed-income portfolio's duration was shorter than the market. Duration is a measure of risk, with the market's duration represented as 100%. The fixed-income portfolio began the fiscal year at a relative duration of 97%, positioned to benefit from an expected rise in interest rates. As interest rates were bottoming in the first quarter of the fiscal year, portfolio duration was reduced to 86%. This provided STRS Ohio staff with an opportunity to increase returns relative to the benchmark should rates rise (and bond prices fall). This scenario played out as expectations of stronger growth and potentially higher inflation caused rates to rise and bond prices to fall. Rapidly rising rates in the final three quarters of the fiscal year allowed for this strategy to be unwound and has provided another opportunity to add to relative performance should rates fall as the portfolio ended the year with a relative duration of 117%.

The net results of trading during the fiscal year increased the duration of the portfolio while maintaining a quality level of AA+. The share of the total fund allocated to this area was reduced to 21% at market from 23% the previous fiscal year. Using book value of sales and maturities as a measure, portfolio turnover increased to 69% from 45%.

Performance measurement follows the industry convention of reporting on a calendar-year basis. The Lehman Brothers Aggregate Bond Index closely resembles the universe of investment alternatives for the STRS Ohio fixed-income portfolio and is used as the benchmark for relative performance. For calendar year 1998, this benchmark returned 8.7% versus STRS Ohio's fixed-income portfolio's return of 9.2%. The shifting of the portfolio's duration contributed to the excess performance relative to the index. A more complete report of STRS Ohio performance appears on Page 48.

Stock market strength rotates into long-suffering sectors

Early in the fiscal year, it appeared the long bull market was finally running out of steam. Flat earnings combined with international economic turmoil to drive the stock market sharply lower in the early fall, culminating in a near panic sell-off in early October. The S&P 500 started the fiscal year at just over 1100. By the close of business on Oct. 8, it had fallen more than 20% to 923. Further bloodletting was avoided when the Federal Reserve moved aggressively to provide liquidity to the system. Three interest rate cuts over the remainder of the calendar year reinvigorated the bull market, driving the S&P to a 1300 level by mid-March. Throughout this run, large-cap growth stocks continued to dominate returns.

By mid-April of 1999, the market broadened out and long-suffering value stocks began to outperform for the first time in five years. While the overall market spent the remainder of the fiscal year in a trading range, there was significant relative movement between sectors. By June 30, the S&P 500 turned in another stellar return of 22.8% while the S&P 1500, slowed by the returns of smaller companies, turned in a still respectable 21.4%. Cyclicals, energy and basic material stocks showed signs of life in the last quarter of the fiscal year, while the bellwether technology sector turned in another very solid year of performance. Given the continued, albeit reduced, dominance of the market by the Nifty 50 growth stocks, active managers found it difficult to outperform the index once again.

STRS Ohio performance reports follow the industry convention of reporting on a calendar-year basis. During calendar year 1998, STRS Ohio equities returned 21.6% while the S&P 1500 returned 26.4%. The stock market continued to be driven by a relatively narrow list of very large growth stocks while the remainder of the market lagged behind. The average stock in the S&P 1500 returned 7.5% versus the 26.4% for the index. The new Nifty 50 stocks, primarily large technology companies, were strong enough to pull the index up nearly 20% themselves.

Domestic equities accounted for $22.9 billion, or just over 43% of total STRS Ohio assets at the end of fiscal year 1999. The top 20 STRS Ohio common stock holdings are shown in the schedule of largest investment holdings starting on Page 50. Equity investment results are on Page 48.

International investments perform better than the benchmark

During fiscal 1999, the international equity markets were quite strong across the world as emerging markets rebounded strongly and developed markets held their own. In aggregate, the developed markets, represented by the Morgan Stanley Capital International (MSCI) Europe, Australia, Far East (EAFE) Index (50% hedged), rose 8.6%. That lagged the U.S. market but was still a respectable return. The phenomenal 31% return of the Asian developed markets was diluted by the 2% decline in Europe. This was a reversal of the pattern seen in fiscal 1998.

The emerging markets were extremely strong in all regions except Latin America, which rose only 1%. The Asian markets, in contrast, rose a stunning 76% after the weak showing in fiscal 1998. In aggregate, the emerging markets, as represented by the MSCI Emerging Markets Free (EMF) Index, rose 28.7%.

The STRS Ohio international hybrid index, consisting of 70% of the MSCI EAFE Index (50% hedged) and 30% of the MSCI EMF Index, rose 14.4%, making up for the 13.7% drop in the previous year. The STRS Ohio international equity portfolio outperformed the hybrid benchmark in calendar 1998 by falling a scant 0.02% versus a drop of 0.94% by the benchmark. The STRS Ohio international portfolio also exceeded the benchmark for the two-year, three-year and since inception time periods through calendar year 1998. Performance results of the international equities portfolio on a calendar-year basis are on Page 48.

The international portfolio was valued at $11.8 billion at the end of fiscal 1999, which represented 22.3% of total STRS Ohio assets. Developed market investments totaled $7.2 billion, or 13.6% of total assets, and emerging market investments were $4.6 billion, or 8.7% of total assets. External managers were responsible for managing 61% of the international portfolio and the remaining 39% was internally managed.

Real estate returns surpass benchmark

The real estate market continues to perform well during the mature phase of the cycle. Real estate fundamentals of supply and demand for the physical space market continued to be in balance. While new construction activity continues in many markets, the capital markets have pulled back somewhat with respect to financing of new projects which has kept new development from becoming excessive.

The capital markets continue to shift money among the various public and private vehicles for real estate. The public debt market experienced a major retrenchment late last summer but has rebounded to a more realistic level. The poor performance in the public real estate equity market that began in 1998 continues as relatively little new funds are being allocated to the sector. This trend is expected to continue in the near term. However, new capital continues to be put into the private sector, which in part, has pushed yields down. In addition to the strong capital flows into real estate, a slowing economy will also contribute to more moderate real estate returns. STRS Ohio's outlook for the asset class continues to be favorable, although returns are expected to trend down from the exceptional performance that has been realized in recent years.

STRS Ohio's real estate portfolio returns reflect this moderation of returns while still exceeding the composite benchmark for the calendar year. STRS Ohio's portfolio returned 12.1% as compared to the benchmark of 11.3%. During fiscal year 1999, the real estate portfolio saw significant growth of almost 20%. This gain is attributable to both significant new investments and strong appreciation in the existing base of assets. This growth in the portfolio resulted in the asset class achieving its target allocation of 9%.

Total fund returns exceed long-term goals

During calendar year 1998, the STRS Ohio fund returned 13.0% (STRS Ohio performance is more appropriately calculated on a calendar-year basis for adequate comparisons with other performance publications). The hybrid index of industry benchmarks rose 15.5% during calendar year 1998. STRS Ohio's rate of return for the five-year period ending Dec. 31, 1998, was 12.4%, well above the 8% absolute long-term return goal but below the 13.7% gain in the hybrid index of benchmarks. Over the past three calendar years, STRS Ohio's investments returned 13.2%, while the hybrid index rose 15.0%.

The performance of most STRS Ohio asset categories relative to their benchmarks continued to fare well. During the past three years, the STRS Ohio domestic equities portfolio grew 22.9% versus the S&P 1500's 27.2% average annualized gain. The international portfolio outperformed its hybrid EAFE/EMF benchmark for a fifth straight year. The STRS Ohio international portfolio returned an annualized 3.8% through the past five calendar years, while the benchmark grew 2.5%. Fixed-income investments continue to exceed the Lehman Aggregate Bond Index over the five-year and three-year periods. During the past five years, fixed-income investments have returned 8.2% while the benchmark rose 7.3%. Over the past three years, fixed-income investments returned 7.9% versus the benchmark's 7.3%. The return from real estate investments outpaced its benchmark over the past five years by 0.43%, growing at an annualized 10.58% versus the benchmark increase of 10.15%. During the past three years, real estate investments returned an annualized 12.3%, while the benchmark also advanced 12.3%.

The total return on STRS Ohio investment assets over the preceding five-year period exceeded the rate of inflation by 10.7 percentage points. Over the three-year period, the return on STRS Ohio investment assets has exceeded the inflation rate by more than 11.7 percentage points.

Investment Objective and Policy

(Effective June 18, 1999)

General Policy Statement

Introduction

The State Teachers Retirement System of Ohio is governed by a board of nine members with broad statutory powers. The investment function is vested in the board as set forth in Section 3307.15 of the Ohio Revised Code. Section 3307.15 of the Ohio Revised Code requires the board to ". . . adopt in regular meeting, policies, objectives or criteria for the operation of the investment program . . ." These policies, objectives and criteria are adopted under this authority.

It is the intent of the board to give consideration to investments that enhance the general welfare of Ohio provided such investments offer quality return and safety comparable to other investments currently available to the board. The board also will give consideration to investments that involve minority-owned and minority-controlled firms and firms owned or controlled by women.

Sections 3307.04 and 3307.15 of the Ohio Revised Code empower the board to authorize its administrative officers and committees to act for it in accord with its policies. In addition to the investment function, Section 3307.15 of the Ohio Revised Code also sets forth the fiduciary responsibility of the board and other fiduciaries in discharging their duties with respect to the fund. Section 3307.01 (T) of the Ohio Revised Code defines a fiduciary, and Sections 3307.14, 3307.15 and 3307.18 of the Ohio Revised Code list specific items a fiduciary shall and shall not do. This Investment Objective and Policy incorporates and is subject to all of the above-mentioned sections of the Ohio Revised Code.

Staff and Board

Participation in the affairs of any public body demands high personal integrity and conduct. This is especially true when funds of others are involved. Members of the board and staff must discharge their responsibilities without prejudice or favor, avoiding at all times any conduct that could create or appear to create a conflict of interest.

Staff members shall carry out the duties and responsibilities delegated by the board in the best interest of members of the system and in accordance with the code of ethics of the Association for Investment Management and Research. No staff member shall engage in any activity in his or her official position or in a personal investment program that will in any way create a conflict of interest.

Organization

Investment Committee

An Investment Committee is established and consists of all nine members of the board. The Investment Committee is empowered to advise the board in all investment matters.

Investment Advisors/Consultants

The board shall employ competent, well-qualified organizations to assist in carrying out its fiduciary responsibility. Duties of the investment advisors/consultants shall include but not be limited to:

1. Recommending long-term investment objectives and review of these objectives at least annually.
2. Monitoring performance of the investment program.
3. Availability to counsel with in-house staff, executive director, or members of the board.
4. Participation in bimonthly meetings of the Investment Committee.
5. Review and advise on detailed investment criteria for all investments.
6. Review of Annual Investment Plan.
7. Performance of such other duties as may be provided by contract.

Executive Director

Subject to this Investment Objective and Policy, the executive director is authorized by the board under Sections 3307.04 and 3307.15 to act for and on behalf of the board and the system in all purchases, sales or other investment transactions. Investment transactions since the last report will be reviewed by the Investment Committee at each meeting and upon such review shall be deemed accepted, ratified and adopted by the board. The Investment Committee may act at the time of such review to direct the subsequent sale or disposal of any investment.

Deputy Executive Director — Investments

The deputy executive director — Investments, shall have the following responsibilities:

1. Supervise activities of the in-house staff.
2. In cooperation with the investment advisor and the executive director, formulate an Annual Investment Plan.
3. Make recommendations to the executive director and board concerning periodic modification of the Annual Investment Plan.
4. Assure that the portfolios comply with established parameters and risk levels.
5. Supervise execution of orders to buy and sell securities (including options) seeking always to maintain reasonable costs for such services.
6. Report in required detail to the executive director and the Investment Committee and/or the board on all activities of the investment staff.

Objectives, Guidelines and Policies: Total Fund

Objectives

In many if not most instances, payments from the pension fund are the major sources of income to retirees and a principal protection against the contingencies of death and disability for active workers. Therefore, the basic policy of the board is preservation of the capital investment and realization of sufficient return to secure and facilitate payment of the statutory benefit requirements of the system to its participants and beneficiaries. In this connection, it is recognized that the fund will achieve some protection against erosion of principal value through inflation if the actuarially assumed interest rate is achieved.

Maximization of return, from both current income and capital appreciation consistent with the overall risk parameters described below, is an important objective. With the insight gained from careful studies of the benefits of diversification and asset return potential, the board sets a total return objective of 8% per annum. This is a long-term objective, and this total return expectation assumes an average inflation rate of 3.5%. The objective should be pursued consistent with prudent management.

The board anticipates that contributions to the pension fund and income from existing assets will exceed disbursements for the foreseeable future. Therefore, there is no special need for liquidity in the portfolio, other than that deemed necessary to accomplish investment objectives and strategies.

Given the expected contribution income, forecast of benefit obligations and acceptable actuarial asset value smoothing techniques, the risk level of the pension fund, meaning the tolerance for fluctuations in market value of the total investment fund, can match that of the global stock market. This should protect the beneficiaries from any undue risk while capturing the desired return potential from the preferred asset mix.

The asset mix policy ranges and the average long-term weights for the major asset classes are listed on Page 37. The investment staff

Asset Class	Asset Mix General Policy Ranges at Market	Average Long-Term Weightings at Market
Liquidity Reserves	0 - 6%	2%
Fixed Income	20 - 35%	23%
Domestic Equities	40 - 50%	45%
International	15 - 24%	20%
Real Estate	6 - 12%	9%
Alternative Investments	0 - 2%	1%
		100%

Asset Class	Total Return Objective	Benchmarks
Liquidity Reserves	4 - 5%	90-day Treasury Bills
Fixed Income	6 - 7%	Lehman Aggregate
Domestic Equities	8 - 10%	S&P 1500
International	8 - 10%	70% EAFE*/30% EMF
Real Estate	8 - 9%	NCREIF Adjusted
Alternative Investments	14 - 16%	Absolute Return
		* 50% hedged

has the authority to operate within the policy ranges for each asset class. The average long-term weights were derived from asset allocation studies, discussions with the board's consultants, and staff input and are based on each asset's long-term (five- to 10-year) expected rate of return and volatility.

It is expected that in each year's Annual Investment Plan, the board will adopt a current strategy which may deviate from the average long-term weights shown above based upon short- and intermediate-term expected returns of each asset.

Objectives, Guidelines and Policies: Fixed Income

Objectives

For the publicly-traded bond sector of the portfolio, a total return of 6-7%, averaged over five to 10 years, is desired. Should conditions change in the bond market so as to make this objective unattainable without undue risk, it will be the responsibility of the investment advisor to recommend to the board a revised figure. The low expected return, relative to the board goal of 8% overall, is acceptable in light of diversification benefits bonds bring to the portfolio asset mix.

Restrictions

It is the responsibility of the investment advisor to review and recommend changes in specific criteria for bond investments and to review such criteria at least annually with the Investment Committee. The purpose of the criteria is to provide assets of reasonable quality and marketability. It is not a substitute for prudent portfolio management nor will it ensure superior performance. Risks for which the investor is not compensated are to be avoided. An average rating of A should be the minimum maintained in the publicly-traded sector of the bond portfolio, considering obligations of the U.S. Treasury and related agencies as Aaa+. All bond, note, pass-through security, trust certificate, trust preferred, debenture, foreign-related or medium-term note purchases shall:

1. Be issues or shelf registrations of at least $50 million par value.

2. Be made with the intent of creating positions of at least $1 million.

3. Not exceed 15% of any one issue except for U.S. Treasury, related agencies and other U.S. Government guaranteed securities.

4. Not be more than 1% of the total plan assets if they are not rated or below BBB-rated securities.

The publicly traded bond sector of the portfolio will have a volatility level between 80% and 150% of the Lehman Aggregate Bond Index.

In managing the fixed-income portfolio, up to 5% of total fund market value in derivatives may be used as long as the underlying security is suitable for the portfolio. Treasury note and Treasury bond futures, options thereon, or over-the-counter (OTC) options on Treasury securities may be used to manage the volatility of the fixed-income portfolio. Use of such assets must be of a hedging or positioning nature rather than speculative. The use of leverage to enhance a derivative's effect is prohibited. Any security whose value is derived from an instrument which is not permitted under this policy for the fixed-income portfolio is prohibited. Mortgage pass-through securities that receive prorated principal and interest payments and also asset-backed securities will not be considered derivative investments for the purpose of this Policy and Objective Statement.

Variations of fixed-income exchanges and possible environments under which they can be considered are limitless. General criteria may be too restrictive to allow portfolio enrichment and not specific enough to avoid poor judgment. However, the following is required:

1. All bond exchanges are to be documented by the investment staff at time of execution as to specific details of price and yield, and objectives of the individual exchange.

2. The investment advisor will review these exchanges periodically with the staff as to reasonableness and support of the overall investment plan and report to the board thereon.

3. The annual turnover ceiling shall be 150% of marketable bond assets. Turnover is defined as the total book value of sales and maturities as a percent of beginning book value.

4. A portfolio measurement will be made showing incremental advantage or disadvantage obtained through exchange activity.

Negotiated private placements shall be limited to 15% of assets invested in bonds and shall be purchased only when there is significant additional return (defined as approximately 50 basis points over the current yield rate of publicly traded bonds of similar quality) as an offset for the limited marketability of privately placed bonds.

The following foreign-related credits may be purchased under this section provided they do not exceed 5% of total assets:

1. Sovereign credits, Yankee bonds or Eurobonds rated A- or better.

2. State of Israel bonds (not rated) not to exceed $10 million.

Total mortgages shall be limited to 15% of total assets. Mortgage securities issued by the Government National Mortgage Association (GNMA), the Federal Home Loan Mortgage Corporation (FHLMC), and the Federal National Mortgage Association (FNMA) shall be the primary emphasis.

Any collateralized mortgage obligation (CMO) or structured note whose price (under analysis at time of consideration) would change by more than 30% under a parallel shift in the yield curve of plus or minus 200 basis points is prohibited. A CMO that has an expected negative duration is also prohibited. Any CMO that conforms with the volatility levels described above is considered an appropriate investment for the mortgage portfolio and is not defined as a derivative.

Objectives, Guidelines and Policies: Liquidity Reserves

Objectives

It is the board's policy to hold some liquidity reserves to provide some protection against expected downward market movements and to assist in reaching the overall return objectives.

Restrictions

Under normal circumstances, a reserve of 6% of the value of the total fund shall be considered the maximum limit. It will be the responsibility of the investment advisor, together with the deputy executive director — Investments, to recommend any modification of this position.

Positions should not exceed $75 million in one obligor of commercial paper, certificates of deposit or bankers' acceptances.

Investments may be made in commercial paper, Treasury obligations, notes, certificates of deposit, bankers' acceptances, short-term investment funds or repurchase agreements, with the responsibility resting with the investment staff as to selection of the specific instrument at any given point in time.

1. Any commercial paper purchased by the system shall have a maturity of not more than 270 days and shall be rated P-1 by Moody's Investors Service, Inc. or A-1 by Standard & Poor's Corporation or an equivalent rating by a major rating service.
2. Certificates of deposit, time deposits, commercial paper and bankers' acceptances shall be purchased on those banks affiliated with the largest 100 U.S. bank holding companies in terms of assets or foreign banks with short-term debt ratings of P-1 or A-1 or an equivalent rating by a major rating service, or from the 20 largest bank holding companies in Ohio.

Repurchase agreements shall be collateralized by U.S. Treasury, related agency or AAA asset-backed securities with a market value in excess of funds advanced.

Objectives, Guidelines and Policies: Domestic Equities

Objectives

For the domestic equity sector of the portfolio, a total return objective of 8-10%, averaged over a period of five years, is desired. Should the investment advisor believe attainment of this objective at anytime is not possible without undue risk, it is the advisor's responsibility to recommend to the board a revised figure. The equity portfolio should reduce nonmarket risk by being diversified.

Domestic Equity Portfolio Allocations
(as a percentage of total assets)

Portfolio Name	Percentage Range		Average Long-Term Weighting
	Low	High	
Large Capitalization Sector			
Large-Cap Growth	6%	12%	9.0%
Large-Cap Value	9%	12%	9.0%
Industry Index	9%	15%	12.0%
S&P 500 Index	8%	12%	9.5%
Medium Capitalization Sector			
Mid-Cap Growth	1%	2%	1.5%
Mid-Cap Value	1%	2%	1.5%
S&P 400 Index	0%	3%	1.0%
Small Capitalization Sector			
S&P 600 Index	0%	3%	1.5%
Total Equities	40%	50%	45.0%

Restrictions

It is the board's policy to maintain an investment in domestic equities in the range of 40-50% of assets. The amount invested at any time is determined by the long-term objectives established by the board in conjunction with the investment advisor/consultant and by the Annual Investment Plan and its periodic modifications.

No more than 6% of assets of the system invested in the equity sector may be invested in equities of any one corporation. The board shall not generally take a position constituting more than 5% of the outstanding equity of a corporation (except investments approved under the "Alternative Investments" section).

All American depository receipts and foreign stocks listed on a domestic stock exchange are eligible for purchase under this section.

Derivatives may be used in management of the equity portfolio. The use of leverage to enhance a derivative's effect is prohibited. Derivatives are typically, but not exclusively, options, futures, and options on futures for market indices such as the S&P 500, S&P 400, S&P 100 and the S&P 600 index. Options on individual stocks, stock baskets and unleveraged equity linked notes are further examples. Strategies permitted must be of a hedging or positioning nature rather than speculative. Underlying exposure of equity derivatives cannot exceed 10% of total STRS Ohio assets.

Quality Standards and Portfolio Construction

Domestic equity portfolios are normally invested in securities selected from a universe of more than 6,000 publicly traded issues. The investment style of individual portfolios follows STRS Ohio guidelines, as described in the Annual Investment Plan, and are monitored based on appropriate portfolio characteristics and risk levels. Stocks are selected for each portfolio based on a set of criteria appropriate for each style. The Board's investment advisor/ consultant must review each equity portfolio to measure the degree of compliance with STRS Ohio established parameters and risk levels. The investment advisor/consultant must report the results to the board at least annually.

Objectives, Guidelines and Policies: International Investments

Objectives

It is the board's policy to invest in international investments in order to diversify the investment portfolio. A total return objective of 8-10% per year over a five-year period is expected on these assets. The primary emphasis will be on international equity securities, but some international debt instruments may also be included.

Restrictions

It is the board's policy to maintain an exposure in international investments in the range of 15-24%. The staff will select and the board will monitor performance of all outside money management firms used for international investments. Internal management of international assets will also be utilized. International assets will be a diversified portfolio including both developed and emerging countries. The targeted normal weighting of international investments will be comprised of 14% developed countries and 6% emerging countries. The staff may deviate from this weighting by plus or minus 2%. The neutral position for currencies will be 50% hedged for the developed markets. Currencies will be hedged at the discretion of the manager. The internally managed portfolio will generally hedge currencies in excess of the 50% neutral position only in cases of extreme under- or overvaluation.

Derivatives may be used in management of both the internal and external international portfolios as long as the underlying security is suitable for the portfolios. The use of leverage to enhance a derivative's effect is prohibited. Derivatives may be used to adjust the exposure to countries or markets, to individual securities or to currencies in the portfolios. All strategies must be of a hedging or positioning nature rather than speculative. Underlying exposure of derivatives for international investments will not exceed 10% of total STRS Ohio assets.

Objectives, Guidelines and Policies: Alternative Investments

Objectives

The chief objective of the alternative investment program is to provide an attractive risk-adjusted rate of return to benefit the STRS Ohio membership. Most alternative investment options inherently possess a long-term investment horizon, illiquidity and a high standard deviation (volatility in the timing of returns). For these reasons, expected financial returns exceed those of other asset classes. Alternative asset returns are expected to be approximately 15% annualized over the life of the asset pool.

Restrictions

Total value of alternative investments will not normally exceed 2% of total assets. Timber and farmland, often classified as alternative assets, are considered by the board as real estate for this policy statement and are managed under the real estate section of this statement.

Potential alternative investments will be analyzed for possible STRS Ohio investment. In addition to meeting the legal requirements, underwriting criteria include: experienced general partners, solid track record and appropriate partnership terms. The Annual Investment Plan will set forth strategies, desirable types and specific current goals for alternative assets.

The executive director shall report any investment under consideration pursuant to this section to the Investment Committee prior to making any legally binding commitment to such investment.

The deputy executive director — Investments, will inform the board of an individual to serve on a company board and to face election by shareholders of that company. If the named individual is an STRS Ohio associate, that individual must sign a letter of agreement with the State Teachers Retirement Board indicating that, should the staff member terminate employment at STRS Ohio, resignation from any and all company board seats would occur if the State Teachers Retirement Board so directs. The STRS Ohio associate can be reimbursed for actual expenses incurred in serving on a board of directors, but no director's fees will be accepted.

Objectives, Guidelines and Policies: Real Estate

Objectives

It is the board's policy to invest in real estate in order to diversify and reduce the volatility of the overall investment portfolio. Consequently, real estate investments will be acquired to provide a return commensurate with investment risk. Income yields shall be a key objective of the portfolio with long-term appreciation also a factor in real estate selection. A total return objective of 8-9% per year over a five-year period is expected for the portfolio.

Guidelines

It is the board's policy to maintain an investment in real estate in the range of 6-12% of total assets, diversified within the following guidelines:

1. **Property Type:** High-quality investments that will provide both investment security and equity growth potential. Five such types are:

    a. Office buildings

    b. Retail properties

    c. Distribution centers, warehouses and industrial parks

    d. Multifamily housing

    e. Specialty

Specialty types include, but are not limited to, timberland, farmland, senior living and hotels.

The value for any one property type shall generally not exceed 50% of real estate assets. However, the specialty type shall not exceed 25% of real estate assets.

2. **Geographical Concentration:** The maximum value for any one of the four regions as defined by the National Council of Real Estate Investment Fiduciaries (NCREIF) will generally be 50% of real estate assets. Investments in international real estate will be limited to 10% of real estate assets. When properties located within Ohio offer quality, return and safety comparable to properties outside Ohio, the Ohio investment will be given preference.
3. **Investment Structure:** Equity-oriented ownership structures will be used such as direct ownership, participating mortgages, joint ventures, externally managed accounts, real estate securities and derivatives. Real estate securities will be limited to 25% of real estate assets. Derivatives may be used in the management of the real estate portfolio. All strategies must be of a hedging or positioning nature rather than speculative. Underlying exposure of real estate derivatives must not exceed 1% of total STRS Ohio assets. The staff will search for innovative ways to approach structuring new real estate investments to enhance STRS Ohio's total investment strength. In order to manage the overall volatility of the real estate portfolio, the amount of leverage on the portfolio will generally be limited to 35% of real estate assets.
4. **Investment Size Guidelines:** The minimum size for individual real estate properties will be generally: $10 million for properties within Ohio and $15 million for properties outside Ohio. Exceptions to this guideline are appropriate in areas where STRS Ohio has an existing concentration of assets or is actively building a concentration. The maximum investment amount for an individual property will be limited to approximately 1% of total STRS Ohio assets.
5. **Investment Style:** The real estate portfolio will contain individual investments along the risk/return continuum. However, the portfolio will generally limit "non-core" (i.e., relative higher risk) investments to 30% of total real estate assets.

Procedures

Due Diligence

The real estate investment management process will be subject to a number of procedures to safeguard assets of the system. New investments will have the following documentation:

1. A building and systems evaluation by a qualified engineering firm in the case of an existing building.
2. A review of plans and specifications by an architectural firm in the case of developmental properties.
3. An environmental review by a qualified consultant in accordance with the Environmental Policy described below.
4. A financial analysis including, but not limited to, holding period, internal rate of return, initial yield and sensitivity to critical assumptions.
5. Legal review and approval of appropriate documents.

Environmental Policy

Real estate investments will be subject to the requirements of an Environmental Policy. The policy shall be reviewed by the board's real estate consultant for comparability to other institutional investor practices. The policy will ensure that STRS Ohio will be prudent and diligent in its evaluation of potential investments so as not to invest in property on which hazardous materials are present on or so near the property in such form and quantities as to cause STRS Ohio significant legal or economic liability. The policy will also address potential investments in terms of wetlands, endangered species or any other environmental issue that would potentially have a material impact on the value of the property or STRS Ohio liability.

Valuations

A combination of internal valuations and external appraisals will be used on a rotating basis for valuing the internally managed assets (except the sale-leaseback portfolio will be valued on an internal basis only). Each property will be valued annually, with an independent external appraisal no less than every third year. Additionally, a sample of internally valued properties will have external appraisals each year to validate the internal results. At acquisition, each property will have an external appraisal although carried at purchase cost for the first year. Externally managed investments are valued and reported to STRS Ohio by the external manager. The methodology used for internal valuations shall be reviewed by the board's real estate consultant.

Performance

Real estate investment performance will be reported to the board on a quarterly basis. The real estate portfolio shall have as its benchmark a composite index consisting of 75% of the NCREIF Property Index, 10% of the NCREIF Timberland Index, 5% of the NCREIF Farmland Index and 10% of the NAREIT Equity Index.

Board Consultant

The role of the real estate consultant is specifically outlined in the contract scope of services. The scope of services includes, but is not limited to, the following:

1. Report to the board on a semiannual basis regarding the investment performance of the system's real estate portfolio.
2. Review and comment on the real estate strategy as presented in the Annual Investment Plan and any revisions to the plan recommended during the year. Review and comment on the five-year real estate strategy prepared by staff.
3. Review triennially the general internal management of real estate and its efficiency, with the objective of completing an overall operational audit.
4. Review certain predefined property-specific transactions.

Real Estate Investment Committee (REIC)

A committee composed of a combination of internal staff and external industry professionals will review proposed transactions for recommendation to the deputy executive director — Investments and the executive director. Transactions to be reviewed by the REIC include new acquisitions, dispositions from the existing portfolio and significant modifications in existing deal structures. The following transactions will not be subject to REIC review for recommendation to the executive director:

1. Ancillary purchases, sales, exchanges and capitalized expenditures which are valued at less than 20% of the total property value;
2. Public real estate securities provided the allocation limit in the "restrictions" section is met;
3. Actions allowed under existing investment documents (e.g., conversion options, loan prepayments, buy-sell agreements, etc.);
4. Sales of individual sale-leaseback properties;
5. Temporary mortgage restructurings, which limit the restructuring to no more than four years and revert back to original terms;
6. Settlement of actual or potential real estate litigation;
7. Investment in international real estate funds and securities.

Board Review

The board adopts policy and monitors performance with the assistance of the real estate consultant. These responsibilities include review of the:

1. Investment Objective and Policy
2. Long-term real estate strategy
3. Annual Investment Plan
4. Individual transactions outside policy and/or strategy
5. Monthly Investment Activity Reports
6. Semiannual performance reports from the consultant

Objectives, Guidelines and Policies: Procedures

Long-term Objectives

The investment advisor shall recommend long-term objectives for the total plan and for each segment of the portfolio. These long-term objectives, many of which are incorporated into this policy, shall be reviewed by the Investment Committee and/or the board at least annually. The objectives for staff-managed domestic portfolios of financial assets shall incorporate statements of investment criteria for both publicly-traded bonds and stocks, as recommended by the investment advisor/consultant and approved by the board.

Annual Investment Plan

By January of each calendar year, or at such other time as the board may designate, an Annual Investment Plan shall be proposed to the Investment Committee. This proposed plan shall be based upon recommendations of the Investment Department and the investment consultants, with approval of the executive director. The Annual Investment Plan shall be based upon:

1. The long-term objectives and normal asset weights set by the board.
2. General economic outlook for the short and long term.
3. Expected relative outlook for asset types.
4. Short- and long-term interest rates.
5. Such other factors as seem indicated.

The Annual Investment Plan will serve as a guide for the investment staff in its day-to-day operation. Any changes proposed to the plan are to be presented to and accepted by the board before adoption.

The plan as modified will become the operational plan for the investment staff until subsequent modification.

Reporting

The Investment Committee shall be furnished with the following:

Monthly

1. Monthly Activity Report that includes:
   a. Domestic Equities
      (1) Summary of the equity markets
      (2) Domestic equity performance comparisons
      (3) Top 20 holdings
      (4) Purchases and sales during the month
      (5) Portfolio diversification — past, present and planned
      (6) Status of special projects
   b. International
   c. Fixed Income
      (1) Summary of fixed-income markets
      (2) Summary of trading markets
      (3) Exchange summary
   d. Real Estate
   e. Cash Flow
   f. Performance
2. Portfolio Summary, classified by asset type, at market and as percentages of the total.
3. Investment purchases and sales since the last report.

Bimonthly

Appropriate commentary and reports on the progress with the Annual Investment Plan.

Semiannually

All exposure in derivatives for all asset classes.

Proxy Voting

The State Teachers Retirement Board believes that common stock proxies are valuable and should be voted in the best interest of the members and retirees. To this end, the Retirement Board shall maintain stock proxy voting policies and the staff and all outside managers will use them as guides in meeting the fiduciary responsibility of the State Teachers Retirement Board in voting common stock proxies. Common stock proxies may be executed by the executive director, the deputy executive director — Administration, the deputy executive director — Investments or outside money managers.

Ohio Investments

It is the policy of the board to give consideration to investments that enhance the general welfare of the state and its citizens provided the funds are invested solely in the interest of participants and beneficiaries. This goal will be pursued to the greatest extent possible within the limits of fiduciary responsibility. Preference will be given to Ohio investments offering competitive returns at risk levels comparable to similar investments currently available to the board.

To meet this objective an Ohio Investment Plan, incorporating all provisions of the STRS Ohio Investment Objective and Policy Statement, shall be maintained and implemented by the investment staff. This plan shall set forth procedures to assure that a special effort will be made by the investment staff to examine and evaluate all legal investment opportunities in the state and, where policy objectives are met, to acquire such investments.

Broker-Dealers

Purchases and sales of publicly traded securities shall be executed with broker-dealers from a list reviewed by the Investment Committee. The list shall be limited, as practicable, to 65 firms plus those in the Ohio and emerging firms sublist. Selection shall be based on an evaluation by the investment staff as to financial soundness, underwriting capabilities, research services, execution capabilities and other factors required by the staff to fulfill its assigned investment responsibilities. Specific transactions will be directed to the broker on that list most capable of providing brokerage services necessary to obtain both the best available price and the most favorable execution.

The board shall give equal consideration to minority-owned and controlled firms and to firms owned and controlled by women. The board shall be proactive in its intent to include firms that have an operating office located in Ohio, minority-owned and controlled firms, and firms owned and controlled by women.

Each firm listed shall file with the State Teachers Retirement Board on an annual basis such evidence of financial responsibility as required by the board. This information shall include, but not be limited to, an audited financial statement.

When stocks are purchased during an underwriting, allocations may be made to dealers not on the approved list provided the managing underwriter is so listed. Bond purchases may be made either at underwriting or in the secondary market from any firm holding membership in the National Association of Securities Dealers.

When entering into real estate transactions, the board shall give equal consideration to Ohio firms providing associated professional services, minority-owned and controlled firms, and firms owned and controlled by women.

Security Lending

The board may operate a security lending program to enhance the income of the fund. The program must be operated by a bank trustee under the custodial supervision of the Treasurer of State and each security lent must be fully collateralized. Results of the program must be reported to the board annually.

Measurement

The primary goal of the fund shall be to achieve the absolute return targets described in the "Total Fund" section of this policy. However, a secondary measurement objective of the board is to relate the fund's performance to various indices. The relative measurement of the total fund shall be made against a hybrid index consisting of weightings from liquidity reserves, equity, fixed income, real estate and international indices.

Relative measurement of performance shall be made on a quarterly and annual basis. The primary time period for such comparisons shall be three years, although one-, five- and 10-year comparisons shall also be examined.

The benchmark against which investment return of the publicly traded bond sector will be measured is the Lehman Aggregate Bond Index and the GDP Deflator. The primary time period for such comparisons shall be three years, although one-, five- and 10-year comparisons shall also be examined.

The domestic equity portfolio shall be compared against the Standard & Poor's 1500 Average and the Capital Resource Advisors State Plan Median Fund. The board's objective is to match or exceed performance of the yardsticks, subject to the volatility level expressed in the "Total Fund" section of this policy. The primary time period for such comparisons shall be three years, although one-, five- and 10-year comparisons shall also be examined.

The real estate portfolio shall have as its benchmark a composite index consisting of 75% of the NCREIF Property Index, 10% of the NCREIF Timberland Index, 5% of the NCREIF Farmland Index and 10% of the NAREIT Equity Index. The primary time period for such comparisons shall be three years, although one-, five- and 10-year comparisons shall also be examined.

The international equity portfolio shall have as its benchmark a composite index, consisting of 70% of the Morgan Stanley's Capital Markets Europe Australia Far East Index (EAFE) 50% hedged and 30% of the Morgan Stanley Emerging Markets Free (EMF) Index. The board's objective is to match or exceed performance of this composite index. The primary time period for such comparisons shall be three years, although one-, five- and 10-year comparisons shall also be examined.

In addition, the board and its investment advisors/consultants will maintain a performance monitoring system for individual asset categories and total fund.

Security Valuation

Valuation of investments shall be the total of:

1. The primary closing price on the principal registered stock exchange for all common and preferred stocks so listed.
2. The last sale as reflected by NASDAQ for common and preferred stocks not listed on a registered stock exchange.
3. The current value as determined by a qualified independent service for all bonds, notes and certificates of indebtedness.
4. Amortized cost for commercial paper, certificates of deposit, repurchase agreements and other short-term investments with a maturity of 270 or fewer days.
5. Real estate valued through a combination of independent appraisals and in-house valuations. Methodology underlying internal valuations will be reviewed by the real estate consultant. REIT shares are valued at primary closing prices on the principal registered stock exchange.
6. The most recent valuation for venture capital and alternative investments.
7. International investments are valued by the subcustodian using relevant closing market prices and exchange rates.

Investment Performance (Total returns, annualized)

1-Year Returns (1998)

Asset Category	STRS Ohio Return	Index Name	Index Return
Domestic Stocks	21.63%	Standard & Poor's 1500	26.35%
		Capital Resource Advisors*	22.30%
International	(0.02%)	70% EAFE/30% Emerging Composite	(0.94%)
Fixed Income	9.20%	Lehman Aggregate	8.69%
Real Estate	12.11%	Real Estate Composite**	11.25%
Total Fund	**13.02%**	S&P/Lehman/RE/International	15.47%
		Inflation (GDP Deflator)	1.18%

3-Year Returns (1996-1998)

Asset Category	STRS Ohio Return	Index Name	Index Return
Domestic Stocks	22.91%	Standard & Poor's 1500	27.16%
		Capital Resource Advisors*	23.80%
International	2.10%	70% EAFE/30% Emerging Composite	0.49%
Fixed Income	7.87%	Lehman Aggregate	7.29%
Real Estate	12.32%	Real Estate Composite**	12.33%
Total Fund	**13.21%**	S&P/Lehman/RE/International	15.04%
		Inflation (GDP Deflator)	1.49%

5-Year Returns (1994-1998)

Asset Category	STRS Ohio Return	Index Name	Index Return
Domestic Stocks	19.38%	Standard & Poor's 1500	n/a
		Capital Resource Advisors*	19.60%
International	3.84%	70% EAFE/30% Emerging Composite	2.50%
Fixed Income	8.19%	Lehman Aggregate	7.27%
Real Estate	10.58%	Real Estate Composite**	10.15%
Total Fund	**12.38%**	S&P/Lehman/RE/International	13.73%
		Inflation (GDP Deflator)	1.70%

STRS Ohio Long-Term Policy Objective (5 Years)

Equities	Fixed Income	Real Estate	Total Fund
Equities: 8%-10%	Fixed Income: 6%-7%	Real Estate: 8%-9%	Total Fund: 8%

...te of return as prescribed in the Association for Investment Management

...I Public Median) consists of 28 funds with a median size of $12 billion.
...as an average commitment to stocks of 54%.

... STRS Ohio Composite Index for all periods beginning on or after
periods before Jan. 1, 1996.

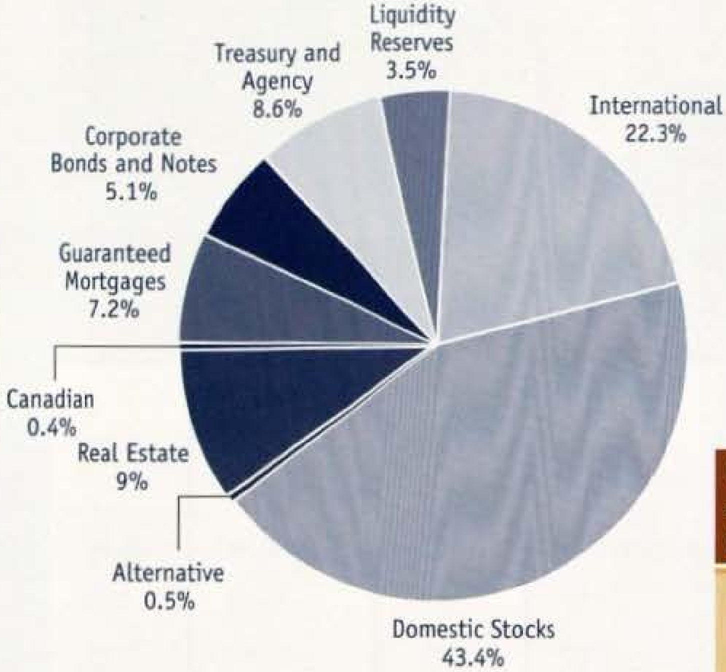
Summary of Investment Assets
As of June 30, 1999 and 1998 (dollar amounts in thousands)

	June 30, 1999 Fair Market Value	%	June 30, 1998 Fair Market Value	%
Short-Term				
Commercial paper	$ 1,847,479	3.5%	$ 2,042,351	4.3%
Government notes	10,000	0.0%	10,000	0.0%
Short-term investment funds	8,900	0.0%	41,800	0.1%
Total short-term	1,866,379	3.5%	2,094,151	4.4%
Fixed Income				
Guaranteed mortgages	3,785,429	7.2%	3,307,028	7.0%
U.S. government and governmental agencies	4,535,979	8.6%	4,679,904	9.8%
Corporate bonds	2,700,180	5.1%	2,839,454	6.0%
Canadian bonds	183,826	0.4%	119,302	0.3%
Municipal bonds	574	0.0%	846	0.0%
Total fixed income	11,205,988	21.3%	10,946,534	23.1%
Common and Preferred Stock	22,927,531	43.4%	20,859,841	43.9%
Real Estate				
East region	977,006	1.8%	674,120	1.4%
Midwest region	725,095	1.4%	681,120	1.4%
South region	775,566	1.5%	733,491	1.5%
West region	1,252,380	2.4%	863,475	1.8%
REITS	429,565	0.8%	447,495	0.9%
Other	575,680	1.1%	554,296	1.2%
Total real estate	4,735,292	9.0%	3,953,997	8.2%
Alternative Investments	284,245	0.5%	137,200	0.3%
International	11,794,010	22.3%	9,566,510	20.1%
Total Investments	$ 52,813,445	100.0%	$ 47,558,233	100.0%

Investment asset schedule excludes collateral on loaned securities.

Investment Distribution

By Market Value as of June 30, 1999



Ohio Investment Profile*

as of June 30, 1999
(dollar amounts in thousands)

Liquidity Reserves	$ 139,696
Fixed Income	167,793
Common Stock	1,024,104
Alternative Investments	74,914
Real Estate	486,872
Total Ohio-Headquartered Investments	$ 1,893,379

* STRS Ohio continues to engage in quality Ohio investments. As of June 30, 1999, STRS Ohio investments in companies with headquarters in Ohio are valued at more than $1.8 billion.

Schedule of Largest Investment Holdings*

As of June 30, 1999

Common Stocks — Top 20 Holdings

	Shares	Market Value
Microsoft Corp.	7,847,028	$707,703,837
General Electric Corp.	5,058,511	$571,611,743
International Business Machines Corp.	2,873,712	$371,427,276
Wal Mart Stores, Inc.	6,886,432	$332,270,344
Cisco Systems	4,992,520	$321,705,507
Lucent Technologies	4,757,119	$320,808,212
Intel Corp.	5,129,174	$305,185,853
AT&T Corp.	5,377,804	$300,148,685
Exxon Corp.	3,849,767	$296,913,279
Merck & Co., Inc.	3,697,624	$272,237,567
Citigroup Inc.	5,531,152	$262,729,720
MCI Worldcom Inc.	2,814,990	$242,265,076
Coca-Cola Co.	3,778,150	$234,245,300
Bank of America	3,122,820	$228,941,741
Bristol-Myers Squibb	3,184,910	$224,337,098
American International Group	1,897,134	$222,438,961
Pfizer Inc.	2,008,447	$218,920,723
Royal Dutch Petroleum	3,630,126	$218,715,091
Johnson & Johnson	2,039,104	$199,832,192
SBC Communications	3,405,958	$197,545,564

* A complete list of investment holdings is available from STRS Ohio.

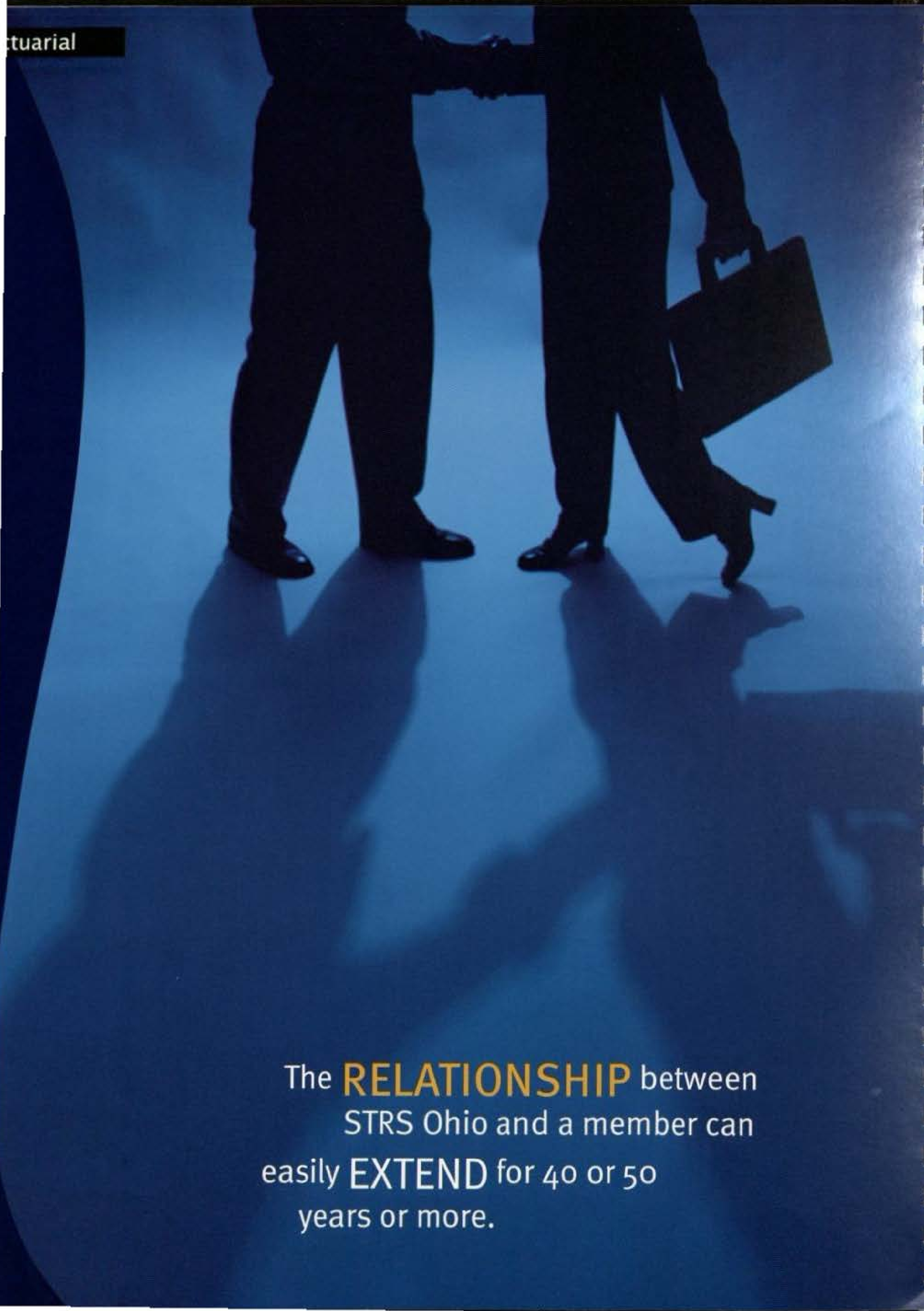
Schedule of Largest Investment Holdings (cont.)

International Investments — Top 20 Holdings

	Shares	Market Value
Nokia Oyj (Finland)	1,042,407	$91,351,347
Telefonos de Mexico (ADR) (Mexico)	1,054,600	$85,225,390
Samsung Electronics (South Korea)	696,002	$76,364,798
Korea Electric Power (South Korea)	1,388,460	$57,577,607
Vodafone AirTouch PLC (United Kingdom)	2,784,255	$54,744,702
HSBC Holdings PLC (United Kingdom)	1,426,800	$52,046,816
Mannesman AG (Germany)	340,157	$50,746,566
Schroder India Fund (India)	5,390,841	$50,102,476
Mexico Fund Inc. (Mexico)	2,890,561	$50,042,837
Elf Aquitaine SA (France)	331,183	$48,554,149
Takeda Chemical Industries (Japan)	1,028,000	$47,693,351
Softbank Corp. (Japan)	234,500	$47,532,211
BP Amoco PLC (United Kingdom)	2,592,253	$46,477,007
Fujitsu Limited (Japan)	2,288,000	$46,074,099
Development Bank Singapore (Singapore)	3,584,800	$43,611,731
Pohang Iron & Steel Company (South Korea)	368,281	$43,589,198
Veba AG (Germany)	693,986	$40,926,580
Kao Corp. (Japan)	1,450,000	$40,770,758
Taiwan Semiconductor Manufacturing Company (Taiwan)	9,955,620	$37,923,235
Kimberly-Clark de Mexico (ADR) (Mexico)	8,580,691	$35,286,784

Fixed Income — Top 20 Holdings

	Par Value	Market Value
U.S. Treasury Bonds, 7.25%, due 8-15-2022, rating AAA	$350,705,000	$392,253,021
U.S. Treasury Bonds, 8.75%, due 5-15-2017, rating AAA	$303,820,000	$383,156,517
U.S. Treasury Bonds, 8.75%, due 8-15-2020, rating AAA	$246,660,000	$316,753,372
U.S. Treasury Bonds, 7.5%, due 11-15-2016, rating AAA	$264,144,000	$297,531,802
U.S. Treasury Bonds, 8.875%, due 2-15-2019, rating AAA	$214,800,000	$276,552,852
U.S. Treasury Bonds, 6.625%, due 5-15-2007, rating AAA	$217,750,000	$227,124,137
U.S. Treasury Bonds, 6.5%, due 10-15-2006, rating AAA	$174,575,000	$180,435,483
U.S. Treasury Bonds, 6.5%, due 8-31-2001, rating AAA	$131,220,000	$133,696,121
U.S. Treasury Bonds, 10.375%, due 11-15-2009, rating AAA	$111,230,000	$133,154,545
U.S. Treasury Principal STRIPS, 0%, due 5-15-2018, rating AAA	$325,000,000	$99,726,250
U.S. Treasury Bonds, 12%, due 8-15-2013, rating AAA	$70,000,000	$98,294,000
U.S. Treasury Bonds, 6.875%, due 5-15-2006, rating AAA	$92,620,000	$97,661,307
FNMA Benchmark, 5.25%, due 1-15-2009, rating AAA	$99,300,000	$90,646,998
FNMA Benchmark, 5.25%, due 2-13-2004, rating AAA	$90,800,000	$87,041,788
U.S. Treasury Bonds, 6.5%, due 8-15-2005, rating AAA	$77,885,000	$80,468,445
U.S. Treasury TINTS Bonds, 0%, due 11-15-2005, rating AAA	$116,000,000	$79,850,920
U.S. Treasury TINTS Bonds, 0%, due 5-15-2010, rating AAA	$150,000,000	$77,238,000
U.S. Treasury TINTS Bonds, 0%, due 8-15-2010, rating AAA	$150,000,000	$75,895,500
U.S. Treasury TINTS Bonds, 0%, due 8-15-2009, rating AAA	$138,000,000	$74,598,660
Treasury Inflation Indexed Notes, 3.625%, due 1-15-2008, rating AAA	$61,402,047	$61,381,170


The RELATIONSHIP between
STRS Ohio and a member can
easily EXTEND for 40 or 50
years or more.

BUCK CONSULTANTS
One North Franklin, Suite 3500
Chicago, Illinois 60606

October 22, 1999

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

Ladies and Gentlemen:

This report presents the results of the annual actuarial valuation of the assets and liabilities of the State Teachers Retirement System of Ohio (STRS Ohio) as of July 1, 1999, prepared in accordance with Section 3307.20 of Chapter 3307 of the Ohio Revised Code. The valuation takes into account all of the promised benefits to which members are entitled, including pension and survivor benefits.

The valuation was based on the actuarial assumptions and methods as adopted by the Board of Trustees, including a valuation interest rate of 7 1/2% per annum compounded annually. The assumptions and methods are unchanged from the prior valuation.

The actuarial assumptions and methods comply with the parameters set forth in Governmental Accounting Standards No. 25.

Assets and Membership Data

The individual data for members of the System as of the valuation date were reported to the actuary by STRS Ohio. While we did not verify the data at their source, we did perform tests for internal consistency and reasonableness. The amount of assets in the trust fund taken into account in the valuation was based on statements prepared for us by STRS Ohio.

Funding Adequacy

Historically, of the total contribution rate of 23.3% from employers and members, 2% is allocated to the health care fund with 21.3% remaining for pension and survivor benefits. For fiscal 1998 and fiscal 1999, additional employer contributions were allocated toward health care. The health care contributions for fiscal 1998 and fiscal 1999 were 3 1/2% and 8%, respectively. For fiscal 2000, 8% of the total employer contribution rate will be deposited in the health care fund. The valuation indicates that the contribution rate of 21.3% is sufficient to provide for the payment of the promised pension and survivor benefits, while reducing the funding period of the unfunded accrued liability to 16.3 years, a reduction of 7.9 years from last year's funding period (i.e., reduced from 24.2 years to 16.3 years).

The valuation indicates that for the fiscal year ending June 30,1999, the actuarial experience of STRS Ohio was favorable and generated net actuarial gains of $2,221 million. The Board elected to use $49 million of the actuarial gain to fund the supplemental benefit payments to retirees to be made during December 1999. The Board elected to use the remainder of the gain to decrease the funding period to 16.3 years.

Financial Results and Membership Data

Detailed summaries of the financial results of the valuation and membership data used in preparing the valuation are shown in the valuation report. Supporting schedules included in the Actuarial and Statistical Section of STRS Ohio Comprehensive Annual Financial Report were prepared by the actuary.

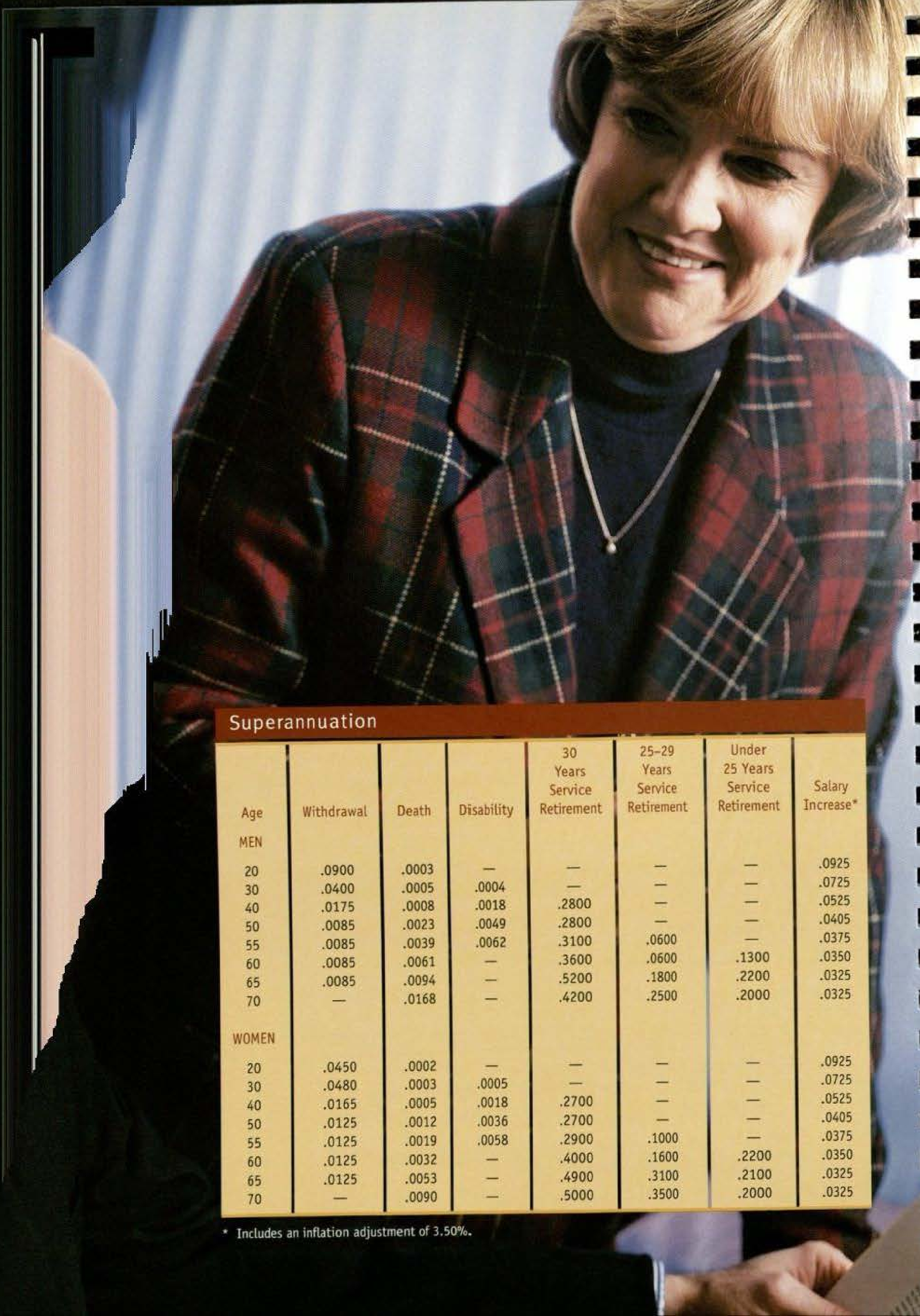
To the best of our knowledge, this report is complete and accurate and has been prepared in accordance with generally accepted actuarial principles and practice.

Respectfully submitted,

Kim M. Nicholl

Kim M. Nicholl, F.S.A.
Consulting Actuary

Buck Consultants, Inc.
312 | 332-2285 Fax 312 | 332-5245



Superannuation

Age	Withdrawal	Death	Disability	30 Years Service Retirement	25–29 Years Service Retirement	Under 25 Years Service Retirement	Salary Increase*
MEN							
20	.0900	.0003	—	—	—	—	.0925
30	.0400	.0005	.0004	—	—	—	.0725
40	.0175	.0008	.0018	.2800	—	—	.0525
50	.0085	.0023	.0049	.2800	—	—	.0405
55	.0085	.0039	.0062	.3100	.0600	—	.0375
60	.0085	.0061	—	.3600	.0600	.1300	.0350
65	.0085	.0094	—	.5200	.1800	.2200	.0325
70	—	.0168	—	.4200	.2500	.2000	.0325
WOMEN							
20	.0450	.0002	—	—	—	—	.0925
30	.0480	.0003	.0005	—	—	—	.0725
40	.0165	.0005	.0018	.2700	—	—	.0525
50	.0125	.0012	.0036	.2700	—	—	.0405
55	.0125	.0019	.0058	.2900	.1000	—	.0375
60	.0125	.0032	—	.4000	.1600	.2200	.0350
65	.0125	.0053	—	.4900	.3100	.2100	.0325
70	—	.0090	—	.5000	.3500	.2000	.0325

* Includes an inflation adjustment of 3.50%.

Sta

tatement of Actuarial Assumptions and Methods

The assumptions below have been adopted by the State Teachers Retirement Board after consulting with the actuary.

Financing Objective: To establish contributions as a level percentage of active member payroll which, when invested, will be sufficient to provide specified benefits to STRS Ohio members and retirees.

Interest Rate: 7.5% per annum, compounded annually. (Adopted 1993)

Death After Retirement: According to the 1983 Group Annuity Mortality Table (Projection 1994-Scale H), with one-year setback in age for males and one-year set forward in age for females. Special mortality tables are used for the period after disability retirement. (Adopted 1998)

Future Expenses: The assumed interest rate is net of the anticipated future administrative expenses of the fund.

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

Asset Valuation Method: A four-year moving market average value of assets that spreads the difference between the actual investment income and the expected income (based on the valuation interest rate) over a period of four years. The actuarial value shall not be less than 91% or more than 109% of market value. (Adopted 1997)

Payroll Growth: 4.5% per annum compounded annually. Included in the total payroll growth assumption is a 3.50% increase as a result of inflation. (Adopted 1998)

Separations From Active Service: Representative values of the assumed rates of separation and annual rates of salary increase are shown in the table on Page 54. (Adopted 1993)

Replacement of Retiring Members: The majority of members who retire do so effective July 1. These members are replaced by new members who are hired after July 1. As a result, new members are not reported on the census data. To compensate for this, assumed payroll for these new members is equal to the difference between actual total system payroll for the fiscal year just ended and reported payroll for members reported on the valuation date.

Census and Assets: The valuation was based on members of the system as of July 1, 1999, and does not take into account future members. All census and asset data was supplied by the system.

Benefit Recipients Added to and Removed From the Rolls, 1996-1999

Fiscal Year Ended	Beginning	Additions	Deletions	Ending
1999	**91,999**	**6,922**	**3,125**	**95,796**
1998	88,718	6,329	3,048	91,999
1997	86,132	5,777	3,191	88,718
1996*	83,136	6,188	3,192	86,132

* Data not available for fiscal years before 1996.

Schedule of Valuation Data — Active Members 1990-1999

Valuation Date	Number	Annualized Salaries (in thousands)	Annual Average Pay	% Increase in Average Pay
1999	**170,854**	**$7,040,902**	**$41,210**	**3%**
1998	170,126	6,834,060	40,171	3%
1997	168,943	6,564,294	38,855	3%
1996	166,927	6,307,142	37,784	3%
1995	166,623	6,110,218	36,671	3%
1994	167,770	5,986,084	35,680	3%
1993	165,711	5,742,577	34,654	2%
1992	162,898	5,509,947	33,825	3%
1991	160,012	5,237,832	32,734	4%
1990	157,650	4,941,916	$31,347	4%

Schedule of Valuation Data — Retirees/Beneficiaries 1990-1999

Valuation Date	Number	Annual Allowances (in thousands)	% Increase in Annual Allowances	Average Annual Allowances
1999	**95,796**	**$2,103,139**	**9%**	**$21,954**
1998	91,999	1,929,988	12%	20,978
1997	88,718	1,722,037	9%	19,410
1996	86,132	1,579,771	10%	18,341
1995	83,136	1,434,032	17%	17,249
1994	77,405	1,230,671	10%	15,899
1993	74,230	1,120,770	9%	15,099
1992	72,599	1,029,952	10%	14,187
1991	70,583	938,137	10%	13,291
1990	68,739	854,536	10%	12,432

STRS OHIO

Solvency Test, 1990-1999 (dollar amounts in thousands)

	Accrued liability for:				Portion of Accrued Liabilities Covered by Valuation Assets		
Valuation Date	(1) Active Member Contributions	(2) Retirees and Beneficiaries	(3) Active Members (Employer-Financed Portion)	Valuation Assets	(1)	(2)	(3)
1999	**$6,867,910**	**$25,152,626**	**$22,742,804**	**$49,124,802**	**100%**	**100%**	**75%**
1998	6,569,783	22,994,697	21,563,608	43,865,907	100%	100%	66%
1997	6,222,725	20,249,628	20,091,418	38,743,272	100%	100%	61%
1996	5,862,250	18,420,596	18,484,067	34,569,651	100%	100%	56%
1995	5,533,684	16,745,090	17,708,401	31,416,677	100%	100%	52%
1994	5,158,561	14,025,124	17,688,124	28,543,410	100%	100%	53%
1993	4,798,350	12,869,723	16,820,903	26,259,447	100%	100%	51%
1992	4,434,876	11,506,994	14,858,368	22,536,343	100%	100%	44%
1991	4,076,990	10,440,584	13,591,787	20,094,849	100%	100%	41%
1990	3,729,945	9,576,506	12,576,887	18,242,453	100%	100%	39%

Analysis of Financial Experience

Gains and Losses in Accrued Liabilities Resulting From Differences Between Assumed Experience and Actual Experience (dollar amounts in thousands)

	Gain (or loss) for year ended June 30:				
Type of Activity:	**1999**	**1998**	**1997**	**1996**	**1995**
Investment income. If there is greater investment income than assumed, there is a gain. If less, there is a loss.	$ 2,432,975	$ 2,505,273	$ 2,486,916	$ 758,473	$ 694,274
Payroll growth. If more contributions from payroll growth are received than expected, there is a gain. If less, there is a loss.	0	0	(108,545)	(160,110)	113,910
Salary increases. If there are smaller salary increases than assumed, there is a gain. If greater increases, there is a loss.	(368,504)	(266,140)	(275,172)	(126,389)	(97,077)
Retirement and other separation experience. If members retire from service at an older age or with a lower final average salary than assumed, there is a gain. If separation claims are less than expected, there is a gain.	35,715	(109,263)	(272,366)	(51,317)	72,567
Death after retirement. If retirees live shorter than expected, there is a gain. If retirees live longer than assumed, there is a loss.	120,664	(204,876)	(48,397)	95,252	(44,797)
Gain (or loss) during year from financial experience	2,220,850	1,924,994	1,782,436	515,909	738,877
Nonrecurring items adjustment for plan amendments	0	(220,259)	(671,174)	0	0
Composite gain (or loss) during the year	$ 2,220,850	$ 1,704,735	$ 1,111,262	$ 515,909	$ 738,877

Summary of Benefit and Contribution Provisions

Eligibility for Membership

Immediate upon commencement of employment.

Service Retirement

Eligibility

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

Amounts

Annual amount equal to the greater of (a) 2.1% of final average salary for the three highest paid years, multiplied by years of total Ohio service credit, except that for years of Ohio contributing service credit in excess of 30 the following formula percentage will apply:

Year	Percentage
31	2.5%
32	2.6%
33	2.7%
34	2.8%
35	2.9%
36	3.0%
37	3.1%
38	3.2%
39	3.3%
40	3.4%
41	3.5%
42	3.6%
43	3.7%

or (b) $86 multiplied by years of service credit, and adjusted by the following percentage:

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

Annual salary is subject to a limit of $200,000 as adjusted under Section 401(a)(17).

Maximum benefit — The lesser of: (a) 100% of average annual salary for three highest paid years, or (b) the limit as established by Section 415 of the Internal Revenue Code.

Minimum benefit — The sum of the annuity provided by: (a) the member's contribution with interest, (b) a pension equal to the annuity, and (c) an additional pension of $40 multiplied by the number of years of prior and military service.

Disability Retirement

Eligibility

Membership before July 30, 1992, and election of this benefit, completion of five or more years of service, under age 60 and permanently incapacitated for the performance of duty.

Amount

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

(2) The difference between (1) (noted above) and the greater of 2% of the average salary during the three highest paid years or $86 times total service plus years and months from date of disability to age 60. Maximum allowance is 75% of final average salary. Minimum allowance is 30% of final average salary.

Disability Allowance

Eligibility

Membership after July 29, 1992, or membership before July 30, 1993, and election of this benefit, completion of five or more years of service and permanently incapacitated for the performance of duty.

Amount

The greater of 2.1% of the average salary during the three highest paid years or $86 times total service. Maximum allowance is 60% of final average salary. Minimum allowance is 45% of final average salary. The disability allowance payment terminates at age 65 (or later if payment begins after age 60). After termination of the disability allowance, the member may apply for service retirement.

Death After Retirement

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

Survivor's Benefit

Eligibility

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

Amount

If member was eligible for retirement, spouse or other sole dependent beneficiary may elect to receive Option 1 benefits in lieu of return of contributions.

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

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

A minimum benefit of a percentage of final average salary based on years of credited service ranging from 25% with 19 years of service to 60% with 29 years of service.

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

Summary of Benefit and Contribution Provisions (cont.)

Lump-Sum Withdrawal Option

In lieu of any other pension or survivor benefits, a member who leaves the system can receive his or her member contributions with interest in a lump sum according to the following schedule:

Credited Service	Lump-Sum Amount
Less than three years	Member contributions with 4% interest
Three or more years but less than five years	Member contributions with 5% interest
Five or more years	150% of member contributions with 5% interest

The board has the authority to modify the interest credited to member contributions.

Optional Forms of Benefit

Option 1 — 100% joint and survivorship. Reduced retirement allowance payable to the member and continuing for life to the member's sole beneficiary (named at retirement) after the member's death.

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

Option 3 — The member's reduced retirement allowance provided under Option 1 or Option 2 paid for life to the member's sole beneficiary (named at retirement) after the member's death. In the event of the death of the sole beneficiary or termination of marriage between the retiree and the sole beneficiary, the retiree may elect to return to a single lifetime benefit equivalent, available for an actuarially computed charge as determined by the Retirement Board. In the case of termination of marriage, the election may be made with the written consent of the beneficiary or by court order.

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

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

Refund of Contributions

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

Cost-of-Living Benefits

The basic benefit is increased by the increase in the Consumer Price Index each year, but not to exceed 3% of the original base benefit.

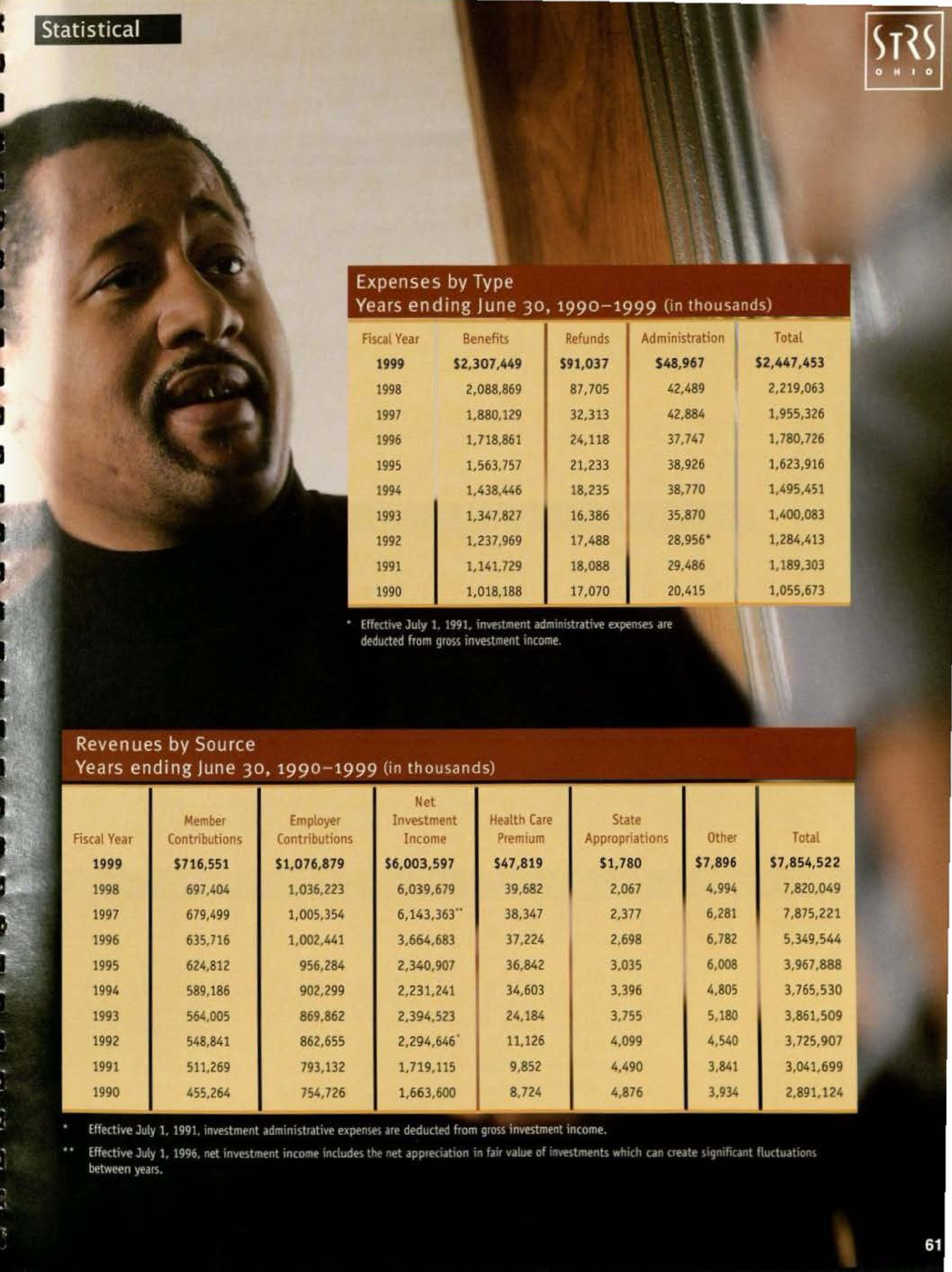
Health Care

Retirees, their spouses and dependents are eligible for a comprehensive medical expense health care plan as may be offered by the Retirement Board and which is subject to changes in terms and conditions from time to time.

Contribution

By members: 9.30% of salary effective July 1, 1994.

By employers: 14% of salaries of their employees who are members.



Expenses by Type
Years ending June 30, 1990–1999 (in thousands)

Fiscal Year	Benefits	Refunds	Administration	Total
1999	**$2,307,449**	**$91,037**	**$48,967**	**$2,447,453**
1998	2,088,869	87,705	42,489	2,219,063
1997	1,880,129	32,313	42,884	1,955,326
1996	1,718,861	24,118	37,747	1,780,726
1995	1,563,757	21,233	38,926	1,623,916
1994	1,438,446	18,235	38,770	1,495,451
1993	1,347,827	16,386	35,870	1,400,083
1992	1,237,969	17,488	28,956*	1,284,413
1991	1,141,729	18,088	29,486	1,189,303
1990	1,018,188	17,070	20,415	1,055,673

* Effective July 1, 1991, investment administrative expenses are deducted from gross investment income.

Revenues by Source
Years ending June 30, 1990–1999 (in thousands)

Fiscal Year	Member Contributions	Employer Contributions	Net Investment Income	Health Care Premium	State Appropriations	Other	Total
1999	**$716,551**	**$1,076,879**	**$6,003,597**	**$47,819**	**$1,780**	**$7,896**	**$7,854,522**
1998	697,404	1,036,223	6,039,679	39,682	2,067	4,994	7,820,049
1997	679,499	1,005,354	6,143,363**	38,347	2,377	6,281	7,875,221
1996	635,716	1,002,441	3,664,683	37,224	2,698	6,782	5,349,544
1995	624,812	956,284	2,340,907	36,842	3,035	6,008	3,967,888
1994	589,186	902,299	2,231,241	34,603	3,396	4,805	3,765,530
1993	564,005	869,862	2,394,523	24,184	3,755	5,180	3,861,509
1992	548,841	862,655	2,294,646*	11,126	4,099	4,540	3,725,907
1991	511,269	793,132	1,719,115	9,852	4,490	3,841	3,041,699
1990	455,264	754,726	1,663,600	8,724	4,876	3,934	2,891,124

* Effective July 1, 1991, investment administrative expenses are deducted from gross investment income.

** Effective July 1, 1996, net investment income includes the net appreciation in fair value of investments which can create significant fluctuations between years.

Number of Benefit Recipients by Type, 1990–1999

As of July 1	Service Retirement	Disability Retirement	Beneficiaries Receiving Optional Allowances	Survivor Benefits	Total
1999	**78,341**	**6,259**	**5,948**	**5,248**	**95,796**
1998	75,482	6,157	5,675	4,685	91,999
1997	72,601	6,000	5,486	4,631	88,718
1996	70,448	5,923	5,206	4,555	86,132
1995	67,989	5,711	4,941	4,495	83,136
1994	63,182	5,217	4,739	4,267	77,405
1993	61,515	5,020	4,478	3,217	74,230
1992	59,994	4,830	4,274	3,501	72,599
1991	58,436	4,643	4,001	3,503	70,583
1990	57,016	4,503	3,822	3,398	68,739

Average Monthly Allowances by Type, 1990–1999

As of July 1	Service Retirement	Disability Retirement	Beneficiaries Receiving Optional Allowances	Survivor Benefits	Average
1999	**$1,938**	**$1,961**	**$1,086**	**$894**	**$1,830**
1998	1,844	1,887	1,031	893	1,748
1997	1,705	1,764	974	822	1,618
1996	1,608	1,688	931	779	1,528
1995	1,510	1,603	886	732	1,437
1994	1,388	1,504	843	707	1,325
1993	1,304	1,433	803	748	1,258
1992	1,227	1,359	770	682	1,182
1991	1,147	1,288	740	637	1,108
1990	1,070	1,215	669	606	1,036

Benefit Expenses by Type, 1990–1999 (in thousands)

Fiscal Year Ended	Service Retirement	Disability Retirement	Survivor Benefits	Supplemental Benefit	Health Care*	Other	Total
1999	**$1,764,172**	**$139,296**	**$52,863**	**$46,448**	**$297,748**	**$6,922**	**$2,307,449**
1998	1,601,143	130,429	47,920	44,876	258,906	5,595	2,088,869
1997	1,440,163	118,893	43,539	43,278	230,424	3,832	1,880,129
1996	1,307,482	109,250	40,283	41,750	176,773	6,099	1,681,637
1995	1,185,066	100,805	37,756	34,567	165,767	2,954	1,526,915
1994	1,083,335	92,091	35,198	33,586	157,276	2,357	1,403,843
1993	985,024	83,888	32,804	32,489	187,318	2,120	1,323,643
1992	897,259	76,378	30,726	28,815	189,784	3,881	1,226,843
1991	822,842	70,150	28,851	38,110	170,583	1,342	1,131,878
1990	774,625	63,174	26,735	36,885	136,563	1,482	1,039,464

* Health care premiums prior to fiscal 1997 were netted against health care expenses. Starting in fiscal 1997, health care premiums are reflected as a revenue item.

STRS OHIO

Selected Funding Information, 1990–1999 (dollars in thousands)

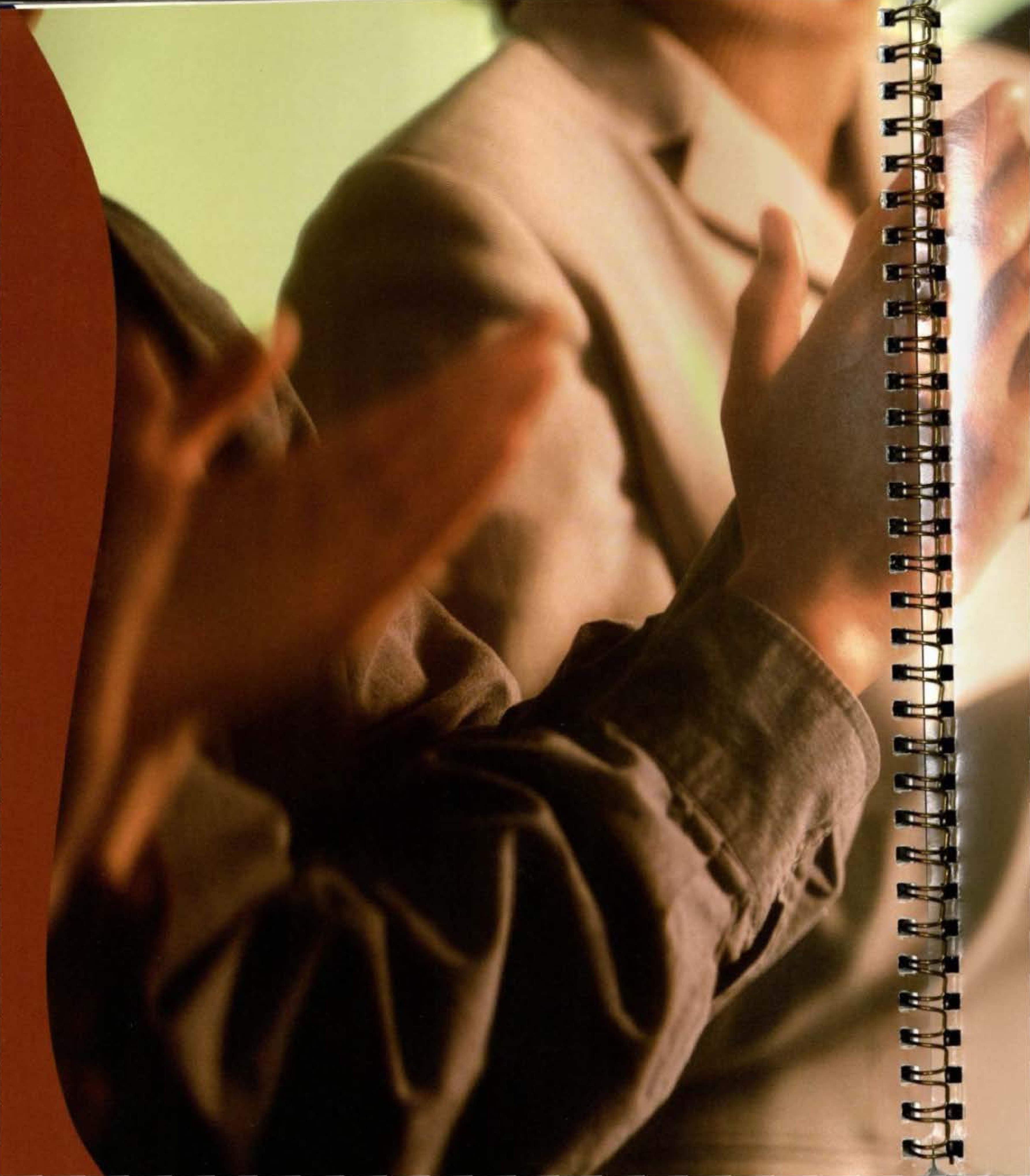
As of July 1	Contribution Rate Member	Contribution Rate Employer	Interest Assumption	Payroll Growth Assumption	Unfunded Accrued Liability*	Funding Period
1999	**9.30%**	**14.00%**	**7.50%**	**4.500%**	**$5,638,538**	**16.3 Yrs.**
1998	9.30%	14.00%	7.50%	4.500%	7,262,181	24.2 Yrs.
1997	9.30%	14.00%	7.50%	4.500%	7,820,498	26.9 Yrs.
1996	9.30%	14.00%	7.50%	4.500%	8,197,261	28.4 Yrs.
1995	9.30%	14.00%	7.50%	5.000%	8,570,498	29.3 Yrs.
1994	9.30%	14.00%	7.50%	5.000%	8,328,399	30.5 Yrs.
1993	9.25%	14.00%	7.50%	5.000%	8,229,529	31.5 Yrs.
1992	9.25%	14.00%	7.75%	5.875%	8,263,895	32.5 Yrs.
1991	9.25%	14.00%	7.75%	5.875%	8,014,512	33.5 Yrs.
1990	9.25%	14.00%	7.75%	5.875%	7,640,885	34.0 Yrs.

* Excluding health care

Number of Reporting Employers by Type, 1990–1999

Fiscal Year Ended	City School Districts	Local School Districts	County Educational Service Centers	Exempted Village Districts	Vocational & Technical Schools	Colleges & Universities	County MR/DD Boards	Community Schools*	State of Ohio	Total
1999	**192**	**371**	**63**	**49**	**49**	**37**	**82**	**16**	**1**	**860**
1998	192	372	65	49	49	37	82	*	1	847
1997	192	371	73	49	49	37	82	*	1	854
1996	192	371	80	49	49	37	82	*	1	861
1995	192	371	80	49	49	37	82	*	1	861
1994	192	371	81	49	49	37	82	*	1	862
1993	192	372	81	49	51	35	82	*	1	863
1992	193	370	85	49	51	35	88	*	1	872
1991	193	371	85	49	49	37	88	*	1	873
1990	192	372	85	49	49	37	88	*	1	873

* Community Schools were added as reporting employers in fiscal year 1999.



Comprehensive benefits, HIGHLY RATED SERVICES, strong investment returns . . . these are the factors that make the RELATIONSHIP between STRS Ohio and its members and benefit recipients so strong.

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STATE TEACHERS RETIREMENT SYSTEM OF OHIO

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