Driven by Vision

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State Teachers Retirement System of Ohio Comprehensive Annual Financial Report

Fiscal Year Ended June 30, 1998.

Driven by Vision Inspired by Dreams

State Teachers Retirement System of Ohio Comprehensive Annual Financial Report

Fiscal Year Ended June 30, 1998

Prepared through the joint efforts of the STRS 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, 1997

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.



Dauglas R Ellaworth President Oltres J. Ersen

Executive Director

Driven by Vision...Inspired by Dreams



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The State Teachers Retirement Board

The State Teachers Retirement Board meets monthly to transact business and set policy. Membership of the Retirement Board is set by the General Assembly and includes five active teachers, one retired teacher and three voting ex officio members.

Teacher members are elected to four-year terms by members of the Retirement System. The retired teacher member is elected to a four-year term by retirees receiving benefits from STRS. Board members serve without compensation other than actual, necessary expenses.

The Retirement Board is proud to present this *Comprehensive Annual Financial Report* for the fiscal year ended June 30, 1998.

In Vision

Kent Rinker,

representing Betty D. Montgomery, Attorney General, Ex officio member of the board since elected to office in 1995. representing James M. Petro, Auditor of State, Ex officio member of the board since elected to office in 1995.

O'Neal Saunders,

James Van Keuren, representing John M. Goff, Superintendent of Public Instruction. Ex officio member of the board since appointed to office in 1995. Herbert L. Dyer, Executive Director, State Teachers Retirement System of Ohio Deborah Scott, Chair Teacher member since 1994. Finneytown Local Schools, Hamilton County



To be a premier retirement system as evidenced by:

Comprehensive member benefits: Providing retirement planning, benefits and health care coverage to enhance the quality of life for members, and

Quality service: Striving to exceed the service expectations of members, employers and associates, through

- Fiduciary responsibility: Safeguarding members' financial retirement security using ethical and professional business practices, and
- Financial performance: Improving funding through prudent investments and resource management, by
- Empowerment of associates: Enabling associates to act through the delegation of authority and the acceptance of accountability, and
- Organizational renewal: Enhancing STRS' future by continually acquiring, sharing and implementing new knowledge.





Senior Staff

The STRS senior staff meets regularly to discuss day-to-day operations and develop procedures for administering policies adopted by the Retirement Board. Pictured from left to right are: Laura R. Ecklar, director of Communication Services: G. Robert Bowers. deputy executive director — Administration; Joan M. Williams, director of Human Resource Services: Adrian R. Mullins, director of Information Technology Services; Herbert L. Dyer, executive director: Rebecca J. Stephenson, executive assistant: James W. Miller, director of Governmental Relations; J. Richard Zimmerman, deputy executive director — Member Benefits; Robert A. Slater, deputy executive director — Finance and chief financial officer; Sandra L. Knoesel, deputy executive director designee — Member Benefits; Stephen A. Mitchell, deputy executive director — Investments; and Cynthia E. Hvizdos, staff counsel.



The State Teachers Retirement System Of Ohio

275 EAST BROAD STREET, COLUMBUS OH 43215-3771 TELEPHONE (614) 227-4090 RETIREMENT BOARD WILLIAM A. DORSEY, CHAIR — Painesville City Local Schools, Lake County EUGENE E. NORRIS, VICE CHAIR — South-Western City Schools, Franklin County JACK H. CHAPMAN, Reynoldsburg City Schools, Franklin County JOHN M. GOFF, Superintendent of Public Instruction BETTY D. MONTGOMERY, Attorney General of Ohio JAMES M. PETRO, Auditor of State DEBORAH SCOTT, Finneytown Local Schools, Hamilton County ROBERT P. SHREVE, Retired Teacher Member, Westerville HAZEL A. SIDAWAY, Canton City Schools, Stark County

December 2, 1998

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 (STRS) for the fiscal year ended June 30, 1998. This report is intended to provide readers with financial, investment, actuarial and statistical information in a single publication. STRS management is responsible for the accuracy of the data and for the completeness and fairness of the presentation.

STRS was created by legislative act on May 8, 1919, as an alternative to separate, often unstable local school district retirement plans. STRS 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; (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

New ways to provide two-way communication between STRS and plan participants were developed in the past year. In September 1997, STRS launched its Internet Web site: www.strsoh.org. This site provides current information for active members and benefit recipients. Encouraged by more than 59,000 visits to the Web site, STRS also developed a secure method for members to access personal account information online by using individually assigned passwords.

Toll-free phone service and expanded customer service hours were added in 1998 to provide STRS members and benefit recipients convenient and accurate answers to their questions. The Member Services Center handles as many as 3,000 calls a day during the busiest times of the year.

Toll-free phone service and a Web site were added for employers (www.strsoh.org/employer) as well. The Web site provides information and forms for viewing and printing at the employer desktop.

Benefit recipients were offered more health care options during 1998. Five new HMOs (health maintenance organizations) were added to the STRS Health Care Program. The program choices now include two indemnity plans, three preferred provider organizations, and 10 HMOs, four of which are Medicare HMOs.

The Retirement Board adopted a new method for calculating health care plan premiums for 1999. The new structure provides retirees who have 30 years or more of service credit with the lowest premiums. The Retirement Board also approved a change for 1999 in the copayment structure for prescription drugs to encourage more cost-effective purchases.

STRS will also be offering new optional plans for vision and dental coverage for benefit recipients in 1999. Although paid by the participants, the premiums are less than if the same coverage was purchased directly from the providers because STRS will pay the administrative costs associated with the new plans.

Amended House Bill 339 was passed in July 1997 and provided increases for certain benefit recipients. The minimum benefit level for retirees with 30 or more years of service was raised by 60% to \$800 per month. The bill also provided a special one-time increase to restore the purchasing power of benefits to at least 70% of purchasing power at the time of retirement. For active teachers, the bill provided an increase in the benefit formula for members retiring with more than 30 years of service. For every year of contributing service over 30 years, the benefit formula is incremented each year by .1% of final average salary, starting at 2.5% for the 31st year of Ohio contributing service. STRS is preparing its computer systems for the year 2000. Normal operations are not expected to be adversely affected. Most computer systems have already been upgraded, and extensive testing will be conducted during the first half of 1999 to make sure we are ready.

Based on a recent Internal Revenue Service ruling, STRS began accepting "pickup" of member payments to purchase credit under certain conditions. Employers may adopt plans that allow members to defer taxes on payroll deductions to purchase some types of STRS credit.

This past year, an Ohio law gave full-time college and university faculty with less than five years of STRS service credit a one-time opportunity to select an alternative retirement plan (ARP). All newly hired full-time faculty members also have this option. ARPs are offered in Ohio by eight defined-contribution plan providers. Extensive materials comparing the services and benefits provided by STRS and the ARPs have been prepared. STRS' goal is to ensure that eligible faculty have all the information they need to make the right choice for themselves and their families.

Investments

Total investments grew to \$47.6 billion(excluding collateral on loaned securities) as of June 30, 1998, representing a 13.6% increase over 1997. The allocation of investment assets is designed to provide high long-term yields while minimizing risk. A summary of the asset allocation can be found on page 56.

For calendar year 1997, investments provided a 16.50% rate of return. STRS' annualized rate of return over the last three years was 16.47% and 12.07% for the last five years. Similar benchmark returns over the same one-, three- and five-year periods were 16.44%, 18.18% and 12.39%, respectively.

	1998
Net Investment Income	\$6,039,679,000
Contributions:	
Member	\$ 697,404,000
Employer	\$ 995,925,000
Other	\$ 87,041,000
Total Contributions	\$1,780,370,000
Total Additions to Plan Net Assets	\$7,820,049,000

Additions to Plan Net Assets

Member and employer contributions, as well as income from investments, provide the reserves needed to finance retirement benefits. Total contributions and net investment income totaled \$7.8 billion. Contributions increased by 2.8% compared to fiscal 1997. Member and employer contributions increased by 2.6% and 4.5%, respectively.

Deductions from Plan Net Assets

	1998
Benefits	\$2,088,869,000
Withdrawals	\$ 87,705,000
Administrative Expenses	\$ 42,489,000
Total Deductions from Net Assets	\$2,219,063,000

The principle purpose for which STRS was created was to provide retirement, survivor and disability benefits to qualified members and their beneficiaries. The cost of such programs includes recurring benefit payments as designated by the plan, refund of contributions to terminated members, and the administrative costs of operating STRS.

Benefit, withdrawal and administrative costs totaled \$2.2 billion in fiscal 1998. Total deductions for fiscal 1998 represent a 13.5% increase from comparable 1997 information. Member refund payments increased 171% as a result of legislation passed in April 1997 which authorized the payment of interest and matching funds on certain refunds.

Funding

Contribution rates are actuarially determined to provide a level basis of funding using the entry age normal cost method, and an actuarial valuation is performed annually by Buck Consultants, Chicago, Ill. The July 1, 1998, valuation shows that the amortization period for the unfunded accrued liability decreased to 24.2 years from 26.9 years, and the ratio of assets to total accrued liabilities improved to 85 percent from 83 percent. A detailed discussion of funding is provided in the Actuarial Section of this report beginning on page 60.

Certificate of Achievement and Other Awards

The Government Finance Officers Association of the United States and Canada (GFOA) awarded a Certificate of Achievement for Excellence in Financial Reporting to STRS for its *Comprehensive Annual Financial Report* for the fiscal year ended June 30, 1997. The Certificate of Achievement is a prestigious national award recognizing conformance with the highest standards for preparation of state and local government financial reports.

To be awarded a Certificate of Achievement, a government unit must publish an easily readable and efficiently organized comprehensive annual financial report that conforms with program standards. This report must satisfy both generally accepted accounting principles and applicable legal requirements.

A Certificate of Achievement is valid for one year. STRS has received a Certificate of Achievement for the last eight years. We believe our current report continues to conform with the Certificate of Achievement program requirements and are submitting it to the GFOA.

In addition, the Central Ohio Chapter of the Public Relations Society of America presented a Prism award to STRS for excellence in public relations in connection with the 1996 *Comprehensive Annual Financial Report*.

Acknowledgments

The preparation of this report is possible only through the combined efforts of the STRS staff. It is intended to provide complete and reliable information as a basis for making management decisions, complying with legal provisions and determining responsible stewardship of the assets contributed by members and their employers.

Respectfully submitted,

what d. L

Herbert L. Dyer Executive Director

RETUSIT:

Robert A. Slater, CPA Deputy Executive Director Chief Financial Officer

HERBERT L. DYER. EXECUTIVE DIRECTOR

CYNTHIA E. HVIZDOS, Staff Counsel JAMES W. MILLER, Governmental Relations REBECCA J. STEPHENSON, Executive Assistant DEPUTY EXECUTIVE DIRECTORS: G. ROBERT BOWERS, Administration STEPHEN A. MITCHELL, Investments ROBERT A. SLATER, Chief Financial Officer J. RICHARD ZIMMERMAN, Member Benefits

Inspired by Dreams

Driven by Vision

Year in Review

July 1, 1997, through June 30, 1998

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Retirement Board Approves Supplemental Benefit

In December 1997, more than 84,000 qualified benefit recipients received a supplemental benefit payment. A total of \$44.9 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, 1998. 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 seven years on retirement received \$518.

The legislature has given the Retirement Board authority to grant this supplemental payment if investment earnings in the previous fiscal year exceed funding requirements. Successful investment programs over the years based on solid, prudent board policies have produced supplemental benefit payments each December since 1980.

Cost-of-Living Payment Enhances Retirement Income

The Retirement Board approved a 3% cost-of-living adjustment (COLA) for benefit recipients who retired before July 1, 1995, and a 2.3% COLA for benefit recipients who retired between July 1, 1995, and June 30, 1997. The only exception was members who retired July 1, 1991, through June 1, 1992, who received a 2.4% increase.

A law that became effective in 1996 allows STRS to pay a COLA up to and including 3%, based on the increase in the Consumer Price Index (CPI) over the previous calendar year. In 1997, the CPI increased 2.3%. The COLA is calculated on the retiree's base benefit and is paid on the anniversary date of retirement.

Health Care Plan Options Increase; Premium Structure Changes

Benefit recipients were offered more health care options during 1998. Five new HMOs (health maintenance organizations), three of which were Medicare HMOs, were added to the STRS Health Care Program. With the addition of these plans, the program choices now include two indemnity (traditional) plans, three preferred provider organizations (PPOs), six commercial HMOs and four Medicare HMOs. Plan offerings are based on the benefit recipient's permanent address and Medicare status.

In June 1998, the Retirement Board adopted a new method for calculating health care plan premiums for 1999. The new premium structure brings more equity to the amount benefit recipients pay for STRS-sponsored health care coverage. The new structure provides retirees who have 30 years or more of service credit with the lowest premiums.

The Retirement Board also approved a change for 1999 in the copayment structure for prescription drugs to encourage more cost-effective purchases.

Legislation Provides for Benefit Improvements

In July 1997, the Ohio General Assembly passed Amended House Bill 339, the benefit improvements legislation initiated by the Retirement Board. The legislation raised the minimum benefit level for retirees with 30 years or more of service credit to \$800 per month from \$500. The bill also added a special one-time increase to restore the purchasing power of benefits for eligible retirees to at least 70% of the purchasing power they enjoyed when they retired. In addition, the bill provided a benefit improvement for active teachers retiring with long service. For every year of contributing service over 31 years, an additional one-tenth of a percent of final average salary will be added.

With the passage of Substitute House Bill 648 by the Ohio General Assembly on May 20, 1998, the Retirement Board was able to increase the Medicare Part B reimbursement amount for most benefit recipients, beginning with October 1998 benefit payments. In accordance with the changes contained in Sub. H.B. 648, adjustments also were made to the calculation of the Medicare Part B reimbursement for survivor and disability benefit recipients. The bill also reinstated survivor benefits for deceased members' spouses whose benefits were suspended in the past because of remarriage. Other provisions of the legislation made minor adjustments to survivor benefits and plan-ofpayment selections.

Dental and Vision Plans Increase Member Options

In response to many STRS retirees' requests for dental and vision coverage, the Retirement Board approved new optional plans for benefit recipients and their eligible dependents beginning Jan. 1, 1999. Individuals who enroll in either the dental or vision plans are responsible for their own premiums. However, because the board agreed to pay the administrative costs associated with these new plans, premiums are less than if STRS benefit recipients were to purchase the same coverage through an individual plan.

Computer-Based Information Joins List of Popular Member Services

In September 1997, STRS launched its Internet Web site: www.strsoh.org. This site provides information for active members and benefit recipients, including counseling, seminar and meeting schedules; benefits and services; legislative news; and board reports. There is also a special section for university and college faculty. Since the site was launched, it has been accessed more than 59,000 times.

Encouraged by the enthusiastic reception to this member service, STRS also developed a personal account information section on the STRS Web site to allow benefit recipients and active teachers to access their personal account information in a secure, online environment. To ensure members' privacy, a password is required to access this section of the Web site. The personal account information site was launched on July 1, 1998.

Toll-Free Number Improves Communication

With the addition of a new toll-free number and 28 thoroughly trained associates ready to answer calls, STRS members and benefit recipients received quick and accurate answers to their questions – without having to pay long-distance charges. Member service representatives are available from 7:30 a.m.-7 p.m. EST Monday through Thursday; 7:30 a.m.-5 p.m. Friday; and 9 a.m.-3 p.m. Saturday. During the last year alone, more than 208,000 calls were received at the Member Services Center, and peak daily volume is approaching 3,000 calls.

Year in Review (cont.)

New Workshops Offer Retirement Advice

Two new workshops were added to the list of services STRS provides its members as they prepare for retirement. "Beyond the Classroom" is a threehour workshop designed for teachers who are five to 10 years from retirement. "Dollars and Sense," also a three-hour workshop, is designed for earlycareer teachers interested in learning about financial fitness, investment basics and STRS benefits.

Incumbents Retain Retirement Board Positions

Incumbent Retirement Board members Hazel A. Sidaway and Jack H. Chapman were reelected in the annual State Teachers Retirement Board election. Both ran unopposed in the election to choose two of the five active teacher members.

Tax-Deferred Service Credit Purchase Plan Begins

Since July 1, 1997, employers may adopt a taxdeferred installment plan through which members can purchase certain types of STRS service credit. This plan allows members to purchase STRS service credit with pretax dollars, deferring the tax liability until retirement benefits are paid, when they may be in lower tax brackets.

New Retirement Plan Options for Higher Education Faculty Available

For nearly 80 years, faculty members at Ohio's public universities and colleges have received comprehensive benefits from STRS. A recent Ohio law gave full-time faculty with less than five years of STRS service credit a one-time opportunity to select a different retirement plan. All newly hired full-time faculty members also have this option. Their choice is to select STRS or an alternative retirement plan (ARP) offered by one of eight defined-contribution retirement plan providers. STRS associates have developed a number of materials comparing the services and benefits provided by STRS and the ARPs. To date, only a few universities have presented their eligible faculty with these new options. STRS' goal is to ensure that eligible faculty have all the information they need to make the right choice for themselves and their families.

Building Expansion Project Begins

Recognizing that STRS faces a decade of intense growth in demand for services and investment activity, the Retirement Board authorized a building construction plan to add 200,000 square feet of office space and related parking facilities to STRS' current building in downtown Columbus. By 2007, STRS retirements annually will be double what they were a decade earlier. STRS' investment base is also expected to double, along with a sizeable increase in the number of retired members. To handle this level of growth while maintaining the quality service that has become one of the hallmarks of STRS, more associates will be needed. Benefit counselors, phone advisors, health care staff members, investment analysts and support staff will be added. Ground was broken for the building expansion project in March 1998. Plans call for the project to be completed by the end of 1999.

STRS Plans Ahead for "Y2K" Issues

As the year 2000 draws closer, STRS continues to work on Y2K issues that result from the effect of the date "2000" on computers. Since their development in the mid-20th century, many computer systems have stored the year as two digits; thus, 1998 equals 98. Soon, for the first time, computers must recognize the century. STRS is making every effort to ensure that the payment of benefits, the regular posting of contributions, and the maintenance of member and investment records will not be adversely affected by the date change. Because the retirement system regularly deals with benefit estimates, annuities, long-term investment strategies and other long-range business functions, many potential Y2K issues have already surfaced and have been corrected.

System Receives Reporting and Communication Awards

STRS was presented a Certificate of Achievement for Excellence in Financial Reporting from the Government Finance Officers Association. The award, which STRS has received for eight consecutive years, recognizes conformance with the highest standards for preparation of state and local government financial reports. In addition, the Central Ohio Chapter of the Public Relations Society of America presented two Prism awards to STRS for excellence in public relations for work on the most recent *Comprehensive Annual Financial Report* and the 1996 Benefits Summary.

Social Security Debate Escalates

As politicians from both parties continued to call for "saving" Social Security, the issue of mandatory coverage for newly hired public employees, including teachers, remained a consideration. Many organizations joined STRS and the Coalition to Preserve Retirement Security in voicing formal opposition to mandatory coverage. While real action on reform will not begin until 1999, STRS plans to keep encouraging elected representatives to dismiss mandatory coverage as one of the solutions.

Associates Give Generously to Community

It was another record-setting year for STRS associates. Contributions to the United Way of Franklin County totaled \$70,012, exceeding the previous high of just over \$60,000. In addition, the Operation Feed campaign resulted in \$4,876 in cash donations and 545 pounds of food – also exceeding past campaigns. Another highlight of the year was the "STRS for Kids" charity fund-raiser that provided cash donations and toys for needy central Ohio families.

Member Benefits Department Provides Numerous Services

Counseling sessions, seminars and workshops, and periodic newsletters were just a few of the many services the Member Benefits Department provided to the thousands of active and retired members of STRS. The department's accomplishments included:

PROGRAM	MEMBERS	SERVED
Individual counseling sessions	at STRS	5,488
Individual counseling sessions throughout Ohio		6,207
TeleConferences		3,396
Retired educator meetings		84
Benefit information meetings		3,731
Information Fair		786
Counseling/Member Services Center calls		208,181
Member Benefits Department correspondence		89,607
Retirement Planning Seminar		436
Life Planning Workshop		93
Dollars and Sense Workshop		676
Beyond the Classroom Workshi	ор	2,061
Toll-free Information Line		57,195
Active teacher newsletter circu	lation	272,000
Retired teacher newsletter circu	ulation	92,000

Driven by Vision Inspired by Dreams

Jur Vision

Since 1993, I have been privileged to serve as the executive director of STRS. I have watched us grow from \$26.9 billion in assets to \$48 billion. More educators for Ohio's young people have caused our active membership to increase from approximately 267,000 individuals to almost 310,100 and the number of retirees to grow from 75,000 to 92,000. There has also been growth in the number of associates needed to serve our membership, manage our diverse asset base and respond to such challenges as rising health care costs and the threat of mandatory Social Security.

In this report are many facts and figures that outline the accomplishments of your retirement system during the past year, as well as some of the issues it faces in the future. In addressing our members' needs, every scenario must be explored, every caveat examined and every reasonable option analyzed. It is not a responsibility that we take lightly. As you can see when you read the words of our mission and vision, we are committed to serving our members while they teach and during their retirement.

As we go about our work, we strive to remember that there are individuals behind every number and lifetimes of service represented in every chart. We have been entrusted with much more than the contributions of our members and our employers, we have been entrusted with enhancing teachers' financial security and future well-being.

Oftentimes, during the year, I receive letters from retirees expressing gratitude for our benefits or appreciation for prompt service. They remind all of us of the difference STRS makes in our members' lives. On behalf of all STRS associates, I would like to express our appreciation for being given the opportunity to serve Ohio's educators and to be a part of their lives.

— Herbert L. Dyer, Executive Director

Comprehen member ber

Providing refirement health care coverage i offife for members

When I decided to seek a seat on the Retirement Board in 1994, I had one goal in mind. I wanted to be part of what I knew was one of the most important components of every Ohio educators' life – their retirement system. During my time on the board, I have seen tremendous growth and change in STRS benefits, in STRS assets and in services to STRS members.

Our goal has always been to be a premier retirement system. But, we are much more than that, we help people realize their dreams. For the teachers who have taught English literature for 30 years, we provide the resources needed to write their own masterpieces. For the teachers who taught young children how to read and write, we provide a pension that enables them to now devote their attention to the younger generations in their own families. For those left to cope with the loss of a loved one, we help ease their financial burdens. And for those retirees who look to STRS for health insurance, we provide health care plans that meet their unique needs.

STRS' strong mission and vision drive the Retirement Board's decision-making and motivate its associates – but it is dreams that inspire us all to do our best and to exceed all expectations.

— Deborah Scott, Retirement Board Chair

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Quality service

Striving to exceed the service expectations of members, employers and associates

Today's classrooms seem far removed from the one-room schoolhouses that once dotted the American landscape. And the steps today's educators undertake to prepare for a teaching career follow a much different path than those taken by their predecessors. But one thing remains unchanged – a teacher's life remains a life of service. How fitting it is, then, that STRS' vision calls us to provide quality service to our members and benefit recipients.

This commitment to service at STRS is exhibited in many ways. You can see it in our prudent management of financial assets; the respect accorded to each active and retired member; and our dedication to continual improvement. In the next 10 years, STRS will experience tremendous growth and, along with it, will confront the challenges that such growth brings. However, by remaining true to our vision of quality service, we will continue to be successful stewards of our resources and responsive to the needs of our members.

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William A. Dorsey, Vice Chair Active Teacher Member Retirement Board

Fiduciary responsibility

Safeguarding members' financial retirement security using ethical and professional business practices

To me, STRS is all about *teachers* taking care of *teachers*. Retirement Board members are not making decisions about how many gadgets to produce or how many widgets to sell. Our colleagues have placed their futures in our hands. In carrying out our responsibilities, we must adhere to the highest standards of ethical conduct; we must thoroughly evaluate every business and investment decision; and we must never take lightly the tremendous responsibility that has been placed upon us.

Hazel A. Sidaway Active Teacher Member Retirement Board

Driven by Vision Inspired by Meams

Financial performance

Improving funding through prudent investments and resource management

I want every teacher to receive a retirement benefit that provides a level of dignity and financial independence on par with the importance of teaching; a level that says what a teacher spent a career doing for society and its children was important and worthwhile; a level that says that the teacher is a respected professional whose efforts are appreciated. It is a dream that includes financial security and freedom from medical catastrophe for every teacher. And it is a dream that STRS will look out for the members at every turn, that it will plan for the curves in the road and provide "road service."

I became involved in the business of STRS as an outgrowth of my leadership responsibilities with the teachers' association. I believe that teachers have the right – and should demand the opportunity – to have their elected representatives sitting at every "table" where decisions are made that impact teachers' lives. STRS is the most important resource that teachers have to protect their long-term well-being. Being at this "table" guarantees that every member will be fairly represented, will have their rights protected, and will feel confident that whenever they are ready to receive their benefit ... it will be ready to benefit them.

Jack H. Chapman Active Teacher Member Retirement Board

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"My expectations for retirement definitely match up to reality. Since my retirement from full-time teaching, I've had two public relations books published and I've traveled extensively on a lecture tour throughout mainland China and Thailand. I'm very involved with Chinese students at Ohio University and now serve as advisor to the Chinese Student Association. People kid me about how active I am in retirement, but it's fun doing these things when I don't feel under so much pressure. I also enjoy dropping in on my former students from around the world. My goal is to see as many of them as possible."

Hugh Culbertson Athens, Ohio

Empowerment of associates

Enabling associates to act through the delegation of authority and the acceptance of accountability

STRS associates are unique individuals. To them, the STRS mission and vision are not just words on a piece of paper; they are principles that guide their decision-making and motivate them to seek new levels of excellence. No one accepts the status quo. Rather, each associate continually strives to find better ways to manage the financial, human and physical resources that make STRS a premier retirement system. They do this without sacrificing the quality service and prudent management of STRS' assets that each member and benefit recipient deserves.

Eugene E. Norris Active Teacher Member Retirement Board

Organizational renewal

Enhancing STRS' future by continually acquiring, sharing and implementing new knowledge

As a retired teacher, I know how important it is to have a secure retirement and access to affordable health care. Our retirees look forward to receiving their monthly benefit, and they appreciate the fact that they don't have to take out a second mortgage to get health insurance. As a member of the "ranks of the retired," I have firsthand knowledge of many of the wonderful aspects of retirement. As a Retirement Board member, I know how critically important it is that we remain true to our mission of assuring financial security for Ohio's educators.

Robert P. Shreve Retired Teacher Member Retirement Board

Independent Auditors' Report

Review Peat Marwick LLP

Two Nationwide Plaza Columbus, OH 43215 Telephone 614 249 2348

Telefax 614 249 2348

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

We have audited the accompanying combining statement of plan net assets of the State Teachers Retirement System of Ohio (the System) as of June 30, 1998, and the related combining statement of changes in plan net assets for the year then ended. These financial statements are the responsibility of the System's management. Our responsibility is to express an opinion on these financial statements based on our audit. The accompanying financial statements of the System as of June 30, 1997, were audited by other auditors whose report thereon dated November 23, 1997, expressed an unqualified opinion on these statements.

Except as discussed in the following paragraph, we conducted our audit 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 audit provides a reasonable basis for our opinion.

Governmental Accounting Standards Board (GASB) Technical Bulletin 98-1, *Disclosure About Year 2000 Issues*, requires disclosure of certain matters regarding the year 2000 issue. The System has included such disclosures in Note 5. 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. Accordingly, insufficient audit evidence exists to support the System's disclosures with respect to the year 2000 issue made in Note 5. Further, we do not provide assurance that the System is or will be year 2000 ready, that the System's year 2000 remediation efforts will be successful in whole or in part, or that parties with which the System does business will be year 2000 ready.

In our opinion, except for the effects of such adjustments, if any, as might have been determined to be necessary had we been able to examine evidence regarding year 2000 disclosures, the financial statements present fairly, in all material respects, the financial position of the System as of June 30, 1998, and the changes in its plan net assets for the year then ended in conformity with generally accepted accounting principles.

As discussed in Note 1 to the financial statements, in 1997 the System changed its method of accounting to conform with Governmental Accounting Standards Board Statement No. 25, "Financial Reporting for Defined Benefit Pension Plans and Note Disclosures for Defined Contribution Plans" and Governmental Accounting Standards Board No. 26, "Financial Reporting for Postemployment Healthcare Plans Administered by Defined Benefit Pension Plans."

Our audit was conducted for the purpose of forming an opinion on the basic financial statements taken as a whole. The additional information included on pages 34-35 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 year ended June 30, 1998, and, in our opinion, is fairly stated in all material respects in relation to the basic 1998 financial statements taken as a whole.

In accordance with *Government Auditing Standards*, we have also issued a report dated November 25, 1998, 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.

KPMG Peart Marwick / LP

November 25, 1998



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Combining Statement of Plan Net Assets

(in thousands)

		Year Ending June 30, 1998		Year Ending June 30, 1997 Postemployment			
	Pensions	Postemployment Health Care	Totals		Pensions	Health Care	Totals
Assets:							
Cash and short-term investments	\$ 2,000,146	\$ 96,206	\$ 2,096,352		\$ 2,104,435	\$ 99,081	\$ 2,203,516
Receivables:				4 P POO 000000 0000000000000000000000000			
Accrued interest and dividends	151,158	7,271	158,429		136,898	6,445	143,343
Employer contributions	172,057	8,276	180,333		161,795	7,618	169,413
Retirement incentive	40.816		40,816		48,590		48,590
Member contributions	136,494		136,494		130,651		130,651
Securities sold	479,531	23,065	502,596		103,900	4,892	108,792
Miscellaneous receivables	3,529		3,529		2,377		2,377
Total receivables	983,585	38,612	1,022,197		584,211	18,955	603,166
Investments, at fair value:							
Fixed income	10,444,173	502,361	10,946,534		10,112,077	476,096	10,588,173
Common and preferred stock	19,902,536	957,305	20,859,841		17,185,806	809,141	17,994,947
International	9,127,481	439,029	9,566,510		7,264,448	342,024	7,606,472
Real estate	3,772,539	181,458	3,953,997		3,290,028	154,901	3,444,929
Alternative investments	130,904	6,296	137,200		46,804	2,204	49,008
Total investments	43,377,633	2,086,449	45,464,082		37,899,163	1,784,366	39,683,529
Collateral on loaned securities	3,062,797	147,319	3,210,116	3	904,459	42,584	947,043
Fixed assets, at cost, net of accumulated depreciation of \$27,521 and \$22,955, respectively	55,151		55,151		49,196		49,196
Total assets	49,479,312	2,368,586	51,847,898		41,541,464	1,944,986	43,486,450
Liabilities:							
Securities purchased	606,214	29,159	635,373		134,899	6,351	141,250
Accrued expenses and other liabilities	11,818	568	12,386		8,138	383	8,521
Medical benefits payable		35,536	35,536			36,135	36,135
Obligations under securities lending program	3,062,797	147,319	3,210,116		904.459	42,584	947,043
Total liabilities	3,680,829	212,582	3,893,411	š ;	1,047,496	85,453	1,132,949
Net assets held in trust for pension and postemployment health care benefits:							
(A schedule of funding progress is presented on page 33.)			A 17 65 1 105	534. -	CAO 400 000	61.050.522	¢40.050.501
	\$45,798,483	\$2,156,004	\$47,954,487		\$40,493,968	\$1,859,533	\$42,353,501

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See accompanying Notes to Financial Statements.

Combining Statement of Changes in Plan Net Assets

	Year Ending June 30, 1998		Year Ending June 30, 1997			
	Pensions	Postemploymen Health Care	Totals	Pensions	Postemployment Health Care	Totals
Additions:				1		
Contributions:						
Member	S 697,404		S 697,404	\$ 679,499		\$ 679,499
Employer	746,997	\$ 248,928	995,925	817,331	S 136.116	953,447
Retirement incentive	40,298		40,298	51,907		51,907
State of Ohio appropriations	2,067		2,067	2,377		2,377
Benefit recipient health care premiums		39,682	39,682		38,347	38,347
Other retirement systems	4,705		4,705	6,011	Î.	6,011
Additional death benefits (net)	289		289	270		270
Total contributions	1,491,760	288,610	1,780,370	1,557,395	174,463	1,731,858
Investment income:						
Net appreciation in fair value						
of investments	4,491,233	208,707	4,699,940	4,553,950	215,461	4,769,411
Interest	615,507	28,603	644,110	755,273	35,735	791,008
Dividends	423,391	19,675	443,066	377,700	17,870	395,570
Real estate income	247,938	11,522	259,460	188,309	8,909	197,218
Securities lending income	116,846	5,430	122,276	67,671	3,202	70,873
	5.894,915	273,937	6,168,852	5,942,903	281,177	6,224,080
Less investment expenses	(13,219)	(614)	(13,833)	(12,147)	(575)	(12,722)
Less securities lending expenses	(110,216)	(5,124)	(115,340)	(64,923)	(3,072)	(67,995)
Net investment income	5,771,480	268,199	6,039,679	5,865,833	277,530	6,143,363
Total additions	7,263,240	556,809	7,820,049	7,423,228	451,993	7,875,221
Deductions:	4	0.2	7			
Benefits:						
Service retirement	1,601,143	1	1,601,143	1,440,163		1,440,163
Disability retirement	130,429		130,429	118,893		118,893
Survivor benefits	47,920		47,920	43,539		43,539
Supplemental benefit	44,876		44,876	43,278		43,278
Health care		258,906	258,906		230,424	230,424
Other retirement systems	5,595		5,595_	3,832		3,832
Total benefit payments	1,829,963	258,906	2,088,869	1,649,705	230,424	1,880,129
Refunds to members who have withdrawn	87,705		87,705	32,313		32,313
Administrative expenses	41,057	1,432	42,489	41,998	886_	42,884
Total deductions	1,958,725	260,338	2,219,063	1,724,016	231,310	1,955,326
NET INCREASE	5,304,515	296,471	5,600,986	5,699,212	220,683	5,919,895
Net assets held in trust for pension and postemployment						
health care benefits	1	1				
health care benefits BEGINNING OF YEAR	40,493,968	1,859,533	42,353,501	34,794,756		36,433,606

Notes to Financial Statements

Years ended June 30, 1998 and 1997

1. Summary of Significant Accounting Policies

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

a. Organization — STRS (the plan) is a costsharing, 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.

STRS is a separate financial reporting entity in accordance with criteria established by Governmental Accounting Standards Board Statement No. 14. Specifically, the plan is governed by a separately elected body, is legally separate and fiscally independent of other state and local governments.

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 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 buildings 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 on the basis of future principal and interest payments, and are discounted at prevailing interest rates for similar instruments. The fair value of real estate investments is based on independent appraisals and internal valuations. Where an established market does not exist for an investment, the fair value is estimated.

- f. Federal Income Tax Status STRS qualifies under Section 401(a) of the Internal Revenue Code and is exempt from federal income taxes.
- New Accounting Pronouncements STRS has g. implemented Governmental Accounting Standards Board Statements No. 25 and 26 for the vear ended June 30, 1997. Statement 25, "Financial Reporting for Defined Benefit Pension Plans and Note Disclosures for Defined Contribution Plans," and Statement 26, "Financial Reporting for Postemployment Healthcare Plans Administered by Defined Benefit Plans," require, among other things, that investments be carried at fair value and a statement of plan net assets and changes therein be included; additional financial statement disclosures regarding health care benefits be included; and the elimination of disclosures regarding the pension benefit obligation. Plan assets not readily identifiable as pension or other postemployment health care are proportionately allocated.

STRS adopted Statements No. 25 and 26 in 1997 and applied the provisions of these statements retroactively to July 1, 1996. The impact of the adoption of these statements was an increase in net assets of \$3,252,968,000 at July 1, 1996, from amounts previously recorded.

STRS adopted Governmental Accounting Standards Board Technical Bulletin 98-1 in 1998. Technical Bulletin 98-1 requires the System to describe its year 2000 issues and any significant resources committed to make computer systems and other equipment year 2000 compliant. See required disclosures in Note 5.

2. Description of the STRS Plan

Plan Membership — STRS 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 in part," by the state or any political subdivision thereof.

At June 30, 1998 and 1997, the number	ofpa	rticipating
employers was:		
	<u>1998</u>	<u>1997</u>
City school districts	192	192
Local school districts	372	371
County educational service centers	65	73
Exempted village school districts	49	49
Joint vocational schools	48	48
Universities and colleges	38	38
County boards of mental retardation and developmental disabilities	82	82
State of Ohio	1	1
Total	847	854

At July 1, 1998 and 1997, the member and retirant data were:

i i	<u>1998</u>	<u>1997</u>
Current active members	170,126	168,943
Inactive members eligible for refunds only	112,322	107,946
Terminated members entitled to receive a benefit in the future	17,256	17,597
Retirants and beneficiaries currently receiving a benefit	91,999	88,718
Reemployed retirees	10,389	9,418
Total plan membership	402,092	392,622

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 formula benefit for Ohio service greater than 30 years. Retroactively to July 1, 1997, each year over 30 years is incremented 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.

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-ofliving increases, up to a maximum of 3% of the original base amount.

A retiree of STRS 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 lumpsum 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

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Notes to Financial Statements (cont.)

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 health 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. The Retirement Board allocates 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, 1998, 3.5% of covered payroll was allocated to the Health Care Reserve Fund. For the fiscal year ended June 30, 1999, 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. Withdrawal cancels the individual's rights and benefits in STRS. Effective April 1997, refunds of member contributions may include interest and 50% matching payments.

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, 1998 and 1997, were 14% and 9.3%, respectively. Three and one-half percent of the 14% employer rate was allocated for postemployment health care for the fiscal year ended June 30, 1998. For the fiscal year ended June 30, 1997, 2.0% of covered payroll was allocated to the Health Care Reserve Fund. For the fiscal year ended June 30, 1999, 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, 1998.
- The Employers' Trust Fund (ETF) is used to accumulate employer contributions in trust. 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.

"Since its founding in 1920, STRS has grown in members, in services and, most certainly, in assets. With its excellent return on investments, STRS is able to provide not only for today's benefit recipients, but tomorrow's. STRS' vision calls for prudent investments and resource management. This is happening at STRS ... and because of it, the future is secure for STRS and its members.'

Kent Rinker Representing the Attorney General of Ohio Retirement Board



Reserves are transferred to this fund from the TSF and the ETF at the time of retirement. The APRF was fully funded according to the latest actuarial study dated July 1, 1998.

- 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, 1998.
- 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 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.

At June 30, 1998 and 1997, net assets available for benefits were included in the various funds as follows (in thousands):

	1998	1997	
 Teachers' Savings Fund	\$ 6,569,783	\$ 6,222,725	_
Employers' Trust Fund	18,390,007	15,881,148	
Annuity and Pension Reserve Fund	22,484,068	19,786,577	
Survivors' Benefit Fund	510,629	463,051	
Total	\$ 47,954,487	\$ 42,353,501	
		15	

4. Commitments and Contingencies

STRS has made commitments to fund various real estate investments totaling approximately \$560,045,000 as of June 30, 1998, and \$399,596,000 as of June 30, 1997.

In October 1998, the board passed a resolution that provides a lump-sum supplemental benefit payment to be paid to eligible retirees in December 1998. Estimated payments to be made are \$47 million.

STRS is a party in various lawsuits. While the final outcome cannot be determined at this time, management is of the opinion that the liability, if any, for these legal actions will not have a material adverse effect on the net assets available for benefits. 5. Year 2000 Issue

The year 2000 issue is the result of shortcomings in many electronic data processing systems and other equipment that may adversely affect STRS' operations as early as fiscal year 1999.

STRS has completed an inventory of all missioncritical mainframe computer systems potentially effected by the year 2000 issue. As a result of the inventory, STRS is in the remediation stage in that STRS is modifying programs internally or implementing vendor software releases believed to be year 2000 compliant. An inventory of all personal computer and local area network software potentially effected by the year 2000 is in progress. Remediation of software is occurring on a case-bycase basis.

6. Cash and Investments

The investment authority of the Retirement Board is governed by Section 3307.15 of the Revised Code that also requires the Retirement Board to publish its investment policies annually and make copies available to interested parties. This section requires that investments be made with care, skill, prudence and diligence under the circumstances then prevailing that a prudent person acting in a like capacity and familiar with such matters would use in the conduct of an enterprise of a like character and with like aims. It further provides that the Retirement Board may invest in bonds, notes, certificates of indebtedness, mortgage notes, real estate, stocks and debentures with certain restrictions as to the nature and quality of the investment and composition of the investment portfolio.

Investments held at fair market value by STRS at June 30, 1998 and 1997, are summarized in the chart on page 28.

Fair Market Valuation — Stocks traded on a national securities exchange are valued at the closing price on the last business day of the fiscal year; stocks traded over the counter are valued at the closing bid price, as reflected by NASDAQ, on the last business day of the fiscal year; international investments are valued by the subcustodian using relevant closing market prices and exchange rates; U.S. government and governmental agency securities, bonds, certain guaranteed mortgages, and short-term corporate and government notes are valued based on information from an independent service organization for institutional investors; guaranteed mortgages are valued based on their coupon rate relative to the coupon rate for similar Financial

Notes to Financial Statements (cont.)

Investments held at fair market value by STRS at June 30, 1998 and 1997, are summarized as follows:

(in thousands)

Category	06/30/98	06/30/97
Short-term:		
Commercial paper	\$ 2,042,351	\$ 2,101,424
Government notes	10,000	10,000
Corporate notes		40,000
Short-term investment funds	41,800	23,033
Total short-term	2,094,151	2,174,457
Fixed income:		
Guaranteed mortgages	3,307,028	2,780,487
U.S. government/agencies:		
Not on securities loan	2,445,326	4,875,393
On securities loan	2,234,578	826,241
Corporate bonds:		
Not on securities loan	2,798,152	1,995,583
On securities loan	41,302	3,195
Canadian bonds	119,302	106,186
Municipal bonds	846	1,088
Total fixed income	10,946,534	10,588,173
Common and preferred stock:		
Not on securities loan	20,373,997	17,896,824
On securities loan	485,844	98,123
Total common and preferred stock	20,859,841	17,994,947
Real estate (see Note 7):		
East region	674,120	692,190
Midwest region	681,120	723,778
South region	733,491	603,342
West region	863,475	642,673
REITs	447,495	297,594
Other	554,296	485,352
Total real estate	3,953,997	3,444,929
International (see Note 8):		
Not on securities loan	9,194,972	7,606,472
On securities loan	371,538	
Total international	9,566,510	7,606,472
Alternative investments	137,200	49,008
Collateral on loaned securities	3,210,116	947,043
Total investments	\$50,768,349	\$42,805,029

mortgages on the last business day of the fiscal year; short-term cash equivalent investments are stated at amortized cost which approximates market value; real estate is valued based on appraisals performed by independent appraisers or, for properties not appraised, at the present value of the projected future net income stream; and venture capital is based on values established by valuation committees.

Statement No. 3 of the Governmental Accounting Standards Board requires governmental entities to categorize investments as an indication of the level of risk at fiscal year-end. Category 1 includes investments that are insured or registered or for which the securities are held by STRS or its agent in the name of STRS. Category 2 includes uninsured and unregistered investments for which the securities are held by the counterparty's trust department or agent in the name of STRS. Category 3 includes uninsured and unregistered investments for which the securities are held by the counterparty in STRS' name or held by the counterparty's trust department or agent, but not in STRS' name.

All investments subject to categorization at June 30, 1998 and 1997, meet the criteria of Category 1. Investments are held in the name of STRS or its nominee by the treasurer of the state of Ohio as custodian. Real estate investments and securities on loan are investments that, by their nature, are not required to be categorized.

At June 30, 1998 and 1997, the carrying amount of STRS' cash deposits were \$2,201,000 and \$29,059,000 and the bank cash balances were \$7,440,000 and \$19,763,000, respectively. Of the bank balance, \$100,000 was insured by the Federal Deposit Insurance Corporation. The remaining bank balance was covered by collateral held in the name of STRS' pledging financial institution, as required by state statute (Category 3).

Securities Lending — STRS participates in a domestic and international securities lending program whereby securities are loaned to investment brokers/dealers (borrower). The international securities lending program commenced on January 1, 1998. Securities loaned are collateralized by the borrower at 102% of the domestic loaned securities' market value and 105% of the international loaned securities' market value.

The maturities of the investments made with the cash collateral generally match the term of the securities loaned. A custodial agent bank administers the program and STRS receives a fee from the borrower for the use of loaned securities. STRS has minimized its exposure to credit risk due to borrower default by having the custodial agent bank determine daily that the required collateral meets the specified collateral requirements. There are no restrictions on the amount of securities that can be loaned. The fair value of the loaned securities was \$3,133,262,000 and \$927,560,000 as of June 30, 1998 and 1997, respectively. The fair value of the associated collateral received as of June 30, 1998 and 1997, was \$3,210,116,000 and \$947,043,000, respectively.

7. Real Estate Investments

General — STRS properties are geographically distributed throughout the United States. Real estate investments include single-tenant retail 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 dividendincome 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 is exempt from federal and state income taxes.

Other — Other real estate investments include farmland, timberland and opportunity funds that are all 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

had time

"Since my retirement, I have had time to volunteer at a hospital, to serve on the board of a public library and to work with foreign students in the colleges located here. While doing all this, I have felt very comfortable knowing that the State Teachers Retirement System is so sound."

Marjorie McClelland, Chagrin Falls, Ohio

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Notes to Financial Statements (cont.)

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. International Investments

Externally Managed — STRS has investments in international equity securities through the use of external money managers. It is the intent of STRS and the money managers to be fully invested; however, cash and short-term fixed-income investments are held temporarily. The portfolios are managed in accordance with various mandates based on Morgan Stanley Capital International's (MSCI) indexes. Investments are held in both international developed and emerging markets.

Internally Managed:

Country Funds — STRS actively invests in developed and emerging markets through traded country funds. Each country fund consists of individual equity securities pooled together in an attempt to match or exceed the local country's index. Europe, Australia and Far East (EAFE) Index Fund — To increase diversification in international developed markets, STRS 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 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 1998 with maturity dates in fiscal 1999. In exchange for a negotiated LIBOR (London Interbank Offered Rate), STRS will receive dividends on a quarterly basis. At maturity, STRS will receive or pay the difference in the change in the various market indices included in the swap agreements. Fixed-income securities equal to the initial notional amount of the equity swaps have been set aside as security.

EMF Equity Swaps — Two international equity swap agreements were contracted during fiscal 1998 with maturity dates in fiscal 1999. These are similar to the EAFE equity swaps, except that at

The market values of international investments held at June 30, 1998 and 1997, are (in thousands):					
	06/30/98	06/30/97			
Externally managed					
International stocks	\$5,530,276	\$4,057,208			
International fixed income	45,171	16,465			
International currency and liquidity reserves	367,953	341,823			
Forward contracts	13,050	2,619			
Total externally managed	5,956,450	4,418,115			
Internally managed					
Country Funds	199,067	172,568			
EAFE Index Fund	1,363,120	1,167,187			
EMF Index Fund	641,134	947,952			
EAFE Equity Swaps	1,357,037	900,650			
EMF Equity Swaps	49,702				
Total internally managed	3,610,060	3,188,357			
Total international	\$9,566,510	\$7,606,472			

maturity, STRS 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.

9. Derivatives

Equity Swap Agreements - As discussed in Note 8, STRS has entered into six international equity swap agreements. No funds are required as collateral by either party; however, STRS has purchased fixedincome 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 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 8 for the related equity swap market values as of June 30, 1998 and 1997. Equity swaps were also used in the EMF Index Fund during 1998 and 1997. Of the total EMF holdings, \$36.4 and \$19.1 million were invested in swap agreements at June 30, 1998 and 1997, respectively.

Forward Contracts — Forward contracts in various currencies were used to transact and hedge direct foreign equity investments that STRS 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 began using currency forward contracts to also hedge exposure from the EAFE Index Fund and the Country Funds. STRS is obligated to deliver the foreign currency at a certain dollar price sometime in the future. To fulfill this obligation at maturity, STRS must obtain the currency in the open market. Before the contract matures, STRS can enter into an offsetting forward contract that nets out the original contract. These events expose STRS to currency market risk, which can fluctuate. The external money managers hedged \$1.89 billion and \$967 million of currency exposure in various currencies with varying maturities as of June 30, 1998 and 1997. At June 30, 1998, STRS hedged \$132.2, \$644.8 and \$39 million of currency exposure on the EAFE Equity Swaps, EAFE Index Fund and the Country Funds, respectively. There were no currency forward contracts outstanding on the EAFE Equity Swaps, EAFE Index Fund and the Country Funds as of June 30, 1997.

Futures — STRS 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 had owned the underlying stocks that comprise the index. 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, \$30.2 and \$18 million were invested in futures at June 30, 1998 and 1997, respectively. External money managers also used futures. Approximately \$66 and \$176 million of external money managers' holdings were invested in futures at June 30, 1998 and 1997, respectively.

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

10. 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 received approximately \$2,067,000 and \$2,377,000 from the state for increased benefits paid for the years ended June 30, 1998 and 1997, respectively. Funding for these increased benefits is on a pay-as-you-go basis by the state.

11. Pension Plan

Substantially all STRS 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 credited 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.

Notes to Financial Statements (cont.)

Employees covered by PERS are required by Ohio statute to contribute 8.5% of their salary to the plan. STRS is required by the same statute to contribute 13.55% of covered payroll; 8.44% 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
1998	\$3,090,000	100%
1997	\$2,727,000	100%
1996	\$2,303,000	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 postretirement 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 retirants. 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 postretirement health care. The Revised Code provides statutory authority for employer contributions. The 1997 employer contribution rate for local government employees was 13.55% of covered payroll; 5.11% was the portion that was used to fund health care for the year.

PERS expenditures for OPEB during 1997 were \$389,845,000. The number of benefit recipients eligible for OPEB at Dec. 31, 1997, was 113,906.

12. Required Supplemental Schedules and Additional Information

The schedule of funding progress, the schedule of employer contributions and the notes to the trend data are required supplemental schedules. These schedules are presented on page 33 and are designed to provide information about STRS' progress in accumulating sufficient assets to pay benefits when due.

The schedule of administrative expenses and the schedule of investment expenses are included as additional information. These schedules are presented on pages 34-35.

"I have been in the ability of ST a comprehensi program to reti members." *Representing*

"I have been impressed with the ability of STRS to provide a comprehensive outreach program to retirees and active members."

> James Van Keuren Representing the Superintendent of Public Instruction Retirement Board

Schedule of Funding Progress

For the years ended June 30, 1993-1998 (dollar amounts in thousands)

Valuation Year	Actuarial Accrued Liabilities (AAL)*	Valuation Assets*	Unfunded Actuarial Accrued Liability (UAAL)*	Ratio of Assets to AAL	Active Member Payroll	UAAL as % of Active Member Payroll
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%
1993	33,738,228	25,508,699	8,229,529	75.6%	5,816,209	141%

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

Schedule of Employer Contributions

For the years ended June 30, 1993-1998 (dollar amounts in thousands)

Year Ended June 30	Annual Required Contributions*	Percentage Contributed
1998	\$ 853,455	100%
1997	816,696	100%
1996	786,437	100%
1995	759,246	100%
1994	727,299	100%
1993	697,945	100%

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

Notes to the Trend Data

The information presented in the required supplemental schedules was determined as part of the actuarial valuations at the dates indicated. Additional information as of the latest actuarial valuations follows:

Valuation date	July 1, 1998	July 1, 1997
Actuarial cost method	Entry age	Entry age
Amortization method	Level percent closed	Level percent closed
Remaining amortization period	24.2 years	26.9 years
Asset valuation method	4-year smoothed market with 91%/109% corridor	4-year smoothed market with 91%/109% corridor
Actuarial assumptions:		
Investments 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%	3.75%
Cost-of-living adjustments	3% simple	3% simple

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Schedule of Administrative Expenses

For the years ended June 30, 1998 and 1997

	1998	1997
Personnel		
Salaries and wages	\$15,448,459	\$13,118,509
Retirement contributions	2,034,575	1,778,448
Benefits	1,785,004	2,273,245
Total personnel	19,268,038	17,170,202
Professional and Technical Services		
Computer support services	5,991,105	6,277,475
Health care services	801,222	619,207
Actuary	354,533	324,660
Auditing	84,912	65,403
Legal	190,237	103,482
Total professional and technical services	7,422,009	7,390,227
Communications		
Postage and courier services	1,543,391	1,449,268
Printing and supplies	2,496,517	2,330,544
Telephone	507,176	472,727
Total communications	4,547,084	4,252,539
Other Expenses		
Equipment repairs and maintenance	1,275,409	884,469
Building utilities and maintenance	927,017	770,483
Transportation and travel	489,555	467,541
Recruitment fees	309,260	164,983
Equipment rental	2,174,618	2,759,428
Depreciation	4,897,402	4,301,176
Insurance	382,285	306,769
Memberships and subscriptions	137,078	89,963
Retirement study commission	159,234	240,076
Miscellaneous	755,543	586,672
Loss (Gain) on sale of assets	(255,958)	3,499,736
Total other expenses	11,251,443	14,071,296
Total Administrative Expenses	\$42,488,574	\$42,884,264

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

Schedule of Investment Expenses

For the years ended June 30, 1998 and 1997

	1998	1997
Personnel		
Salaries and wages	\$ 7,878,318	\$ 6,975,661
Retirement contributions	1,055,247	949,017
Benefits	619,000	573,680
Total personnel	9,552,565	8,498,358
Professional and Technical Services		
Legal	(226,990)	15,378
Investment research	110,449	143,411
Real estate advisor	248,378	322,459
Investment advisors	281,965	490,585
Banking fees	2,548,254	2,021,134
Total professional and technical services	2,962,056	2,992,967
Other Expenses		
Printing and supplies	30,288	19,978
Equipment repairs and maintenance	179	6,866
Building utilities and maintenance	427,572	468,119
Travel	567,791	481,294
Equipment rental	143,346	116,168
Memberships and subscriptions	93,842	82,594
Miscellaneous	54,953	55,688
Total other expenses	1,317,971	1,230,707
Total Investment Expenses	\$13,832,592	\$12,722,032


nvestments

In Vision

"I share STRS' commitment to financial accountability and performance, and, as a voting member of STRS, I will continue to seek ways to protect teachers' financial security and future."

James M. Petro Auditor of State Ex Officio Member – Retirement Board "In celebration of STRS' 75th anniversary, two bronze reliefs were placed in the Statehouse, funded through the donations of nearly 9,000 Ohio educators. They commemorate the contributions of teachers to society and serve as a constant reminder of the successful public retirement system that will continue to serve them well into the next millennium."

Betty Montgomery Attorney General of Ohio Ex Officio Member – Retirement Board

"STRS provides a comprehensive member benefits program that is supported by prudent and thoughtful fiscal management policies."

John M. Goff Superintendent of Public Instruction Ex Officio Member – Retirement Board "The wisdom that has been shown in meeting more than the requirements of investing; the growth in benefits in various areas; the courtesy, always, when I have any questions; the marvelous program of medical coverage; and, of course, the connections with the governing bodies of the state on our behalf are a couple indications of the quality of persons that are our representatives."

> Beulah Temple Grosvenor Columbus, Ohio

Investment Review

For the fiscal year July 1, 1997, through June 30, 1998

Economic activity steadies at a high rate of growth, while inflation decelerates significantly

Strong economic growth until the end of fiscal year 1998 helped push real gross domestic product (GDP) up 3.6% for the entire year — matching fiscal 1997's growth rate. The robust growth was led by incredible strength in consumer spending and capital equipment purchases, but was partially offset by a drop in inventories and continuing foreign trade problems related to the Asian financial crisis that exploded at the start of the fiscal year.

Real personal spending grew 5.3% during fiscal 1998, up significantly from the 2.7% pace recorded during fiscal 1997. Both growth rates exceeded the consensus belief for long-term sustainable economic activity. Meanwhile, nonresidential investment grew by 13.2% versus the 11.0% growth during the prior fiscal year. That heady growth rate was led by an 18.0% advance in capital equipment investment — particularly from spending on computers and computer-related equipment as well as transportation equipment.

Business inventories grew considerably in the middle quarters of fiscal 1998 before plummeting in the last quarter and dragging down total GDP growth. Meanwhile, residential investment improved in the second half of the year because of lower interest rates and strong real income growth. Real net exports took a chunk out of economic growth as the deficit nearly doubled in size by fiscal-year end. Exports grew only 0.9%, while imports soared by 11.1%. Financial problems developed in Southeast Asia, spread to other regions and caused the dollar to climb in value. Those events led to deterioration in the U.S. trade position versus most of our trading partners. Finally, federal, state and local government expenditures grew only 0.8% as the federal budget balance went positive for the first time since 1969.

Consumer prices decelerated throughout the fiscal year, slowing to only a 1.6% rate of growth — the slowest advance in consumer prices since 1964. Broader price measures, like the GDP price index, fell to a 1% growth rate in fiscal 1998 — the slowest increase in those prices since 1959.

Madam

Though the Federal Reserve maintained the federal funds rate at 5.5% during the entire fiscal year, long-term interest rates consistently slid as the financial markets tried to gauge the impact to the United States of foreign financial and economic problems. The 30-year Treasury bond began the fiscal year at nearly 7% and fell steadily to below 5.75% by the end of the year. Changes in mortgage rates closely followed movements in long-term Treasury rates, though the decline was not as large. The 30-year fixed-rate mortgage began the year at 7.75% and finished at 7%.

Fixed-income investments continue to exceed the benchmark

Interest rates track closely with market expectations for economic growth and inflation. They generally rise when growth and inflation increase and fall when they decrease. Long-term interest rates began fiscal 1998 above 6.75%. Economic growth had been very strong and remained strong for the first three quarters of the fiscal year. With strong economic growth and unemployment below 5%, its lowest level in a generation, inflation fears were high at the start of the fiscal year. However, as the fiscal year progressed, economic problems that began in a few small Southeast Asian countries spread to larger, more economically important countries. Lower import prices and a stronger U.S. dollar began to take its toll on the U.S. economy while putting downward pressure on prices. Net exports subtracted from GDP growth as the U.S. trade balance gap widened. By the end of the fiscal

Investment Review (cont.)

year, total economic growth had slowed significantly and inflation, as measured by the Consumer Price Index, fell to multiyear lows. Interest rates followed this trend, gradually falling below 5.75% by the end of the fiscal year.

At the start of the fiscal year, the STRS fixedincome portfolio's duration was longer than the market's duration. 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 106%, positioned to benefit from an expected decline in interest rates. During the fiscal year, as long-term interest rates fell from 6.8% to 5.6%, bond prices rose. This provided STRS an opportunity to increase returns relative to the benchmark. In the process, portfolio duration was reduced to 94% as expectations of stronger growth and potentially higher inflation increased.

The net results of trading during the fiscal year decreased 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 23% at market from 25% the previous fiscal year. Using book value of sales and maturities as a measure, portfolio turnover declined to 45% from 54% the prior year.

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 fixed-income portfolio and is used as the benchmark for relative performance. For calendar year 1997, this benchmark returned 9.7% versus STRS' fixed-income portfolio's return of 10.4%. The shifting of the portfolio's duration contributed to the excess performance relative to the index. Since interest rates declined and prices rose over the period, the total return was more than the coupon return. A more complete report of STRS performance appears on page 54.

The bull market in domestic stocks lasted another fiscal year

In fiscal 1998, one of the strongest bull markets this century continued. The Standard & Poor's composite index of 500 stocks (S&P 500) provided a total return of 30.2% while the S&P 1500, a measure of the broader market, had a very respectable return of 29.4%. It was the fourth straight year the market has posted returns far in excess of the historical average a 8% to 10%. After a short pause in the fall of 1997, brought on by the first round of international economic concerns, the market took off on a strong climb through the end of the fiscal year. By sector, technology, health care and retail stocks led the market. Basic commodities, such as metals and paper as well as energy, lagged the overall market during the year. As concerns over international economies continued, companies with significant overseas exposure fell out of favor. Large growth companies with primarily domestic revenues continued to lead the market. In fact, the overall market returns were driven by an increasingly narrow list of large capitalization growth stocks such as Dell, General Electric and Microsoft.

Once again, the S&P 500 outperformed a large majority of active managers, as few practitioners were willing to concentrate assets in the relatively few companies driving the market. STRS performance reports follow the industry convention of reporting on a calendar-year basis. During the 1997 calendar year, STRS equities returned 29.6% while the S&P 1500 grew 32.9%. At the very end of the fiscal year, the factors that have held back STRS relative performance (avoidance of high-multiple, largecapitalization stocks and a tilt toward value over growth names) began to work in STRS' favor. These may improve STRS' relative returns if the long bull market slows down.

Domestic equities accounted for \$20.9 billion, or 44%, of total STRS assets at the end of fiscal 1998. The top 20 STRS common stock holdings are shown in the schedule of largest investment holdings starting on page 57. Equity investment results are on page 54.

International investments continue to perform better than benchmark

During fiscal 1998, the international equity markets exhibited widely divergent performance results. In aggregate, the developed markets, represented by the Morgan Stanley Capital International (MSCI) Europe, Australia, Far East (EAFE) Index, lagged behind U.S. markets as they returned 7.4%. European markets, however, were up almost 35%. On the other hand, Asian/Pacific markets were down just over 35% because of slowing growth foroughout the region.

The emerging markets also showed a wide range of returns, albeit generally in a negative direction. Latin American markets declined 27% for the period and Asian emerging markets tumbled more than 66% due to the financial crises in the region. In aggregate, the emerging markets as represented by the MSCI Emerging Markets Free (EMF) Index were down 39.1%.

The STRS international hybrid benchmark index, consisting of 60% of the MSCI EAFE Index for developed markets and 40% of the MSCI EMF Index, consequently declined 13.7%. This marks the first fiscal year that the international hybrid index has shown negative performance since inception of the international program in December 1993. The STRS international equity portfolio substantially exceeded the hybrid benchmark in calendar 1997, registering a decline of only 0.5% while the hybrid benchmark fell 3.5%. Performance results of the international equities portfolio on a calendar-year basis are on page 54.

The international equity portfolio was valued at \$9.6 billion at the end of fiscal 1998, which represented 20.1% of total STRS assets. Developed market investments totaled \$6.0 billion, or 12.6% of total assets, and emerging markets investments were \$3.6 billion, or 7.5% of total assets. External managers were responsible for managing 62% of the international portfolio and the remaining 38% was internally managed.

Real estate returns surpass benchmark returns

The real estate market continued to move upward during the mature phase of the cycle. The real estate fundamentals of supply and demand for the physical space market continued to be in relative balance. While new construction activity increased in the last year, it remained at acceptable levels in most markets. STRS' outlook continues to be cautiously optimistic.

The capital markets for real estate continue to evolve. Re-emergence of the public equity market over the last several years has been the dominant factor creating change in the sector. Last year, however, the public debt market exploded with investors seeking greater liquidity and more diversification. The consolidation in the public equity markets is expected to continue amid a slowdown of new offerings in the public debt market. Private market capital, however, is still flowing into real estate. Those flows are expected to fill the gap from the public market.

Real estate returns continued to rise as pent-up demand led to strong gains in both income and appreciation. STRS' portfolio benefited from this trend, turning in a calendar-year return for the portfolio of 16.1%. This strong performance exceeded the National Council of Real Estate Investment Fiduciaries (NCREIF) Property Index return of 14.2%. During fiscal year 1998, the STRS real estate portfolio grew almost 13% to just under \$4 billion. Although net assets increased over \$500 million during the year, the growth in total STRS assets was higher — leaving real estate's share of total assets relatively unchanged at 8.2%.

Total fund returns beat benchmark and exceed long-term goals

The annualized rate of return for the total STRS fund was 14.5% during fiscal 1998. During calendar year 1997, the STRS fund returned 16.5%. (STRS performance is more appropriately calculated on a calendar-year basis for adequate comparison with other performance publications.) The hybrid index of industry benchmarks rose 16.4% during calendar year 1997. The STRS fund's rate of return for the five-year period ending Dec. 31, 1997, was 12.1%, well above the 8% absolute long-term return goal but below the relative hybrid index of industry benchmarks, which rose by 12.4%. Over the past three calendar years, the STRS fund returned 16.5%, while the hybrid index of industry benchmarks rose 18.2%.

The relative performance of STRS asset categories compared to their benchmarks also continued to fare well. For the five years ending in 1997, the equities portfolio grew by an annualized 17.9%, while the S&P 500 grew by 20.3%. Over the past three years, the STRS domestic equities portfolio grew 25.4% versus the S&P 500's 31.2% average annualized gain. The international portfolio outgained its hybrid EAFE/EMF benchmark for a fourth straight year. The STRS international portfolio returned an annualized 4.8% through the past four calendar years, while the benchmark grew 3.4%. 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 8.3% while the benchmark rose 7.5%. Over the past three years, fixed-income investments grew 11.3% versus the benchmark's 10.4%. The return from real estate investments outpaced its benchmark over the past five years by nearly one-and-a-half percentage points, growing at an annualized 9.6% versus the benchmark increase of 8.1%. Over the past three years, real estate investments grew at an annualized 11.2%, while the benchmark advanced by 11.0%.

The total return on STRS investment assets over the preceding five-year period exceeded the rate of inflation by nearly 10 percentage points. Over the three-year period, the return on STRS investment assets has exceeded the inflation rate by more than 14 1/2 percentage points.

Investment Objective and Policy

(Effective Oct. 23, 1998)

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 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 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 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 Revised Code defines a fiduciary, and Sections 3307.14, 3307.15 and 3307.18 of the 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 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:

- Recommended long-term investment objectives and review of these objectives at least annually.
- 2. Monitoring performance of the investment program.
- 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.

"Getting old is no picnic, but at least we have no financial worries — thanks to STRS! Thanks so much for the peace of mind we have."

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page 4

Robert and Marian Cochran Bradenton, Florida

Investment Objective and Policy (cont.)

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.
- 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.



"STRS serves as a role model for many public pension funds across the country. It is respected for its expertise in financial management, and it is admired for its unwavering commitment to service. Several STRS publications use the phrase, 'Security you can count on,' in describing what the system represents to its members. It is an appropriate and accurate phrase for this venerable system."

> O'Neal Saunders Representing the Auditor of State Retirement Board

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	

The asset mix policy ranges and the average longterm weights for the major asset classes are listed above. The investment staff 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 that may deviate from the average long-term weights shown below based upon short- and intermediateterm 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 mediumterm note purchases shall:

- 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.
- 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

Investment Objective and Policy (cont.)

prorated principal and interest payments and also asset-backed securities will not be considered derivative investments for the purpose of this Objective and Policy 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.
- 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.
- 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.

 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 shortterm 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 any time 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.

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 assets.

Portfolio Name	Range %	6 of Assets	20 - 12 - 12 - 12 - 12 - 12 - 12 - 12 -	
	Low High		Average Long-Term	
Actively Managed			Weighting	- 14
Small/Medium Companies	1%	5%	3%	-
Growth	5%	15%	7%	
Valuation	5%	15%	10%	1
Subtotal Active	3	×	20%	
Core/Passively Managed				
Industry Index	5%	15%	12%	
S&P 500 Index	5%	15%	10%	
S&P 400 Index	0%	5%	1%	
S&P 600 Index	0%	5%	2%	
Subtotal Core/Passive			25%	
Total Equities	40%	50%	45%	





Investment Objective and Policy (cont.)

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 guidelines, as described in the Annual Investment Plan, and is 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 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% to 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% to 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 underor 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 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 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 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.

"I still have a thirst for learning. In retirement, I'd like to attend a culinary institute . . . maybe study art history . . . and I'm definitely going to take that trip to Malta."

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Nancy McHarg Teacher in the Akron City Schools



Investment Objective and Policy (cont.)

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 employee, that individual must sign a letter of agreement with the State Teachers Retirement Board indicating that, should the staff member terminate employment at STRS, resignation from any and all company board seats would occur if the State Teachers Retirement Board so directs. The STRS employee 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 the investment portfolio and to provide one means of insulating assets of the system against the effects of inflation. Consequently, real estate investments will be acquired to provide a return commensurate with investment risk. Stabilized cash-on-cash yields shall be a key objective of the portfolio with the opportunity for increasing cash flows during ownership. Long-term appreciation shall also be a factor in determining real estate selection, but shall be secondary to cash-on-cash yield and arrangements for securing increased cash flows for the dominant portion of the portfolio. A total return objective of 8% to 9% per year over a five-year period is expected on these assets.

Restrictions

Real estate investments shall be not more than 12% of total assets. It is the board's policy to maintain an investment in real estate in the range of 6-12% of assets.

Diversification:

- 1. Investment Type: High quality investments that are relatively general purpose will provide both investment security and maximum equity growth potential. Six such types are:
 - a. Office buildings
 - b. Retail properties

- c. Distribution centers, warehouses and industrial parks
- d. Multifamily housing
- e. Real estate securities
- f. Specialty

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

The value for any one property type shall generally not exceed 50% of the real estate portfolio.

- 2. Geographical Concentration: The maximum value for any one of the eight divisions as defined by the NCREIF will generally be 25% of the real estate portfolio. Two exceptions will be the East North Central Division, which includes Ohio, and the Pacific Division, which contains a significant portion of the NCREIF property index as well as Pacific Northwest Timber. These sectors will have a 35% value limit. When properties located within Ohio offer quality, return and safety comparable to properties outside Ohio, the Ohio investment will be given preference. The investment staff shall pursue an active plan to achieve this objective.
- 3. Financing Structure: Real estate investments will include equity-type structures such as direct ownership, participating mortgages, joint ventures, co-ownership, externally managed accounts, real estate securities and derivatives. Real estate securities will be limited to 25% of the real estate portfolio. 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 assets. The staff will search for innovative ways to approach structuring new real estate investments to enhance STRS' total investment strength. However, the internally managed portfolio will generally be managed to limit the amount of debt encumbering this portfolio to approximately 35%.
- 4. Minimum-Maximum Size Guidelines: The minimum size for real estate investments will be generally: \$10 million for properties within Ohio and \$15 million for properties outside Ohio. Exceptions to this guideline are appro-

priate in regions where STRS 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 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.
- 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 will be prudent and diligent in its evaluation of potential investments so as not to invest in property on which hazardous materials are present or so near the property in such form and quantities as to cause STRS 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 liability.

Valuations

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Portfolio performance will be calculated on a quarterly basis, while individual properties will be valued annually. A combination of internal valuations and external appraisals will be used on a rotating basis for valuing the internally managed assets. Each property will be valued each year, with an independent external appraisal no less than every third year. The sale-leaseback portion of the portfolio will be valued on an internal basis with a random sample of external appraisals each year to validate the internal methodology. 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 by the external manager. The methodology used in the 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 National Association of Real Estate Investment Trusts (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

Juas able toget my master's from Columbia University.

W.Y.

"My STRS benefits have helped to give me my good life, including several educational degrees ending with my master's from Columbia University and many travel experiences."

Ruth Murray Morris Sarasota, Florida

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Investment Objective and Policy (cont.)

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;
- 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; and
- 6. Settlement of actual or potential real estate litigation.

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;
- Individual transactions outside policy and/or strategy;
- 5. Monthly investment activity reports; and
- 6. Semiannual performance reports from the consultant.

Objectives, Guidelines and Policies: Procedures

Long-term Objectives

The investment advisor shall recommend longterm 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; and
- 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

nvestments

Investment Objective and Policy (cont.)

- (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 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 also be proactive in its intent to include firms that have an operating office located in Ohio.

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 relativemeasurement 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-, fiveand 10-year comparisons shall also be examined.

The domestic equity portfolio shall be compared against 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 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:

- 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.
- 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 valued by the subcustodian using relevant closing market prices and exchange rates.

Investment Performance

(Total returns, annualized)

1-Year Returns (1997)

Asset Category	STRS Return	Index Name	Index Return
Equities	29.59%	Standard & Poor 500 Cap Weighted	33.36%
Equities		Standard & Poor 500 Equal Weighted	28.01%
		Standard & Poor 1500	32.94%
		Capital Resource Advisors*	28.70%
International	(0.48%)	EAFE/Emerging Composite	(3.48%)
Fixed Income	10.38%	Lehman Aggregate	9.65%
Real Estate	16.05%	Real Estate Composite**	14.21%
Total Fund	16.50%	S&P/Lehman/RE/International	16.44%
I UTULI I WING		Inflation (GDP Deflator)	1.68%
		Capital Resource Advisors*	18.80%

3-Year Returns (1995-1997)

Asset Category	set Category STRS Return Index Name		Index Return	
Equities	25.40%	Standard & Poor 500 Cap Weighted	31.15%	
Lyunes		Standard & Poor 500 Equal Weighted	26.21%	
		Standard & Poor 1500	30.48%	
		Capital Resource Advisors*	27.00%	
International	4.55%	EAFE/Emerging Composite	3.12%	
Fixed Income	11.31%	Lehman Aggregate	10.42%	
Real Estate	11.24%	Real Estate Composite**	11.04%	
Total Fund	16.47%	S&P/Lehman/RE/International	18.18%	
1011111111		Inflation (GDP Deflator)	1.85%	
		Capital Resource Advisors*	18.20%	

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5-Year Returns (1993-1997)

Asset Category	STRS Return	Index Name	Index Return
Equities	17.86%	Standard & Poor 500 Cap Weighted	20.27%
Equines		Standard & Poor 500 Equal Weighted	18.19%
		Standard & Poor 1500	n/a
		Capital Resource Advisors*	17.90%
Fixed Income	8.25%	Lehman Aggregate	7.51%
Real Estate	9.55%	Real Estate Composite**	8.06%
Total Fund	12.07%	S&P/Lehman/RE/International	12.39%
		Inflation (GDP Deflator)	2.13%
		Capital Resource Advisors*	12.90%

STRS Long-Term Policy Objective (5 Years)

-	Equities: 8%-10%	Fixed Income: 6%-7%	Real Estate: 8%-9%	Total Fund: 8%
21				APRIL RANDOW STREET, SHOP SHOP STOP

Investment performance is in conformance with the presentation standards of the Association for Investment Management and Research (AIMR).

Capital Resource Advisors State Plan Median Fund (formerly SEI Public Median) consists of 24 funds with a median size of \$8.0 billion. STRS is a \$47.6 billion fund. The State Plan Median Fund has an average commitment to stocks of 57.4%.

The Real Estate Composite benchmarks are calculated using the STRS Composite Index for all periods beginning on or after Jan. 1, 1996, and using only the NCHEW Property Index for all periods before Jan. 1, 1996.

Summary of Investment Assets

As of June 30, 1998 and 1997 (dollar amounts in thousands)

	June 30, 1998 Fair Market	<u></u>	June 30, 1997 Fair Market	
	Value	%	Value	%
Short-Term				
Commercial paper	\$ 2,042,351	4.3%	\$ 2,101,424	5.0%
Government notes	10,000	0.0%	10,000	0.0%
Corporate notes		0.0%	40,000	0.1%
Short-term investment funds	41,800	0.1%	23,033	0.1%
Total short-term	2,094,151	4.4%	2,174,457	5.2%
Fixed Income				
Guaranteed mortgages	3,307,028	7.0%	2,780,487	6.6%
U.S. government and governmental agencies	4,679,904	9.8%	5,701,634	13.6%
Corporate bonds	2,839,454	6.0%	1,998,778	4.8%
Canadian bonds	119,302	0.3%	106,186	0.3%
Municipal bonds	846	0.0%	1,088	0.0%
Total fixed income	10,946,534	23.1%	10,588,173	25.3%
Common and Preferred Stock	20,859,841	43.9%	17,994,947	43.0%
Real Estate				
East region	674,120	1.4%	692,190	1.7%
Midwest region	681,120	1.4%	723,778	1.7%
South region	733,491	1.5%	603,342	1.4%
West region	863,475	1.8%	642,673	1.5%
REITS	447,495	0.9%	297,594	0.7%
Other	554,296	1.2%	485,352	1.2%
Total real estate	3,953,997	8.2%	3,444,929	8.2%
International	9,566,510	20.1%	7,606,472	18.2%
Alternative Investments	137,200	0.3%	49,008	0.1%
Total Investments	\$47,558,233	100.0%	<u>\$41,857,986</u>	100.0%

Investment asset schedule excludes collateral on loaned securities.

Investment Distribution

By Market Value as of June 30, 1998



Ohio Investment Profile

As of June 30, 1998

(dollar amounts in thousands)

STRS continues to engage in quality Ohio investments. As of June 30, 1998, STRS investments in companies with headquarters in Ohio are valued at more than \$1.9 billion as follows:

Liquidity Reserves	\$ 139,751	100
Fixed Income	213,754	
Common Stock	1,062,112	Second second
Alternative Investments	60,503	
Real Estate	476,370	
Total Ohio-Headquartered Investments	\$ 1,952,490	

Schedule of Largest Investment Holdings*

As of June 30, 1998

Common Stocks – Top 20 Holdings

	Shares	Market Value
General Electric Co	5,248,211	\$476,931,175
Microsoft Corp	3,640,314	\$394,519,030
Exxon Corp	4,579,867	\$326,888,007
Coca-Cola Co	3,378,450	\$288,857,475
Merck & Co., Inc	2,128,412	\$284,675,105
Pfizer, Inc	2,202,947	\$239,432,802
Procter & Gamble Co	2,511,188	\$228,675,057
Bristol-Myers Squibb	1,928,455	\$221,651,797
Wal Mart Stores, Inc	3,577,866	\$217,355,360
Intel Corp	2,733,437	\$202,616,018
Lucent Technologies	2,324,512	\$193,370,342
Johnson & Johnson	2,401,404	\$177,703,896
Cisco Systems	1,862,640	\$171,479,295
Philip Morris Cos	4,230,514	\$166,576,489
Royal Dutch Petroleum	2,948,126	\$161,594,156
AT&T	2,816,571	\$160,896,618
Disney (Walt) Co	1,491,836	\$156,736,020
International Business Machines Corp	1,255,406	\$144,136,301
GTE Corp	2,438,453	\$135,638,948
American International Group	914,596	\$133,531,016

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



I'M BUSIER THAN EVER AND RETREMENT IS JUST GREAT!

"I don't let too much grass grow under my feet. That's probably been the theme of my two years of retirement. I've enjoyed my freedom the most, with no bells telling me where to be. I've done quite a bit of traveling, from the New England area to the Pacific Northwest to Europe. Retirement has also allowed me the chance to start a second occupation of doing small building projects and repair work. In fact, I recently completed eight large display cases at the high school for athletic and academic awards, and I'll soon begin other projects at the school because they were so pleased with my initial work. I'm busier than ever and retirement is just great."

> Roger Frazier Wauseon, Ohio

nvestments

Schedule of Largest Investment Holdings (cont.)

International Investments - Top 20 Holdings

	Shares	Market Value
Union Bank of Switzerland	159,521	\$59,331,337
	27,529	\$58,921,974
Nestle (Switzerland)	77,500	\$52,640,699
SAP AG – VORZUG (Germany)	565,100	\$47,814,949
Deutsche Bank (Germany)	1,545,928	\$46,401,041
Glaxo Wellcome Plc (United Kingdom)	641,300	\$42,013,162
Ing Groep (Netherlands)	382,500	\$41,692,500
Telebras (ADR) (Brazil)	543,660	\$40,013,947
Nokia (Switzerland)	2,085,458	\$39,052,348
Commercial Union (United Kingdom)		\$37,880,676
Mannesmann Ag (Germany)	372,000	\$37,220,627
Allianz Ag (Germany)	111,600	
Portugal Telecom (Portugal).	701,525	\$37,210,434
Vodafone Group (United Kingdom)	2,894,355	\$36,728,434
Axa-Uap (France)	284,700	\$31,928,972
Sony Corp (Japan)	362,700	\$31,260,476
Petrobras (Brazil)	155,632,600	\$28,932,995
Telefonos De Mexico (ADR) (Mexico)	588,900	\$28,304,006
Credit Suisse Group (Switzerland)	127,058	\$28,200,658
A N 17 (Norborlande)	315,200	\$27,439,701
Telecom Italia (Italy)	4,324,200	\$26,417,551

Fixed Income - Top 20 Holdings

Fixed Income - Top 20 Holdings	Par Value	Market Value
U.S. Treasury Bonds, 8.75%, due 8-15-2020, rating AAA	\$254,725,000	\$350,287,631
U.S. Treasury Bonds, 8.875%, due 2-15-2019, rating AAA	\$162,800,000	\$224,261,884
U.S. Treasury Bonds, 7.25%, due 8-15-2022, rating AAA	\$163,235,000	\$195,395,560
FNMA Sr Cap Debs, 0%, due 7-5-2014, rating AAA	\$470,000,000	\$184,277,600
U.S. Treasury Bonds, 7.5%, due 11-15-2016, rating AAA	\$137,059,000	\$164,532,477
U.S. Treasury Bonds, 6.375%, due 4-30-1999, rating AAA	\$157,600,000	\$158,728,416
U.S. Treasury Bonds, 5.875%, due 8-31-1999, rating AAA	\$155,800,000	\$156,378,018
U.S. Treasury Bonds, 10.375%, due 11-15-2009, rating AAA	\$111,230,000	\$139,033,051
U.S. Treasury Bonds, 5.875%, due 1-31-1999, rating AAA	\$133,200,000	\$133,497,036
U.S. Treasury Principal STRIPS, 0%, due 2-15-2020, rating AAA	\$435,000,000	\$126,767,700
U.S. Treasury Principal STRIPS, 0%, due 11-15-2018, rating AAA	\$400,000,000	\$125,192,000
U.S. Treasury Principal STRIPS, 0%, due 2-15-2019, rating AAA	\$385,000,000	\$118,776,350
U.S. Treasury Bonds, 8.75%, due 5-15-2017, rating AAA	\$83,220,000	\$112,065,716
U.S. Treasury TINTS Bonds, 0%, due 2-15-2009, rating AAA	\$200,000,000	\$110,490,000
U.S. Treasury Bonds, 6.5%, due 4-30-1999, rating AAA	\$105,650,000	\$106,506,822
U.S. Treasury Principal STRIPS, 0%, due 5-15-2018, rating AAA	\$325,000,000	\$104,659,750
U.S. Treasury Bonds, 12%, due 8-15-2013, rating AAA	\$70,000,000	\$103,821,900
U.S. Treasury Bonds, 6.25%, due 4-30-2001, rating AAA	\$101,500,000	\$103,399,065
U.S. Treasury Bonds, 6.25%, due 2-15-2003, rating AAA	\$93,160,000	\$95,881,204
U.S. Treasury Bonds, 7.875%, due 11-15-2004, rating AAA	\$78,700,000	\$88,411,580



When I grow up...

"... I'd like to drive a bus."

"... I want to be a soccer ball guy and a pro golfer guy."

"... I want to write. I also want to do nails when I get big, but then I think I should go home and do my homework."

> Ramal Iverson, age 4 Matthew Mancuso, age 3 Lauren McKee, age 4 Associates' children enrolled in the C. James Grothaus Child Care Center at STRS



November 12, 1998

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) as of July 1, 1998, 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. Based on our recommendations and effective with this valuation, the Board adopted revised actuarial assumptions. Specifically, the 30-year rates of retirement were increased by 20%, the early retirement rates were modified to reflect experience, the termination and disability rates were decreased and modified to reflect experience and an updated mortality table was adopted. Also, the inflation assumption was reduced from 3 3/4% to 3 1/2%.

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. While we did not verify the data at their source, we did perform tests for internal consistency and reasonability. The amount of assets in the trust fund taken into account in the valuation was based on statements prepared for us by STRS.

Funding Adequacy

Currently, of the total contribution rate of 23.3% from employers and members, 2% is dedicated to the health care fund with 21.3% remaining for pension and survivor benefits. However, for fiscal 1999, an additional 6% 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 by 2.7 years from last year's funding period, (i.e., reduced from 26.9 years to 24.2 years).

The valuation indicates that for the fiscal year ending June 30, 1998 the actuarial experience of STRS was favorable and generated net actuarial gains of \$1,705 million. The Board elected to use \$47.0 million of the actuarial gain to fund the supplemental benefit payments to retirees to be made during December, 1998. The Board elected to use the remainder of the gain to modify the actuarial assumptions and to decrease the funding period to 24.2 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 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,

Kimm Michael

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

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

Statement 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 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 below. (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, 1998, and does not take into account future members. All census and asset data was supplied by the system.

Supe	rannuation			30 Years	25–29 Years	Under 25 Years	
				Service	Service	Service	Salary
Age	Withdrawal	Death	Disability	Retirement	Retirement	Retirement	
		Douth	Disability			Retirement	mercuse
MEN	I						
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
WON	1EN						<i>.</i>
20	.0450	.0002			_		.0925
30	.0480	.0003	.0005	_		_	.0725
40	.0165	.0005	.0018	.2700			.0525
50	.0125	.0003	.0036	.2700	_		.0405
55	.0125	.0012	.0058	.2900	.1000		.0405
60	.0125	.0013		.4000	.1600	.2200	.0350
65	.0125	.0053		.4000	.3100	.2200	.0330
70	.0125	.0033		.5000		.2000	
10		.0050	<u> </u>	.3000	.3500	.2000	.0325

*Includes an inflation adjustment of 3.50%.

Schedule of Member Valuation Data

1989-1998

Active Members

Valuation Date	Number	Annualized Salaries (in thousands)	Annual Average Pay	% Increase in Average Pay
1989	153,830	\$4,624,119	\$30,060	5%
1990	157,650	4.941,916	31,347	4%
1991	160,012	5,237,832	32,734	4%
1992	162,898	5,509,947	33,825	3%
1993	165,711	5,742,577	34,654	2%
1994	167,770	5,986,084	35,680	3%
1995	166,623	6,110,218	36,671	3%
1996	166,927	6,307,142	37,784	3%
1997	168,943	6.564,294	38,855	3%
1998	170,126	6,834,060	40,171	3%

Schedule of Retirees/Beneficiaries

1989-1998

Retirees and Beneficiaries

Valuation Date	Number	Annual Allowances (in thousands)	% Increase in Annual Allowances	Average Annual Allowances
1989	66,453	\$ 773,339	8%	\$11,637
1990	68,739	854,536	10%	12,432
1991	70,583	938,137	10%	13,291
1992	72,599	1,029,952	10%	14,187
1993	74,230	1,120,770	9%	15,099
1994	77,405	1,230,671	10%	15,899
1995	83,136	1,434,032	17%	17,249
1996	86,132	1,579,771	10%	18,341
1997	88,718	1,722,037	9%	19,410
1998	91,999	1,929,988	12%	20,978

Benefit Recipients Added to and Removed from the Rolls

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

Data not available for fiscal years before 1996.

Analysis of Financial Experience

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

	Gai	in (or loss) for	year ended Jur	ie 30:
Type of Activity:	1998	1997	1996	1995
Investment income. If there is greater investment income than assumed, there is a gain. If less, there is a loss.	\$2,505,273	\$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	(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.	(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.	(109,263)	(272,366)	(51,317)	72,567
Death after retirement . If retirants live shorter than expected, there is a gain. If retirants live longer than assumed, there is a loss.	(204,876)	(48,397)	95,252	(44,797)
Gain (or loss) during year from financial experience	1,924,994	1,782,436	515,909	738,877
Nonrecurring items adjustment for plan amendments	(220,259)	(671,174)	0	0
Composite gain (or loss) during the year	\$1,704,735	\$1,111,262	\$515,909	\$738,877

Solvency Test

1989–1998 (dollar amounts in thousands)

		Accrued liability fo)r:				
Valuation	(1) Active Member	(2) Retirees and	(3) Active Members (Employer-Financed	Valuation	Liabili Valu	on of Acc ties Cover ation Ass	red by ets
Date	Contributions	Beneficiaries	Portion)	Assets	(1)	(2)	(3)
1989	\$ 3,446,312	\$ 8,618,907	\$11,553,469	\$ 16,407,002	100%	100%	38%
1990	3,729,945	9,576,506	12,576,887	18,242,453	100%	100%	39%
1991	4,076,990	10,440,584	13,591,787	20,094,849	100%	100%	41%
1992	4,434,876	11,506,994	14,858,368	22,536,343	100%	100%	44%
1993	4,798,350	12,869,723	16,820,903	26,259,447	100%	100%	51%
1994	5,158,561	14,025,124	17,688,124	28,543,410	100%	100%	53%
1995	5,533,684	16,745,090	17,708,401	31,416,677	100%	100%	52%
1996	5,862,250	18,420,596	18,484,067	34,569,651	100%	100%	56%
1997	6,222,725	20,249,628	20,091,418	38,743,272	100%	100%	61%
1998	6,569,783	22,994,697	21,563,608	43,865,907	100%	100%	66%

) a

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

31

32

33

34

35

36

37

38

39

40

41

42

43

Percentage

2.5%

2.6%

2.7%

2.8%

2.9%

3.0%

3.1%

3.2%

3.3%

3.4%

3.5%

3.6%

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%
00	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, 1992, 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
$1 \lesssim 1 \lesssim 1$	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.

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 3 years	Member contributions with 4% interest
3 or more years but less than 5 years	Member contributions with 6% interest
5 or more years	150% of member contributions with 6% interest

Effective Jan. 1, 1999, the interest crediting rate for three years or more of credited service is changed to 5%.

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

ctuarial

Summary of Benefit and Contribution Provisions (cont.)

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 payments that remain are to be 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.

At's a sentimental attachment

"My survivor benefits allow me to live the lifestyle I lived when my husband, Bill, was alive. Every month when I get that check, I put it in my checkbook as "Bill's \$." It makes me think of him, and how important it was for him to know I was taken care of. It's a sentimental attachment ... a monthly gift from him. It means a lot to me."

> Fran Spratley Widow of secondary teacher William Spratley Columbus, Ohio

Revenues by Source and Expenses by Type

For the years ended June 30, 1989-1998 (in thousands)

Revenues by Source

Fiscal Year	Member Contributions	Employer Contributions	Net Investment Income	Health Care Premium	State Appropriations	Other	Total
		\$703,773	\$1,617,196	***	\$5,287	\$3,468	\$2,753,363
1989	\$423,639		1,663,600	***	4,876	3,934	2,882,400
1990	455,264	754,726		***	4,490	3,841	3,031,847
1991	511,269	793,132	1,719,115	***	4,099	4,540	3,714,781
1992	548,841	862,655	2,294,646*			5,180	3,837,325
1993	564,005	869,862	2,394,523	***	3,755		
1994	589,186	902,299	2,231,241	***	3,396	4,805	3,730,927
	624,812	956,284	2,340,907	***	3,035	6,008	3,931,046
1995	·	1,002,441	3,664,683	***	2,698	6,782	5,312,320
1996	635,716			\$38,347	2,377	6,281	7,875,221
1997	679,499	1,005,354	6,143,363**				7,820,049
1998	697,404	1,036,223	6,039,679	39,682	2,067	4,994	

Expenses by Type

Fiscal Ye	bar	Benefits	Refunds	Administration	Total
1989		\$ 925,557	\$17,695	\$16,291	\$ 959,543
1985		1,009,464	17,070	20,415	1,046,949
1990		1,131,877	18,088	29,486	1,179,451
1991		1,226,843	17,488	28,956*	1,273,287
1992		1,323,643	16,386	35,870	1,375,899
1993		1,403,843	18,235	38,770	1,460,848
1994		1,526,915	21,233	38,926	1,587,074
		1,681,637	24,118	37,747	1,743,502
1996		1,880,129	32,313	42,884	1,955,326
1997 1998		2,088,869	87,705	42,489	2,219,063

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.

••• Health care premiums received are not available for fiscal years prior to 1997.

Number of Benefit Recipients by Type

As of July 1	Service Retirement	Disability Retirement	Beneficiaries Receiving Optional Allowances	Survivor Benefits	Total
1989	55,234	4,296	3,569	3,354	66,453
1990	57,016	4,503	3,822	3,398	68,739
1991	58,436	4,643	4,001	3,503	70,583
1992	59,994	4,830	4,274	3,501	72,599
1993	61,515	5,020	4,478	3,217	74,230
1994	63,182	5,217	4,739	4,267	77,405
1995	67,989	5,711	4,941	4,495	83,136
1996	70,448	5,923	5,206	4,555	86,132
1997	72,601	6,000	5,486	4,631	88,718
1998	75,482	6,157	5,675	4,685	91,999

Average Monthly Allowances by Type

1989-1998

As of July 1	Service Retirement	Disability Retirement	Beneficiaries Receiving Optional Allowances	Survivor Benefits	Average
1989	\$ 1,000	\$ 1,144	\$ 661	\$ 581	\$ 970
1990	1,070	1,215	699	606	1,036
1991	1,147	1,288	740	637	1,108
1992	1,227	1,359	770	682	1,182
1993	1,304	1,433	803	748	1,258
1994	1,388	1,504	843	707	1,325
1995	1,510	1,603	886	732	1,437
1996	1,608	1,688	931	779	1,528
1997	1,705	1,764	974	822	1,618
1998	1,844	1,887	1,031	893	1,748

Benefit Expenses by Type

1989-1998 (in thousands)

Fiscal		Disability Retirement		4				
Year Ended	Service Retirement		Survivor Benefits	Supplemental Benefit	Health Care*	Other	Total	
1989	\$ 678,448	\$ 57,132	\$ 25,171	\$ 35,780	\$ 126,319	\$ 2,707	\$ 925,557	
1990	774,625	63,174	26,735	36,885	136,563	1,482	1,039,464	
1991	822,842	70,150	28,851	38,110	170,583	1,342	1,131,878	
1992	897,259	76,378	30,726	28,815	189,784	3,881	1,226,843	
1993	985,024	83,888	32,804	32,489	187,318	2,120	1,323,643	
1994	1,083,335	92,091	35,198	33,586	157,276	2,357	1,403,843	
1995	1,185,066	100,805	37,756	34,567	165,767	2,954	1,526,915	
1996	1,307,482	109,250	40,283	41,750	176,773	6,099	1,681,637	
1997	1,440,163	118,893	43,539	43,278	230,424	3,832	1,880,129	
1998	1,601,143	130,429	47,920	44,876	258,906	5,595	2,088,869	

• 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.

Number of Reporting Employers by Type

1989-1998

City School Districts	Local School Districts	County Educational Service Centers	Exempted Village Districts	Vocational & Technical Schools	Colleges & Universities	County MR/DD Boards	State of Ohio	Total
102	372	85	49	49	37	*	1	785
			49	49	37	88	1	873
				49	37	88	1	873
				51	35	88	1	872
				51	35	82	1	863
			49	48	38	82	1	862
			49	48	38	82	1	861
			49	48	38	82	1	861
				48	38	82	1	854
192	372	65	49	48	38	82	1	847
	School Districts 192 192 193 193 193 192 192 192 192 192 192	School Districts School Districts 192 372 192 372 193 371 193 370 192 372 193 371 193 370 192 371 192 371 192 371 192 371 192 371 192 371	School Districts School Districts Educational Service Centers 192 372 85 192 372 85 193 371 85 193 370 85 193 370 85 192 372 81 192 371 81 192 371 80 192 371 80 192 371 73	School Districts School Districts Educational Service Centers Village Districts 192 372 85 49 192 372 85 49 193 371 85 49 193 370 85 49 193 370 85 49 192 372 81 49 192 371 81 49 192 371 80 49 192 371 80 49 192 371 80 49 192 371 73 49	School School Educational Village Technical Districts Districts Service Centers Districts Schools 192 372 85 49 49 192 372 85 49 49 193 371 85 49 49 193 370 85 49 51 192 372 81 49 51 193 370 85 49 51 192 372 81 49 51 192 371 80 49 48 192 371 80 49 48 192 371 80 49 48 192 371 73 49 48 192 371 73 49 48	School DistrictsSchool Educational Service CentersVillage DistrictsTechnical Schools& Universities192372854949371923728549493719337185494937193370854951351923728149513519237181494838192371804948381923717349483819237165494838	School DistrictsSchool Educational Service CentersVillage DistrictsTechnical Schools&MR/DD Boards19237285494937*19237285494937881933718549493788193370854951358819237281495135821923718149483882192371804948388219237173494838821923716549483882	School DistrictsSchool Educational Service CentersVillage DistrictsTechnical Schools&MR/DDof Boards19237285494937*11923728549493788119337185494937881193370854951358811923728149513582119237181494838821192371804948388211923717349483882119237265494838821

*County Boards of Mental Retardation and Developmental Disabilities were added as reporting employers in fiscal year 1990.

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Selected Funding Information

89-1998 (dollar amounts in thousands)							
As of July 1	Contribution Rate Member Employer		Interest Assumption	Payroll Growth Assumption	Unfunded Accrued Liability*	Funding Period	
1989	8.77%	14.00%	7.75%	5.875%	\$ 7,211,686	34.5 Yrs.	
1990	9.25%	14.00%	7.75%	5.875%	7,640,885	34.0 Yrs	
1991	9.25%	14.00%	7.75%	5.875%	8,014,512	33.5 Yrs	
1992	9.25%	14.00%	7.75%	5.875%	8,263,895	32.5 Yrs	
1993	9.25%	14.00%	7.50%	5.000%	8,229,529	31.5 Yrs	
1994	9.30%	14.00%	7.50%	5.000%	8,328,399	30.5 Yrs	
1995	9.30%	14.00%	7.50%	5.000%	8,570,498	29.3 Yrs	
1996	9.30%	14.00%	7.50%	4.500%	8,197,261	28.4 Yrs	
1997	9,30%	14.00%	7.50%	4.500%	7,820,498	26.9 Yrs	
1998	9.30%	14.00%	7.50%	4.500%	7,262,181	24.2 Yrs	

*Excluding health care

The mission of STRS is: To be the leader in assuring financial security for Ohio's educators.

The vision of STRS is: To be a premier retirement system as evidenced by:

· Comprehensive member benefits: Providing retirement planning, benefits and health care coverage to enhance the quality of life for members, and

Quality service: Striving to exceed the service expectations of members, employers and associates, through

Fiduciary responsibility: Safeguarding members' financial retirement security using ethical and professional business practices, and

Financial performance: Improving funding through prudent investments and resource management, by

Empowerment of associates: Enabling associates to act through the delegation of authority and the acceptance of accountability, and

Organizational renewal: Enhancing STRS' tuture by continually acquiring, sharing and implementing new knowledge.

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