

Working **together**  
to enhance  
the **quality of life**  
for Ohio teachers.

**State Teachers Retirement System of Ohio  
Comprehensive Annual Financial Report  
Fiscal Year Ended June 30, 1996**

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Prepared through the joint efforts of the STRS staff

Copies of this report are available from:  
State Teachers Retirement System of Ohio  
275 East Broad Street  
Columbus, Ohio 43215-3771  
(614) 227-STRS

**State Teachers Retirement System of Ohio  
1996 Comprehensive Annual Financial Report**

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## *STRS philosophy*

### **Mission**

To enhance the quality of life for teachers and their beneficiaries through retirement benefits as statutorily defined, health care coverage and retirement services.

### **Vision**

To be a premier retirement system, as evidenced by:

- Accurate, prompt and courteous service
- Comprehensive benefits
- Exceptional investment returns
- Actuarial soundness

## the board

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 July 1, 1995, through June 30, 1996.



The State Teachers Retirement Board meets monthly to transact business and set policy. Front row, from left to right are: Betty Ocasek Peters; Hazel Sidaway; Jack H. Chapman; Deborah Bell Scott; and Eugene E. Norris. Back row, from left to right are: William A. Dorsey; O'Neal Saunders, representing the auditor of state; Herbert L. Dyer, executive director; and Nedra Hadley, representing the attorney general.



**Jack H. Chapman**  
Chair  
Teacher member since 1990.  
Reynoldsburg City Schools, Franklin County.



**Hazel Sidaway,**  
Vice Chair  
Teacher member since 1986.  
Canton City Schools, Stark County.



**William A. Dorsey**  
Teacher member since 1990.  
Painesville City Local Schools, Lake County.



**Eugene E. Norris**  
Teacher member since 1996.  
South-Western City Schools, Franklin County.



**Betty Ocasek Peters**  
Retired teacher member since 1983.  
Summit County.



**Deborah (Bell) Scott**  
Teacher member since 1994.  
Finneytown Local Schools, Hamilton County.



**John M. Goff,**  
Superintendent of Public Instruction  
Ex officio member of the board since appointed to office in 1995.



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



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

# 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, 1995

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.



*Arthur R. Lynch*  
President

*Jeffrey L. Esser*  
Executive Director

## professional consultants

**Independent Public Accountants:**

**Investment Advisors:**

**Actuarial Consultant:**

Deloitte & Touche LLP, Columbus, Ohio

Frank Russell Company Real Estate Consulting, Tacoma, Washington

Wellington Management Company, Boston, Massachusetts

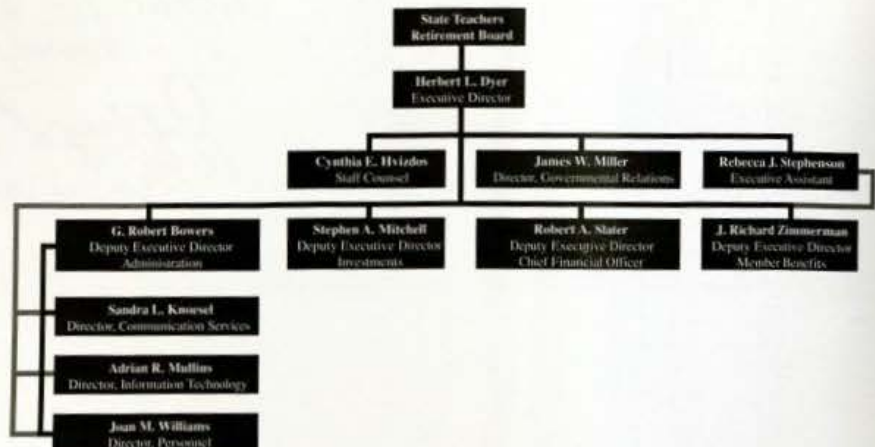
Buck Consultants, Chicago, Illinois

## 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. Seated, from left to right are: G. Robert Bowers, deputy executive director — Administration; Stephen A. Mitchell, deputy executive director — Investments; Robert A. Slater — deputy executive director — Finance and chief financial officer; and J. Richard Zimmerman, deputy executive director — Member Benefits. Standing, from left to right are: Joan M. Williams, director of Personnel; James W. Miller, director of Governmental Relations; Cynthia E. Hvizdos, staff counsel; Herbert L. Dyer, executive director; Rebecca J. Stephenson, executive assistant; Adrian R. Mullins, director of Information Technology Services; and Sandra L. Knoesel, director of Communication Services.

## organizational structure



# THE STATE TEACHERS RETIREMENT SYSTEM OF OHIO

EAST BROAD STREET, COLUMBUS OH 43215-3771  
PHONE (614) 227-4090

## RETIREMENT BOARD

HAZEL A. SIDAWAY, CHAIR—Worley Elementary School, Canton  
DEBORAH (BELL) SCOTT, VICE CHAIR — Finneytown Local Schools, Hamilton County  
JACK H. CHAPMAN, Reynoldsburg Jr. High School, Reynoldsburg  
WILLIAM A. DORSEY, Painesville City Local Schools, Lake County  
JOHN M. GOFF, Superintendent of Public Instruction  
BETTY D. MONTGOMERY, Attorney General of Ohio  
EUGENE E. NORRIS, South-Western City Schools, Franklin County  
BETTY OCASEK PETERS, Retired Teacher Member, Northfield  
JAMES M. PETRO, Auditor of State

September 2, 1996

Members of the State Teachers Retirement Board:

We are pleased to present the *Comprehensive Annual Financial Report* of the State Teachers Retirement System of Ohio for the fiscal year ended June 30, 1996. This report is intended to provide readers with financial, investment, actuarial and statistical information in a single publication.

The State Teachers Retirement System (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 Actuarial Section includes results of the annual actuarial valuation and the certification letter of Buck Consultants; (4) the Statistical Section includes historical data showing the progress of the system; and (5) the Investment Section includes a summary of investment assets and the Retirement Board's Objective and Policy Statement.

## Major Initiatives

New legislation improved benefits for STRS members. The legislation allows teachers who resigned because of pregnancy to purchase up to two years of service credit, permits survivors of STRS members to remarry at age 55 or over without loss of benefits, and provides a cost-of-living increase to eligible benefit recipients when the increase in the Consumer Price Index (CPI) measure of inflation is below 3%.

A Member Services Center was established to provide active and retired members quick access to an STRS service representative. Service representatives provide information, assist with problems, make appointments and offer follow-up support. STRS also expanded counseling hours to provide active teachers more convenient options for making benefit inquiries. In addition to the flexibility offered by extended office hours, STRS offers counseling at locations throughout the state as well as teleconferences. Teleconferences provide counseling by phone from the convenience of a member's home.

STRS continued to monitor and provide health care benefits that offer the best possible value and quality. Programs such as CareWise and CareSupport were initiated to offer value-added services to health care plan enrollees. These programs provide members medical information and support by phone from health care professionals.

The economic environment continued to exhibit signs of growth and low inflation in fiscal 1996. During the year, real gross domestic product (GDP) grew by 2.7%. This increase is the second largest in the past seven years. Real residential investment grew by 9.7% after declining 5.6% in fiscal 1995. The Consumer Price Index, a common indicator of inflationary pressure, grew by 2.75% for the fiscal year.

Long-term interest rates, as measured by the 30-year Treasury bond, started the year at 6.6% and moved to 7% by fiscal year-end. Short-term rates did not change much after the January 1996 Federal Reserve funds rate reduction to 5.25%.

The fixed-income portfolio added duration during fiscal 1996. Since interest rates rose and prices declined over the fiscal year, the added duration enhanced the overall return on our fixed-income portfolio to 20% versus the benchmark, which returned 18.47% during calendar 1995. STRS performance reports follow the industry convention of reporting on a calendar-year basis. A more complete report of STRS performance appears on Page 56. During the year, the fixed-income portfolio was reduced to 36.5% of the total fund from 40.6% at the beginning of the year.

For the second consecutive year, domestic equity markets performed exceedingly well. During calendar-year 1995, the Standard & Poor's Composite Index of 500 Stocks and the Dow Jones Industrial Average returned 38% and 37%, respectively. STRS domestic equities returned 29% during calendar 1995. As the stock market advanced, STRS reduced the share of total assets allocated to equities. The allocation for domestic equities started the year at 43% of the total fund and ended the year at 39.5%.

Allocations to the fixed-income and domestic equity portfolios were reduced to fund a larger allocation to international investments. The allocation to international investments, primarily equities, increased to 9.7% by year-end from 5.9% at the beginning of the year. The performance of STRS' international portfolio surpassed the benchmark performance over calendar 1995, returning 7.37% versus the benchmark of 7.04%.

The real estate portfolio registered an 8.9% return versus the benchmark's 7.6% for the calendar year. At year-end, the allocation for real estate was largely the same as the beginning allocation.



The economic outlook is for an increase in the CPI as wages increase and food and energy prices rise. Economic growth will probably slow through most of the fiscal year. Interest rates should remain stable.

Funding for education has been tight statewide for several years. Nonetheless, there have been no cuts in employer contributions to STRS, and steady improvement in STRS' funding status is expected.

#### Accounting Basis and Internal Control

The financial statements are prepared in accordance with generally accepted accounting principles and are the responsibility of STRS management. Equity investments are recorded at cost, and fixed-income investments are reported at amortized cost. Revenues and expenses are recorded on an accrual basis, that is, revenues are recorded when earned and expenses are recorded when incurred.

STRS maintains a system of internal controls designed to ensure responsible safeguarding of assets and reliable financial records. No material weaknesses in internal controls were reported during the conduct of the audit.

The financial statements for the fiscal year ended June 30, 1996, have been audited by Deloitte & Touche LLP, Columbus, Ohio. Their report is shown on Page 22.

#### Financial Highlights

##### Revenues

	<u>1996</u>	<u>1995</u>	<u>Increase</u>
Net Investment Income	\$3,664,683,000	\$2,340,907,000	56.5%
Contributions	\$1,647,637,000	\$1,590,139,000	3.6%
Total Revenues	\$5,312,320,000	\$3,931,046,000	35.1%

Net investment income, the largest source of funds for benefit payments, reflected the highest earnings in the history of STRS. Net realized gains of \$2.2 billion were the principle reason for the tremendous growth over the prior year. STRS took advantage of strong equity and fixed-income markets to realize gains during the fiscal year. The Retirement Board has the authority to pay a supplemental benefit to benefit recipients in years when investment returns exceed the actuarially assumed return of 7.5%. The board allocated \$44 million for payment of a supplemental benefit in December 1996.

### Expenses

	<u>1996</u>	<u>1995</u>	<u>Increase (Decrease)</u>
Benefits	\$1,681,637,000	\$1,526,915,000	10.1%
Withdrawals	\$24,118,000	\$21,233,000	13.6%
Administrative Expenses	<u>\$37,747,000</u>	<u>\$38,926,000</u>	(3.0%)
Total Expenses	<u>\$1,743,502,000</u>	<u>\$1,587,074,000</u>	9.9%

Pension benefits for service retirement, disability and survivors increased by 10.1% for the year. Health care costs grew by 6.6% because of general inflation and an increase in the number of retirees.

### 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, 1996, valuation shows that the amortization period for the unfunded accrued liability decreased to 28.4 years from 29.3 years, and the ratio of assets to total accrued liabilities improved to 81% from 79%. The current valuation included a reduction in the payroll growth assumption to 4.5% from 5%.

### Investments

Providing the financial foundation for STRS, total investments grew to \$33.4 billion as of June 30, 1996. All assets are strategically allocated among four primary portfolios: fixed-income, common and preferred stocks, equity real estate and international investments. The mix of investments is designed to provide high long-term yields while minimizing exposure to risk. The State Teachers Retirement Board Investment Objective and Policy Statement is included in the Investment Section starting on Page 59.

### Review of Operations and Activities

STRS devotes much time and attention to advising members and retirees about their benefits. A comprehensive annual account statement showing projected benefits and a history of earnings and service credit is sent to members each year. Individual counseling sessions are offered at STRS headquarters, at various locations around the state, and by phone through TeleConferences. STRS associates are available to conduct general meetings for active and retired teacher groups. Retirement Planning Seminars, Life Planning Workshops and an annual Information Fair are also popular forums for presenting information about STRS benefits. Periodic newsletters are mailed to both active and retired members.

**Certificate of Achievement for Excellence in Financial Reporting**

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, 1995. The Certificate of Achievement is a prestigious national award recognizing conformance with the highest standards for preparation of state and local government financial reports.

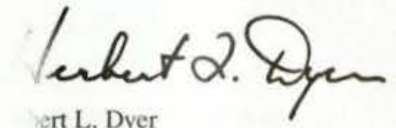
To be awarded a Certificate of Achievement, a government unit must publish an easily readable and efficiently organized comprehensive annual financial report that conforms with program standards. This report must satisfy both generally accepted accounting principles and applicable program requirements.

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

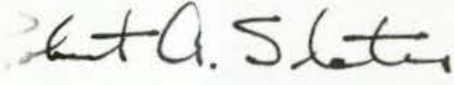
**Acknowledgments**

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,



Herbert L. Dyer  
Executive Director



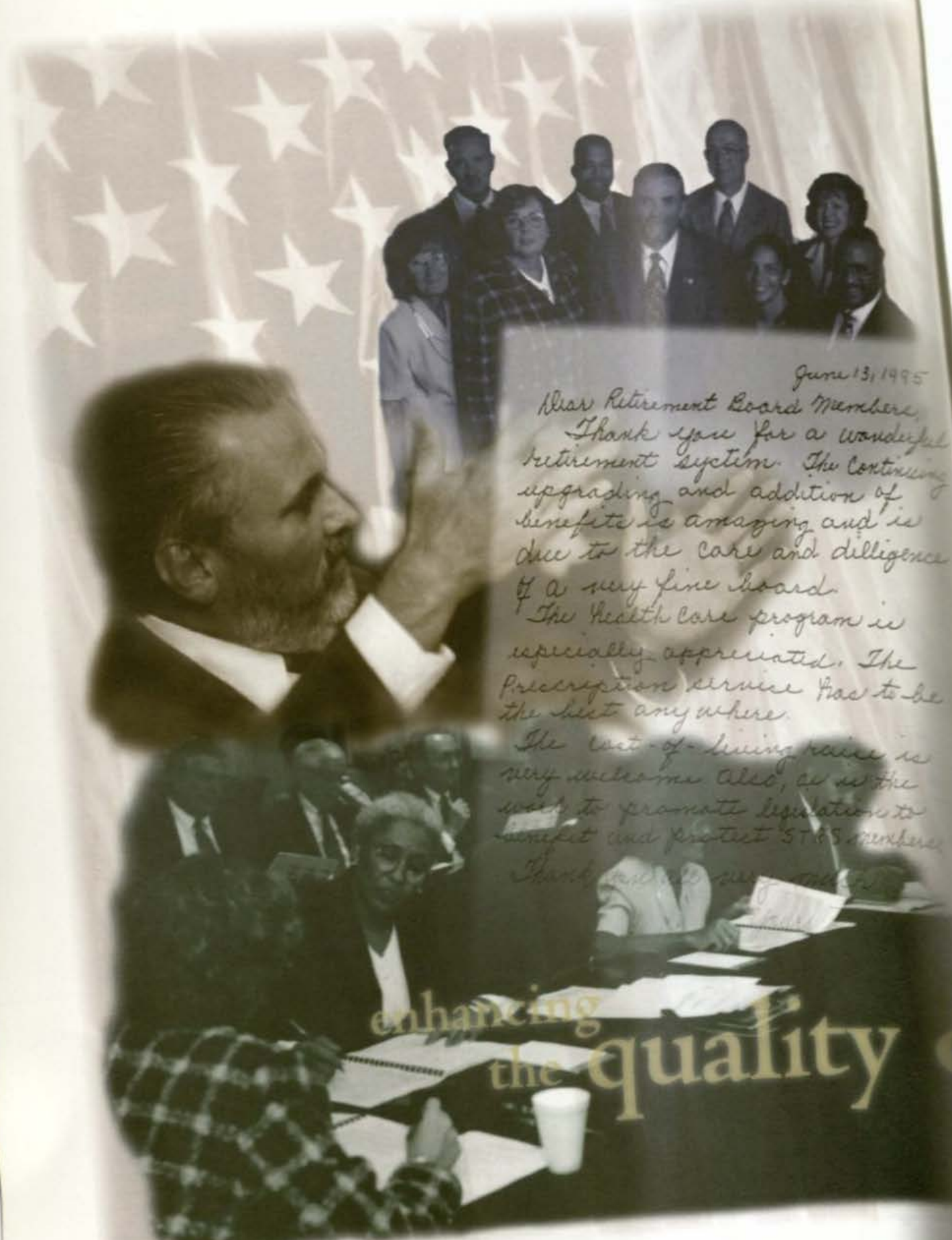
Robert A. Slater, CPA  
Deputy Executive Director  
Chief Financial Officer

---

HERBERT L. DYER, EXECUTIVE DIRECTOR

CYNTHIA E. HVIZDOS, Staff Counsel  
JAMES W. MILLER, Governmental Relations  
REBECCA J. STEPHENSON, Administrative Assistant — Board Functions

DEPUTY EXECUTIVE DIRECTORS:  
G. ROBERT BOWERS, Administration  
STEPHEN A. MITCHELL, Investments  
ROBERT A. SLATER, Chief Financial Officer  
J. RICHARD ZIMMERMAN, Member Benefits



June 13, 1995

Dear Retirement Board Members,

Thank you for a wonderful retirement system. The continuing upgrading and addition of benefits is amazing and is due to the care and diligence of a very fine board.

The Health Care program is especially appreciated. The Prescription service has to be the best anywhere.

The cost-of-living raise is very welcome also, as is the work to promote legislation to benefit and protect STPS members.

Thank you very much.

enhancing  
the quality of

## *the STRS board*

The STRS Board is responsible for making decisions that will preserve and enhance current and long-term benefits for Ohio teachers and their beneficiaries. These decisions — relating to investments, funding, benefits and services — are made in the best interests of Ohio teachers. In 1995-96, the board's able governance and leadership resulted in many accomplishments on behalf of Ohio teachers.

A major accomplishment was the continued payment of the supplemental benefit to retirees. The staff of the Joint Legislative Committee to Study Ohio's Public Retirement Plans, in a preliminary report, recommended rescinding the STRS Board's authority to grant this payment. The board's proactive stance and active opposition preserved its authority to grant the payment — the 17th consecutive supplemental

benefit payment will be made to retired teachers in December 1996. The STRS Board also worked with the Joint Committee on several other important issues, including maintaining a teacher's option to retire at any age with 30 years of service.

In 1995-96, the board also supported other legislation for the benefit of members: H.B. 254 that allows teachers who resigned because of pregnancy to purchase service credit for that period; Am. H.B. 123 that permits survivors of STRS members to remarry at age 55 or over without loss of benefits; and H.B. 365 that pays a cost-of-living increase to eligible benefit recipients when the Consumer Price Index measure of inflation is below 3%.

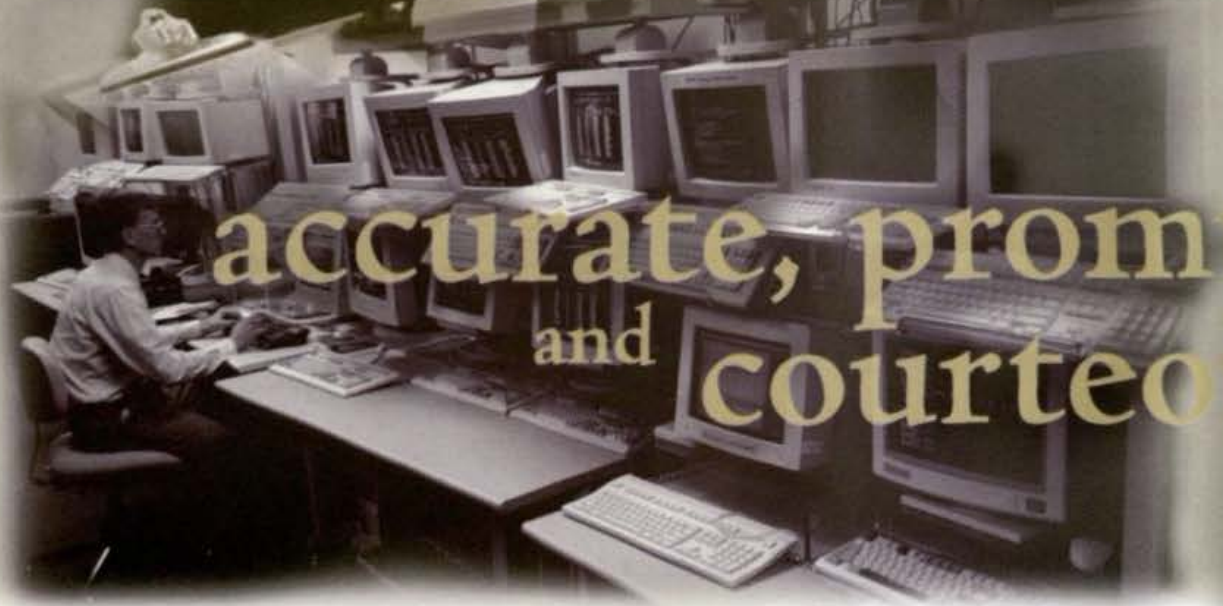
life

1996  
Disability  
Allowance

1996  
Service Retirement,  
Plans of Payment  
and  
Reemployment

1996  
LIFE PLANNING  
WORKSHOP  
\*1996-97\*

STRS RETIREMENT  
PLANNING SEMINAR  
1996-97



accurate, prompt  
and  
courteous

## support services

Nearly 200 STRS associates make up the system's support staff. These associates work in the Administrative Services, Building Services, Child Care, Communication Services, Information Technology Services and Personnel departments. Their often behind-the-scenes work provides crucial support to other STRS associates and, ultimately, to STRS members.

STRS employs more than 90 associates in its Information Technology Services Department. This department develops and maintains its own software systems, allowing STRS associates to provide members quick and accurate information about their retirement accounts. In 1995-96, Information Technology Services maintained hardware and software for more than 400 associate computers and provided approximately 200,000 hours of service, analyses and programming for the system's departments.

The STRS Communication Services staff annually produces hundreds of brochures, forms, applications and other documents to keep members informed. In 1995-96, the department's active and retired-teacher newsletters alone reached more than

300,000 members. During the year, the department also received four awards for its work — three PRISM Awards from the Public Relations Society of America and one Silver Award in *Financial World* magazine's annual report competition.

The Personnel Department spends considerable time and resources recruiting highly qualified STRS associates. The system's growth in assets, services, new members and retirees keeps the department busy. In the 1995-96 fiscal year, nearly 60 new associates were hired, bringing the total number of associates to more than 400. Many of these associates take advantage of the quality care provided by the system's on-site child care center. Last year, this center received accreditation from the National Association for the Education of Young Children, signifying the highest possible standards in the care and education of preschool children.

The Building Services Department provides clean and comfortable work environments to help associates perform to their fullest potential. Administrative Services staff members provide associates with the supplies and support services they need to get the job done. Security, in addition to keeping the system safe and sound, greeted more than 10,000 visitors to the STRS building in Columbus.

service

Equities

43.0%

9.5%

International

Fixed  
Income

40.0%

7.4%

Real Estate

exceptional  
investment  
return



## *investments*

STRS is the 17th largest pension fund in the United States and one of the country's top public pension funds. Its investments of \$36 billion are professionally managed by a staff of 90 who oversee a diversified portfolio of equity, fixed-income, international and real estate investments. The STRS Investment Department boasts one of Ohio's largest contingents of employees who have earned the Chartered Financial Analyst (CFA) designation.

Investment income is STRS' single largest source of funds for benefit payments. In the 1995-96 fiscal year, STRS recorded the highest earnings in its history — net investment income totaled \$3.6 billion, including net realized gains of \$2.2 billion. Average daily transactions in the department include \$45 million in cash equivalents, \$40 million in bonds and \$29 million in stocks.

STRS total-fund returns consistently surpass STRS Board objectives and industry benchmarks. STRS' annualized five-year returns (1991-95) average 12.23% — higher than many industry indexes.

STRS investment strategies are outlined each year in a comprehensive annual plan written by the Investment staff as well as in the STRS Board's Investment Objective and Policy. The strategies are working: In December 1995, STRS paid the 16th consecutive supplemental benefit to retirees as a result of exceptional investment returns.

# Funding Status

# 81%

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, 1996

A Certificate of Achievement for Excellence in Financial Reporting is awarded by the Government Finance Officers Association of the United States and Canada to governments which have demonstrated superior financial reporting performance in their financial reports. It is a national honor and is based on government accounting and financial reporting.



*[Signature]*  
President  
*[Signature]*  
Executive Director



# actuarial soundness

## Funding Period

## *finance*

The STRS Finance Department serves important accounting, actuarial and administrative functions.

The department's actuarial strategies are planned with the goal of continually reducing the system's funding period and increasing the ratio of assets to liabilities. At the end of the 1995-96 fiscal year, STRS' funding period was 28.4 years — more than 10 years less than the 1985-86 funding period of 39.5 years. At fiscal year-end 1996, the system was 81 percent funded, compared to 63 percent at fiscal year-end 1986. The consistent reduction in the funding period and increase in assets as a percentage of liabilities signify an actuarially sound pension fund.

During 1995-96, STRS held employer workshops throughout the state that were attended by more than 200 employer representatives. These workshops helped employers better understand STRS reporting requirements, policies and procedures. The Finance Department also assisted hundreds of the system's 861 employers through its Employer Advisor Program. This program provides employers timely information and quick access to an STRS employer representative who can answer questions, assist with problems and provide follow-up support.

A primary accounting responsibility of the Finance Department is to work with independent auditors and actuaries to prepare and verify actuarial and financial reports, including comprehensive year-end reports. The department does an exemplary job with this responsibility — it has received a Certificate of Achievement for Excellence in Financial Reporting from the Government Finance Officers Association for six consecutive years. This award represents the highest standard in government accounting and financial reporting.



Ann Crf End  
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## member benefits

More than 100 STRS associates in the Member Benefits Department administer retirement benefits and member services. In 1995-96, the department's commitment to quality resulted in many service enhancements for the benefit of more than 300,000 active, inactive and retired teacher-members.

A new Member Services Center was established providing active and retired members quick access to an STRS service representative who can provide information, assist with problems, make appointments and offer follow-up support. Since its start-up date in February, the Member Services Center has assisted nearly 35,000 members by phone.

Columbus-office counseling hours were extended to provide working teachers more convenient appointments. Last year, 5,346 members took advantage of individual counseling sessions in the Columbus STRS office. Nearly 7,000 more members preferred the convenience of a benefits counseling session near their home or school. STRS benefits counselors traveled more than 48,000 miles to provide this "field" counseling.

The TeleConference program was also expanded to serve STRS members statewide. Tele-Conferences are counseling sessions by phone, providing members comprehensive retirement information from the convenience of their homes. Nearly 1,000 TeleConferences were held last year.

In February, a new computer program was installed at STRS, allowing members to file their retirement applications conveniently by phone.

The Retirement System sponsored special meetings for STRS benefit recipients during May and June. More than 7,100 benefit recipients attended one of the 39 meetings conducted at 19 sites throughout Ohio. The meetings provided a forum to address issues important to retirees. Retirement System executives discussed significant issues facing the pension fund including pending federal and state legislation and long-term funding of health care benefits.

The Health Care Department of Member Benefits continued working with health care administrators to provide members the best value and quality possible. Programs such as CareWise and CareSupport were initiated to provide additional health care support to enrollees in an STRS-provided PPO or indemnity plan. In addition, a new health care administrator — AultCare — was added for 1997, and several HMO administrators agreed to offer plans in 1997 that do not require a premium payment by certain enrollees.



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

We have audited the accompanying statements of net assets available for benefits of the State Teachers Retirement System of Ohio (the System) as of June 30, 1996 and 1995, and the related statements of changes in net assets available for benefits for the years then ended. These financial statements are the responsibility of the System's management. Our responsibility is to express an opinion on these financial statements based on our audits.

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

In our opinion, such financial statements present fairly, in all material respects, the net assets available for benefits of the System as of June 30, 1996 and 1995, and the changes in its net assets available for benefits for the years then ended in conformity with generally accepted accounting principles.

As discussed in Note 1 to the financial statements, in 1996, the system changed its method of accounting for securities lending transactions to conform to Government Accounting Standards Board Statement No. 28, "Accounting and Financial Reporting for Securities Lending Transactions."

Our audits were conducted for the purpose of forming an opinion on the basic financial statements taken as a whole. The supplementary information on analysis of funding progress, revenues by source and expenses by type, employer contributions, investment summary, administrative expenses, and cash receipts and disbursements on Pages 37-41 is presented for the purpose of additional analysis and is not a required part of the basic financial statements. This supplementary information is the responsibility of the System's management. Such supplementary information as of and for the years ended June 30, 1996, 1995, 1994 and 1993 has been subjected to the auditing procedures applied in our audits of the basic financial statements for the years ended June 30, 1996, 1995, 1994 and 1993 and, in our opinion, is fairly stated in all material respects when considered in relation to the basic 1996, 1995, 1994 and 1993 financial statements taken as a whole. The supplementary information as of and for the years ended June 30, 1988, 1989, 1990, 1991 and 1992 was subjected to auditing procedures by other auditors whose report dated November 25, 1992, expressed an unqualified opinion on those statements and stated that such supplementary information was fairly stated in all material respects when considered in relation to the basic financial statements taken as a whole. The supplementary information as of and for the year ended June 30, 1987, marked "unaudited" has not been subjected to the auditing procedures applied in our audits of the basic financial statements and, accordingly, we express no opinion on it.

In accordance with *Government Auditing Standards*, we have also issued a report dated November 22, 1996 on our consideration of the System's internal control structure and a report dated November 22, 1996 on its compliance with laws and regulations.

*Deloitte & Touche LLP*

November 22, 1996  
Columbus, Ohio

**Deloitte Touche  
Tohmatsu  
International**

# statements of net assets available for benefits

As of June 30, 1996 and 1995

(In Thousands)

	<u>1996</u>	<u>1995</u>
<b>Assets:</b>		
Investments:		
Short-term	\$ 2,159,244	\$ 924,149
Fixed income	11,882,106	11,873,691
Common and preferred stock and venture capital	12,889,022	12,475,907
International	3,170,844	1,693,974
Real estate	2,496,822	2,276,378
Collateral on loaned securities	840,694	1,141,391
Total investments	<u>33,438,732</u>	<u>30,385,490</u>
Cash	5,002	465
Receivables:		
Accrued interest and dividends	188,011	182,911
Employer contributions	162,539	163,925
Retirement incentive plan	58,111	52,477
Member contributions	121,448	126,296
State of Ohio appropriations	2,698	3,035
Securities sold	142,125	115,280
Total receivables	<u>674,932</u>	<u>643,924</u>
Fixed assets, net of accumulated depreciation of \$20,202 and \$17,401 in 1996 and 1995, respectively	55,625	54,762
Total assets	<u>34,174,291</u>	<u>31,084,641</u>
<b>Liabilities:</b>		
Securities purchased	106,963	285,809
Accrued expenses and other liabilities	45,996	45,621
Obligations under securities lending program	840,694	1,141,391
Total liabilities	<u>993,653</u>	<u>1,472,821</u>
<b>Net Assets Available For Benefits</b>	<u><u>\$33,180,638</u></u>	<u><u>\$29,611,820</u></u>

See accompanying Notes to Financial Statements.

statements of changes in net assets  
available for benefits

For the years ended June 30, 1996 and 1995  
(In Thousands)

	<u>1996</u>	<u>1995</u>
<b>Investment Income:</b>		
Interest	\$ 1,001,547	\$ 1,046,713
Dividends	369,746	410,231
Rent	95,984	74,464
Net investment gains	2,203,747	815,199
Securities lending income	<u>63,989</u>	<u>69,972</u>
Subtotal	3,735,013	2,416,579
Securities lending fees	(61,256)	(68,140)
Investment-related expenses	<u>(9,074)</u>	<u>(7,532)</u>
Net investment income	<u>3,664,683</u>	<u>2,340,907</u>
<b>Contributions:</b>		
Employer	1,002,441	956,284
Member	635,716	624,812
State of Ohio	2,698	3,035
Other	<u>6,782</u>	<u>6,008</u>
Total contributions	<u>1,647,637</u>	<u>1,590,139</u>
Total increases	<u>5,312,320</u>	<u>3,931,046</u>
<b>Benefit Payments:</b>		
Service retirement	1,307,482	1,185,066
Disability retirement	109,250	100,805
Survivor benefits	40,283	37,756
Supplemental benefit	41,750	34,567
Health care	176,773	165,767
Other	<u>6,099</u>	<u>2,954</u>
Total benefit payments	1,681,637	1,526,915
<b>Refunds to Members Who Have Withdrawn</b>	24,118	21,233
<b>Administrative Expenses</b>	<u>37,747</u>	<u>38,926</u>
TOTAL DECREASES	<u>1,743,502</u>	<u>1,587,074</u>
NET INCREASE	3,568,818	2,343,972
<b>Net Assets Available for Benefits</b>		
Beginning of year	<u>29,611,820</u>	<u>27,267,848</u>
<b>Net Assets Available for Benefits</b>		
End of year	<u>\$33,180,638</u>	<u>\$29,611,820</u>

See accompanying Notes to Financial Statements.



# notes to financial statements

Years ended June 30, 1996 and 1995

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

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

### b. Investment Income Recognition:

- Dividend income is recognized on the record date.
- Interest income is recognized as earned.
- Rental income is recognized as earned.
- Gain or loss on security transactions is determined as of the trade date using the average cost of securities sold.
- Gain or loss on exchange of fixed-income securities is recognized using the completed transaction method.
- Gain or loss on real estate is recognized upon sale and for market declines judged to be other than temporary.
- Currency gains and losses between the trade and settlement date for international investments are recognized on the settlement date.

c. **Contributions** — Employer and member contributions are recorded in the period the related member salaries are earned.

d. **Fixed Assets** — Fixed assets are recorded at historical cost. Depreciation is provided on a straight-line basis over estimated useful lives of 5-10 years for equipment and 40 years for buildings and building improvements.

### e. Investment Accounting and Valuation —

- Short-term investments and fixed-income investments are valued at amortized cost with any related discount or premium amortized using the effective yield method, subject to adjustment for market declines judged to be other than temporary. Short-term investments include cash equivalents, repurchase agreements, and corporate and government notes that mature within one year.
- Common and preferred stock, international equities and venture capital investments are valued at cost, subject to adjustment for market declines judged to be other than temporary.
- Real estate investments are valued at historical cost, subject to adjustment for market declines judged to be other than temporary. No provision for depreciation has been made because real estate is treated as an investment asset.
- Purchases and sales of investments are recorded as of their trade date.
- Investment administrative expenses are deducted from gross investment income.
- STRS has no individual investment that exceeds 5% of net assets available for benefits.

f. **Federal Income Tax Status** — During the years ended June 30, 1996 and 1995, STRS qualified under Section 401(a) of the Internal Revenue Code and was exempt from federal income taxes.

g. **New Accounting Pronouncements** — In November 1994, the GASB issued Statement No. 25 — "Financial Reporting for Defined Benefit Pension Plans and Note Disclosures for Defined Contribution Plans;" Statement No. 26 — "Financial Reporting for Postemployment Healthcare Plans Administered by Defined Benefit Plans;" and Statement No. 27 — "Accounting for Pensions by State and Local Governmental Employers." These statements will require, among other things, that the Plan's investments be carried at fair value, a statement of Plan net assets and changes therein, additional financial statement disclosures regarding health care benefits, and the elimination of disclosures regarding the pension benefit obligation. Statements No. 25 and 26 will be effective for the Plan's year ended June 30, 1997 and Statement No. 27 will be effective for the Plan's year ended June 30, 1998. Management is currently reviewing the requirements of these statements and plans to implement GASB No. 25 and No. 26 for the year ended June 30, 1997.

Additionally, in May 1995, the GASB issued Statement No. 28 — "Accounting and Financial Reporting for Securities Lending Transactions." The Plan implemented Statement No. 28 in the current year and retroactively applied it to the prior year. This statement requires certain securities lending transactions to be shown as an asset and liability on the Plan's statement of net assets. Income, losses and fees resulting from securities lending transactions are to be shown separately in the statement of changes in net assets available for benefits.

**2. Description of the STRS Plan**

**Plan Membership** — STRS is a mandatory 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, 1996, the number of participating employers was:

City school districts .....	192
Local school districts .....	371
County boards of education .....	80
Exempted village school districts .....	49
Joint vocational schools .....	48
Universities and colleges .....	38
County boards of mental retardation and developmental disabilities .....	82
State of Ohio .....	1
<b>Total .....</b>	<b>861</b>

**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 years' salaries. 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.

Under the "money-purchase benefit" calculation, a member's life-time 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 3% of the original benefit at retirement if the cost of living as measured by the Consumer Price Index has increased at least 3% in the previous calendar year. If the annual increase in the Consumer Price Index is less than 3%, a 3% cost-of-living increase is still paid if cumulative increases in the Consumer Price Index, less previous cost-of-living increases, equal or exceed 3%. Effective Sept. 27, 1996, legislation was enacted to entitle benefit payments to increase annually by the greater of the amount of the change in the Consumer Price Index or the cumulative increase in prior years, less previous cost-of-living increases, up to a maximum of 3%.

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 lump-sum payment in addition to the original retirement allowance.

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

**Health Care Benefits After Retirement** — The Plan provides comprehensive health care benefits to retirees and their dependents. Coverage includes hospitalization, physicians' fees, prescription drugs and reimbursement of monthly Medicare premiums. Pursuant to the Revised Code, the State Teachers Retirement Board (the Retirement Board) has discretionary authority over how much, if any, of the associated health care costs will be absorbed by the Plan. Benefit recipients are required to 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 3% of covered payroll to the Health Care Reserve Fund within the Employer Trust Fund from which payments for health care benefits are paid. Health care benefits are not included in the pension benefit obligation. The balance in the Health Care Reserve Fund was \$1,638,850,000 and \$851,228,000 at June 30, 1996 and 1995, respectively.

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The net health care costs paid by the Plan were approximately \$176,773,000 for the year ended June 30, 1996, and \$165,767,000 for the year ended June 30, 1995. Eligible benefit recipients totaled 86,132 and 83,136 at July 1, 1996 and 1995, respectively. As of July 1, 1995, \$652,000,000 was transferred from the Employers' Trust Fund to the Health Care Reserve Fund to provide additional reserves for future health care benefits.

**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. Approximately \$41,750,000 and \$34,567,000 were paid as supplemental benefits in December 1995 and 1994, respectively.

**Refunds** — Upon termination of employment, a member may withdraw accumulated contributions made to STRS. Withdrawal cancels the individual's rights and benefits in STRS. Employer contributions to STRS are not refundable.

### 3. Funding Method and Contribution Requirements

STRS' funding policy provides for periodic employer and member contributions at rates, expressed as percentages of covered payroll, that will accumulate assets sufficient to pay benefits when due. 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 rates are established by the Retirement Board based on a valuation of the liabilities of STRS by its actuary.

The actuarial valuation used the projected benefit method with level percentage entry age normal cost and an open-end unfunded actuarial liability to calculate the projected benefit obligation and to determine the period over which the unfunded liability would be

amortized (based on present fixed employer and member contribution rates). The significant actuarial assumptions used to compute the projected benefit obligation are the same as those used to compute the standardized measure of the pension obligation.

Effective for the July 1, 1996, actuarial valuation, the payroll growth assumption was reduced from 5% to 4.5%. The change in the payroll growth assumption eliminated \$472 million in actuarial gains prior to the change.

Contributions consisted of the following components as of July 1, 1996 and 1995:

	<u>1996</u>	<u>1995</u>
Member normal cost	9.30%	9.30%
Employer:		
Normal cost	5.44%	5.44%
Amortization of unfunded actuarial liability	6.56%	6.56%
Health care benefits	2.00%	2.00%
Total employer	<u>14.00%</u>	<u>14.00%</u>

Normal cost is the amount necessary to finance benefits earned by members during the current service year.

The actuarial calculation resulted in an unfunded liability for funding purposes that would liquidate over a period of 28.4 years at July 1, 1996, and 29.3 years at July 1, 1995.

Contribution requirements based on covered payroll were approximately \$917,510,000 and \$885,787,000 for employers and \$609,489,000 and \$588,416,000 for members in 1996 and 1995, respectively. Actual contributions recorded were approximately \$1,002,441,000 and \$956,284,000 for employers and \$635,716,000 and \$624,812,000 for members in 1996 and 1995, respectively. The differences are primarily due to programs whereby members and employers can purchase additional years of service credit.

#### 4. Funding Status and Progress

The amounts shown below as the Pension Benefit Obligation (PBO) are standardized disclosure measures of the present value of pension benefits estimated to be payable in the future as a result of member service to date. The PBO is adjusted for the effects of composite projected salary increases. The measure is the actuarial present value of credited projected benefits, excluding health care benefits, and is intended to help users assess the funding status of the Plan on a going-concern basis, assess progress made in accumulating sufficient assets to pay benefits when due, and make comparisons among public employee retirement systems. The measure is independent of the actuarial funding method used to determine contributions to STRS discussed in Note 3.

The PBO was determined as part of actuarial valuations at July 1, 1996 and 1995. Significant actuarial assumptions for the July 1, 1996 and 1995 valuations were as follows:

Rate of return on the investment of present and future assets	7.50%
Projected annual salary increases	9.25% at age 20 to 3.25% at age 65
Postretirement life expectancies	1983 Group Annuity Table with one year set forward for women
Preretirement life expectancies, rates of withdrawal from service before retirement other than death, rates of disability and rates of retirement ages	Actual Plan experience
Annual postretirement benefit increases	3%
Member contribution rate	9.30%
Employer contribution rate	14%

At July 1, 1996 and 1995, the unfunded pension benefit obligation was \$7,167,854 and \$8,003,759, respectively, as follows (dollar amounts in thousands):

	1996		1995	
	Number of Members	Amount	Number of Members	Amount
Actuarial present value of projected benefits payable to current retirees and beneficiaries	86,132	\$18,420,596	83,136	\$16,745,090
Actuarial present value of projected benefits payable to terminated vested members	17,373	1,255,968	17,013	1,227,845
Total	103,505	19,676,564	100,149	17,972,935
Actuarial present value of credited projected benefits for plan members:				
Member contributions		5,325,610		5,038,570
Employer financed vested		5,908,916		5,358,374
Employer financed nonvested		7,798,552		7,742,472
Total (124,045 and 125,549 vested members; 146,256 and 140,238 non-vested members at July 1, 1996 and 1995, respectively)	270,301	19,033,078	265,787	18,139,416
Total members*	373,806		365,936	
Pension benefit obligation		38,709,642		36,112,351
Net assets available for benefits (excluding health care reserves) at cost (market value):				
1996 - \$34,634,087,		31,541,788		28,108,592
1995 - \$30,861,914)				
Unfunded pension benefit obligation		<u>\$ 7,167,854</u>		<u>\$ 8,003,759</u>

\*In addition, there were 8,228 and 7,436 reemployed retirees included in the actuarial valuation as of July 1, 1996 and 1995, respectively.

### 5. Funds

Various funds were 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 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 (see Note 2).
- The Annuity and Pension Reserve Fund (APRF) is the fund from which all annuities and pension payments to retired members are made. Reserves are transferred to this fund from the TSF and ETF funds at the time of retirement.
- 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 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.

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, 1996 and 1995, net assets available for benefits were included in the various funds as follows (in thousands):

	1996	1995
Teachers' Savings Fund	\$ 5,862,250	\$ 5,533,684
Employers' Trust Fund	11,155,520	9,350,128
Annuity and Pension Reserve Fund	15,731,377	14,326,668
Survivors' Benefit Fund	431,491	401,340
Total	<u>\$33,180,638</u>	<u>\$29,611,820</u>

### 6. Commitments and Contingencies

STRS has made commitments to fund various real estate investments totaling approximately \$456,900,000 and \$391,330,000 at June 30, 1996 and 1995.

In October 1996, the board passed a resolution that provides lump-sum supplemental benefit payments to be paid to eligible retirees in December 1996. Estimated payments to be made are \$44 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.

### 7. 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. The Retirement Board has further restricted investments as to the nature and quality of the investment and composition of the investment portfolio.

**Investments held by STRS at June 30, 1996 and 1995 are summarized as follows:**

(In Thousands)

Category	June 30, 1996		June 30, 1995	
	Cost	Fair Market Value	Cost	Fair Market Value
Short-term				
Commercial paper	\$ 2,149,244	\$ 2,149,244	\$ 839,535	\$ 839,535
Government notes	10,000	10,000	60,614	60,490
Repurchase agreements			24,000	24,000
Total short-term	2,159,244	2,159,244	924,149	924,025
Fixed income:				
Guaranteed mortgages	4,208,751	4,205,753	4,482,752	4,552,866
U.S. government and governmental agencies	4,946,233	5,252,176	4,547,163	5,167,194
Corporate bonds	2,297,860	2,286,050	2,493,226	2,529,346
Canadian bonds	428,045	430,240	349,150	360,592
Municipal bonds	1,217	1,290	1,400	1,539
Total fixed income	11,882,106	12,175,509	11,873,691	12,611,537
Common and preferred stock	12,853,531	15,431,424	12,450,775	14,595,050
Real estate (see Note 8):				
Participating mortgages	154,337	170,616	162,844	170,011
Multitenant properties	1,118,510	1,070,639	1,107,650	1,011,084
Joint ventures	492,974	468,325	385,429	338,444
Sale-leasebacks	228,439	229,385	249,988	240,860
Separate accounts	243,819	431,148	148,939	335,516
Real estate investment trusts	202,215	213,911	161,523	157,956
Other	56,528	51,043	60,005	59,496
Total real estate	2,496,822	2,635,067	2,276,378	2,313,367
Venture capital	35,491	38,867	25,132	31,462
International	3,170,844	3,410,895	1,693,974	1,669,226
Total investments	\$32,598,038	\$35,851,006	\$29,244,099	\$32,144,667

**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 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, 1996, 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 venture capital funds are investments that, by their nature, are not required to be categorized.

STRS participates in a security lending program whereby securities are loaned to investment brokers/dealers (borrower). Securities loaned are collateralized by the borrower at 102% of the loaned securities' market value. The program is administered by a custodial agent bank. STRS receives a fee from the borrower for the use of loaned securities. STRS has minimized its exposure to credit risk because of borrower default by having the custodial agent bank determine daily that the required collateral meets 102% of the market value of securities on loan. The market value of securities loaned at June 30, 1996 and 1995, was \$986 million and \$1.2 billion, respectively.

At June 30, 1996, the bank cash balance was \$9,716,000. 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.

## 8. Real Estate Investments

**General** — STRS properties are geographically distributed. The real estate investments include retail single-tenant stores and malls, single and multitenant office space, single and multitenant warehouses, apartments and other.

**Participating Mortgages** — Participating mortgages consist principally of mortgages on commercial office space. Fixed interest rates are generally one to two percentage points below the prevailing market rate at the inception of the mortgage in exchange for participation in the net cash flow generated by a project.

**Multitenant and Sale-Leaseback** — Multitenant properties and sale-leaseback arrangements consist of real estate leased subject to operating leases, which consist principally of commercial office space, retail store space and warehouse space.

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

**Separate Accounts, Joint Ventures and Other** — Separate accounts consist of group annuity contracts and group trusts. Joint ventures are co-ownership arrangements with other investors. Other real estate includes syndicated mortgages consisting of land acquisition costs and mortgage receivables relating to the financing of buildings.



## 9. 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) indices. Investments are held in both international developed and emerging markets.

### Internally Managed:

**Country Fund Investments** — During fiscal year 1996, STRS began actively investing in the 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 benchmarks.

**Europe, Australia and Far East (EAFE) Index Fund** — To increase exposure in the

international developed markets, STRS began investing in the EAFE Index Fund during fiscal year 1996. 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

— Also during fiscal year 1996, STRS used investments in the EMF Index Fund to gain exposure in the emerging-market countries. The fund invests in foreign equities, swaps and other traded investments to imitate the EMF Index.

**EAFE Equity Swaps** — Two international equity swap agreements were contracted during fiscal 1996 with maturity dates in fiscal 1997. In exchange for a negotiated LIBOR (London Interbank Offered Rate), STRS will receive dividends and the difference in the change in the EAFE Index at maturity. Commercial paper equal to the initial notional amount of the equity swaps have been set aside as security. Two equity swap agreements were contracted in fiscal 1995 that matured in fiscal 1996.

The cost and market value of international investments held at June 30, 1996 and 1995 are (in thousands):

	1996		1995	
	Cost	Market	Cost	Market
Externally Managed:				
International stocks	\$ 1,357,750	\$ 1,477,093	\$ 936,060	\$ 926,211
International fixed income	13,861	14,027	9,767	9,574
International currency and liquidity reserves	114,354	113,878	145,009	142,395
Total externally managed	\$ 1,485,965	\$ 1,604,998	\$ 1,090,836	\$ 1,078,180
Internally Managed:				
Country funds	107,958	107,285		
EAFE index fund	750,014	816,386		
EMF index fund	253,142	278,550		
EAFE equity swaps	573,765	603,676	603,138	591,046
Total internally managed	\$ 1,684,879	\$ 1,805,897	\$ 603,138	\$ 591,046
<b>Total international</b>	<b>\$ 3,170,844</b>	<b>\$ 3,410,895</b>	<b>\$ 1,693,974</b>	<b>\$ 1,669,226</b>

## 10. Derivative Financial Instruments

**Equity Swap Agreements** — As discussed in Note 9, STRS has entered into two international equity swap agreements. No funds are required as collateral by either party; however, STRS has purchased short-term investments 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 9 for the related equity swap cost and market values as of June 30, 1996 and 1995. Equity swaps were also used in the EMF Index Fund during 1996, as discussed in Note 9. Of the total EMF Index Fund holdings at June 30, 1996, approximately \$14.1 million were invested in swap agreements.

**Forward Contracts** — Currency forward contracts were used to specifically hedge yen exposure as a result of the equity swap agreements. Additionally, forward contracts in various currencies were used to transact and hedge direct foreign equity investments of STRS through the use of external money managers. 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 at times can be volatile. At June 30, 1996 and 1995, outstanding yen forward contracts totaled \$50 million, expiring December 18, 1996, and \$115 million, expiring December 18, 1995, respectively. Net realized forward currency gains on yen forward contracts amounted to \$10.8 million and \$2.9 million in 1996 and 1995, respectively, and have been appropriately recorded to the financial statements. The external money managers hedged \$394 million and \$99 million of currency exposure in various currencies with varying maturities, as of June 30, 1996 and

1995, respectively. Net realized forward currency gains on the externally managed contracts totaled \$4.7 million and \$1.1 million in 1996 and 1995, respectively, and have been properly recorded to the financial statements.

**Futures** — STRS had investments in S&P 500-index futures during the 1995 fiscal year. Index futures are designed to offer lower-cost and more-efficient alternatives to buying the 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 July 1994 to March 1995, there were futures ranging from \$35 million to \$107 million. Net realized gains of \$8.2 million in 1995 have been recorded to the financial statements. Additionally, futures were used in the EAFE Index Fund during fiscal year 1996, as described in Note 9. Of the total EAFE Index Fund holdings at June 30, 1996, approximately \$10.5 million were invested in futures.

**Options** — STRS writes option contracts 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. The option contract specifies the stock price and the expiration date of the option. Starting January 1996, STRS began recognizing gains from option transactions on a settlement-date basis, which is not materially different from a cash-based recognition of option income.

## 11. Deposits

The treasurer of state has entered into an agreement with a bank that provides STRS with various banking services, provided that STRS maintains compensating balances to cover the costs to the bank in supplying the specified services. For the years ended June 30, 1996 and 1995, such compensating balances averaged approximately \$27,495,000 and \$13,305,000, respectively. The cost of banking services was approximately \$1,526,000 in 1996 and \$1,288,000 in 1995. The increase was primarily a result of international investing.

## 12. 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. The unrecorded present value of future state appropriations for these benefits at June 30, 1996 and 1995 was approximately \$12,652,000 and \$14,755,000, respectively.

STRS received approximately \$2,698,000 and \$3,035,000 from the state for these increased benefits paid for the years ended June 30, 1996 and 1995, respectively. Funding for these increased benefits is on a pay-as-you-go basis by the state.

## 13. 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. The payroll for employees covered by PERS for the year ended June 30, 1996, was approximately \$16,997,000; STRS' total payroll was approximately \$17,443,000.

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 5 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.

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 Plan's contributions to PERS for the years ended June 30, 1996, 1995 and 1994 were \$2,303,000, \$2,022,000 and \$1,830,000, respectively, equal to the required contributions for each year. These contributions represented 13.55% and 8.5% of covered payroll, respectively. There were no changes in actuarial assumptions, benefit provisions, actuarial funding methods or other significant factors for the most recent actuarial study.

In addition to pension benefits, PERS provides postemployment health care benefits, in accordance with state statutes, to all employees who retire with 10 or more years of qualifying Ohio service credit and to disability recipients. At December 31, 1995, the plan had approximately 365,000 participants.

A portion of each employer's contribution to PERS is set aside for the advanced funding of postemployment health care. Of the 13.55% of employee payroll contributed by STRS to PERS, 5.11%, or approximately \$869,000, was the portion used to fund health care. Statutory rates equal the actuarially determined contribution requirements.

The actuarial present value of accrued postemployment benefits was determined based on the entry age normal method of funding. Significant actuarial assumptions used in the December 31, 1994, valuation (most recent available) were: (a) investment rate of return of 7.75%, (b) no change in the number of active employees, (c) base pay rate increase of 5.25% related to inflation and annual merit pay increases of 0% to 5.1%, and (d) health care increases of 5.25% annually.

The total of PERS' actuarial present value of accrued postemployment benefits as of December 31, 1994, was \$7.95 billion. The net assets available for these benefits at that date were \$6.84 billion.

#### **14. 10-Year Historical Trend Information**

Ten-year historical trend information designed to provide information about STRS' progress made in accumulating sufficient assets to pay benefits when due is presented on Pages 37-39.

## Supplementary information on analysis of funding progress

For the years ended June 30, 1987-1996

(Dollar Amounts in Thousands)

Fiscal Year	Net Assets Available for Benefits*	Pension Benefit Obligation	Percentage Funded	Unfunded Pension Benefit Obligation	Annual Covered Payroll	Unfunded Pension Benefit Obligation as a Percentage of Covered Payroll
1987 (unaudited)	\$12,589,487	\$17,600,461	72%	\$5,010,974	\$4,133,831	121%
1988	14,258,680	19,324,598	74%	5,065,918	4,380,287	116%
1989 **	16,057,321	21,978,477	73%	5,921,156	4,657,975	127%
1990	17,902,141	23,744,659	75%	5,842,518	4,974,442	117%
1991	19,655,034	25,812,754	76%	6,157,720	5,272,709	117%
1992	21,785,970	28,113,954	77%	6,327,984	5,598,238	113%
1993 ***	24,247,020	31,464,007	77%	7,216,987	5,816,209	124%
1994	26,438,248	34,481,460	77%	8,043,212	6,060,828	133%
1995	28,108,592	36,112,351	78%	8,003,759	6,327,049	127%
1996	31,541,788	38,709,642	81%	7,167,854	6,553,642	109%

The following amounts are in thousands:

\* At cost (see Note 1 to financial statements). Excludes assets allocated to the Health Care Reserve Fund.

\*\* In fiscal year 1989, plan benefit provisions were amended to increase the benefit formula. The amendment increased the pension benefit obligation in fiscal 1989 by approximately \$608,000.

\*\*\* Certain actuarial assumptions used to compute the pension benefit obligation were changed effective July 1, 1993. The effect of these assumption changes was to increase the pension benefit obligation in fiscal 1993 by approximately \$789,400.

Analysis of the dollar amounts of net assets available for benefits, pension benefit obligation and unfunded pension benefit obligation in isolation can be misleading. Expressing the net assets available for benefits as a percentage of the pension benefit obligation provides one indication of STRS' funding status on a going-concern basis. Analysis of this percentage over time indicates whether the system is becoming financially stronger or weaker. Generally, the greater this percentage, the stronger the retirement system. Trends in unfunded pension benefit obligation and annual covered payroll

are both affected by inflation. Expressing the unfunded pension benefit obligation as a percentage of annual covered payroll approximately adjusts for the effects of inflation and aids analysis of STRS' progress in accumulating assets to pay benefits when due. Generally, the smaller this percentage, the stronger the retirement system.

The actuarial assumptions used in the computation of the pension benefit obligation are revised periodically based on STRS' experience.

supplementary information on revenues by  
source and expenses by type

For the years ended June 30, 1987-1996  
(In Thousands)

Revenues by Source

Fiscal Year	Member Contributions	Employer Contributions	Investment Income	State Appropriations	Other	Total
1987 (unaudited)	\$384,490	\$614,989	\$1,798,705	\$6,142	\$3,117	\$2,807,443
1988	396,655	676,536	1,494,435	5,704	3,392	2,576,722
1989 *	423,639	703,773	1,617,196	5,287	3,468	2,753,363
1990	455,264	754,726	1,663,600	4,876	3,934	2,882,400
1991 **	511,269	793,132	1,719,115	4,490	3,841	3,031,847
1992 ***	548,841	862,655	2,294,646	4,099	4,540	3,714,781
1993	564,005	869,862	2,394,523	3,755	5,180	3,837,325
1994	589,186	902,299	2,231,241	3,396	4,805	3,730,927
1995 ****	624,812	956,284	2,340,907	3,035	6,008	3,931,046
1996	635,716	1,002,441	3,664,683	2,698	6,782	5,312,320

Expenses by Type

Fiscal Year	Benefits	Refunds	Administration	Total
1987 (unaudited)	\$763,052	\$17,232	\$11,245	\$791,529
1988	845,476	15,526	13,610	874,612
1989	925,557	17,695	16,291	959,543
1990	1,009,464	17,070	20,415	1,046,949
1991	1,131,877	18,088	29,486	1,179,451
1992 ***	1,226,843	17,488	28,956	1,273,287
1993	1,323,643	16,386	35,870	1,375,899
1994	1,403,843	18,235	38,770	1,460,848
1995	1,526,915	21,233	38,926	1,587,074
1996	1,681,637	24,118	37,747	1,743,502

The following amounts are in thousands:

- \* Effective July 1, 1988, the member contribution rate was increased to 8.77% from 8.75% of compensation. The effect was an increase in member contributions of \$768 for fiscal year 1989.
- \*\* Effective July 1, 1990, the member contribution rate was increased to 9.25% from 8.77% of compensation. The effect was an increase in member contributions of \$25,309 for fiscal year 1991.
- \*\*\* Effective July 1, 1991, investment administrative expenses are deducted from gross investment income.
- \*\*\*\* Effective July 1, 1994, the member contribution rate was increased to 9.30% from 9.25% of compensation. The effect was an increase in member contributions of \$3,164 for fiscal year 1995.

## supplementary information on employer contributions

For the years ended June 30, 1987-1996 (Dollar Amounts in Thousands)

Fiscal Year	Employer Contributions*	Annual Covered Payroll	Employer Contributions as Percentage of Annual Covered Payroll
1987 (unaudited)	\$ 614,989	\$4,133,831	14.88%
1988	676,536	4,380,287	15.45%
1989	703,773	4,657,975	15.11%
1990	754,726	4,974,442	15.17%
1991	793,132	5,272,709	15.04%
1992	862,655	5,598,238	15.41%
1993	869,862	5,816,209	14.96%
1994	902,299	6,060,828	14.89%
1995	956,284	6,327,049	15.11%
1996	1,002,441	6,553,642	15.30%

\* Employer contributions included payments under voluntary retirement incentive plans.

## supplementary information on investment summary

Year Ended June 30, 1996 (In Thousands)

Investment Category	Carrying Value as of June 30, 1995	Purchases and Accretions	Sales, Redemptions and Accruals	Carrying Value as of June 30, 1996	Market Value as of June 30, 1996
<b>SHORT TERM:</b>					
Commercial paper	\$ 839,535	\$34,581,325	\$33,271,616	\$ 2,149,244	\$ 2,149,244
Government notes	60,614		50,614	10,000	10,000
Repurchase agreements	24,000	166,000	190,000		
Total short-term	924,149	34,747,325	33,512,230	2,159,244	2,159,244
<b>FIXED INCOME:</b>					
Guaranteed mortgages	4,482,752	1,076,003	1,350,004	4,208,751	4,205,753
U.S. government and governmental agencies	4,547,163	3,294,582	2,895,512	4,946,233	5,252,176
Corporate bonds	2,493,226	1,191,818	1,387,184	2,297,860	2,286,050
Canadian bonds	349,150	183,151	104,256	428,045	430,240
Municipal bonds	1,400		183	1,217	1,290
Total fixed income	11,873,691	5,745,554	5,737,139	11,882,106	12,175,509
<b>COMMON AND PREFERRED STOCK</b>					
	12,450,775	6,284,579	5,881,823	12,853,531	15,431,424
<b>REAL ESTATE:</b>					
Participating mortgages	162,844	218	8,725	154,337	170,616
Multitenant properties	1,107,650	141,075	130,215	1,118,510	1,070,639
Joint ventures	385,429	113,600	6,055	492,974	468,325
Sale-leasebacks	249,988	2,000	23,549	228,439	229,385
Separate accounts	148,939	109,558	14,678	243,819	431,148
Real estate investment trusts	161,523	58,938	18,246	202,215	213,911
Other	60,005	1,465	4,942	56,528	51,043
Total real estate	2,276,378	426,854	206,410	2,496,822	2,635,067
<b>VENTURE CAPITAL</b>					
	25,132	11,536	1,177	35,491	38,867
<b>INTERNATIONAL</b>					
	1,693,974	8,325,833	6,848,963	3,170,844	3,410,895
<b>TOTAL INVESTMENTS</b>	<u>\$29,244,099</u>	<u>\$55,541,681</u>	<u>\$52,187,742</u>	<u>\$32,598,038</u>	<u>\$35,851,006</u>

supplementary information on  
administrative expenses

For the years ended June 30, 1996 and 1995

	<u>1996</u>	<u>1995</u>
<b>Personnel:</b>		
Salaries and wages	\$11,774,816	\$10,427,023
Retirement contributions	1,539,705	1,381,877
Benefits	1,995,236	1,740,987
Total personnel	<u>15,309,757</u>	<u>13,549,887</u>
<b>Professional and Technical Services:</b>		
Computer support services	7,441,011	11,261,779
Health care services	789,484	555,757
Actuary	322,085	292,745
Auditing	63,366	179,602
Legal	65,185	187,384
Total professional and technical services	<u>8,681,131</u>	<u>12,477,267</u>
<b>Communications:</b>		
Postage and courier services	1,438,303	1,478,250
Printing and supplies	2,530,287	1,878,363
Telephone	405,972	342,582
Total communications	<u>4,374,562</u>	<u>3,699,195</u>
<b>Other Expenses:</b>		
Equipment repairs and maintenance	957,444	1,338,457
Building utilities and maintenance	642,092	577,723
Transportation and travel	445,813	386,443
Equipment rental	2,332,580	2,465,701
Depreciation	3,803,031	3,187,691
Insurance	251,650	263,948
Memberships and subscriptions	108,027	94,181
Retirement study commission	195,748	148,180
Miscellaneous	645,606	737,725
Total other expenses	<u>9,381,991</u>	<u>9,200,049</u>
<b>Total Administrative Expenses</b>	<u>\$37,747,441</u>	<u>\$38,926,398</u>

Note: Above amounts do not include Investment Department administrative expenses which are deducted from investment income.



## supplementary information on cash receipts and disbursements

For the years ended June 30, 1996 and 1995  
(In Thousands)

	<u>1996</u>	<u>1995</u>
<b>Cash Balance</b>		
Beginning of year	\$ 465	\$ 16,805
<b>Add Receipts:</b>		
Member contributions	640,564	613,865
Employer contributions	998,194	945,603
Miscellaneous contributions	9,817	9,404
Interest, rent and dividends	1,307,590	1,383,525
Investments sold or matured	<u>54,364,644</u>	<u>43,723,359</u>
Total cash receipts	<u>57,320,809</u>	<u>46,675,756</u>
<b>Less Disbursements:</b>		
Benefit payments	1,683,297	1,532,515
Administrative expenses	41,996	41,080
Investments purchased	55,563,207	45,093,856
Refunds	24,118	21,233
Fixed asset purchases	<u>3,654</u>	<u>3,412</u>
Total cash disbursements	<u>57,316,272</u>	<u>46,692,096</u>
<b>Cash Balance</b>		
End of year	<u>\$ 5,002</u>	<u>\$ 465</u>

# BUCK CONSULTANTS

One North Franklin, Suite 3500  
Chicago, Illinois 60606

November 4, 1996

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, 1996, 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  $7\frac{1}{2}\%$  per annum compounded annually. The assumptions and methods are unchanged from the prior valuation with the exception of the payroll growth assumption which was reduced to  $4\frac{1}{2}\%$ .

## 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. 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 0.9 years from last year's funding period, (i.e., reduced from 29.3 years to 28.4 years).

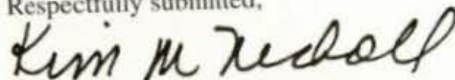
The valuation indicates that for the fiscal year ending June 30, 1996 the actuarial experience of STRS was favorable and generated net actuarial gains of \$516 million. The Board elected to use \$44 million of the actuarial gain to fund the supplemental benefit payments to retirees to be made during December 1996. The remainder was used to reduce the payroll growth assumption to  $4\frac{1}{2}\%$ .

## 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.

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

Respectfully submitted,



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

KMN:rh  
3597/A7651.A03

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312 | 332-2285 Fax 312 | 332-5245

## Statement of actuarial assumptions and methods

**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 1992–Scale H), with no 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 1993)

**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 three-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 three years. (Adopted 1993)

**Payroll Growth:** 4.5% per annum compounded annually. (Adopted 1996)

**Separations From Active Service:** Representative values of the assumed rates of separation and annual rates of salary increase are as follows (adopted 1993):

### Superannuation

Age	Withdrawal	Death	Disability	30 Years Service Retirement	25–29 Years Service Retirement	Under 25 Years Service Retirement	Salary Increase
<b>MEN</b>							
20	.0684	.0004	—	—	—	—	.0925
30	.0524	.0006	.0003	—	—	—	.0725
40	.0236	.0010	.0009	—	—	—	.0525
50	.0120	.0033	.0054	.2588	—	—	.0405
55	.0122	.0053	.0077	.2381	.0495	—	.0375
60	.0130	.0080	—	.2846	.0675	.0765	.0350
65	.0130	.0136	—	.4399	.3600	.2565	.0325
70	—	.0244	—	.4140	.3600	.3150	.0325
<b>WOMEN</b>							
20	.0453	.0002	—	—	—	—	.0925
30	.0479	.0003	.0005	—	—	—	.0725
40	.0198	.0005	.0012	—	—	—	.0525
50	.0119	.0013	.0048	.2588	—	—	.0405
55	.0101	.0020	.0070	.2588	.0900	—	.0375
60	.0093	.0033	—	.3002	.1305	.1440	.0350
65	.0098	.0055	—	.4658	.3600	.2970	.0325
70	—	.0093	—	.4140	.3150	.2700	.0325

## *schedule of member valuation data*

1987-1996

### Active Members

Valuation Date	Number	Annualized Salaries (in thousands)	Annual Average Pay	% Increase in Average Pay
1987	150,607	\$4,074,129	\$27,051	7%
1988	152,200	4,336,723	28,494	5%
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%

## *schedule of retirees and beneficiaries*

1987-1996

### Retirees and Beneficiaries

Valuation Date	Number	Annual Allowances (in thousands)	% Increase in Annual Allowances	Average Annual Allowances
1987	62,819	\$ 640,566	9%	\$10,197
1988	64,957	713,028	11%	10,977
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

## summary of accrued and unfunded accrued liabilities

1987-1996

(Dollar Amounts in Thousands)

Valuation Date	Aggregate Accrued Liabilities*	Valuation Assets	Assets as % of Accrued Liabilities	Unfunded Accrued Liabilities (UAL*)	Annual Active Member Payroll	UAL as % of Annualized Salaries
1987	\$19,291,792	\$12,911,072	67%	\$6,380,720	4,074,129	157%
1988	21,372,968	14,613,182	68%	6,759,786	4,336,723	156%
1989	23,618,688	16,407,002	69%	7,211,686	4,624,119	156%
1990	25,883,339	18,242,453	70%	7,640,885	4,941,916	155%
1991	28,109,360	20,094,849	71%	8,014,512	5,237,832	153%
1992	30,800,238	22,536,343	73%	8,263,895	5,509,947	150%
1993	34,488,976	26,259,447	76%	8,229,529	5,742,577	143%
1994	36,871,809	28,543,410	77%	8,328,399	5,986,084	139%
1995	39,987,175	31,416,677	79%	8,570,498	6,110,218	140%
1996	42,766,912	34,569,651	81%	8,197,261	6,307,142	130%

\*Based on the actuarial method used for funding purposes, which is different from the standard measure of the pension benefit obligation prescribed by Governmental Accounting Standards Board Statement No. 5.

## solvency test

1987-1996

(Dollar Amounts in Thousands)

### Aggregate Accrued Liabilities For:

Valuation Date	(1) Active Member Contributions	(2) Retirees and Beneficiaries	(3) Active Members (Employer Financed Portion)	Valuation Assets	Portion of Accrued Liabilities Covered by Valuation Assets		
					(1)	(2)	(3)
1987	\$2,900,598	\$ 7,079,880	\$ 9,311,314	\$12,911,072	100%	100%	31%
1988	3,153,950	7,932,553	10,286,465	14,613,182	100%	100%	34%
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	18,484,066	34,569,651	100%	100%	56%

# 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.

### Benefits

Greater of (i) 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, a calculation percentage of 2.5% will apply; or (ii) \$86 multiplied by years of service credit, and adjusted by the following percentage:

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

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

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

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

Effective July 1, 1994, member contributions are credited with 6% interest compounded annually.

## 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 is to be 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 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 Option 1, 2 and 4.

## Disability Retirement/Allowance

### Disability Retirement

**Eligibility:** Membership before July 30, 1992, and election of the 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) 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 of 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.

#### Benefits

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

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

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

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

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

### Refund of Contributions

A member's contributions without 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 at retirement, less payments made, are returned to the designated beneficiary.

### Cost-of-Living Benefits

The basic benefit is increased by 3% each year provided the change in the Consumer Price Index equals or exceeds 3%.

### 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.

## benefit expenses by type

1987-1996

(In Thousands)

Fiscal Year Ended	Service Retirement	Disability Retirement	Survivor Benefits	Supplemental Benefit	Health Care	Other	Total
1987	\$ 562,873	\$ 46,941	\$21,260	\$35,347	\$ 95,367	\$1,264	\$ 763,052
1988	621,379	51,855	23,058	41,298	105,950	1,936	845,476
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

## number of reporting employers by type

1987-1996

Fiscal Year Ended	City School Districts	Local School Districts	County Education Service Centers	Exempted Village Districts	Vocational & Technical Schools	Colleges & Universities	County MR/DD Boards	State of Ohio	Total
1987	191	376	87	49	52	34	*	1	790
1988	191	375	86	49	50	36	*	1	788
1989	192	372	85	49	49	37	*	1	785
1990	192	372	85	49	49	37	88	1	873
1991	193	371	85	49	49	37	88	1	872
1992	193	370	85	49	51	35	88	1	872
1993	192	372	81	49	51	35	82	1	863
1994	192	371	81	49	48	38	82	1	862
1995	192	371	80	49	48	38	82	1	861
1996	192	371	80	49	48	38	82	1	861

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



## selected funding information

1987-1996

(Dollar Amounts in Thousands)

As of July 1	Contribution Rate Member	Contribution Rate Employer	Interest Assumption	Payroll Growth Assumption	Unfunded Accrued Liability*	Funding Period
1987	8.75%	14.00%	7.75%	5.500%	6,380,720	35.0 Yrs.
1988	8.77%	14.00%	7.75%	5.500%	6,759,786	35.0 Yrs.
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.

\*Excluding health care

*number of members: active, inactive,  
retirees and beneficiaries*

1987-1996

**Number of Members**

As of July 1	Active	Inactive	Retirees & Beneficiaries	Total
1987	150,607	78,583	62,819	292,009
1988	152,200	81,107	64,957	298,264
1989	153,830	83,633	66,453	303,916
1990	157,650	85,856	68,739	312,245
1991	160,012	88,591	70,583	319,186
1992	162,898	97,718	72,599	333,215
1993	165,711	105,194	74,230	345,135
1994	167,770	115,747	77,405	360,922
1995	166,623	116,177	83,136	365,936
1996	166,927	120,747	86,132	373,806

*assumed rate of interest and  
realized rate of return on assets*

1987-1996

**Realized Return on Book Value**

Fiscal Year Ended	Interest Assumption	Interest, Rent, Dividends	Capital Gains	Total
1987	7.75%	8.40%	7.87%	16.27%
1988	7.75%	7.50%	3.93%	11.43%
1989	7.75%	7.72%	3.15%	10.87%
1990	7.75%	7.74%	2.20%	9.94%
1991	7.75%	7.10%	2.09%	9.19%
1992	7.75%	6.62%	4.64%	11.26%
1993	7.75%	5.99%	4.45%	10.44%
1994	7.50%	5.11%	3.65%	8.76%
1995	7.50%	5.45%	2.99%	8.44%
1996	7.50%	4.81%	7.45%	12.26%

## *number of benefit recipients by type*

1987-1996

As of July 1	Service Retirement	Disability Retirement	Beneficiaries Receiving Optional Allowances	Survivor Benefits	Total
1987	52,430	3,964	3,303	3,122	62,819
1988	54,174	4,113	3,430	3,240	64,957
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

## *benefit recipients added to and removed from the rolls*

1995-1996

Fiscal Year Ended	Beginning	Additions	Deletions	Ending
1995*	77,405	9,071	3,340	83,136
1996	83,136	6,188	3,192	86,132

\*Data not available for fiscal years before 1995.

## *average monthly allowance by type*

1987-1996

As of July 1	Service Retirement	Disability Retirement	Beneficiaries Receiving Optional Allowances	Survivor Benefits	Average
1987	871	1,027	599	526	850
1988	941	1,081	643	556	915
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

## investment review

For the fiscal year July 1, 1995, through June 30, 1996

### **Strong finish to economic growth leads to second-best output in past seven fiscal years**

Stronger-than-trend economic growth during the second half of fiscal 1996 helped push real gross domestic product (GDP) up 2.7% for the entire fiscal year — a figure bettered in the past seven years only by fiscal 1994's robust 3.6% growth. The increase was led by a solid rebound in residential investment, continuing moderate support from personal consumption expenditures and an improvement in foreign trade resulting from slower import growth.

Real residential investment grew 9.7% during fiscal 1996 after investment activity fell 5.6% the prior fiscal year. Investment was helped by a decline in mortgage rates and continued strength in employment and income growth. Personal consumption, too, was helped by a decline in interest rates and strong income growth. Consumption grew 2.6% during fiscal 1996 — a marginal improvement over the 2.5% growth in fiscal 1995 but above the economy's long-term potential growth rate of about 2%. After repercussions of the late-1994 Mexican peso devaluation were played out, U.S. foreign trade improved during fiscal 1995. Real net exports deducted nearly a quarter of a point from real GDP growth during fiscal 1995, but added back about a tenth of a point during fiscal 1996 — the first contribution to real GDP since 1991.

The continuing moderate contribution to real GDP growth from domestic final sales (which equals real GDP less inventory investment and net exports) led to a general drop in short-term interest rates. The Federal Reserve finished fiscal 1995 with a five-month period of steady monetary policy. The federal funds rate was last raised to 6% in early February 1995. By early July 1995, signs of slower domestic consumption forced the Federal Reserve to start lowering interest rates. Follow-up reductions in short-term rates came in

December 1995 and January 1996, leaving the federal funds rate at 5.25% at the end of the fiscal year.

Long-term interest rates anticipated the slowdown in economic activity during most of calendar 1995. To adjust for more moderate economic activity, the yield on the 30-year Treasury bond slid to 6% by the end of the first half of fiscal 1996 from about 8% at the beginning of calendar 1995. During the second half of the fiscal year, a period in which the economy grew by a robust 3.3% annualized rate, long-term interest rates shot back up toward 7%. Mortgage rates followed the long-term Treasury rates, reaching about 8.25% at fiscal year-end after having fallen to 7% through the first half of the fiscal year.

Consumer prices during fiscal 1996 grew within a narrow band of 2.6% to 3.0%, ending the year at 2.75%. Price increases were very similar to that experienced in the prior fiscal year. However, broader price measures, like the gross domestic product price index, displayed even smaller inflation pressures. The GDP price index fell to 2.1% by the end of the fiscal year, down 0.5% from the fiscal 1995 when it registered a 2.6% growth rate.

Because of tighter labor markets (and the likelihood of higher wage inflation) and budding food and energy price pressures, consumer prices will likely grow at a faster rate during fiscal 1997. It is possible the consumer price index will finish the fiscal year above 3% for the first time since 1992. Yet, the broader price measures will likely remain contained because they allow for the substitution of goods and services when relative prices change. Economic growth will probably slow through most of the fiscal year from the strong pace exhibited in the second half of fiscal 1996. Personal consumption should moderate, while business inventories accumulate. Foreign

trade should improve further because of slower domestic demand for foreign goods, while foreign economies begin to show greater domestic growth, raising U.S. exports. Government purchases of goods and services will continue to contribute only marginally to total economic growth. In such an economic environment, volatility in interest rates should remain somewhat tame.

#### **Fixed-income returns again outpace benchmark**

Most interest rates rose modestly by the end of the fiscal year compared to the beginning of the fiscal year. Generally, interest rates track closely with market expectations for growth and inflation in the economy — rising when growth and inflation increase and falling when they decrease. In the first half of the fiscal year, economic growth was below trend, causing the Federal Reserve to lower short-term interest rates. The moderately lower rates put the economy on stronger footing and allowed the Federal Reserve to keep monetary policy steady for much of the fiscal year's second half.

At the start of the fiscal year, the STRS fixed-income portfolio's duration was slightly 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 year at a duration of 103%, expecting a modest fall in interest rates. Near the middle of the fiscal year, the staff reduced the portfolio's duration to 96% because of its expectation that interest rates would begin to rise. As rates rose through the second half of the fiscal year, the relative duration was extended and finished the year at 114%.

The net results of trading during the fiscal year increased the duration of the portfolio while maintaining a quality level of AA+. In addition,

the share of the total fund allocated to this area was reduced to 34% at market from 39.2%. Using the book value of sales and maturities as a measure, turnover of the fixed-income portfolio rose to 56% from 47% the prior year.

The shifting of the portfolio's duration added performance to the total STRS portfolio. Since interest rates rose and prices declined over the period, the total return of the STRS fixed-income portfolio was less than the coupon return. The Lehman Brothers Aggregate Bond Index closely resembles the universe of investment alternatives for the STRS fixed-income portfolio. The benchmark returned 18.47% during calendar 1995 versus STRS' fixed-income portfolio's return of 20%. STRS performance reports follow the industry convention of reporting on a calendar-year basis. A more complete report of STRS performance appears on Page 56.

#### **Domestic, international equity markets do exceedingly well**

In fiscal 1996, the Standard & Poor's Composite Index of 500 Stocks (S&P 500) had a total return of 26%. The Dow Jones Industrial Average, fueled by the two largest companies (General Electric and Coca Cola), returned 27.05%. Both increases represent returns well over longer-term, normalized returns. The STRS domestic equity portfolio returns over calendar 1995 appear on Page 56. STRS performance reports follow the industry convention of reporting on a calendar-year basis. During the calendar year, STRS equities returned 29.17%, while the S&P 500 grew 37.58% and the Dow Jones Industrials Average rose 36.92%. Both the Dow Jones and S&P 500 indexes continued their strong advances during fiscal 1996. Each index started its rapid growth pace during the second half of fiscal 1995. The first half advance during fiscal 1996 was dominated by financial and noncyclical

growth-oriented groups. These groups benefited from falling interest rates, low inflation, and weak economic growth in the fourth calendar quarter of 1995. Conversely, economically cyclical, technology, and energy-oriented issues underperformed. Stock market leadership in the second half of fiscal 1996 was dominated by a narrowing list of large capitalization growth issues as concerns over anemic economic growth continued.

To lessen the risk inherent in relying on a single approach of stock portfolio management, STRS has divided its equity holdings into groups that use complementary approaches to stock selection. The valuation portfolio makes use of computer-driven models and fundamental analysis to select stocks which appear inexpensive. The industry index portfolio concentrates on individual stock selection by the analysts within the confines of the S&P 500 industry weights. The growth portfolio selects stocks based principally on a company's ability to grow earnings in excess of economic growth. The small/mid-size company portfolio pursues investment opportunities in companies which are smaller than most found in the major indices. The passive index portfolio mimics the S&P 500 by matching the names and weightings to get equity market exposure.

As the stock market systematically advanced, STRS reduced the share of total assets allocated to equities. At the beginning of fiscal 1996, 45% of assets at market were in equities. As the stock market moved higher during the year, the staff believed there was a corresponding rise in the risk of subpar future returns. That led STRS to move from an approximately neutral position toward the stock market to an underweighted one with 43% of assets at market placed in domestic equities.

The STRS common stock holdings, grouped by economic sector, are shown in the schedule of investments starting on Page 72. Equity investment results can be found on Page 56.

The international equity markets turned in a solid performance for fiscal 1996, although they lagged the domestic equity markets for a second consecutive year. The STRS hybrid benchmark index, consisting of 75% of the MSCI Europe Australia Far East (EAFE) Index for developed markets and 25% of the MSCI Emerging Markets Free (EMF) Index, rose 12.16% for the fiscal year due to consistently strong performances in all regions of the world. The performance of STRS' international equities surpassed the benchmark performance over calendar year 1995, growing by 7.37% while the benchmark rose 7.04%. Performance of the international equities portfolio on a calendar-year basis can be found on Page 56.

The international portfolio is currently at its legislated ceiling of 10% of total assets. This weighting is expected to remain stable over fiscal 1997, barring any legislative changes. The portfolio's hybrid benchmark, however, is expected to be adjusted on Jan. 1, 1997, to a 50% EAFE/50% EMF split to obtain more exposure to emerging markets. STRS is currently carrying out a plan to increase the emerging markets share of international assets. STRS anticipates investments in emerging markets will reach 45% of international assets by Jan. 1, 1997. As in fiscal 1996, approximately half of the international assets will remain with outside managers and half will be managed internally.

#### **Real estate assets continue to grow**

In the fourth year of a real estate market expansion, a subtle shift in investors' mindset is occurring. An increasing number of partici-

pants believe the real estate market is now maturing for this business cycle, rather than in recovery from the depressing 1990 to 1993 period. While no one is predicting an imminent repeat of that period, prudent investors are beginning to plan for the inevitable down-cycle that is likely to occur three to five years in the future.

Returns for the STRS portfolio have held steady from last year as remaining vacant space has been leased and/or extended to bridge the softer conditions foreseen due to renewed construction. Returns for the STRS real estate portfolio still exceed those for the NCREIF Property Index benchmark on a calendar-year basis. The STRS portfolio returned 8.9%, while the benchmark turned in a 7.6% performance. New investments totaled \$424 million during the fiscal year. The net result of this high level of activity has been to keep pace with the growth in the total STRS portfolio, leaving real estate assets at 7.4% of total investments. More information concerning real estate performance is on Page 56.

#### **Total-fund returns continue to exceed long-term goals**

The annualized rate of return for the total STRS fund was 12.25% during fiscal 1996. During calendar year 1995, the STRS fund returned 23.07%. (STRS performance is more appropriately calculated on a calendar-year basis for adequate comparison with other performance publications.) The rate of return for the five-year period ending Dec. 31, 1995, was 12.23%, well above the 8% absolute long-term return goal and well above the relative hybrid index of industry benchmarks which rose by 11.26%. The STRS fund also outperformed the hybrid index over a three-year period, growing by 11.25% compared to the hybrid index's 10.78%.

The relative performance of STRS portfolios compared to industry benchmarks also continued to fare well. For the five years ending in 1995, the equities portfolio grew by an annualized 16.23%, while the S&P 500 grew by 16.61% and the Dow Jones Industrial Average grew by 17.56%. The relatively new international portfolio outgained its hybrid EAFE/EMF benchmark for a second straight year. The STRS international portfolio returned 7.37% in 1995, while the benchmark grew 7.04%. Fixed-income investments continue to exceed the Lehman bond index by a full percentage point over the five-year period. Real estate investments outperformed the NCREIF index by nearly three percentage points in the past five years and by more than two-and-a-half percentage points in the past three years.

The total return on STRS investment assets over the preceding five-year period exceeded the rate of inflation by nine-and-a-half percentage points. Over the three-year period, the return on STRS investment assets has exceeded the inflation rate by better than nine percentage points.

## investment performance

(Total returns, annualized)

ASSET CATEGORY	1-YEAR RETURNS (1995)		
	STRS RETURN	INDEX NAME	INDEX RETURN
EQUITIES	29.17%	Standard & Poor's 500	37.58%
		Dow Jones Industrials	36.92%
		SEI Public Median*	30.90%
INTERNATIONAL	7.37%	EAFE/Emerging	7.04%
FIXED INCOME	20.00%	Lehman Aggregate	18.47%
REAL ESTATE	8.90%	Real Estate Composite**	7.60%
TOTAL FUND	23.07%	S&P/Lehman/RE/International***	25.11%
		Inflation (GDP Deflator)	2.36%
		SEI Public Median*	23.50%

ASSET CATEGORY	3-YEAR RETURNS (1993-1995)		
	STRS RETURN	INDEX NAME	INDEX RETURN
EQUITIES	14.21%	Standard & Poor's 500	15.34%
		Dow Jones Industrials	18.91%
		SEI Public Median*	14.80%
FIXED INCOME	8.95%	Lehman Aggregate	8.07%
REAL ESTATE	7.68%	Real Estate Composite**	5.02%
TOTAL FUND	11.25%	S&P/Lehman/RE/International***	10.78%
		Inflation (GDP Deflator)	2.20%
		SEI Public Median*	10.90%

ASSET CATEGORY	5-YEAR RETURNS (1991-1995)		
	STRS RETURN	INDEX NAME	INDEX RETURN
EQUITIES	16.23%	Standard & Poor's 500	16.61%
		Dow Jones Industrials	17.56%
		SEI Public Median*	15.90%
FIXED INCOME	10.53%	Lehman Aggregate	9.48%
REAL ESTATE	3.71%	Real Estate Composite**	0.91%
TOTAL FUND	12.23%	S&P/Lehman/RE/International***	11.26%
		Inflation (GDP Deflator)	2.65%
		SEI Public Median*	11.70%

### STRS long-term policy objective (5 years)

EQUITIES: 8%-10%    FIXED INCOME: 6%-7%    REAL ESTATE: 8%-9%    TOTAL FUND: 8%

\* SEI Public Funds consist of 14 funds with a median size of \$4.9 billion. STRS is a \$35 billion fund. The median fund has an average commitment to stocks of 51%.

\*\* 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 NCREIF Property Index for all periods before Jan. 1, 1996.

\*\*\* A hybrid of equity, fixed income, international and real estate yardsticks.



# summary of investment assets

As of June 30, 1996, 1995 and 1994

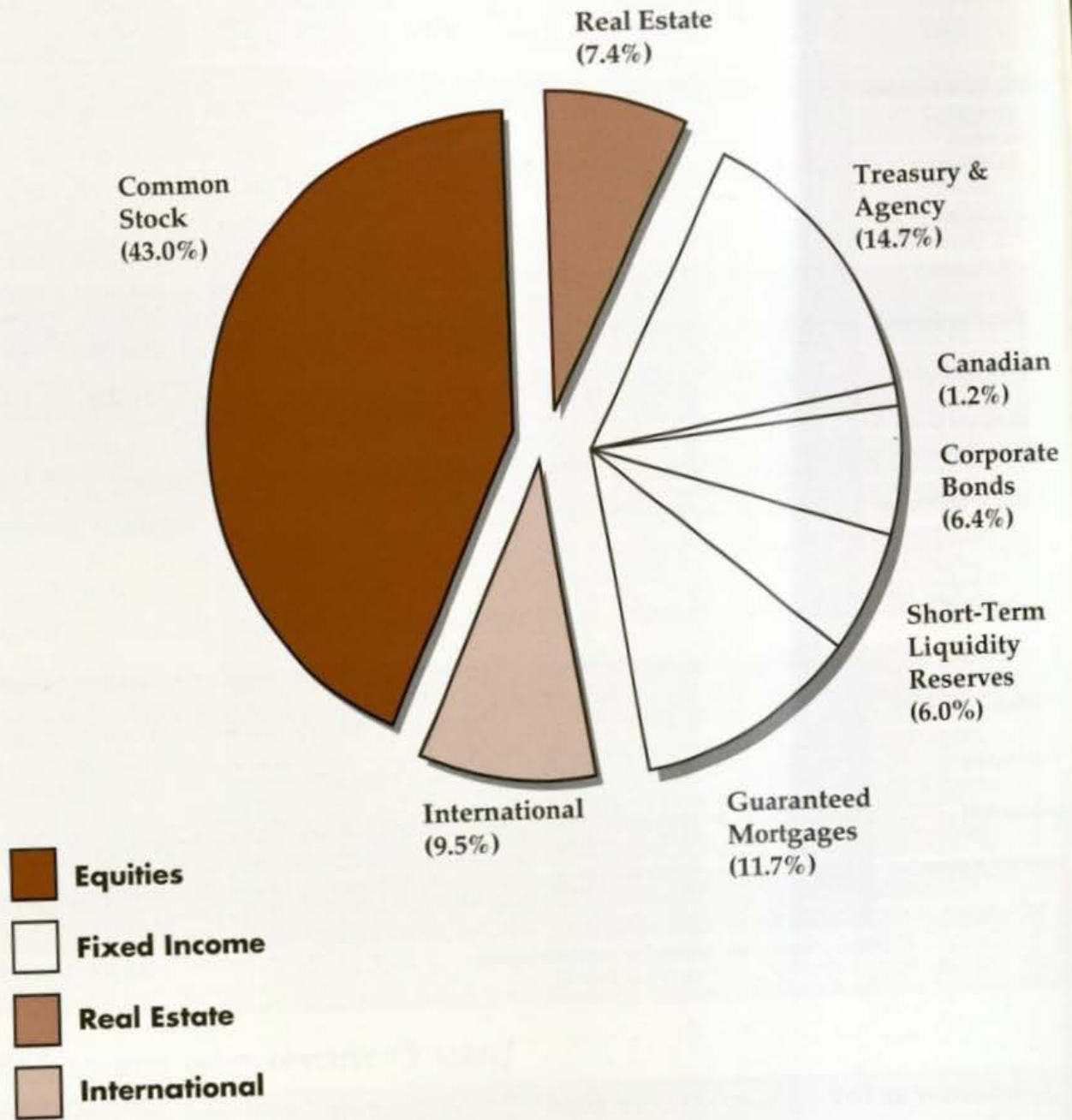
(Dollar Amounts in Thousands)

	1996			1995			1994		
	Book Value	Market Value	%	Book Value	Market Value	%	Book Value	Market Value	%
Short-Term Liquidity Reserves	\$ 2,159,244	\$ 2,159,244	6.0%	\$ 924,149	\$ 924,025	2.9%	\$ 462,328	\$ 460,203	1.7%
Guaranteed Mortgages	\$ 4,208,751	\$ 4,205,753	11.7%	\$ 4,482,752	\$ 4,552,866	14.2%	\$ 4,215,769	\$ 4,137,146	15.1%
Fixed Income									
U.S. Government & Agencies	4,946,233	5,252,176	14.7%	4,547,163	\$ 5,167,194	16.1%	4,771,642	4,907,937	17.9%
Corporate Bonds	2,297,860	2,286,050	6.4%	2,493,226	2,529,346	7.9%	2,822,282	2,813,377	10.3%
Canadian Bonds	428,045	430,240	1.2%	349,150	360,592	1.1%	667,286	663,656	2.4%
Municipal Bonds	1,217	1,290	0.0%	1,400	1,539	0.0%	1,645	1,748	0.0%
<b>Total Fixed Income</b>	<b>\$11,882,106</b>	<b>\$12,175,509</b>	<b>34.0%</b>	<b>\$11,873,691</b>	<b>\$12,611,537</b>	<b>39.3%</b>	<b>\$12,478,624</b>	<b>\$12,523,864</b>	<b>45.7%</b>
Equity									
Common and Preferred Stock	\$12,853,531	\$15,431,424	43.0%	\$12,450,775	\$14,595,050	45.4%	\$11,411,307	\$11,933,544	43.6%
Real Estate	2,496,822	2,635,067	7.4%	2,276,378	2,313,367	7.2%	1,708,967	1,699,858	6.2%
Venture Capital	35,491	38,867	0.1%	25,132	31,462	0.0%	19,868	26,758	0.1%
<b>Total Equity</b>	<b>\$15,385,844</b>	<b>\$18,105,358</b>	<b>50.5%</b>	<b>\$14,752,285</b>	<b>\$16,939,879</b>	<b>52.6%</b>	<b>\$13,140,142</b>	<b>\$13,660,160</b>	<b>49.9%</b>
International	\$ 3,170,844	\$ 3,410,895	9.5%	\$ 1,693,974	\$ 1,669,226	5.2%	\$ 712,150	\$ 738,285	2.7%
<b>Total Investments*</b>	<b>\$32,598,038</b>	<b>\$35,851,006</b>	<b>100.0%</b>	<b>\$29,244,099</b>	<b>\$32,144,667</b>	<b>100.0%</b>	<b>\$26,793,244</b>	<b>\$27,382,512</b>	<b>100.0%</b>

\*Does not include collateral on loaned securities.

# investment distribution

By Market Value as of June 30, 1996



# investment objective and policy

(Effective June 20, 1996)

## 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 (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. Amendments and additions to the policy shall be adopted in regular meeting..." These policies and regulations are adopted under this authority.

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(U) of the Revised Code defines a fiduciary, and Section 3307.14 of the Revised Code lists specific items a fiduciary shall and shall not do. This Investment Objective and Policy Statement 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 official position or in a personal investment program that will in any way create a conflict of interest.

## Organization

### Investment Committee

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

### Investment Advisors/Consultants

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

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

### Executive Director

The executive director shall have authority to amend this investment objective and policy on an emergency basis to prudently preserve or enhance the assets of the system.

### **Deputy Executive Director of Investments**

The deputy executive director of Investments shall have the following responsibilities:

1. Supervise activities of the in-house Investment 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 equity portfolios comply with established parameters and risk levels.
5. Supervise execution of orders to buy and sell securities (including options) seeking always to maintain reasonable costs for such services.
6. Report in required detail to the executive director and the investment committee and/or the board on all activities of the Investment staff.

### **Objectives, Guidelines and Policies: Total Fund**

#### **Objectives**

In many if not most instances, payments from the pension fund are the major sources of income to retirees and a principal protection against the contingencies of death and disability for active workers. Therefore, the basic policy of the board is preservation of the capital investment and realization of sufficient return to secure and facilitate payment of the statutory benefit requirements of the system to its 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.

Each 1% increase in investment return will finance benefit improvement in the range of 10% to 15%, or will allow a similar reduction in contributions. Such gain may also be used to reduce the actuarial debt of the plan. Therefore, maximization of return, from both current income and capital appreciation consistent with

the overall risk parameters described below, is an important objective. With strict adherence to statutory investment limitations and restrictions, the board sets a total return objective of 8% per annum. This is a long-term (5- to 10-year) objective, and this total return objective, as well as other return objectives, is based on a premium over inflation by assuming a long-term inflation rate of 3.75%. The objectives should be pursued consistently with prudent management and at the minimal level of market risk necessary to accomplish them.

The fund does not have a capital return or income return objective separate from the total return objective. However, it is anticipated that for the total account there will be income yield over a long-term period which is equal to capital growth because of the utilization of fixed-income and real estate assets.

The board anticipates that contributions and income to the pension fund 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.

#### **Restrictions**

The investment standards set forth in Section 3307.15 of the Revised Code are incorporated by reference and made a part of this policy. The board and other fiduciaries shall discharge their duties with respect to such funds solely in the interest of the participants and beneficiaries. 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. Also, the board will give equal consideration to investments that involve minority-owned and minority-controlled firms and firms owned and controlled by women.

short-term cash equivalents 0.0, a volatility level of about 0.9 is considered acceptable for the fund as a whole. This means that, in a downward stock market, the total pension fund should not fall by more than 90% of the decline in the stock market. This should protect the beneficiaries from any undue risk.

The policy asset mix ranges and the "targeted normal weighting" for the major asset classes are listed below. The Investment staff has the authority to operate within the policy ranges for each asset class provided that maximum limits as defined by the Revised Code are adhered to. The "targeted normal 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 (5- to 10-year) expected rate of return and volatility.

Asset Class/ Asset Mix	Policy Ranges at Cost	Targeted Normal Weightings at Cost
Cash Equivalents	0% - 6%	2%
Fixed Income	22% - 50%	35%
Equities	40% - 50%	46%
Real Estate	6% - 12%	9%
International	4% - 10%	8%
		100%

### Objectives, Guidelines and Policies: Fixed Income

#### Bonds

##### Objective

For the publicly-traded bond sector of the portfolio, a total return of 6% to 7%, averaged over 5 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.

#### 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 and/or the board. 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. Undue risks are to be avoided, particularly those of lower-than-average quality.

An average rating of between A and Aa 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+. Fixed-income purchases, including exchanges, shall meet the following criteria in addition to statutory requirements. All bond, note, pass-through security, trust certificate, debenture, Canadian or medium-term note purchases shall:

1. Be issues of at least \$50 million par value.
2. Be made with the intent of creating positions of at least \$1 million.
3. Not exceed 15% of any one issue except for U.S. Treasury, related agencies, and other U.S. government-guaranteed securities.
4. At time of purchase, be rated A- or higher or meet statutory coverage ratios.

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

Derivatives may be used in management of the fixed-income portfolio as long as the underlying security is suitable for the portfolio. The use of leverage is prohibited. 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. All strategies must be of a hedging or positioning nature rather than speculative. Underlying exposure of fixed-income derivatives cannot

## *investment objective and policy (cont.)*

exceed 5% of total STRS assets. Any security whose value is derived from an instrument which is not permitted under this policy for the fixed-income portfolio is prohibited.

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 periodically with the staff as to reasonableness and adequacy to the overall investment plan and current outlook and report to the board thereon.
3. The turnover ceiling shall be 150% of marketable bond assets. Turnover is defined as the total book value of sales and maturities as a percent of beginning book value.
4. A portfolio measurement will be made showing incremental advantage or disadvantage obtained through exchange activity.

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

The following foreign credits may be purchased under this section provided they do not exceed 2% of total assets:

1. Sovereign credits (excluding Canadians) rated AA- or better.
2. Bonds of a United States subsidiary traded or issued in the foreign market, provided they are guaranteed by the United States parent company.
3. State of Israel bonds (not rated) not to exceed \$10 million.

## **Mortgages**

### **Objective**

The board agrees with the desirability of contributing to the economic growth of the state of Ohio by encouraging home ownership and will promote this objective within the limits of fiduciary responsibility. It is the policy of the board to make regular investments in Ohio single-family FHA/VA residential mortgages whenever the yield on such instruments equals or exceeds the yield currently available on recently offered corporate bonds rated Aaa and it is consistent with current investment strategy.

### **Restrictions**

Mortgages shall be limited to 20% 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 purchased and managed under the "Bonds" section of this Investment Objective and Policy. The primary emphasis of the mortgage and mortgage-related securities portfolio will continue to be government-guaranteed mortgages.

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.

## Categories

1. Guaranteed project mortgages on such facilities as apartments, nursing homes, and elderly housing shall be purchased without location restrictions. Construction loans guaranteed by the United States government shall be restricted to Ohio locations. Construction loans guaranteed by the United States government that convert to permanent loans can be purchased without location restrictions.

## 2. Mortgage-Backed Securities

a. **Mortgage-backed bonds:** The board may purchase bonds that are collateralized by Ohio single-family mortgages. The bond shall be rated Aa or better, and the mortgage pool shall be at least 150% of the amount of the outstanding bond.

b. **Pass-through securities:** The board may invest in pass-through securities that are backed by Ohio single-family mortgages or Ohio commercial mortgages, provided that: (a) the minimum pass-through certificate is \$5 million; (b) private mortgage insurance is provided on any conventional mortgage with a loan-to-value ratio greater than 80%; and (c) the selling institution is Ohio-based and has a net worth exceeding \$5 million.

c. **Fixed-rate commercial mortgages:** The board may invest in fixed-rate commercial mortgages in order to enhance the existing government-guaranteed mortgage portfolio or to facilitate sales of existing real estate investments. The loan-to-value ratio of such commercial mortgages shall not exceed 90% unless that portion of the loan greater than 90% is insured. No more than 10% of the total portfolio shall be invested in fixed-rate commercial mortgages.

## Objectives, Guidelines and Policies: Cash Equivalents

## Objectives

It is the board's policy to use cash equivalents to provide some protection against downward market movements and to assist in the overall return objectives. Because of the size of both the bond and equity sectors of the portfolio, and because of the essentially long-term nature of the fund, the board does not expect that major moves will be made into or out of cash reserves.

## 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 of investments, to recommend any modification of this position.

Positions shall not exceed \$60 million in one obligor of commercial paper, certificates of deposit, or bankers' acceptances.

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

1. Any commercial paper purchased by the system shall have a maturity of not more than 270 days and shall be rated P-1 by Moody's Investors Service, Inc. and/or A-1 by Standard & Poor's Corporation.

2. Certificates of deposit and bankers' acceptances shall be purchased on those banks affiliated with the largest 100 U.S. bank holding companies in terms of assets with short-term debt ratings of P-1 and/or A-1, and the 20 largest bank holding companies in Ohio.

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

### **Objectives, Guidelines and Policies: Equities**

#### **Objectives**

For the equity sector of the portfolio, a total return objective of 8% to 10%, averaged over a period of 5 to 10 years, is desired. Should the investment advisor believe attainment of this objective at anytime is not possible without undue risk, it is his responsibility to recommend to the board a revised figure. In today's market, the board believes an 8% to 10% average return objective over a five-year period is prudent and realistic, within the volatility guidelines. The board recognizes that there is a level of risk associated with an 8% to 10% total equity return objective. This should be sought with the minimum risk necessary. The equity portfolio should reduce nonmarket risk by being diversified.

#### **Restrictions**

The statutes limit the State Teachers Retirement System to a 50%-of-assets position in common and preferred stocks. It is the board's policy to maintain an investment in common stocks in the approximate range of 40% to 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 and by the annual investment plan and its periodic modifications.

The function of a pension plan is to provide for long-term investment positions, and therefore, it is not the policy of the board to be engaged in purchase and sale of common stocks on the basis of temporary market swings or other speculative factors. The risk of the equity portfolio has been defined as a volatility level no greater than 15% more than that of the Standard & Poor's 500, with a range between 1.0 and 1.15 (from equality with the stock market to a level 15% higher). Under normal circumstances, the volatility level of the stock sector should average slightly above 1.0.

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 "Venture Capital" section).

No more than 5% of the assets of the system may be invested in equities in small companies. Small companies generally include companies that have less than \$0.4 billion in market capitalization.

All American depository receipts and foreign stocks legal under division (D)(4) of Section 3307.15 of the Revised Code are eligible for purchase under this section.

Derivatives may be used in management of the equity portfolio as long as the underlying security is suitable for the portfolio. The use of leverage is prohibited. Derivatives may be used to adjust the exposure to the equity market or to individual securities in the equity portfolios. The derivatives are futures on the S&P 500 Index, options or options on futures on the S&P 500 Index, and options on the S&P 100 Index, S&P Midcap Index, and individual stocks or baskets as well as unleveraged equity linked notes. Strategies permitted must be of a hedging or positioning nature rather than speculative. Underlying exposure of equity derivatives can not exceed 10% of total STRS assets.

#### **Quality Standards and Portfolio Construction**

Equity portfolios are invested in securities selected from a universe of investments legal under Section 3307.15 of the Revised Code. The investment style of individual portfolios follow STRS guidelines, as described in the annual investment plan, and are monitored based on appropriate portfolio characteristics and risk levels. Stocks are selected for each portfolio based on a set of criteria appropriate for each style. The board's investment advisor/consultant must review each equity portfolio to measure the degree of compliance with STRS established parameters and risk levels. The 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 5- to 10-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 6% to 10%. The staff will select and the board will monitor 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 5% developed countries and 5% emerging countries. The staff may deviate from this weighting by plus or minus 2%. Currencies will be hedged at the discretion of the manager. The internally managed portfolio will generally hedge only in cases of extreme undervaluation or overvaluation.

Derivatives may be used in management of both the internal and external international portfolios as long as the underlying security is suitable for the portfolios. The use of leverage 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 5% of total STRS assets.

### Objectives, Guidelines and Policies: Venture Capital

#### Objectives

The chief objective of venture capital investments is to provide an attractive risk adjusted rate of return to benefit the STRS membership. Venture capital possesses a long-term investment horizon, illiquidity and a high standard deviation (high risk). For these reasons, expected financial returns must exceed those of other asset classes for venture capital involvement to be worthwhile for STRS.

Venture capital returns are expected to approximate 15% annually during the 1990s. In addition to the higher expected financial returns, venture capital can provide ancillary benefits to the state of Ohio in the form of new jobs, increased research and development and new taxes.

#### Restrictions

Venture capital investments are permitted under Section 3307.15(D)(5) of the Revised Code. Direct investments are allowed provided the entity has one-half of its assets within the state or more than one-half of its employees are employed in Ohio or its principal office is located within the state. Investments in venture capital limited partnership funds are also permitted. Fund managers must agree to use "best efforts" to make investments in Ohio-based small businesses. The aggregate amount of these Ohio-based investments must be at least equal to the board's investment in the fund.

Total value of venture capital investments is legally limited to 5% of total assets. However, because of the limited number of suitable investment opportunities located in Ohio, it is the board's intent to limit venture capital investment to 0.5% of STRS total assets. Furthermore, it is the board's intent to generally limit venture capital investment opportunities to Ohio-based limited partnership funds. Proposals for direct investments will usually be referred for review to the venture funds in which STRS has made investments. This formal referral process enables STRS to respond to the financing needs of Ohio small businesses in an efficient and timely manner.

## *investment objective and policy (cont.)*

Potential venture capital limited partnership funds will be analyzed for possible STRS investment. In addition to meeting the legal requirements, underwriting criteria include: experienced general partners, solid track record, fund headquartered in Ohio, Ohio-based investment history, strong community support and appropriate partnership terms.

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 any such investment.

For investments made under Section 3307.15(D)(5) of the Revised Code, the Investment staff is encouraged to seek board representation on each entity to further enhance the safety and direction of the State Teachers Retirement System's investment.

The deputy executive director of 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 real return commensurate with investment risk, coupled with an annual increase in cash flow. Cash-on-cash yield at purchase shall be a key objective of the portfolio. The opportunity for increasing cash flows during ownership shall be present as evidenced by percentage leases, cost-of-living

clauses, short-term leases with limited renewal provisions, or a combination of the above. 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 5- to 10-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% to 12% of assets.

#### **Diversification:**

1. **Property Type:** High quality properties that are relatively general purpose will provide both investment security and maximum equity growth potential. Five such categories of property are:

- a. Office buildings;
- b. Retail properties;
- c. Distribution centers, warehouses and industrial parks;
- d. Multifamily housing;
- e. Specialty — limited to 2% of book value of total assets.

The specialty category includes, but is not limited to, timberland, farmland, senior living and hotels.

#### 2. **Geographical:**

The portfolio will be diversified across eight regions as defined by the National Council of Real Estate Investment Fiduciaries. The maximum book value for any one of these regions will be 25% of the real estate portfolio. The one exception will be the East North Central Region which includes Ohio. This sector will have a 35% book 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:** New real estate investments will include equity-type structures such as direct ownership, participating mortgages, joint ventures, co-ownership, externally managed accounts, and real estate securities. The staff will search for innovative ways to approach structuring new real estate investments to enhance STRS' total investment strength.

**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. The maximum investment amount for an individual property will be limited to approximately 1% of total 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 appraisal by an independent third-party appraisal firm;
4. An environmental review by a qualified consultant in accordance with the Environmental Policy described below;
5. A financial analysis including, but not limited to, holding period internal rate of return, initial yield and sensitivity to critical assumptions;
6. Legal review and approval of appropriate documents.

Real estate investments will be subject to the requirements of an Environmental Policy as reviewed by the board's real estate consultant. The policy will ensure that STRS will be prudent and diligent in its investments so as not to invest in property on which hazardous materials are present on or so near the property in such form and quantities as to cause STRS concern about its potentially 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

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. 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. Each multitenant property will be valued internally each year, with an independent external appraisal no less than every third year. 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 80% of the NCREIF Property Index, 10% of the NCREIF Timberland Index, 5% of the NCREIF Farmland Index, and 5% of the NAREIT Equity Index (excluding health care).

#### 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

*investment objective and policy (cont.)*

regarding the investment performance of the system's real estate portfolio.

2. On a semiannual basis, review and comment on the annual real estate strategy prepared by the Investment staff.
3. Review, on an annual basis, the five-year real estate strategy prepared by the staff.
4. Review, biennially, the general internal management of real estate and its efficiency with the objective of completing an overall operational audit including items such as write-down methodology.
5. 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 before recommendation to the deputy executive director of Investments and the executive director. Transactions to be reviewed by the REIC include new acquisitions, dispositions from the existing portfolio, and significant modifications in existing deal structures. The following transactions will not be subject to REIC review prior to executive director approval:

1. Ancillary purchases, sales or exchanges valued at less than 20% of the total property value;
2. Release of mortgage security as long as the loan-to-value ratio remains below 80%;
3. Transactions allowed under existing investment documents (i.e., conversion options, loan prepayments, etc.);
4. Sales of sale-leaseback properties when the sale price exceeds the book value of the investment or where the investment amount is less than \$1.5 million;
5. Temporary mortgage restructurings, which limit the restructuring to no more than four years and revert back to original terms;
6. Settlement of 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 following documents:

1. Investment objective and policy;
2. Long-term real estate strategy;
3. Annual investment plan;
4. Individual transactions outside policy and/or strategy;
5. Monthly investment activity reports;
6. Semiannual performance reports from the consultant.

**Procedures**

**Long-Term Objectives**

The investment advisor shall recommend long-term (5- to 10-year) 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 shall incorporate statements of investment criteria for both publicly-traded bonds and stocks, as recommended by the investment advisor and approved by the board.

**Annual Investment Plan**

By February of each calendar year, or at such other time as the board may designate, an annual investment plan shall be developed by the investment committee.

This plan shall be based on recommendations of the Investment Department and the investment consultant with approval of the executive director. The annual investment plan shall be based on the following:

1. The long-term objectives set forth by the board on recommendation of the investment consultant.
2. Estimated monthly cash flow for the ensuing year.
3. General economic outlook for the short and long term.

4. Expected relative values of various investment instruments (i.e. stocks vs. bonds, etc.).
5. Short- and long-term interest rates.
6. Such other factors as indicated.

The annual investment plan will serve as a guide for the Investment staff in its day-to-day operation. Any substantial deviations from the plan are to be fully justified in writing.

The annual investment plan will be reviewed bimonthly by the staff and any indicated modifications or changes recommended. 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 reports:

#### Monthly Reporting:

1. Monthly activity report that includes:
  - a. Common stocks:
    - (1) Summary of the equity markets
    - (2) Common stock performance comparisons
    - (3) Top 20 holdings
    - (4) Purchases and sales during the month
    - (5) Portfolio diversification — past, present and planned
    - (6) Status of special projects
    - (7) International;
  - b. Fixed income:
    - (1) Summary of fixed-income markets
    - (2) Summary of trading markets
    - (3) Exchange summary;
  - c. Real estate;
  - d. Cash flow;
  - e. Performance;
2. Portfolio summary classified by asset type;
3. Investment purchases and sales, year-to-date.

#### Semiannual Reporting:

1. All exposures 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 of Administration, the deputy executive director of 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 and Section 3307.15 of the Revised Code. 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 be proactive in its intent to include firms that have an operating office located in Ohio, minority-owned and controlled firms, and firms owned and controlled by women.

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

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

When entering into real estate transactions, the board shall give equal consideration to Ohio

firms providing associated professional services, minority-owned and controlled firms, and firms owned and controlled by women.

**Security Lending**

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

**Measurement**

The primary goal of the fund shall be to achieve the absolute return targets described in the "Total Fund" section of this policy. However, a secondary measurement objective of the board is to relate the fund's performance to various indices. The relative measurement of the total fund shall be made against a hybrid index consisting of weightings from cash equivalents, 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 1-, 5- 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 1-, 5- and 10-year comparisons shall also be examined.

The equity portfolio shall be compared against the Standard & Poor's 500 Average, and the SEI 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 1-, 5- and 10-year comparisons shall also be examined.

The real estate portfolio shall have as its benchmark a composite index consisting of 80% of the NCREIF Property Index, 10% of the NCREIF Timberland Index, 5% of the NCREIF Farmland Index, and 5% of the NAREIT Equity Index (excluding health care). The primary time period for such comparisons shall be three years, although 1-, 5- and 10-year comparisons shall also be examined.

The international equity portfolio shall have as its benchmark a composite index consisting of 75% of the Morgan Stanley's Capital Markets Europe Australia Far East Index (EAFE) and 25% of the Morgan Stanley Emerging Markets Free (EMF) Index. The board's objective is to match or exceed performance of this composite index. The primary time period for such comparisons shall be three years, although 1-, 5- 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 for purposes of complying with Section 3307.15 of the Revised Code shall be the total of:

1. Par value of all bonds, notes, certificates of indebtedness and mortgages.
2. Cost of all preferred stocks, common stocks and productive real estate.

Market valuation of investments shall be the total of:

1. The closing price on the principal registered stock exchange for all common and preferred stocks so listed.
2. The last sale or, if not available, final bid as reflected by NASDAQ for common and preferred stocks not listed on a registered stock exchange.
3. The current value as determined by a qualified independent service for all bonds, notes and certificates of indebtedness.
4. Amortized cost for commercial paper, certificates of deposit, repurchase agreements and other short-term investments with a maturity of 270 or fewer days.
5. Real estate valued through a combination of independent appraisals and in-house valuations. Methodology underlying internal valuations will be reviewed by the real estate consultant. REIT shares are valued at closing prices on the appropriate stock exchange.
6. The most recent valuation for pooled venture capital and direct venture capital.
7. Guaranteed mortgages assigned an estimated value based upon the most recent posted rate for new Veteran's Administration or Federal Housing Administration guaranteed mortgages.
8. International investments are valued by the subcustodian using relevant closing market prices and exchange rates.

# *schedule of investments*

As of June 30, 1996

<b>Common Stocks</b>	<b>Shares</b>	<b>Total Cost</b>	<b>Total Market</b>
<b>Aerospace/Defense</b>			
AAR Corporation	594,300	\$ 7,719,242	\$ 12,108,863
Boeing Company	946,900	38,778,466	82,498,663
EG & G, Inc.	2,622,459	42,210,973	56,055,061
General Dynamics Corporation	19,796	1,130,125	1,227,352
Lockheed Martin Corporation	63,840	2,405,687	5,362,560
McDonnell Douglas Corporation	67,856	702,922	3,307,980
Northrop Grumman	207,167	12,567,382	14,113,252
Raytheon Corporation	1,352,488	46,641,555	69,822,193
Rockwell International Corporation	413,403	10,947,987	23,718,997
Thiokol Corporation	225,000	8,937,866	8,887,500
TRW, Inc.	23,404	1,347,673	2,103,435
United Technologies Corporation	37,206	1,890,140	4,278,690
<b>Totals</b>		<b>\$175,280,018</b>	<b>\$283,484,546</b>
<b>Airlines</b>			
America West Airlines	285,200	\$ 5,561,400	\$ 6,274,400
AMR Corporation	139,096	8,741,316	12,657,736
Delta Air Lines, Inc.	16,000	848,744	1,328,000
Southwest Airlines Company	45,800	1,306,124	1,333,925
USAir Group, Inc.	18,258	127,806	328,644
<b>Totals</b>		<b>\$16,585,390</b>	<b>\$21,922,705</b>
<b>Apparel/Textiles</b>			
Brown Group, Inc.	1,080,100	\$19,441,800	\$18,766,738
Delta Woodside Industries, Inc.	631,700	6,632,911	3,237,463
Fruit Of The Loom, Inc.	249,200	6,978,778	6,354,600
Liz Claiborne, Inc.	26,651	908,638	922,791
National Service Industries, Inc.	15,951	403,009	624,083
Nike, Inc. CI-B	27,164	1,657,089	2,791,101
Reebok International Ltd.	253,144	7,434,387	8,511,967
Russell Corporation	625,783	13,089,986	17,287,255
Springs Industries CI-A	130,532	5,623,156	6,559,233
Stride Rite Corporation	16,282	314,063	134,327
V. F. Corporation	20,663	1,025,125	1,232,031
Warnaco Group, Inc.	320,000	4,854,745	8,240,000
<b>Totals</b>		<b>\$68,363,687</b>	<b>\$74,661,589</b>
<b>Auto/Truck Manufacturers</b>			
Chrysler Corporation	414,271	\$ 18,152,759	\$ 25,891,938
Daimler-Benz AG (ADR)	630,000	28,599,600	33,941,250
Ford Motor Company	950,788	26,511,493	30,781,761
General Motors Corporation	627,166	28,127,653	32,847,819
ITT Industries, Inc.	133,517	2,964,603	3,354,615
Navistar International Corporation	23,298	624,429	230,068
PACCAR, Inc.	12,559	663,937	615,391
<b>Totals</b>		<b>\$105,644,474</b>	<b>\$127,662,842</b>



	Shares	Total Cost	Total Market
<b>Auto Parts Manufacturers</b>			
Allen Group, Inc.	942,700	\$ 15,766,916	\$ 20,503,725
Bandag, Inc. CI-B	110,900	5,267,592	5,323,200
Bandag, Inc. CI-A	396,300	20,991,158	18,576,563
Cooper Tire & Rubber Company	26,768	617,622	595,588
Dana Corporation	29,344	594,144	909,664
Eaton Corporation	1,364,055	71,527,573	79,967,724
Echlin, Inc.	25,447	771,769	963,805
Genuine Parts Company	259,871	11,142,934	11,889,098
Goodyear Tire and Rubber Company	49,147	1,760,227	2,359,056
Myers Industries, Inc.	398,700	6,268,527	7,425,788
Snap-On, Inc.	13,779	488,600	652,780
Standard Products Company	210,625	4,479,479	4,897,031
Titan Wheel International, Inc.	640,000	10,494,000	10,240,000
Totals		\$150,170,541	\$164,304,022
<b>Banks</b>			
Banc One Corporation	692,237	\$ 22,090,323	\$ 23,536,058
Bank Of Boston Corporation	33,680	794,296	1,667,160
Bank Of New York Corporation, Inc.	59,100	1,953,846	3,028,875
BankAmerica Corporation	119,117	4,870,992	9,023,113
Bankers Trust of New York Company	592,368	39,221,925	43,761,186
Barnett Banks, Inc.	31,225	1,336,834	1,904,725
Boatmen's Bancshares, Inc.	52,036	1,641,138	2,087,944
Chase Manhattan Corporation	138,028	4,184,595	9,748,228
Citicorp	374,242	16,160,726	30,968,526
Comerica, Inc.	38,097	1,463,646	1,700,079
CoreStates Financial Corporation	72,900	2,328,934	2,806,650
Fifth Third Bancorp	32,200	1,826,799	1,738,800
First Bank Systems, Inc.	42,500	2,217,353	2,465,000
First Chicago NBD Corporation	381,928	14,043,218	14,942,933
First Union Corporation	87,518	3,280,215	5,327,658
Fleet Financial Group, Inc.	83,893	2,458,428	3,649,346
KeyCorp	76,999	2,453,338	2,983,711
Mellon Bank Corporation	47,076	1,379,225	2,683,332
Mercantile Bancorporation, Inc.	906,750	13,439,397	23,122,125
Morgan (J. P.) & Company, Inc.	1,581,244	94,437,930	133,812,774
National City Corporation	71,900	2,143,693	2,525,488
NationsBank Corporation	295,953	19,122,205	24,453,117
Norwest Corporation	394,468	11,670,275	13,757,072
PNC Bank Corporation	106,578	3,122,861	3,170,696
Regions Financial Corporation	454,500	10,581,035	21,247,875
Republic New York Corporation	1,010,000	42,916,617	62,872,500
SunTrust Banks, Inc.	77,364	1,662,755	2,862,468
U.S. Bancorp	49,179	1,359,332	1,776,591
Wachovia Corporation	55,734	2,079,928	2,438,363
Wells Fargo & Company	101,188	10,966,746	24,196,581
Wilmington Trust Company	250,000	7,261,600	8,109,500
Totals		\$344,470,205	\$488,368,474

	Shares	Total Cost	Total Market
<b>Beverages</b>			
Anheuser-Busch Companies, Inc.	343,140	\$ 22,189,601	\$ 25,735,500
Brown-Forman Corporation CI-B	11,277	321,348	451,080
Coca Cola Company	2,010,556	50,522,017	98,517,244
Coors (Adolph) Company CI-B	511,581	7,906,028	9,144,510
PepsiCo, Inc.	1,727,544	27,739,768	61,327,812
Seagram Company, Ltd.	119,422	3,413,149	4,015,565
Totals		\$112,091,911	\$199,191,711
<b>Chemicals</b>			
Air Products & Chemicals, Inc.	318,400	\$ 12,257,037	\$ 18,347,800
Arcadian Corporation	250,000	3,875,000	4,937,500
ARCO Chemical Company	909,100	39,206,699	47,273,200
Dow Chemical Company	213,968	13,027,795	16,261,568
duPont (El) de Nemours and Company	592,810	40,855,277	46,906,091
Eastman Chemical Company	176,297	11,499,593	10,732,080
Ecolab, Inc.	20,757	487,888	684,981
Ferro Corporation	560,000	17,944,614	14,840,000
FMC Corporation	2,291,707	110,232,593	149,533,882
Fuller (H.B.) Company	245,300	8,538,217	8,892,125
Goodrich (B.F.) Company	16,454	344,777	614,968
Hercules, Inc.	35,990	819,243	1,992,946
Lawter International, Inc.	548,933	6,469,788	6,861,663
Loctite Corporation	363,700	12,327,354	16,912,050
Lyondell Petrochemical Company	1,469,600	32,578,293	35,454,100
Mallinckrodt Group, Inc.	2,883,114	94,445,876	112,081,057
Monsanto Company	192,335	2,312,402	6,250,888
Nalco Chemical Company	3,916,737	130,744,000	123,377,216
OM Group, Inc.	200,000	2,800,000	7,850,000
PPG Industries, Inc.	61,815	1,712,123	3,013,481
Praxair, Inc.	42,012	816,042	1,775,007
Quaker Chemical Corporation	432,500	7,242,469	5,514,375
Rohm & Haas Company	21,730	1,194,176	1,363,558
RPM, Inc.	707,812	3,512,600	11,059,563
Schulman (A.), Inc.	457,000	6,055,767	11,196,500
Stepan Company	465,800	7,279,133	8,442,625
Union Carbide Corporation	43,192	826,747	1,716,882
Witco Chemical Corporation	1,880,500	53,164,046	64,642,188
Totals		\$622,569,549	\$738,528,294
<b>Chemicals — Specialty</b>			
Avery Dennison Corporation	187,200	\$ 4,647,718	\$ 10,272,600
Betz Laboratories, Inc.	310,000	14,755,828	13,601,250
Binks Manufacturing Company	146,934	3,674,343	4,003,952
Engelhard Corporation	524,082	11,315,698	12,053,886
Grace (W. R.) & Company	29,720	1,154,065	2,106,405
Great Lakes Chemical Corporation	68,641	4,689,910	4,272,902
Hanna (M.A.) Company	806,325	9,191,903	16,832,034
IMC Global, Inc.	348,000	6,742,322	13,093,500
Morton International, Inc.	1,674,072	46,915,861	62,359,182
Scotts Company	444,300	7,225,660	7,775,250
Sigma Aldrich Corporation	194,400	6,942,294	10,400,400
Totals		\$117,255,602	\$156,771,361

	Shares	Total Cost	Total Market
<b>Coal, Gas, Pipe</b>			
Anadarko Petroleum Corporation	244,200	\$ 13,392,780	\$ 14,163,600
Ashland Coal, Inc.	664,100	17,339,127	17,266,600
Cabot Oil & Gas	680,000	11,619,566	11,645,000
Coastal Corporation	33,255	1,066,183	1,388,396
Eastern Enterprises, Inc.	7,542	203,489	250,772
Enron Corporation	347,324	12,615,204	14,196,869
ENSERCH Corporation	21,069	407,752	458,251
Mapco	612,000	33,218,744	34,501,500
Panenergy Corporation	47,709	1,029,889	1,568,433
Questar Corporation	400,000	12,506,467	13,600,000
Santa Fe Energy Resources	28,815	292,323	342,178
Totals		\$103,691,524	\$109,381,599
<b>Computer-Related</b>			
3Com Corporation	51,400	\$ 2,268,025	\$ 2,351,550
Amdahl Corporation	36,308	339,426	390,311
Apple Computer, Inc.	3,317,963	102,520,005	69,677,223
Bay Networks	831,400	24,901,409	21,408,550
Ceridian Corporation	21,108	540,387	1,065,954
Cisco Systems, Inc.	521,796	20,101,337	29,546,699
Compaq Computer Corporation	508,401	22,614,240	24,975,199
Cray Research, Inc.	2,815	72,080	67,912
Data General Corporation	1,072	10,473	13,936
Digital Equipment Corporation	2,649,006	89,806,365	119,536,396
EMC Corporation	546,700	9,803,427	10,113,950
Exabyte Corporation	435,000	6,200,769	5,682,405
Hewlett-Packard Company	630,572	41,695,563	62,820,735
IBM Corporation	488,858	33,620,868	48,396,942
Lexmark International Group A	422,700	9,162,525	8,506,838
Silicon Graphics Corporation	50,363	2,036,269	1,208,712
Sun Microsystems, Inc.	60,566	959,070	3,565,823
Tandem Computers, Inc.	36,013	437,792	445,661
Unisys Corporation	51,856	562,982	369,474
Totals		\$367,653,012	\$410,144,270
<b>Computer Services</b>			
Automatic Data Processing, Inc.	240,002	\$ 8,216,693	\$ 9,270,077
Computer Associates, Inc.	169,576	7,606,069	12,039,896
Computer Sciences Corporation	612,368	46,714,805	45,851,054
Totals		\$62,537,567	\$67,161,027
<b>Computer Software</b>			
Adobe Systems, Inc.	207,600	\$ 6,848,176	\$ 7,447,650
Autodesk, Inc.	15,460	343,886	461,868
BMC Software, Inc.	315,000	16,760,030	18,821,250
Cabletron Systems, Inc.	22,939	1,213,037	1,574,189
Cerner Corporation	355,000	7,631,245	7,588,125
Electronic Data Systems, Inc.	1,383,100	70,081,836	74,341,625
First Data Corporation	68,551	3,867,620	5,466,942
Fiserv, Inc.	221,000	6,897,494	6,630,000

	Shares	Total Cost	Total Market
MacNeal-Schwendler Corporation	577,600	\$ 7,049,287	\$ 4,332,000
McAfee Associates, Inc.	750	27,820	36,750
Microsoft Corporation	830,574	58,785,674	99,772,702
Novell, Inc.	6,298,574	97,715,269	87,392,714
Oracle Systems Corporation	585,552	13,399,852	23,093,000
Parametric Technology Corporation	430,200	14,611,857	18,659,925
Progress Software Corporation	379,000	8,770,041	6,206,125
Shared Medical Systems Corporation	7,449	288,528	478,598
Sungard Data Systems, Inc.	440,300	15,626,733	17,667,038
SyBase, Inc.	1,550,000	52,603,248	36,618,750
Wall Data, Inc.	365,000	6,612,686	8,030,000

Totals		\$389,134,319	\$424,619,251
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### Construction

Case Equipment Corporation	22,900	\$ 978,632	\$ 1,099,200
Centex Corporation	10,162	336,720	316,292
Crane Company	9,638	250,758	395,158
Florida Rock Industries, Inc.	391,048	10,614,676	10,118,367
Fluor Corporation	87,400	3,993,672	5,713,775
Insteel Industries, Inc.	117,382	622,251	865,692
Kaufman Broad Home Corporation	9,276	154,992	134,502
Lawson Products, Inc.	493,400	12,671,722	12,458,350
Masco Corporation	48,458	1,098,426	1,465,855
Owens Corning Fiberglass Corporation	13,223	487,417	568,589
Pulte Corporation	8,780	256,267	234,865
Sherwin-Williams Company	206,812	7,618,575	9,616,758
Trimas Corporation	500,000	10,490,880	11,687,500
Wolohan Lumber Company	478,090	7,351,871	4,900,423

Totals		\$56,926,859	\$59,575,326
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### Containers

Aptar Group, Inc.	102,500	\$ 3,797,252	\$ 3,100,625
Ball Corporation	9,431	314,894	268,784
Bemis Company, Inc.	484,967	9,204,970	16,973,845
Blessings Corporation	400,000	2,942,402	4,100,000
Crown Cork & Seal, Inc.	190,096	7,806,279	8,554,320
Sealed Air Corporation	478,900	342	16,103,013
Tupperware Corporation	331,770	9,504,131	14,017,283

Totals		\$33,570,270	\$63,117,870
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### Cosmetics/Toiletries

Alberto-Culver Company CI-A	250,000	\$ 5,151,699	\$ 10,000,000
Alberto-Culver Company CI-B	5,601	133,410	259,746
Avon Products, Inc.	46,500	1,132,150	2,098,313
Church & Dwight Co., Inc.	292,700	7,808,037	6,110,113
Clorox Company	17,725	885,930	1,570,878
Colgate-Palmolive Company	965,600	57,130,844	81,834,600
Gillette Company (The)	522,198	24,874,944	32,572,100
International Flavors & Fragrances, Inc.	267,103	12,422,414	12,720,780
Procter & Gamble Company (The)	1,088,708	83,008,443	98,664,163

Totals		\$192,547,871	\$245,830,693
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	Shares	Total Cost	Total Market
<b>Diversified</b>			
ACX Technologies, Inc.	555,200	\$ 5,760,513	\$ 11,034,600
Alco Standard	319,596	14,156,820	14,461,719
Allied-Signal, Inc.	215,266	8,582,105	12,297,070
Corning, Inc.	946,021	29,923,597	36,303,556
Dial Corporation	29,948	643,258	857,262
GenCorp, Inc.	1,949,600	22,146,207	29,487,700
Hanson P/C (ADR)	7,503,000	130,508,801	106,452,564
Loews Corporation	738,000	32,679,665	58,209,750
Minnesota Mining & Manufacturing Co.	376,354	23,677,646	25,968,426
Ogden Corporation	13,531	344,203	245,249
Primark Corporation	660,000	23,474,644	21,532,500
Teledyne, Inc.	1,764,193	35,715,046	63,951,996
Teledyne, Inc. Series E	106,855	1,263,349	1,642,896
Tenneco, Inc.	1,987,600	93,776,995	101,616,050
Textron, Inc.	27,216	1,387,712	2,173,878
Whitman Corporation	323,069	4,961,624	7,794,040
Totals		\$429,002,185	\$494,029,256
<b>Drugs</b>			
Alpharma, Inc. CI-A	465,000	\$ 7,539,780	\$ 9,241,875
Alza Corporation CI-A	3,664,369	78,396,251	100,312,101
American Home Products Corporation	705,076	27,172,028	42,392,694
Amgen, Inc.	436,078	22,054,209	23,548,212
Bristol-Myers Squibb Company	487,937	29,486,038	43,914,330
Eli Lilly & Company	176,408	4,998,877	11,466,520
Forest Labs, Inc.	1,127,900	52,941,715	43,565,138
Genzyme Corporation	1,251,600	65,693,934	62,892,900
Merck & Company, Inc.	895,872	49,733,152	57,895,728
Mylan Laboratories, Inc.	3,775,000	73,144,551	65,590,625
Perrigo Company	3,544,000	44,690,299	39,870,000
Pfizer, Inc.	1,244,400	34,843,483	88,819,050
Pharmacia & Upjohn, Inc.	1,042,076	42,302,875	46,242,123
Schering-Plough Corporation	1,250,324	35,240,725	78,457,831
Smithkline Beecham Corporation	1,300,000	63,260,218	70,525,000
Warner-Lambert Company	86,848	3,083,989	4,776,640
Totals		\$634,582,124	\$789,510,767
<b>Electric Power</b>			
American Electric Power Company, Inc.	59,222	\$ 2,031,316	\$ 2,524,338
Baltimore Gas & Electric Company	1,001,314	25,965,449	28,412,285
Carolina Power and Light Company	51,739	1,408,423	1,966,082
Central & South West Corporation	2,639,471	72,118,989	76,214,725
CINergy Corporation	534,320	16,190,917	17,098,240
CMS Energy Corporation	620,000	17,361,150	19,142,500
Consolidated Edison Co. of New York	2,675,036	83,799,884	78,244,803
Dominion Resources, Inc.	2,619,065	105,595,047	104,762,600
DPL, Inc.	483,000	10,030,593	11,773,125
DTE Energy Company	47,360	1,533,831	1,462,240
Duke Power Company	65,771	2,517,597	3,370,764
Eastern Utilities Associates	600,000	14,517,926	11,700,000
Edison International Corporation	143,459	3,058,507	2,528,465

	Shares	Total Cost	Total Market
Enova Corporation	1,500,000	\$ 33,394,493	\$ 34,312,500
Entergy Corporation	725,125	21,454,819	20,575,422
FPL Group, Inc.	443,864	16,506,918	20,417,744
General Public Utilities	36,700	1,107,818	1,293,675
Houston Industries, Inc.	83,226	1,866,496	2,049,440
Ipalco Enterprises	415,200	9,727,799	10,899,000
KU Energy	367,100	10,202,029	10,967,113
New England Electric Company	3,000,000	111,200,052	109,125,000
Niagara Mohawk Power Corporation	45,454	847,970	352,269
NIPSCO Industries	287,300	9,776,238	11,563,825
Northern States Power Company	21,167	910,259	1,045,121
Ohio Edison Company	48,808	1,068,666	1,067,675
PP&L Resources, Inc.	2,750,400	62,359,109	64,978,200
Pacific Gas & Electric Company	139,372	4,553,440	3,240,399
PacifiCorp	3,094,448	60,251,806	68,851,468
PECO Energy Company	728,600	18,945,671	18,943,600
Pinnacle West Capital Corporation	590,700	12,807,779	17,942,513
Public Service Enterprise Group, Inc.	3,712,547	103,757,741	102,095,043
Puget Sound Power & Light Company	461,000	11,501,450	11,179,250
SCANA Corporation	1,000,700	25,695,837	28,144,688
Southern Company	218,252	4,342,312	5,374,456
TECO Energy	380,400	7,929,174	9,605,100
Texas Utilities Company	2,269,940	85,937,423	97,039,935
Unicom Corporation	68,352	2,275,333	1,905,312
Union Electric Company	1,354,695	53,688,895	54,526,474
Wisconsin Energy Corporation	420,000	11,857,521	12,127,500

Totals		\$1,040,096,677	\$1,078,822,889
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### Electrical Equipment

Duracell International	1,429,000	\$ 61,407,210	\$ 61,625,625
Emerson Electric Company	1,312,243	73,437,719	118,593,961
General Electric Company	1,609,348	53,142,327	139,610,939
General Instrument Corporation	192,800	5,068,173	5,567,100
Grainger (W. W.), Inc.	16,527	932,975	1,280,843
Honeywell, Inc.	43,373	1,493,526	2,363,829
Hubbell, Inc.	200,225	10,281,547	13,264,906
Raychem Corporation	168,300	5,410,287	12,096,563
Thomas & Betts Corporation	1,355,924	45,434,814	50,847,150
Westinghouse Electric Corporation	1,698,087	21,967,653	32,051,392

Totals		\$278,576,231	\$437,302,308
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### Electronics

AMP, Inc.	619,463	\$ 24,581,502	\$ 24,855,953
Amphenol Corporation	550,000	13,238,145	12,650,000
Applied Materials	52,900	1,518,914	1,613,450
Arrow Electronics, Inc.	815,000	33,723,092	35,146,875
Harris Corporation	12,664	406,426	772,504
Intergraph Corporation	5,770	67,343	69,961
International Rectifier Corporation	1,704,000	33,233,845	27,477,000
LSI Logic Corporation	41,229	1,407,891	1,071,954
Measurex Corporation	455,400	8,504,856	13,320,450
Motorola, Inc.	922,894	50,289,692	57,911,599
National Semiconductor Corporation	4,233,861	68,632,336	65,624,846

	Shares	Total Cost	Total Market
Perkin-Elmer Corporation	14,179	\$ 408,239	\$ 684,137
Sun TV & Appliances	255,600	2,875,500	926,550
TCA Cable TV	355,000	8,867,650	10,738,750
Tektronix, Inc.	9,573	238,541	428,392
Teleflex, Inc.	300,000	11,872,649	14,325,000
Xilinx, Inc.	560,000	18,254,240	17,780,000
Totals		\$278,120,861	\$285,397,421
<b>Environmental</b>			
Browning-Ferris Industries, Inc.	3,568,065	\$104,231,078	\$103,473,885
Dames & Moore, Inc.	900,000	11,558,742	10,912,500
Johnson Controls, Inc.	15,422	736,179	1,071,829
Laidlaw, Inc. CI-B	90,080	792,688	912,060
Millipore Corporation	18,412	330,498	771,003
Safety-Kleen Corporation	18,467	378,775	323,173
Thermo Electron	369,150	10,694,923	15,365,869
Tyco Laboratories, Inc.	47,960	960,537	1,954,370
WMX Technologies, Inc.	154,779	4,278,744	5,069,012
Totals		\$133,962,164	\$139,853,701
<b>Exploration/Drilling</b>			
BJ Services Company	474,700	\$ 9,207,357	\$16,673,838
Burlington Resources, Inc.	181,800	7,331,769	7,817,400
Diamond Offshore Drilling, Inc.	401,100	19,779,947	22,862,700
Helmerich & Payne, Inc.	7,732	233,558	283,185
McDermott International, Inc.	16,559	444,106	345,669
Vintage Petroleum, Inc.	525,000	10,236,450	13,387,500
Totals		\$47,233,187	\$61,370,292
<b>Financial Services</b>			
American Express Company	153,481	\$ 3,741,725	\$ 6,849,090
American General Corporation	70,195	1,573,108	2,553,343
Beneficial Corporation	16,512	563,619	926,736
Countrywide Credit, Inc.	462,500	6,984,478	11,446,875
Dean Witter Discovery & Co.	384,396	19,904,792	21,958,622
Federal Home Loan Mortgage Corporation	57,382	2,798,981	4,906,161
Federal National Mortgage Association	1,842,792	28,458,850	61,733,532
First USA, Inc.	98,500	3,257,269	5,417,500
Franklin Resources, Inc.	275,000	10,037,460	16,775,000
Green Tree Financial Corporation	278,900	9,188,727	8,715,625
Household International, Inc.	29,888	796,058	2,271,488
Marsh & McLennan Companies, Inc.	2,023,528	167,087,812	195,270,452
MBNA Corporation	71,470	1,086,836	2,036,895
Merrill Lynch & Company, Inc.	56,340	1,985,707	3,669,143
Morgan Stanley Group	49,250	2,436,274	2,419,406
Salomon, Inc.	35,716	1,390,224	1,571,504
SunAmerica, Inc.	224,200	10,641,341	12,891,500
TransAmerica Corporation	22,167	1,120,960	1,795,527
Travelers Group, Inc.	431,048	9,481,640	19,666,565
U.S. Trust Corporation	200,000	8,105,048	10,100,000
Totals		\$290,640,909	\$392,974,964

	Shares	Total Cost	Total Market
<b>Food Producers</b>			
Archer Daniels Midland Company	166,874	\$ 2,570,444	\$ 3,191,465
Campbell Soup Company	80,311	3,312,643	5,661,926
Chiquita Brands Internationnal, Inc.	58,400	960,968	759,200
ConAgra, Inc.	80,742	2,330,290	3,663,668
CPC International, Inc.	1,145,500	57,292,859	82,476,000
Dole Food Company, Inc.	728,200	28,934,823	31,312,600
Earthgrains Company	237,900	7,423,962	7,791,225
General Mills, Inc.	336,469	19,840,880	18,379,619
Heinz (H.J.) Company	652,050	21,894,145	20,050,538
Hershey Foods Corporation	25,201	1,184,046	1,849,123
Kellogg Company	320,341	24,120,560	23,464,978
Lance, Inc.	900,000	15,216,190	14,850,000
McCormick & Company	1,390,000	34,543,155	30,753,750
Pioneer Hi-Bred International	29,799	1,094,002	1,575,622
Quaker Oats Company	44,644	1,534,261	1,512,316
Ralston Purina Group	33,207	1,250,332	2,129,399
Sara Lee Corporation	2,306,213	69,878,771	74,951,923
Smucker (J.M.) Company CI-B	1,119,700	22,973,134	20,854,413
Smucker (J.M.) Company	84,800	2,051,313	1,664,200
Unilever N.V.	51,232	5,887,791	7,435,044
Universal Foods Corporation	377,200	11,494,014	13,909,250
Wrigley (Wm. Jr.) Company	37,444	1,378,872	1,890,922
Totals		\$337,167,455	\$370,127,181
<b>Food Retailers</b>			
Albertson's, Inc.	81,253	\$ 2,040,925	\$ 3,361,843
American Stores Company	45,342	1,181,148	1,847,687
Fleming Companies	11,759	357,132	169,036
Giant Food, Inc.	19,067	440,782	684,029
Great Atlantic & Pacific Tea Co., Inc.	12,175	347,681	400,253
Hannaford Brothers Company	269,400	4,234,695	8,789,175
Kroger Company	858,000	13,684,558	33,891,000
Ruddick Corporation	735,200	4,642,422	9,557,600
SuperValu, Inc.	23,055	752,392	726,233
Sysco Corporation	1,734,399	48,546,639	59,403,166
Vons Companies	437,300	7,427,481	16,344,088
Winn-Dixie Stores, Inc.	48,829	1,566,075	1,727,326
Totals		\$85,221,930	\$136,901,436
<b>Furniture/Appliances</b>			
Armstrong World Industries Inc	182,054	\$11,012,152	\$10,490,862
Black & Decker Corporation	26,675	574,088	1,030,322
Maytag Company	34,187	545,640	722,200
Newell Companies, Inc.	50,622	1,250,374	1,550,299
Premark International, Inc.	21,870	220,817	404,595
Rubbermaid, Inc.	51,621	1,640,748	1,406,672
Stanhope, Inc.	370,900	12,024,123	9,828,850
Stanley Works	28,928	572,168	860,608
Whirlpool Corporation	22,364	1,029,991	1,109,814
Totals		\$28,870,101	\$27,404,222



	Shares	Total Cost	Total Market
<b>Insurance Companies</b>			
Aetna Life and Casualty Company	35,151	\$ 1,616,238	\$ 2,513,297
Alexander & Alexander Services, Inc.	12,939	319,123	255,545
Allmerica Property & Casualty Cos.	475,500	8,167,834	12,838,500
Allstate Corporation	1,401,328	54,356,447	63,935,590
American International Group, Inc.	1,430,000	93,567,887	141,033,750
American Re Corporation	789,700	30,752,493	35,437,788
AON Corporation	74,500	3,872,553	3,780,875
AVEMCO Corporation	300,000	4,718,738	4,050,000
Chubb Corporation	2,667,060	97,178,538	133,019,618
CIGNA Corporation	25,920	1,462,939	3,055,320
Cincinnati Financial Corporation	220,300	7,113,977	12,639,713
Citizens Corporation	494,000	8,817,357	9,262,500
Gallagher (Arthur S.) and Company	296,200	6,205,678	9,478,400
General Re Corporation	517,323	76,881,814	78,762,427
Hartford Steam Boiler Insurance Co.	559,100	23,516,138	27,465,788
Hilb Rogal & Hamilton Company	534,900	7,163,322	7,421,738
Horace Mann Educators	431,700	10,791,271	13,706,475
ITT Hartford Group, Inc.	33,517	958,204	1,784,780
Jefferson-Pilot Corporation	24,559	691,100	1,267,858
Lincoln National Corporation	1,473,048	54,156,299	68,128,470
NYMAGIC, Inc.	445,500	7,780,466	8,408,813
Ohio Casualty Corporation	374,000	11,295,074	12,996,500
Providian Corporation	32,684	824,204	1,401,327
SAFECO Corporation	381,524	10,356,312	13,496,411
St. Paul Companies, Inc.	27,142	1,133,585	1,452,097
Torchmark Corporation	23,730	1,240,296	1,038,188
Transatlantic Holdings	783,800	44,998,641	54,866,000
UNUM Corporation	25,000	1,255,007	1,556,250
USF&G Corporation	3,775,066	49,907,251	61,344,822
USLIFE Corporation	10,992	261,476	361,362
Totals		\$621,360,262	\$786,760,202

**Machinery/Equipment**

Briggs & Stratton Corporation	261,110	\$ 10,339,876	\$ 10,738,149
BWIP, Inc.	1,142,200	18,851,746	21,701,800
Cascade Corporation	595,200	4,841,995	7,960,800
Caterpillar Inc.	140,836	6,810,441	9,541,639
Cincinnati Milacron Inc.	1,829,262	40,038,893	43,902,288
Cooper Industries, Inc.	2,936,731	101,398,329	121,874,337
Cummins Engine Co., Inc.	11,032	456,024	445,417
Deere & Company	80,073	1,477,082	3,202,920
Dover Corporation	36,594	877,501	1,683,324
Foster Wheeler Corporation	1,091,209	22,128,460	48,831,603
General Signal Corporation	2,121,414	66,440,450	80,348,555
Giddings & Lewis, Inc.	10,915	248,623	177,369
Goulds Pumps, Inc.	1,688,200	39,492,251	43,260,125
Harnischfeger Industries, Inc.	500,241	12,186,406	16,633,013
Harsco Corporation	270,000	11,260,456	18,157,500
Illinois Tool Works, Inc.	231,758	11,853,732	15,672,635
Ingersoll-Rand Company	1,385,447	40,910,416	60,613,306
Keystone International, Inc.	3,091,230	73,483,589	64,143,023

	Shares	Total Cost	Total Market
Lincoln Electric Company	455,000	\$ 13,650,000	\$ 13,763,750
NACCO Industries CI-A	3,936	201,195	217,956
Pall Corporation	397,328	10,169,039	9,585,538
Parker Hannifin Corporation	23,155	770,169	981,193
Stewart & Stevenson	912,000	30,560,430	20,748,000
Timken Company	443,539	14,336,224	17,187,136
Trinova Corporation	647,100	14,564,084	21,596,963
Varity Corporation	11,530	433,456	554,881
Watts Industries, Inc. CI-A	577,000	12,945,415	10,746,625
Totals		\$560,726,282	\$664,269,845
<b>Media</b>			
Comcast Corporation CI-A	1,138,800	\$ 23,049,570	\$ 21,067,800
Cox Communications	2,950,820	46,232,435	63,811,482
Grupo Televisa Gds	1,300,000	31,160,573	39,975,000
Tele-Communications, Inc. CI-A	917,500	15,166,474	16,629,688
Time Warner Inc	890,797	34,039,412	34,963,782
USWest Media Group	150,382	2,607,020	2,744,472
Totals		\$152,255,484	\$179,192,224
<b>Medical Supplies/Services</b>			
Abbott Laboratories	2,305,574	\$ 82,285,311	\$100,292,469
Allergan, Inc.	21,397	520,816	845,182
Apria Healthcare Gp., Inc.	814,500	20,021,542	25,554,938
Bard (C.R.), Inc.	16,566	476,293	565,315
Bausch & Lomb, Inc.	19,268	923,600	818,890
Baxter International, Inc.	159,289	4,837,290	7,526,405
Becton Dickinson & Company	20,525	803,771	1,647,131
Beverly Enterprises, Inc.	25,412	305,004	304,944
Biomet, Inc.	37,013	497,318	532,062
Boston Scientific	256,418	9,837,419	11,538,810
Columbia/HCA Healthcare Corporation	446,709	18,516,825	23,954,770
Community Psychiatric Centers	2,141,081	21,694,124	20,340,270
Coram Healthcare Corporation	225,600	2,269,476	930,600
Dentsply International	1,045,000	35,440,233	44,412,500
Foundation Healthcare, Inc.	300,000	8,862,955	10,762,500
Horizon/CMS Healthcare Corporation	500,000	10,326,625	6,437,500
Humana, Inc.	49,000	1,346,716	875,875
Johnson & Johnson	1,706,816	70,051,837	84,487,392
Manor Care, Inc.	19,967	584,535	786,201
Medaphis Corporation	2,015,000	49,405,105	80,096,250
Medex, Inc.	282,500	3,298,073	3,637,188
Medtronic, Inc.	73,244	1,546,527	4,101,664
Nellcor Puritan Bennett, Inc.	1,365,000	75,278,452	66,202,500
Owens & Minor, Inc.	800,000	10,189,610	9,300,000
Physicians Corporation of America	895,000	19,926,975	11,858,750
St Jude Medical, Inc.	22,293	540,343	746,816
Sybron International Corporation	1,520,600	28,806,485	38,015,000
Tenet Healthcare	66,876	882,505	1,429,475
Thermo Cardiosystems	25,900	1,143,666	1,159,025

	Shares	Total Cost	Total Market
U.S. Healthcare, Inc.	52,900	\$ 1,787,236	\$ 2,909,500
U.S. Surgical Corporation	2,398,402	51,814,498	74,350,462
United Healthcare, Inc.	267,300	16,480,752	13,498,650
Value Health, Inc.	100,000	2,604,750	2,362,500
Totals		\$553,306,667	\$652,281,534

**Metals & Mining**

Alcan Aluminum Ltd.	997,743	\$ 23,030,504	\$ 30,431,161
Aluminum Company of America	861,522	34,622,746	49,429,825
Asarco, Inc.	1,533,485	41,624,077	42,554,209
Barrick Gold	113,023	3,158,869	3,065,749
Cyprus Amax Minerals Company	28,976	853,996	662,826
Echo Bay Mines Ltd.	34,833	416,112	374,455
Freeport McMoran CI-B	33,700	858,518	1,074,188
Homestake Mining Company	43,539	721,407	745,605
Inco Ltd.	2,931,680	78,878,804	94,546,680
Newmont Mining Corporation	612,739	25,962,537	30,253,988
Phelps Dodge Corporation	22,640	998,275	1,409,340
Placer Dome, Inc.	76,477	1,866,043	1,825,888
Reynolds Metals Company	19,010	945,741	990,896
Santa Fe Gold	34,113	427,836	481,846
Totals		\$214,365,465	\$257,846,656

**Miscellaneous**

Lancaster Colony Corporation	315,700	\$11,634,261	\$11,799,288
Totals		\$11,634,261	\$11,799,288

**Natural Gas**

Columbia Gas Systems	16,048	\$ 379,493	\$ 832,490
Consolidated National Gas	629,640	23,385,525	32,898,690
National Fuel & Gas	450,000	12,914,149	16,200,000
NICOR, Inc.	18,101	448,971	513,616
NorAm Energy Corporation	39,214	329,275	426,452
ONEOK, Inc.	8,527	167,297	213,175
Pacific Enterprises	26,752	627,278	792,528
Peoples Energy Corporation	11,164	349,244	373,994
Sonat, Inc.	727,768	14,475,882	32,749,560
Southwest Gas Corporation	516,800	8,312,557	8,333,400
Williams Companies, Inc.	1,509,264	47,380,561	74,708,568
Totals		\$108,770,232	\$168,042,473

**Office Equipment**

Moore Corporation Ltd.	31,810	\$ 627,002	\$ 600,414
Pitney-Bowes, Inc.	50,955	2,001,888	2,433,101
Xerox Corporation	245,333	9,108,999	13,125,316
Totals		\$11,737,889	\$16,158,831

	Shares	Total Cost	Total Market
<b>Oil — Domestic</b>			
Amerada Hess Corporation	29,460	\$ 1,593,676	\$ 1,579,793
Amoco Corporation	159,282	7,675,806	11,488,214
Ashland Oil, Inc.	763,248	30,886,434	30,243,702
Atlantic Richfield Company	813,600	77,250,937	96,208,200
Diamond Shamrock, Inc.	477,500	11,519,057	13,787,813
Kerr-McGee Corporation	15,388	673,658	936,745
Louisiana Land & Exploration Company	8,950	335,032	515,744
Murphy Oil	2,040,000	87,076,034	92,565,000
Occidental Petroleum Corporation	4,279,124	86,685,468	105,908,319
Oryx Energy Company	30,649	641,651	498,046
Pennzoil Company	667,836	29,374,620	30,887,415
Phillips Petroleum Company	83,639	2,270,860	3,502,383
Sun Company, Inc.	4,746,291	142,227,426	144,168,589
Ultramar Corporation	1,057,400	26,785,918	30,664,600
Union Texas Petroleum, Inc.	3,800,000	79,252,208	74,100,000
Unocal Corporation	4,401,500	102,311,719	148,000,438
USX-Marathon Group	7,341,091	137,390,817	147,739,456
Valero Energy Corporation	575,000	11,207,822	14,375,000

Totals		\$835,159,143	\$947,169,457
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#### Oil — International

Broken Hill Proprietary Company Ltd.	1,857,900	\$ 41,131,442	\$ 51,788,963
Chevron Corporation	208,352	4,431,454	12,292,768
Exxon Corporation	2,457,272	149,696,021	213,475,505
Mobil Corporation	453,390	33,913,111	50,949,701
Royal Dutch Petroleum Corp.	696,949	76,595,147	107,155,909
Texaco, Inc.	1,007,529	62,455,513	84,506,495

Totals		\$368,222,688	\$520,169,341
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#### Oil — Services

Baker Hughes, Inc.	3,342,585	\$ 65,410,559	\$109,887,482
Dresser Industries	2,933,861	64,077,472	86,548,900
Halliburton Company	611,463	17,379,485	33,936,197
Rowan Companies, Inc.	26,842	297,212	395,920
Schlumberger Ltd.	495,367	31,901,501	41,734,670
Western Atlas International	14,018	572,980	816,549

Totals		\$179,639,209	\$273,319,718
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#### Paper/Forest Products

Albany International Corporation CI-A	667,500	\$ 9,293,226	\$ 15,102,188
Boise Cascade Corporation	691,496	14,729,871	25,326,041
Champion International Corporation	2,468,573	95,327,978	103,062,923
Georgia-Pacific Corporation	28,702	1,724,336	2,037,842
International Paper Company	2,345,488	78,204,081	86,489,870
James River Corporation	25,989	483,389	685,460
Kimberly-Clark Corporation	328,472	22,061,593	25,374,462
Louisiana-Pacific Corporation	35,358	726,038	782,296
Mead Corporation	19,075	800,468	989,516
Mosinee Paper Corporation	428,413	6,815,469	11,460,048
Pentair, Inc.	444,000	8,871,501	13,320,000

	Shares	Total Cost	Total Market
Potlatch Corporation	9,386	\$ 426,227	\$ 367,227
Stone Container Corporation	31,701	445,243	443,814
Temple-Inland, Inc.	1,187,944	50,674,159	55,536,382
Union Camp Corporation	22,353	930,797	1,089,709
Westvaco Corporation	32,020	691,533	956,598
Weyerhaeuser Company	66,110	2,642,360	2,809,675
Willamette Industries, Inc.	17,700	1,208,131	1,053,150
Totals		\$296,056,400	\$346,887,201

**Photo/Optical**

Eastman Kodak Company	348,490	\$13,790,633	\$27,095,098
Polaroid Corporation	15,024	510,224	685,470
Totals		\$14,300,857	\$27,780,568

**Printing/Publishing**

American Greeting Corporation CI-A	22,131	\$ 612,305	\$ 605,836
Belo (A. H.) Corporation	400,000	6,377,319	14,900,000
Deluxe Corporation	26,442	1,054,724	938,691
Donnelley (R.R.) & Sons Company	49,643	1,473,208	1,731,300
Dow Jones & Company, Inc.	32,074	988,507	1,339,090
Dun & Bradstreet Corporation	284,769	14,566,721	17,798,063
Gannett Company, Inc.	1,127,449	53,254,118	79,767,017
Harcourt General, Inc.	24,772	775,914	1,238,600
Harland (John H.) Company	10,248	241,353	252,357
Jostens, Inc.	14,919	313,414	294,650
Knight-Ridder, Inc.	17,737	1,020,923	1,285,933
McGraw-Hill Corporation	31,374	1,045,029	1,435,361
Meredith Corporation	9,530	166,273	397,878
New York Times Company CI-A	3,740,959	101,406,587	122,048,787
Scripps (E.W.) Company	300,000	7,800,000	13,987,500
Thomas Nelson, Inc.	204,700	4,147,908	2,737,863
Times Mirror Company CI-A	36,073	794,925	1,569,176
Tribune Company	174,256	9,066,775	12,655,342
Washington Post Company CI-B	412,100	94,582,288	133,520,400
Totals		\$299,688,291	\$408,503,844

**Professional Services**

H & R Block, Inc.	34,254	\$ 1,292,406	\$ 1,121,819
Interpublic Group of Companies, Inc.	24,009	740,271	1,125,422
Service Corporation International	2,070,749	72,563,969	119,068,068
Unifirst Corporation	512,200	6,169,814	10,820,225
Totals		\$80,766,460	\$132,135,534

**Railroads**

Burlington Northern, Inc.	313,400	\$24,227,949	\$25,346,225
Consolidated Rail Corporation	159,971	6,666,315	10,618,075
CSX Corporation	66,390	2,165,045	3,203,318
Norfolk Southern Corporation	42,277	2,668,492	3,582,976
Union Pacific Corporation	65,706	3,863,132	4,591,207
Totals		\$39,590,933	\$47,341,801

	Shares	Total Cost	Total Market
<b>Recreation</b>			
Acclaim Entertainment, Inc.	926,700	\$ 13,089,588	\$ 8,919,488
Bally Entertainment Corporation	15,003	126,969	412,583
Brunswick Corporation	30,442	495,350	608,840
Carnival Corporation CI-A	284,600	6,392,149	8,217,825
Continuum, Inc.	236,265	9,155,105	13,703,370
Fleetwood Enterprises, Inc.	14,492	322,429	449,252
Handleman Company	322,206	3,805,082	2,255,442
Harrah's Entertainment, Inc.	32,796	796,404	926,487
Hasbro Bradley, Inc.	28,173	765,239	1,007,185
King World Productions, Inc.	1,055,600	30,063,294	38,397,450
Mattel, Inc.	83,598	1,129,973	2,392,993
Outboard Marine Corporation	6,242	112,611	113,136
The Walt Disney Company	266,941	11,193,814	16,783,915
Viacom, Inc. CI-B	1,688,218	67,626,075	65,629,475
Totals		\$145,074,082	\$159,817,441
<b>Restaurant/Lodging</b>			
Bob Evans Farms, Inc.	727,533	\$ 13,501,346	\$ 12,368,061
Darden Restaurants, Inc.	51,469	617,357	553,292
Hilton Hotels Corporation	15,226	718,677	1,714,828
Interstate Hotels Company	100,000	2,100,000	2,200,000
ITT Corporation	38,117	1,197,450	2,525,251
Luby's Cafeterias, Inc.	8,907	199,522	209,315
Marriott International, Inc.	40,800	905,849	2,193,000
McDonald's Corporation	1,207,446	52,812,594	56,448,101
Promus Hotel Corporation	446,650	7,661,827	13,232,006
Red Lion Hotels, Inc.	561,500	11,380,545	11,791,500
Red Roof Inns, Inc.	685,000	10,141,766	9,675,625
Ryans Family Steak Houses, Inc.	17,095	141,452	158,129
Shoney's, Inc.	12,985	288,020	141,212
Wendy's International, Inc.	505,238	9,535,413	9,410,058
Totals		\$111,201,818	\$122,620,378
<b>Retail — Discount</b>			
Family Dollar Stores, Inc.	360,000	\$ 6,260,350	\$ 6,345,000
Kmart Corporation	14,410,996	223,234,081	178,336,076
Rite Aid Corporation	28,415	538,838	845,346
Thrifty Payless Holdings	709,000	9,926,000	12,230,250
TJX Companies, Inc.	23,637	538,060	797,749
Toys 'R' Us, Inc.	94,571	3,134,884	2,695,274
Value City Dept Stores	688,500	9,014,305	7,573,500
Wal-Mart Stores, Inc.	2,215,340	51,468,934	56,214,252
Woolworth Corporation	6,320,300	128,530,620	142,206,750
Totals		\$432,646,072	\$407,244,197
<b>Retail — General</b>			
Dayton-Hudson Corporation	121,064	\$ 8,965,478	\$ 12,484,725
Dillard Department Stores CI-A	201,693	7,774,823	7,361,795
Federated Department Stores	290,200	6,841,226	9,903,075
Fred Meyer, Inc.	381,200	13,478,601	11,197,750
J.C. Penney, Inc.	76,105	2,953,763	3,995,513
May Department Stores Company	285,640	10,642,571	12,496,750
Mercantile Stores Company, Inc.	11,966	399,375	701,507

	Shares	Total Cost	Total Market
Price/Costco, Inc.	641,971	\$11,245,228	\$13,882,623
Sears Roebuck & Company	225,615	7,342,304	10,970,529
Totals		\$69,643,369	\$82,994,267

**Retail — Specialty**

Blair Corporation	421,400	\$14,344,896	\$ 9,955,575
Charming Shoppes, Inc.	32,856	164,280	232,062
Circuit City Stores, Inc.	30,765	401,091	1,111,386
CUC International, Inc.	54,700	1,411,114	1,941,850
Fabri-Centers of America, Inc.	553,900	6,592,776	9,139,350
Fabri-Centers of America, Inc. C1-B	553,900	3,279,308	8,377,738
Fingerhut Companies, Inc.	42,000	616,476	656,250
Gap, Inc.	93,078	1,611,527	2,990,131
Home Depot, Inc.	572,335	21,366,208	30,906,090
Jacobson Stores, Inc.	97,800	2,250,066	1,161,375
Limited, Inc.	607,380	10,846,967	13,058,670
Long's Drug Stores, Inc.	6,718	230,572	299,791
Lowe's Companies, Inc.	46,362	746,250	1,674,827
Melville Corporation	33,919	1,643,921	1,373,720
Nordstrom, Inc.	26,406	1,084,702	1,175,067
Payless ShoeSource, Inc.	14,838	351,258	471,107
Pep Boys Manny, Moe and Jack	19,896	501,804	676,464
Talbots, Inc.	135,100	4,839,162	4,373,863
Tandy Corporation	17,805	632,070	843,512
Walgreen Company	341,958	8,727,575	11,455,593
Totals		\$81,642,023	\$101,874,421

**Savings & Loan**

Ahmanson (H.F.) & Company	37,367	\$ 659,789	\$1,008,909
Charter One Financial, Inc.	155,000	4,885,280	5,405,625
Golden West Financial Corporation	20,649	800,205	1,156,344
Great Western Financial Corporation	41,943	640,511	1,001,389
Totals		\$6,985,785	\$8,572,267

**Semiconductors**

Advanced Micro Devices, Inc.	4,742,833	\$ 94,591,940	\$ 64,621,100
Intel Corporation	737,894	45,154,976	54,189,460
Maxim Integrated Products, Inc.	404,200	14,540,927	11,039,915
Micron Technology	340,000	10,678,132	8,797,500
Texas Instruments, Inc.	957,918	64,141,600	47,776,160
Totals		\$229,107,575	\$186,424,135

**Steel**

Armco, Inc.	333,127	\$ 1,699,494	\$ 1,665,635
Bethlehem Steel Corporation	17,091	268,835	202,956
Cleveland-Cliffs, Inc.	585,000	19,633,143	22,888,125
Inland Steel Industries, Inc.	707,500	16,825,244	13,884,688
LTV Corporation	4,671,800	64,812,252	53,141,725
Nucor Corporation	29,752	1,218,838	1,506,195
USX-U.S. Steel Group	21,459	546,561	608,899
Worthington Industries, Inc.	388,820	5,661,400	8,116,618
Totals		\$110,665,767	\$102,014,841

	Shares	Total Cost	Total Market
<b>Telecommunications</b>			
Andrew Corporation	49,500	\$ 1,142,497	\$ 2,660,625
DSC Communications Corporation	2,075,422	70,908,956	62,522,088
Northern Telecom Ltd.	80,043	2,457,873	4,352,338
Scientific Atlanta, Inc.	2,475,888	42,078,460	38,376,264
Tellabs, Inc.	27,700	1,333,062	1,852,438
Totals		\$117,920,848	\$109,763,753
<b>Tobacco</b>			
American Brands, Inc.	58,057	\$ 2,221,618	\$ 2,634,336
Philip Morris Companies, Inc.	834,416	46,791,414	86,779,264
Universal Corporation	610,200	14,639,670	16,170,300
UST, Inc.	67,803	1,950,473	2,322,253
Totals		\$65,603,175	\$107,906,153
<b>Trucking/Shipping</b>			
Airborne Freight Corporation	495,000	\$10,159,162	\$12,870,000
Caliber System, Inc.	12,504	448,786	425,136
Consolidated Freightways, Inc.	767,439	18,681,455	16,212,149
Federal Express Corporation	89,288	6,394,281	7,321,616
Ryder System Company	24,401	607,220	686,278
Yellow Corporation	1,129,300	15,810,200	14,963,225
Totals		\$52,101,104	\$52,478,404
<b>Utility — Phone</b>			
AirTouch Communications	1,340,712	\$ 40,234,678	\$ 37,875,114
ALLTEL Corporation	634,800	18,776,751	19,520,100
Ameritech Corporation	520,680	23,670,050	30,915,375
AT&T Corporation	1,410,371	62,128,241	87,443,002
Bell Atlantic Corporation	139,386	7,003,809	8,885,858
BellSouth Corporation	1,057,862	38,924,856	44,430,204
GTE Corporation	1,234,593	37,058,746	55,248,037
MCI Communications Corporation	3,144,200	66,685,058	80,570,125
NYNEX Corporation	138,737	5,886,443	6,590,008
Pacific Telesis Group	3,337,178	101,212,387	112,629,757
SBC Communications, Inc.	689,292	23,945,606	33,947,631
Sprint Corporation	136,328	3,988,637	5,725,776
Telefonos De Mexico (ADR)	3,099,500	106,998,396	103,833,250
U.S. West, Inc.	150,382	4,101,711	4,812,224
Worldcom, Inc.	908,000	32,441,480	50,280,500
Totals		\$573,056,849	\$682,706,961
<b>Water</b>			
American Water Works Company, Inc.	501,200	\$ 10,324,723	\$ 20,048,000
Totals		\$ 10,324,723	\$ 20,048,000
Call Options		(\$1,989,418)	(\$1,119,450)
Total Common Stocks		\$12,853,530,918	\$15,431,424,302



## International Investments

	Book Value	Market Value
Externally managed:		
Stocks	\$1,357,750,424	\$1,477,092,881
Fixed income	13,861,044	14,027,368
Currency and liquidity reserves	114,353,382	113,878,040
<b>Total externally managed</b>	<b>\$1,485,964,850</b>	<b>\$1,604,998,289</b>
Internally managed:		
Country funds	\$ 107,957,756	\$ 107,284,450
EAFE index fund	750,014,055	816,386,378
Emerging markets index fund	253,142,140	278,549,462
EAFE equity swaps	573,765,283	603,676,317
<b>Total internally managed</b>	<b>\$1,684,879,234</b>	<b>\$1,805,896,607</b>
<b>Total International Investments</b>	<b>\$3,170,844,084</b>	<b>\$3,410,894,896</b>

## Venture Capital

	Book Value	Market Value
Alpha Capital Fund II	\$ 838,991	\$ 776,599
Blue Chip Capital Fund	3,000,000	3,074,069
Blue Chip Opportunity Fund LTD	4,000,000	3,677,368
Brantley Venture Partner II	2,500,000	3,077,017
Brantley Venture Partners III	2,100,000	2,059,096
Cardinal Development Capital Fund	496,538	205,281
Datamedia Corporation	50	7,000
Morganthaler Venture Partners	200,000	185,734
Northcoast Fund, LTD Partnership	1,250,000	1,066,988
NW Ohio Venture Fund	1,750,000	1,362,304
Palmer Organization	700	362,295
Primus Capital Fund	1,000	397,014
Primus Capital Fund II	1,000	1,949,758
Primus Capital Fund III	3,675,000	3,588,154
Primus Capital Fund III, Pfd	3,675,000	3,588,154
Sagamore Financial Corporation	12,003,024	13,490,524
<b>Total Venture Capital</b>	<b>\$35,491,303</b>	<b>\$38,867,328</b>

## Bonds

	Book Value	Par Value	Market Value
Combined dedicated portfolios	\$ 213,499,163	\$ 358,474,860	\$ 252,744,807
Secular portfolios	723,083,979	4,223,037,000	900,925,019
Agency bonds	359,585,764	584,588,035	379,383,205
U.S. Treasury bonds	3,650,064,451	3,557,488,000	3,719,123,892
Asset-backed bonds	417,177,927	424,359,829	415,696,519
Finance bonds	993,841,106	994,055,000	993,409,102
Industrial bonds	631,465,569	629,215,418	624,810,112
Utility bonds	291,976,577	287,961,545	286,338,384
Yankee bonds	584,819,398	557,625,000	588,518,715
<b>Total Bonds</b>	<b>\$7,865,513,934</b>	<b>\$11,616,804,687</b>	<b>\$8,160,949,755</b>

### Guaranteed Mortgages

	Book Value	Par Value	Market Value
Federal Home Loan Mortg. Corp.	\$ 862,443,937	\$ 859,094,888	\$ 856,700,357
Federal National Mortg. Assoc.	763,942,178	751,527,568	747,768,731
Government National Mortg. Assoc.	1,313,638,630	1,354,925,755	1,317,427,323
Letter strips	39,484,437	41,810,675	40,404,835
Planned amortization class	269,392,976	273,130,586	270,220,265
FHA insured project loans	11,606,971	12,667,829	12,577,009
<b>Total</b>	<b>\$ 3,260,509,129</b>	<b>\$ 3,293,157,301</b>	<b>\$ 3,245,098,520</b>
Single family direct	\$ 102,503,334	\$ 103,907,662	\$ 109,005,258
Multifamily direct	\$ 653,579,534	\$ 664,357,992	\$ 660,455,510
<b>Total</b>	<b>\$ 756,082,868</b>	<b>\$ 768,265,654</b>	<b>\$ 769,460,768</b>
<b>Total guaranteed mortgages</b>	<b>\$ 4,016,591,997</b>	<b>\$ 4,061,422,955</b>	<b>\$ 4,014,559,288</b>
<b>Total Fixed Income</b>	<b>\$11,882,105,931</b>	<b>\$15,678,227,642</b>	<b>\$12,175,509,043</b>

### Short-Term

	Book Value	Par Value	Market Value
Commercial paper	\$2,149,243,596	\$2,153,328,000	\$2,149,243,596
Government notes	10,000,000	10,000,000	10,000,000
<b>Total Short-Term</b>	<b>\$2,159,243,596</b>	<b>\$2,163,328,000</b>	<b>\$2,159,243,596</b>

### Real Estate

	Book Value	Market Value	%
Participating mortgages	\$ 154,336,402	\$ 170,615,507	6.5%
Equities	1,118,510,368	1,070,639,021	40.6%
Joint ventures	492,975,394	468,325,085	17.8%
Sale-leasebacks	228,439,650	229,385,000	8.7%
Separate accounts	243,818,229	431,147,903	16.4%
Real estate investment trusts	202,214,163	213,911,087	8.1%
Purchase money mortgages	56,527,638	51,043,143	1.9%
<b>Total Real Estate</b>	<b>\$2,496,821,844</b>	<b>\$2,635,066,746</b>	<b>100.0%</b>

## footnotes to schedule of investments

### 1. Explanation of market values:

- A. Short term/liquidity reserves:** Cash equivalents: because of very short maturities, amortized book value was used for market value. Corporate and government notes: market values were provided by independent sources believed to be reliable.
- B. Bonds, notes and guaranteed mortgages:** Market values were provided by independent sources believed to be reliable. Mortgage values were based on market yields available at the time of evaluation.
- C. Common and convertible preferred stocks:** Market values were based on the closing prices on the New York Stock Exchange or American Stock Exchange. Securities not listed on those exchanges were priced based on the "Bid Price" or "Last Sale" provided by the National Association of Securities Dealers' NASDAQ System.
- D. Valuations of real estate:** Sale-lease-backs were valued based on discounting the property's income stream at current market rates; multitenant properties were valued by an alternating schedule of independent MAI appraisals and STRS staff valuations based on discounted cash flow analysis; commingled funds and separate accounts are valued periodically by independent appraisals; REIT shares were valued at closing prices on the appropriate stock exchange. All valuation procedures have been reviewed by the Retirement Board's real estate consultant and financial statement auditors.
- E. International investments:** All international investments are valued by the subcustodian using relevant closing market prices and exchange rates.

**F. Other equity investments:** All investments in this category are venture capital investments. Where no market exists for these securities, values were established by valuation committees.

2. The investments listed were purchased by June 30, 1996.

The data included in the Investment Section has been entirely compiled by STRS staff members and has not been audited by an independent party. This report is intended to provide information regarding STRS investments as of June 30, 1996. Financial market changes after that date may significantly affect the reported amounts.



**1996 Comprehensive Annual Financial Report**

**State Teachers Retirement System of Ohio**

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