Annual Comprehensive Financial Report

Over a Century of Providing Retirement Security

NYSTRS

Fiscal Years Ended

June 30, 2023 and 2022

Our Vision:

To be the model for pension fund excellence and exceptional customer service.

Our Values:

Respect, Excellence, Diversity, Balance, Integrity, Resourcefulness, Diligence

Our Strategic Objectives

Governance Structure: Promote a governance model to appropriately manage System finances and risk, and maintain a positive reputation.

Shared Accountability: Foster an environment of shared accountability, awareness, commitment and integrity.

Customer Service: Maintain a high level of customer service and confidence.

Safeguard System Funds: Safeguard System funds and invest them in a prudent and diversified manner in order to achieve optimum long-term returns with an appropriate level of risk.

Quality Workforce: Ensure a quality workforce.

Our Mission:

To provide our members with a secure pension.

Committed to the Highest Ethical Standards of Conduct

NYSTRS strives to model strong ethical values within the pension industry. Our Board and staff take their fiduciary responsibilities seriously and are committed to operating in an environment of transparency.

System staff adhere to the following guiding principles of ethics and conduct.

Ensure compliance with all applicable laws, ethical and professional standards, and NYSTRS' policies and procedures.

Protect the interest of stakeholders, including members, employers and the public.

Act with integrity at all times to prevent a violation of public trust.

Guard the privacy of stakeholder information.

Adhere to NYSTRS' Internal Asset Management Code of Professional Conduct in managing NYSTRS funds.

Acknowledgments

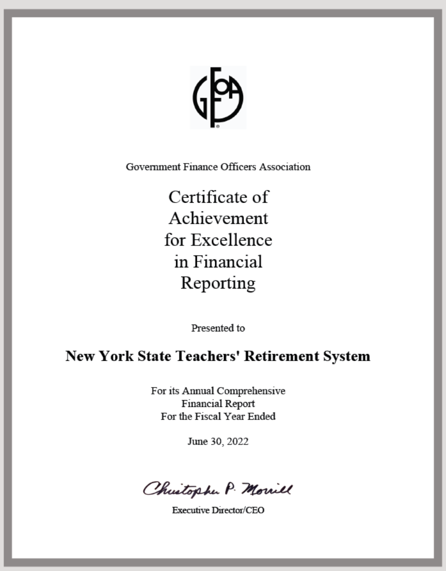
The following departments have assisted with the preparation of this report:

Actuary • Communications & Outreach • Finance • Fixed Income • Internal Audit • Investment Operations • Member Relations • Private Equity • Public Equities • Real Estate

GFOA Triple Crown Award

GFOA's Triple Crown recognizes governments that have received GFOA's Certificate of Achievement for Excellence in Financial Reporting, the Distinguished Budget Presentation, and the Popular Annual Financial Reporting Award.

NYSTRS first received this award for its 2019-2020 fiscal year reporting, when the awards program began.



Government Finance Officers Association

Certificate of Achievement for Excellence in Financial Reporting

Presented to

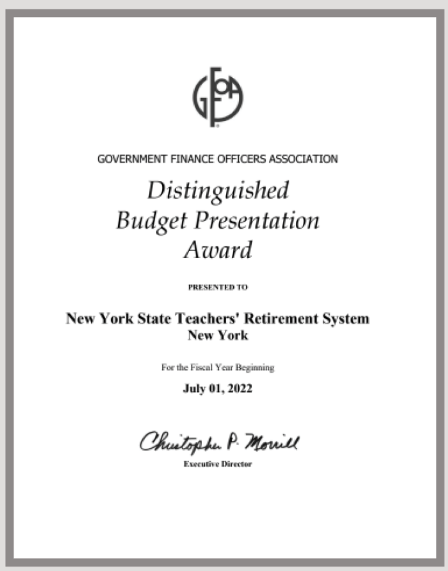
New York State Teachers' Retirement System

For its Annual Comprehensive Financial Report
For the Fiscal Year Ended

June 30, 2022

Christopher P. Morrill
Executive Director/CEO

GFOA Certificate of Achievement for Excellence in Financial Reporting



GOVERNMENT FINANCE OFFICERS ASSOCIATION

Distinguished Budget Presentation Award

PRESENTED TO

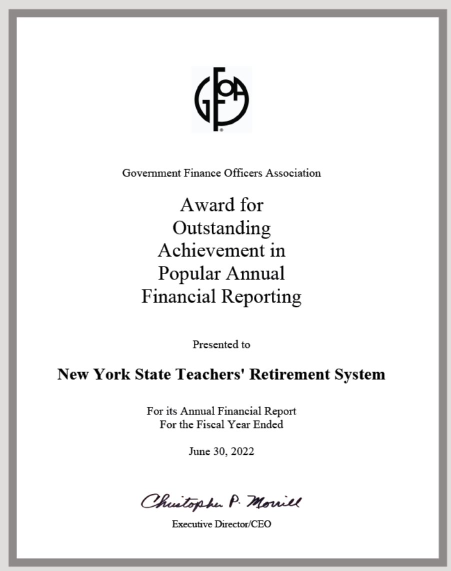
New York State Teachers' Retirement System
New York

For the Fiscal Year Beginning

July 01, 2022

Christopher P. Morrill
Executive Director

GFOA Distinguished Budget Presentation Award



Government Finance Officers Association

Award for Outstanding Achievement in Popular Annual Financial Reporting

Presented to

New York State Teachers' Retirement System

For its Annual Financial Report
For the Fiscal Year Ended

June 30, 2022

Christopher P. Morrill
Executive Director/CEO

GFOA Popular Annual Financial Reporting Award

PPCC

Public Pension Coordinating Council

Public Pension Standards Award For Funding and Administration 2022

Presented to

New York State Teachers' Retirement System

In recognition of meeting professional standards for
plan funding and administration as
set forth in the Public Pension Standards.

Presented by the Public Pension Coordinating Council, a confederation of

National Association of State Retirement Administrators (NASRA)
National Conference on Public Employee Retirement Systems (NCPERS)
National Council on Teacher Retirement (NCTR)

Alan H. Winkle

Alan H. Winkle
Program Administrator

TABLE OF CONTENTS

Introduction

Introduction

BOARD OF TRUSTEES — as of June 30, 2023

ORGANIZATIONAL STRUCTURE — as of June 30, 2023

Retirement Board
David P. Keefe, President

- Advise on Fiduciary Matters
- Member of the Ethics Committee

Office of the General Counsel
Don Ampansiri,
Deputy General Counsel

- Investment Matters
- Legal Matters
- Legislation
- Litigation
- Member Benefit Matters

Executive Director & Chief Investment Officer
Thomas K. Lee

Internal Audit
Kathy Ebert, Managing Director

- Assurance Services
- Consulting Services

Senior Advisors to the Executive Director & Chief Investment Officer

Emily Ekland
- Special Projects
- Strategic Planning

Han Yik - Stewardship
- Corporate Governance
- Stewardship Initiatives

Communications & Outreach

- Communications Strategy
- Stakeholder Relations

Retirement Administration

Actuary
Richard A. Young, Chief Actuary

- Actuarial Valuations
- Fiscal Notes

Administration
Miriam Dixon, Managing Director

- Budget & Analytics
- Enterprise Planning and Development
- Facilities Services
- Human Resources

Office of the CFO
Margaret Andriola, Chief Financial Officer

- Finance
- Investment Operations

Diversity, Equity & Inclusion (DEI)
Danny Malavé, Managing Director

- DEI Training & Programming
- DEI Strategy
- Diversity Analytics

Information Technology
Vijay Madala, Chief Technology Officer

- IT Business Solutions
- IT Technical Services

Member Relations
Beth Dellea, Chief Customer Officer

- Information & Communication Center
- Member Benefits
- Member & Employer Services
- Quality Assurance

Risk Management
Matthew Albano, Chief Risk Officer

- Enterprise Risk
- Information Security
- Investment Risk

Investments

Fixed Income
Michael Federici, Managing Director

- Global Bonds
- High-Yield Bonds
- Long/Short-Term Fixed Income Securities

Private Equity
Gerald J. Yahoudy II, Managing Director

- Private Debt Opportunities
- Private Equity Investments

Public Equities
Paul Cummins, Managing Director

- Domestic, International & Global Equity Investments

Real Estate
David C. Gillan, Managing Director

- Commercial Lending
- Debt Investments
- Equity Investments

** A listing of external investment professionals and consultants used by NYSTRS is found on pages 106-111. A schedule of fees and expenses paid to them is on page 105.*

EXECUTIVE STAFF — as of June 30, 2023

Thomas K. Lee
Executive Director & Chief Investment Officer (CIO)

Matthew Albano
Risk Officer

Don Ampansiri
Deputy General Counsel

Margaret Andriola
Chief Financial Officer

Paul Cummins
Managing Director of Public Equities

Beth Dellea
Chief Customer Officer

Miriam Dixon
Managing Director of Administration

Kathy Ebert
Managing Director of Internal Audit

Emily Ekland
Senior Advisor to the Executive Director & CIO

Michael Federici
Managing Director of Fixed Income

David C. Gillan
Managing Director of Real Estate

Vijay Madala
Chief Technology Officer

Danny Malavé
Managing Director of Diversity, Equity & Inclusion

Gerald J. Yahoudy II
Managing Director of Private Equity

Han Yik
Senior Advisor to the Executive Director & CIO - Stewardship

Richard A. Young
Chief Actuary

LETTER OF TRANSMITTAL

New York State Teachers' Retirement System
10 Corporate Woods Drive
Albany, NY 12211-2395
(800) 348-7298
NYSTRS.org

Thomas K. Lee, Executive Director & CIO

November 20, 2023

Retirement System Members and the Board:

On behalf of Retirement System staff, I present you with the Annual Comprehensive Financial Report of the New York State Teachers' Retirement System (NYSTRS or the System) for the fiscal years ended June 30, 2023 and 2022. This report complies with all requirements governing the preparation and contents of annual reports.

History and Overview

Created in 1921 by an act of the state Legislature, NYSTRS administers the fund from which most New York state public school teachers and administrators receive retirement and ancillary benefits. Retirement benefits are provided in accordance with New York State law and may not under the New York Constitution be diminished or impaired. A summary of NYSTRS benefits is provided on pages 14-15 of this report.

The System is governed by a 10-member Board of Trustees, which sets policy and oversees operations consistent with its fiduciary obligations under applicable law. A staff of approximately 420 is responsible for the day-to-day administration. NYSTRS serves 827 employers – including public school districts, BOCES, institutions of higher education and charter schools that elect to participate. NYSTRS has 448,785 active and retired members, including beneficiaries *(see chart below)*.

Membership Figures — as of June 30, 2023

Active Members:	268,058
Retired Members:	173,567
Beneficiaries:	7,160
Total Membership:	448,785

See page 125 for additional membership information.

LETTER OF TRANSMITTAL *(continued)*

The retirement fund is one of the 10 largest public funds in the U.S. based on portfolio size. NYSTRS is also consistently among the top-performing and best-funded public pension plans. Consistent receipt of required employee and employer contributions; a disciplined, risk-controlled investment policy; and partnerships with top-performing fund managers are major contributing factors to this stability. As a long-term investor with liabilities often not payable for three decades or more, Board and staff take a prudent approach to asset management.

Awards

Recognition from various industry organizations further demonstrates the System's commitment to excellence. Honors received within the most recently completed fiscal year include:

Certificate of Achievement for Excellence in Financial Reporting, awarded by the Government Finance Officers Association (GFOA) of the United States and Canada. Given in recognition of the System's 2022 Annual Comprehensive Financial Report, the award certifies the report was prepared in conformity with the highest standards in government accounting and financial reporting.

Award for Outstanding Achievement in Popular Annual Financial Reporting, also awarded by GFOA. The System's 2022 Popular Annual Financial Report was recognized for its high quality and for successfully presenting data from the 2022 Annual Comprehensive Financial Report in a manner easily understandable to the general public.

Distinguished Budget Presentation Award for the fiscal year July 1, 2022 through June 30, 2023, also awarded by GFOA. To be eligible for this recognition, the budget document must meet established criteria as a policy document, operations guide, financial plan and communications device.

Public Pension Principles Achievement Award, presented by the Public Pension Coordinating Council. The criteria to qualify for this award include compliance with specific principles in the areas of benefits, actuarial valuation, financial reporting, investment and disclosure.

The System was also recognized by GFOA this past year as a ***Triple Crown*** award winner for receiving all three of GFOA's major fiscal year reporting awards, listed above, in one year. NYSTRS first received this award for its 2019-2020 fiscal year reporting, when the awards program began.

Legislation

Chapter 55 of the Laws of 2023, Part V, is a one-year extension of Chapter 56 of the Laws of 2022 (Part HH). The provision allows a NYSTRS retiree to be employed and earn compensation in a position at a school district or Board of Cooperative Educational Services (BOCES) without suspension or diminution of their retirement allowance. This provision expires June 30, 2024.

Chapter 783 of the Laws of 2022 amends various provisions of law in relation to once again extending the COVID-19 accidental death benefit to statutory beneficiaries of active New York State public employees (including NYSTRS members) who worked on or after March 1, 2020, contracted COVID-19, COVID-19 was the cause or contributed to the employee's death and the employee then dies on or before December 31, 2024.

Chapter 775 of the Laws of 2022 amends the Retirement and Social Security Law to increase the percentage of assets which may be invested by a public retirement system of the state of New York under the "basket clause" provision from 25% to 35%.

Chapter 720 of the Laws of 2022 amends sections of the Retirement and Social Security Law to change the age at which reductions in the ordinary death benefit commence for active (non-retired) NYSTRS members. By statute, the ordinary death benefit is reduced by four percent per year commencing at age 61. Effective April 1, 2023, this chapter changes the age at which reductions commence from age 61 to age 62 for members with a date of membership on or after April 1, 2012. Since a percentage of the ordinary death benefit carries into retirement, the post-retirement death benefit would also be affected.

LETTER OF TRANSMITTAL *(continued)*

Noteworthy Actions

Continued Commitment to Exceptional Customer Service

NYSTRS is committed to high standards of providing exceptional customer service to our members and participating employers. A major component of delivering customer service is our contact center. In March 2023, the System successfully implemented phase 1 of a new cloud-based contact center, which included a new phone system. Phase 2 of this project includes integration of various information technology applications to respond to member inquiries via other channels, including general email and secure messaging. When fully implemented, the new contact center will enable the System to be better positioned to adapt to new technology and provide more efficient responses to inquiries while also meeting our business continuity objectives.

Diversity, Equity & Inclusion in the Workplace

The System continues to expand its efforts toward development of a more diverse and inclusive organization with the implementation of an annual Diversity, Equity and Inclusion (DEI) training program. This program is designed to provide a foundational understanding of DEI in our mission and culture, and to engage in cross-disciplinary discussions of tangible DEI innovation in the workplace. The all-employee training is supplemented by voluntary training offerings throughout the year.

The System seeks to expand staffing in the DEI division, which will enable the team to further the scope of DEI initiatives to include the provision of comprehensive analyses of System initiatives, business operations, and industry dynamics, and offer intentional employee development toward innovation in the pension industry.

NYSTRS continues to champion broader, more diverse representation in institutional investing by creating career pathways through numerous internship programs and working with industry partners such as Girls Who Invest, Pension Real Estate Association, and SEO Alternative Investments.

Our commitment to DEI extends to our external partners as well. Managers and consultants must provide diversity and inclusion information about their firms or general partners as part of the System's due diligence review process. NYSTRS also holds an annual Minority- and Women-Owned Business Enterprises (MWBE) investments and professional services conference to provide emerging businesses and managers the opportunity to partner with us. The System's 13th annual conference was a hybrid event held in February 2023. The System welcomed 200 in-person attendees while more than 30 attended virtually.

System Governance

NYSTRS' Board remains committed to identifying long-term risks to the System's investment portfolio through independent measurement and assessment. In order to manage these risks, NYSTRS engages with the companies in which the System invests, votes our proxies, and seeks opportunities to invest in companies and areas that can help to mitigate the risks we have identified. In October 2022, NYSTRS' Responsible Stewardship Policy was approved and added to the Investment Policy Manual to formalize and outline the System's process on risk assessment, company engagement, proxy voting and divestment.

The Board's deliberate approach to be responsible and thoughtful stewards of the fund and act for the exclusive benefit of NYSTRS members and beneficiaries is consistent with its fiduciary duty. Further, this approach ensures the System meets the retirement benefit payroll and therefore fulfills its fiduciary obligation to provide our members with a secure retirement.

Significant Litigation

There was no significant litigation that affected the Retirement System during the fiscal year.

Financial Information

Members of the NYSTRS Board, who serve without pay, have a fiduciary responsibility to safeguard the funds used to pay guaranteed retirement and ancillary benefits to the System's members and beneficiaries. The System's long-term pension obligations for this population are well funded. Strict governmental requirements for transparency and public accountability as established by the Governmental Accounting Standards Board (GASB), as well as state and federal laws, are rigorously followed. Consistently favorable audits of System finances from a variety of independent sources affirm this.

The design, implementation and administration of appropriate internal controls protecting the security of assets are the responsibility of System management. The internal control framework has been designed to provide reasonable rather than absolute assurance that the financial statements will be free from material misstatement. The concept of reasonable assurance recognizes that the cost of a control should not exceed the benefits likely to be derived, and that the valuation of costs and benefits requires estimates and judgments by management. To ensure the validity of these controls, a system of both external and internal checks and balances exists. Financial information and internal controls are subject to audit by the New York State Department of Financial Services and the Retirement System's Internal Audit Department. In addition, Plante Moran, PC, an independent certified public accounting firm, whose unmodified opinion appears on page 19 of this report, audits the financial statements. These oversight mechanisms provide scrupulous and transparent adherence to applicable regulations.

Major System expenses result from retirement benefit payments, death benefits and refunds of contributions to certain eligible members and beneficiaries. The increase in retirement benefit payments from 2022 to 2023 is attributable to a net increase of 2,158 retirees and beneficiaries (details are found on page 28 in the *Notes to Financial Statements-Plan Description*). Also see the *Benefits and Return of Contributions by Type* chart on pages 140-141 for more information.

For an overview of NYSTRS' financial activities for the fiscal year ended June 30, 2023, see *Management's Discussion and Analysis* beginning on page 22. This section provides explanations and further details of the information provided in the financial statements, its notes and required supplementary information.

Responsibility for both the accuracy of the data and the completeness and fairness of the presentation, including all disclosures, rests with System management. To the best of management's knowledge, the enclosed data is accurate in all material respects and is reported in a manner designed to present fairly the financial position and results of operations of the System.

Funding

Funds used to pay promised benefits come from employer contributions, member contributions and investment income. Assets are professionally managed and invested on a long-term basis using sound investment policies. See *Statements of Changes in Fiduciary Net Position* on page 27 for more information.

The employer contribution rate (ECR) — expressed as a uniform percentage of member payroll — is set annually at the level necessary to properly fund benefits. The rate is established in accordance with an actuarial valuation of System assets and liabilities. The most recently adopted ECR of 9.76% will apply to 2023-2024 school year salaries. The payments associated with this rate will be collected in the fall of 2024. These contributions have been collected without fail throughout the System's history, keeping NYSTRS among the most secure plans in the country.

The System's year-end net assets totaled $137.2 billion. During the same period, benefits paid to retirees and beneficiaries were approximately $8.2 billion.

The plan's funded ratio as of June 30, 2022, the date of the most-recent annual actuarial valuation and calculated using the Actuarial Value of Assets, was 99.3%. Details of our funding progress may be obtained by turning to page 119.

Investments

The System's assets are invested in the most prudent manner possible in order to achieve optimum long-term total returns with an appropriate level of risk. The System is committed to a disciplined, risk-controlled investment approach that focuses on thoughtful and prudent diversification of assets across a broad spectrum of capital market segments. The allocation of assets within the portfolio, as well as the fund's overall structure, are continuously reviewed and adjusted as appropriate to achieve these goals.

The System's total portfolio returned 9.0%, net of fees, for the fiscal year ended June 30, 2023. Our 30-year rate of return is 8.3%, net of fees.

Refer to pages 81-112 for further information on NYSTRS' investments. A listing of our equity and fixed income holdings can be viewed on our website at NYSTRS.org.

LETTER OF TRANSMITTAL *(continued)*

Acknowledgments

The content of this Annual Comprehensive Financial Report is the responsibility of System management and is prepared by NYSTRS staff. The System's external auditor audits financial statements within prior to publication. The intent of the publication is to provide complete and reliable information for making management decisions, determining compliance with legal provisions and determining responsible stewardship of System assets.

The report is available on the System's website at NYSTRS.org. Printed copies are available upon request. A Popular Annual Financial Report that presents information from this report in a format more easily understandable to those without a background in public finance will also be published on NYSTRS.org by December 31, 2023.

As this annual report demonstrates, NYSTRS' Board and staff are committed to fulfilling our mission of providing our members with a secure pension. Our retirement plan was solidly built to endure the up and down cycles of the economy. Required member and employer contributions are consistently collected in full and without fail. Those contributions are then prudently invested in a diversified and risk-controlled portfolio with a focus on long-term returns. The result of this proven investment philosophy has enabled the System to provide retirement security to New York's public educators since 1921.

On behalf of all of us at NYSTRS, we are proud to provide vital pension benefits that our members count on each and every day. We remain committed to our reputation as one of the top public pension funds in the country based on assets. Equally important — we are dedicated to our vision to be the model for pension fund excellence and exceptional customer service.

Respectfully submitted,

Thomas K. Lee
Executive Director & Chief Investment Officer

PRESIDENT'S MESSAGE

David P. Keefe

Dear NYSTRS Members, Administrators and Trustees,

I have proudly served as the retired teacher member of NYSTRS' Board since first being elected in 2004, and I have been the Board president since 2016. In this role, I regularly represent the Retirement System at educator events and meetings where I have meaningful conversations with our active and retired members.

Over the course of the last 19 years, I have often been asked two important questions: First, how does NYSTRS keep my pension safe? And second, how does NYSTRS compare to other retirement systems?

I unequivocally respond that the Board and staff are steadfastly committed to ensuring that every member of this System can count on their pension benefits. Whether they are 55 or 105, they will never have to worry about their retirement benefit arriving each month. I also tell our members they can rest assured the System will assist their loved ones in navigating death and disability matters should the unexpected occur.

With respect to the question "how does NYSTRS keep my pension safe?" — credit is due to a dedicated Board and staff who have a laser-like focus on our proven investment strategy and dedication to thoughtful stewardship. The responsibility to provide pension benefits to our nearly 449,000 active and retired members and beneficiaries drives us to capture the best possible investment returns. The System invests in a well-diversified portfolio comprised of a variety of asset classes and we focus on a long-term horizon. Together this enables the System to withstand market fluctuations.

When asked how NYSTRS compares to other retirement systems, I am proud to say that NYSTRS is one of the top 10 public pension funds in the country based on assets. As of June 30, 2023, the System's net assets are $137.2 billion, and our 30-year rate of investment return, net of fees, is 8.3%. Our five-and 10-year rates of investment return, net of fees, are 7.6% and 8.5%, respectively.

NYSTRS' customer service ranking is another point of pride to the Board and staff. The results of our annual survey to gauge retirees' satisfaction with our retirement preparedness and application process are an indicator of the exceptional service we provide. NYSTRS' overall satisfaction rating was 9.5 out of 10 and the System scored at least a 9.4 in each key category used for that comparison (including staff responsiveness, the retirement process, and the effectiveness of our communications). Further, the System scored a 93 on the American Customer Satisfaction Index (ACSI), compared to an average of 73 for other organizations and an average of 55 for state government agencies.

While it is impressive to be named among top performing public retirement systems, the greatest honor is knowing the System is providing New York's public educators with retirement security they cannot outlive. It's knowing our Board is resolute in their role as a fiduciary. And it's knowing that our staff is unparalleled in their dedication to serving our members.

As president of this esteemed Board and a retired teacher myself, I am immensely proud of the incredible work of our System which is captured in this annual report. On behalf of the Board, I thank our members for their commitment to the field of education, and I thank our staff for their dedication to serving our members.

Sincerely,

David P. Keefe

David P. Keefe
President

SUMMARY OF BENEFITS

Types of Benefits

NYSTRS provides pension benefits for service, vested and disability retirement, as well as death benefits. Following is a general summary of benefits. Members are advised to refer to the *Active Members' Handbook* at NYSTRS.org for complete information on benefit calculation.

Membership Tiers

System members are organized using a tier structure based on date of membership. There are six tiers, each with different benefit structures and eligibility rules.

Tier 1:	Membership prior to 7/1/73	Tier 4:	Membership 9/1/83 — 12/31/09
Tier 2:	Membership 7/1/73 — 7/26/76	Tier 5:	Membership 1/1/10 — 3/31/12
Tier 3:	Membership 7/27/76 — 8/31/83	Tier 6:	Membership on or after 4/1/12

Service Retirement Benefit

A Tier 1 member is eligible to retire at age 55 under the Career Plan without a reduction in benefits if credited with at least 20 years of state service. The pension for 20 years of New York State service rendered after July 1, 1959, is 40% of final average salary. With few exceptions, the maximum pension under the Career Plan is 79% of final average salary. This includes the two years of service added under the Article 19 Benefit Enhancement legislation.

A Tier 2 member may retire at age 55 without a reduction in benefits if credited with at least 30 years of service. The pension for 30 years of service is 60% of final average salary. The maximum pension payable under Tier 2 is also 79% of final average salary, including two years of service added under the Article 19 Benefit Enhancement legislation.

A Tier 4 member, and a Tier 3 member retiring under Tier 4, may retire at age 55 without a reduction in benefits if credited with at least 30 years of service. The pension for 30 years of service is 60% of final average salary. Each year beyond 30 years increases the pension 1.5% of final average salary.

A Tier 5 member may retire at age 57 without a reduction in benefits if credited with at least 30 years of service. The pension for 30 years of service is 60% of final average salary. Each year beyond 30 years increases the pension 1.5% of final average salary.

A Tier 6 member may retire at age 63 without a reduction in benefits. The pension for 20 years of service is 35% of final average salary. Each year beyond 20 years increases the pension 2% of final average salary.

Vested Retirement Benefit

NYSTRS members in Tiers 1-6 who cease employment with five or more years of credited service are eligible for a vested retirement. (Prior to April 9, 2022, Tier 5 and 6 members needed to attain 10 years of state service credit to be vested.) The vested benefit is payable in most cases at age 55 and is calculated using the same factors as a service retirement benefit. Vested Tier 6 members with an inactive membership must be at least 63 to retire – unless they reactivate their membership by earning at least one month of service credit in a position reportable to NYSTRS.

Death Benefits

NYSTRS offers several types of death benefits: In-Service (which includes post-retirement coverage for Tiers 2-6); Accidental; Vested; and Accelerated. Eligibility depends on an individual's membership status and, in certain cases, the cause or timing of death.

SUMMARY OF BENEFITS *(continued)*

Disability Retirement Benefit

Generally, members credited with at least 10 years of New York State service who become disabled, as defined by applicable statute and approved by the Medical Board, are entitled to a disability retirement benefit from the System. In most cases, the minimum disability benefit is one-third of final average salary. For Tier 3-6 members who become disabled as the result of an accident sustained in the performance of their teaching duties, the 10-year eligibility requirement is waived.

The members of the Medical Board are:

STEVEN D. KRONICK, M.D.

Board Certified Psychiatrist; Additional Qualifications in Geriatric Psychiatry

Psychiatrist
Pine Bush Mental Health, LLP

Psychiatric Consultant
Albany County Community
Mental Health Center

Clinical Assistant Professor of Psychiatry
Albany Medical College

Diplomate of the National
Board of Medical Examiners

Member of the American Board
of Psychiatry and Neurology

Member of the American
Psychiatric Association

RICHARD T. MACDOWELL, M.D.

Attending Surgeon and Professor (Retired)
at Albany Medical College

Fellow of the American
College of Surgeons

Member of the American
Board of Surgery

Board Certified in Internal Medicine General

LAURA E. PICA, M.D.

Board Certified in
Internal Medicine General

Diplomate of the American
Board of Internal Medicine

Albany County Community
Mental Health Center

Clinical Assistant Professor of Psychiatry
Albany Medical College

Diplomate of the National
Board of Medical Examiners

Member of the American Board
of Psychiatry and Neurology

Member of the American
Psychiatric Association

Member Contributions

Tier 3 and 4 members were mandated to contribute 3% of their salary to the Retirement System until they had been members for 10 years or had 10 years of service credit, whichever occurred first. Tier 5 members are required to contribute 3.5% of their salary throughout their active membership. Tier 6 members are required to contribute at a variable rate based on earnings throughout their active membership.

Transfer and Prior Service

Under certain circumstances, members are eligible to transfer membership to or from another New York state public retirement system, or request reinstatement of a former membership in a NYS public retirement system. Credit for NYS public employment prior to joining NYSTRS and active duty military service are also creditable in certain situations.

Retirement Options

At the time of retirement, a member may elect the Maximum retirement benefit with no protection for a beneficiary, or one of many actuarially equivalent options (i.e., lump sum, survivor, guarantee or alternative) providing protection for a beneficiary or beneficiaries.

Cost-of-Living Adjustment (COLA)

All eligible current and future retired members will receive an automatic COLA based on 50% of the Consumer Price Index increase from one March to the next. It will be a minimum of 1% and a maximum of 3% of the first $18,000 of the retiree's Maximum retirement benefit and is effective each September. Most service retirees must be age 62 and retired five years to be eligible.

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Financial

Financial

Plante Moran, PC
P.O. Box 307
3000 Town Center, Suite 100
Southfield, MI 48075
Tel: 248.352.2500
Fax: 248.352.0018
plantemoran.com

To the Retirement Board
New York State Teachers' Retirement System

Opinion

We have audited the accompanying financial statements of New York State Teachers' Retirement System (the "System") as of and for the years ended June 30, 2023 and 2022 and the related notes to the financial statements, which collectively comprise the System's basic financial statements, as listed in the table of contents.

In our opinion, the accompanying financial statements present fairly, in all material respects, the financial position of New York State Teachers' Retirement System as of June 30, 2023 and 2022 and the changes in its financial position for the years then ended in accordance with accounting principles generally accepted in the United States of America.

Basis for Opinion

We conducted our audits in accordance with auditing standards generally accepted in the United States of America (GAAS). Our responsibilities under those standards are further described in the Auditor's Responsibilities for the Audits of the Financial Statements section of our report. We are required to be independent of the System and to meet our other ethical responsibilities in accordance with the relevant ethical requirements relating to our audits. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Responsibilities of Management for the Financial Statements

Management is responsible for the preparation and fair presentation of the financial statements in accordance with accounting principles generally accepted in the United States of America and for the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, management is required to evaluate whether there are conditions or events, considered in the aggregate, that raise substantial doubt about the System's ability to continue as a going concern for 12 months beyond the financial statement date, including any currently known information that may raise substantial doubt shortly thereafter.

Auditor's Responsibilities for the Audit of the Financial Statements

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance but is not absolute assurance and, therefore, is not a guarantee that audits conducted in accordance with GAAS will always detect a material misstatement when it exists. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control. Misstatements are considered material if there is a substantial likelihood that, individually or in the aggregate, they would influence the judgment made by a reasonable user based on the financial statements.

In performing an audit in accordance with GAAS, we:

- Exercise professional judgment and maintain professional skepticism throughout the audits.
- Identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, and design and perform audit procedures responsive to those risks. Such procedures include examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements.
- Obtain an understanding of internal control relevant to the audits in order to design audit procedures that are appropriate in the circumstances but not for the purpose of expressing an opinion on the effectiveness of the System's internal control. Accordingly, no such opinion is expressed.
- Evaluate the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluate the overall presentation of the financial statements.
- Conclude whether, in our judgment, there are conditions or events, considered in the aggregate, that raise substantial doubt about the System's ability to continue as a going concern for a reasonable period of time.

We are required to communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audits, significant audit findings, and certain internal control-related matters that we identified during the audits.

Required Supplementary Information

Accounting principles generally accepted in the United States of America require that the management's discussion and analysis and other required supplementary information, as identified in the table of contents, be presented to supplement the basic financial statements. Such information is the responsibility of management and, although not a part of the basic financial statements, is required by the Governmental Accounting Standards Board, which considers it to be an essential part of financial reporting for placing the basic financial statements in an appropriate operational, economic, or historical context. We have applied certain limited procedures to the required supplementary information in accordance with auditing standards generally accepted in the United States of America, which consisted of inquiries of management about the methods of preparing the information and comparing the information for consistency with management's responses to our inquiries, the basic financial statements, and other knowledge we obtained during our audits of the basic financial statements. We do not express an opinion or provide any assurance on the information because the limited procedures do not provide us with sufficient evidence to express an opinion or provide an assurance.

Other Supplementary Schedules

Our audits were conducted for the purpose of forming an opinion on the financial statements that collectively comprise New York State Teachers' Retirement System's basic financial statements. The other supplementary schedules, as identified in the table of contents, are presented for the purpose of additional analysis and are not a required part of the basic financial statements. Such information is the responsibility of management and was derived from and relates directly to the underlying accounting and other records used to prepare the basic financial statements. The information has been subjected to the auditing procedures applied in the audits of the basic financial statements and certain additional procedures, including comparing and reconciling such information directly to the underlying accounting and other records used to prepare the basic financial statements or to the basic financial statements themselves, and other additional procedures in accordance with auditing standards generally accepted in the United States of America. In our opinion, the other supplementary schedules are fairly stated in all material respects in relation to the basic financial statements as a whole.

Other Information

Management is responsible for the other information included in the Annual Comprehensive Financial Report. The other information comprises the introduction, investments, actuarial, and statistical sections, as identified in the table of contents, but does not include the basic financial statements and our auditor's report thereon. Our opinion on the basic financial statements does not cover the other information, and we do not express an opinion or any form of assurance thereon.

In connection with our audits of the basic financial statements, our responsibility is to read the other information and consider whether a material inconsistency exists between the other information and the basic financial statements or whether the other information otherwise appears to be materially misstated. If, based on the work performed, we conclude that an uncorrected material misstatement of the other information exists, we are required to describe it in our report.

Plante Moran, PC

October 25, 2023, except for the introduction, investments, actuarial, and statistical sections, as identified in the table of contents of our report, as to which the date is November 20, 2023

plante moran

MANAGEMENT'S DISCUSSION AND ANALYSIS

June 30, 2023 and 2022

(Unaudited)

The following discussion and analysis of the financial performance of the New York State Teachers' Retirement System (NYSTRS or the System) provides an overview of its activities for the years ended June 30, 2023 and 2022. Its purpose is to provide explanations and insights into the information presented in the financial statements, notes to the financial statements, and required supplementary information.

Financial Highlights

- The net position of the System represents funds available to pay current and future benefits. Net position was $137.2 billion as of the fiscal year ended 2023, and $132.0 billion and $148.1 billion as of the fiscal years ended 2022 and 2021, respectively. The change for the fiscal year ended 2023 was positive $5.2 billion, or positive 4.0%, and the change for the fiscal year ended 2022 was negative $16.1 billion, or negative 10.9%.

- The System's investments experienced appreciation of $9.0 billion in 2023 and depreciation of $12.4 billion and appreciation of $31.5 billion in 2022 and 2021, respectively.

- Contributions from employers were $1.9 billion in 2023, $1.7 billion in 2022, and $1.6 billion in 2021, consistent with the change in the employer contribution rate.

- The number of retired members and beneficiaries receiving benefits has been steadily increasing, leading to an increase in the retirement benefits paid. Retirement benefits paid in 2023, 2022, and 2021 were $8.2 billion, $8.0 billion, and $7.7 billion, respectively.

- The System's funded ratio, a comparison of the actuarial value of assets to the accrued pension benefit liability, was 99.3% as of the 2022 valuation. Valuations in 2021 and 2020 resulted in the System's funded ratio of 99.3% and 98.9%, respectively.

Overview of Financial Statements

The following discussion and analysis are intended to assist the reader in better understanding the purpose and meaning of each of the key components of NYSTRS' financial statements, which comprise the following:

1. The Statements of Fiduciary Net Position present NYSTRS' assets and deferred outflows of resources and liabilities and deferred inflows of resources by major categories and may serve over time as a useful indicator of the System's financial position. The difference between assets and deferred outflows of resources and liabilities and deferred inflows of resources represents the net position restricted for pensions. The statements also compare assets and deferred outflows of resources and liabilities and deferred inflows of resources by class to the previous year, which offers the reader the opportunity to note changes in each class from year to year.

2. The Statements of Changes in Fiduciary Net Position provide information on the change in the System's net position during the current year. The majority of additions are normally derived from net investment income, primarily in the form of changes in the fair value of assets from the prior year. Deductions include retirement benefit payments, beneficiary payments, return of contributions, and administrative expenses. For comparison purposes, information pertaining to the previous year's Statement of Changes in Fiduciary Net Position is also provided.

3. The Notes to the Basic Financial Statements are an essential part of the basic financial statements. They provide important background and detailed information about NYSTRS, the plan and the basic financial statements themselves.

4. The Required Supplementary Information (RSI) consists of information pertaining to NYSTRS' actuarial methods and assumptions and provides data on changes in the school districts' net pension liability, the composition of the school districts' net pension liability, and the school districts' contributions. Also included is information on NYSTRS' proportionate share of their pension liability to ERS as well as a schedule of their contributions to that plan. Lastly, the RSI includes a schedule of changes in the other post-employment benefits (OPEB) liability and NYSTRS' contributions toward that plan. Other supplementary information is also presented and includes the schedules of administrative expenses, investment expenses, and consulting fees.

MANAGEMENT'S DISCUSSION AND ANALYSIS *(continued)*

June 30, 2023 and 2022

(Unaudited)

Financial Analysis

Tables 1 and 2 summarize and compare the System's financial results for the years 2023 and 2022. Investments comprise the overwhelming majority of assets of the System. Investment performance, contributions and benefit payments are the primary drivers of changes in net fiduciary position.

TABLE 1 - SUMMARY OF FIDUCIARY NET POSITION

(dollars in thousands)

	June 30			Amount increase (decrease)	Percentage change	Percentage change of total
	2023	2022	2021	2022 to 2023	2022 to 2023	2022 to 2023
Investments at fair value	$134,825,969	$129,860,183	$146,219,128	$ 4,965,786	3.8 %	3.8 %
Receivables	2,522,666	2,311,013	2,302,028	211,653	9.2	0.2
Securities lending collateral — invested	352,050	709,827	481,018	(357,777)	(50.4)	(0.3)
Member Loans	251,103	232,473	236,944	18,630	8.0	0.0
Other Assets	25,602	31,956	41,308	(6,354)	(19.9)	0.0
Total Assets	137,977,390	133,145,452	149,280,426	4,831,938	3.6	3.7
Total Deferred Outflows of Resources	30,470	28,756	32,671	1,714	6.0	0.0
Securities lending collateral — due to borrowers	350,249	707,887	479,186	(357,638)	(50.5)	(0.2)
Investment Purchases Payable	192,337	278,472	450,377	(86,135)	(30.9)	(0.1)
Other Liabilities	240,183	176,269	198,526	63,914	36.3	0.0
Total Liabilities	782,769	1,162,628	1,128,089	(379,859)	(32.7)	(0.3)
Total Deferred Inflows of Resources	3,554	46,998	36,551	(43,444)	(92.4)	0.0
Net position restricted for pensions	**$137,221,537**	**$131,964,582**	**$148,148,457**	**$ 5,256,955**	**4.0 %**	**4.0 %**

The increase in the investment value as of June 30, 2023 is attributable to appreciation of the investment portfolio due to particularly strong market performance. The portfolio earned a time-weighted rate of return of positive 8.99%, compared to an assumed rate of return of 6.95%.

The decrease in the investment value as of June 30, 2022 is attributable to depreciation of the investment portfolio due to particularly weak market performance. The portfolio earned a time-weighted rate of return of negative 7.15%, compared to an assumed rate of return of 6.95%.

MANAGEMENT'S DISCUSSION AND ANALYSIS *(continued)*

June 30, 2023 and 2022

(Unaudited)

TABLE 2 - SUMMARY OF CHANGES IN FIDUCIARY NET POSITION

(dollars in thousands)

	Years ended June 30			Amount increase (decrease)	Percentage change	Percentage change of total
	2023	2022	2021	2022 to 2023	2022 to 2023	2022 to 2023
Net appreciation (depreciation) in fair value of investments	$ 9,004,904	$(12,446,619)	$31,499,853	$ 21,451,523	(172.3)%	16.3 %
Other investment income	2,434,382	2,367,805	2,168,155	66,577	2.8	0.1
Contributions- Employer and Member	2,131,878	1,934,793	1,788,336	197,085	10.2	0.1
Total additions (deductions)	13,571,164	(8,144,021)	35,456,344	21,715,185	(266.6)	16.5
Retirement benefits	(8,214,698)	(7,961,870)	(7,717,521)	(252,828)	3.2	(0.2)
Other deductions	(99,511)	(77,984)	(69,871)	(21,527)	27.6	0.0
Total Deductions	(8,314,209)	(8,039,854)	(7,787,392)	(274,355)	3.4	(0.2)
Net increase (decrease) in net position	5,256,955	(16,183,875)	27,668,952	21,440,830	(132.5)	16.2
Net position, beginning of year	131,964,582	148,148,457	120,479,505	(16,183,875)	(10.9)	(12.3)
Net position, end of year	**$137,221,537**	**$131,964,582**	**$148,148,457**	**$ 5,256,955**	**4.0 %**	**4.0 %**

Net Investment Income

For the year ended June 30, 2023, NYSTRS reported net investment income of $11.4 billion compared to net investment loss of $10.1 billion in 2022 and net investment income of $33.7 billion in 2021. The strong appreciation in 2023 was due to robust market returns, primarily in the equity segments. The net appreciation (depreciation) by asset class and year is shown in the table below:

TABLE 3 - NET APPRECIATION (DEPRECIATION) ON INVESTMENTS *

(dollars in thousands)

	Years ended June 30			Amount increase (decrease)
	2023	2022	2021	2022 to 2023
Domestic equity	$ 7,017,781	$ (5,876,449)	$ 15,646,731	$ 12,894,230
International equity	2,066,564	(5,203,533)	6,762,617	7,270,097
Global equity	579,639	(947,017)	1,527,191	1,526,656
Real estate equity	(971,887)	1,780,335	1,947,403	(2,752,222)
Private equity	982,626	917,693	5,679,894	64,933
Domestic fixed income	(514,068)	(2,128,080)	(452,552)	1,614,012
High-yield bonds	35,697	(178,770)	55,978	214,467
Global bonds	(63,756)	(391,260)	(22,191)	327,504
Real estate debt	(400,521)	(534,179)	130,075	133,658
Private debt	183,883	117,213	221,004	66,670
Cash equivalents	85,456	3,942	2,492	81,514
Other	3,490	(6,514)	1,211	10,004
Totals	**$ 9,004,904**	**$ (12,446,619)**	**$ 31,499,853**	**$ 21,451,523**

*net of purchases, sales and maturities

Economic Factors

The economic factor that is of primary significance to NYSTRS is the investment rate of return earned in the capital markets. Legislative, demographic, and actuarial assumption changes can also have a significant impact on the net pension liability and funded status of the plan. All of these factors are incorporated into the annual actuarial valuation, which determines the rate at which participating employers must contribute in order to appropriately fund member benefits. In terms of demographics, the System will likely continue to experience a shift toward a greater proportion of retirees relative to active members. This year the System experienced appreciation on investments, primarily driven by strong returns in domestic and international equities. Investment returns are smoothed (averaged) by NYSTRS over a five-year period for purposes of computing the actuarial value of assets used to determine the employer contribution rate. Industry forecasts of a decrease in expected future investment returns contributed to an increase in the employer contribution rate, from 9.8% on 2021-22 member salaries to 10.29% on 2022-23 member salaries.

Requests for Information

This financial report is designed to provide active members, retirees, employers, and anyone else who is interested, with a general overview of the financial activities of NYSTRS. Questions about this report or requests for additional financial information should be addressed to the Communications & Outreach department, New York State Teachers' Retirement System, 10 Corporate Woods Drive, Albany, NY 12211, or by email at communit@nystrs.org.

STATEMENTS OF FIDUCIARY NET POSITION

June 30, 2023 and 2022
(dollars in thousands)

Assets:	2023	2022
Investments — at fair value (notes 4, 5 and 6):		
Domestic equity	$ **45,821,765**	$ 41,961,629
International equity	**18,709,768**	19,509,375
Global equity	**4,904,670**	4,218,623
Real estate equity	**16,469,247**	16,491,592
Private equity	**15,416,611**	14,073,681
Domestic fixed income	**18,091,466**	18,271,844
High-yield bonds	**1,359,492**	958,586
Global bonds	**2,714,220**	2,950,256
Real estate debt	**7,531,061**	7,730,876
Private debt	**2,045,645**	1,424,443
Cash equivalents	**1,762,024**	2,269,278
Total investments	**134,825,969**	129,860,183
Receivables:		
Employer	**1,855,257**	1,695,040
Member contributions	**197,849**	167,254
Investment income	**332,408**	291,344
Investment sales	**137,152**	157,375
Total receivables	**2,522,666**	2,311,013
Other assets:		
Securities lending collateral — invested (note 5)	**352,050**	709,827
Member loans	**251,103**	232,473
Capital assets, net of depreciation	**19,659**	20,722
Miscellaneous assets	**5,943**	11,234
Total other assets	**628,755**	974,256
Total assets	**137,977,390**	133,145,452
Deferred outflows of resources:		
Changes in net OPEB liability (note 10)	**15,103**	10,703
Changes in net pension liability (note 9)	**15,367**	18,053
Total deferred outflows of resources	**30,470**	28,756
Liabilities:		
Securities lending collateral — due to borrowers (note 5)	**350,249**	707,887
Investment purchases payable	**192,337**	278,472
Mortgage escrows and deposits — net of investments	**6,269**	12,895
Net OPEB liability (note 10)	**48,847**	34,792
Other liabilities (notes 5 and 9)	**185,067**	128,582
Total liabilities	**782,769**	1,162,628
Deferred inflows of resources:		
Changes in net OPEB liability (note 10)	**2,249**	13,230
Changes in net pension liability (note 9)	**1,305**	33,768
Total deferred inflows of resources	**3,554**	46,998
Net position restricted for pensions (note 3)	$ **137,221,537**	$ 131,964,582

See accompanying notes to financial statements.

STATEMENTS OF CHANGES IN FIDUCIARY NET POSITION

Fiscal Years Ended June 30, 2023 and 2022
(dollars in thousands)

Additions:	2023	2022
Investment income:		
Net increase (decrease) in fair value of investments	**$ 9,004,904**	$ (12,446,619)
Interest income	**882,703**	785,225
Dividend income	**1,412,283**	1,442,149
Real estate — net operating income	**540,404**	525,001
Securities lending — gross earnings	**21,814**	4,007
Other — net	**2,683**	10,969
	11,864,791	(9,679,268)
Less:		
Investment expenses	**408,762**	399,564
Securities lending:		
Broker rebates	**15,753**	(523)
Management fees	**851**	613
Depreciation (appreciation) on collateral	**139**	(108)
Net investment income (loss)	**11,439,286**	(10,078,814)
Contributions:		
Employer (note 1)	**1,899,885**	1,735,255
Member contributions	**221,152**	190,853
Transfers (to)/from other systems	**10,841**	8,685
Total contributions	**2,131,878**	1,934,793
Net additions (deductions)	**13,571,164**	(8,144,021)
Deductions:		
Retirement benefit payments — periodic	**8,135,346**	7,895,257
Beneficiary payments	**79,352**	66,613
Return of contributions	**20,213**	16,754
Administrative expenses	**79,298**	61,230
Total deductions	**8,314,209**	8,039,854
Net increase (decrease) in net position	**5,256,955**	(16,183,875)
Net position restricted for pensions, beginning of year	**131,964,582**	148,148,457
Net position restricted for pensions, end of year	**$ 137,221,537**	$ 131,964,582

See accompanying notes to financial statements.

NOTES TO FINANCIAL STATEMENTS

June 30, 2023 and 2022
(dollars in thousands)

(1) Plan Description

The New York State Teachers' Retirement System (NYSTRS or the System) was created and exists, pursuant to Article 11 of the New York State Education Law. The System is the administrator of a cost-sharing, multiple-employer, defined benefit public employee retirement system (PERS), administered by a 10-member Board to provide pension benefits for teachers employed by participating employers in the State of New York, excluding New York City. The System's Board is composed of:

- Three teacher members elected from the active membership.
- One retired member elected by a mail vote of all retired members.
- Two school administrators appointed by the Commissioner of Education.
- Two present or former school board members, experienced in the fields of finance and investment, elected by the Board of Regents. At least one of these individuals must have experience as an executive of an insurance company.
- One present or former bank executive elected by the Board of Regents.
- The State Comptroller or the Comptroller's designee.

Funding of the System is accomplished through member and employer contributions and investment earnings, according to New York State Education Law.

As of June 30, the number of participating employers was:

	2023	2022
Public school districts	679	679
Boards of Cooperative Educational Services (BOCES)	37	37
SUNY	31	31
Community colleges	30	30
Charter schools	32	27
Special act districts	9	9
Other	9	9
Total	827	822

As of June 30, the System's membership consisted of:

	2023	2022
Retired members and beneficiaries currently receiving benefits	180,727	178,569
Members:		
Active members	257,494	253,258
Terminated members entitled to but not yet receiving benefits	10,564	10,217
Subtotal	268,058	263,475
Total	448,785	442,044

NOTES TO FINANCIAL STATEMENTS *(continued)*

June 30, 2023 and 2022

(dollars in thousands)

(a) Benefits

The benefits provided to members of the System are established by New York State law and may be amended only by the Legislature with the Governor's approval. Benefit provisions vary depending on date of membership and are subdivided into the following six classes:

Tier 1
Members who last joined prior to July 1, 1973 are covered by the provisions of Article 11 of the Education Law.

Tier 2
Members who last joined on or after July 1, 1973 and prior to July 27, 1976 are covered by the provisions of Article 11 of the Education Law and Article 11 of the Retirement and Social Security Law (RSSL).

Tier 3
Members who last joined on or after July 27, 1976 and prior to September 1, 1983 are covered by the provisions of Article 14 and Article 15 of the RSSL.

Tier 4
Members who last joined on or after September 1, 1983 and prior to January 1, 2010 are covered by the provisions of Article 15 of the RSSL.

Tier 5
Members who joined on or after January 1, 2010 and prior to April 1, 2012 are covered by the provisions of Article 15 of the RSSL.

Tier 6
Members who joined on or after April 1, 2012 are covered by the provisions of Article 15 of the RSSL.

(b) Service Retirements

Tier 1 and 2 members are generally eligible for a service retirement benefit of 2.0% per year of credited service times final average salary (FAS). A 5% reduction generally applies for each full year of state service under 20 years (prorated for partial years with a maximum reduction of 50%). Tier 1 and 2 members may retire as early as age 55 with five or more years of state service credit. Retirement may also occur for Tier 1 members at age 55 with less than five years of service if two years are credited since July 1, 1967, after the current membership date, and since the member turned age 53.

Generally, the maximum pension payable to Tier 1 and 2 members (with two years of credit under the Article 19 Benefit Enhancement law) is 79% of FAS. An age factor applies to Tier 2 members who retire before age 62 with less than 30 years of service. There is no age factor for Tier 1 members.

Tier 3 and 4 members are generally eligible for a service retirement benefit of 1.67% per year of credited service times FAS for less than 20 years of service, 2.0% per year for 20 to 30 years of service, and 60% of FAS plus 1.5% per year for service beyond 30 years. Tier 3 and 4 members may retire as early as age 55 with five years of state service credit. An age factor applies for Tier 3 and 4 members who retire before age 62 with less than 30 years of service.

Tier 5 members are generally eligible for a service retirement benefit of 1.67% per year of credited service times FAS for less than 25 years of service, 2.0% per year for 25 to 30 years of service, and 60% of FAS plus 1.5% per year for service beyond 30 years. Tier 5 members may retire as early as age 55 with five years of state service credit. An age factor applies to Tier 5 members who retire before age 57 or retire between age 57 and 62 with less than 30 years of service.

Tier 6 members are generally eligible for a service retirement benefit of 1.67% per year of credited service times FAS for less than 20 years of service, 1.75% per year for 20 years of service, and 35% of FAS plus 2% per year for service beyond 20 years. Tier 6 members may retire as early as age 55 with five years of state service credit. An age factor applies for Tier 6 members who retire before age 63. In addition, vested Tier 6 members with an inactive membership must be at least 63 to retire.

NOTES TO FINANCIAL STATEMENTS *(continued)*

June 30, 2023 and 2022

(dollars in thousands)

(c) Vested Benefits

Retirement benefits for Tiers 1-6 are now vested after five years of credited service. Prior to April 9, 2022, Tier 5 and 6 members needed to attain 10 years of state service credit to be vested. Benefits are payable at age 55 or greater with the limitations noted for service retirements above.

(d) Disability Retirement

Members are eligible for disability retirement benefits after 10 years of credited New York State service, except for Tier 3 where disability retirement is permissible after five years of credited New York State service pursuant to the provisions of Article 14 of the RSSL. The Tier 3 benefit is integrated with Social Security.

(e) Death Benefits

Death benefits are paid to the beneficiary of active members who die in service and certain retirees. For active members, the benefit is based on final salary, age and the number of years of credited service. For retired members, it is also based on the number of years in retirement.

(f) Prior and Military Service

After two years of membership, members of all tiers may claim and receive credit for prior New York State public or teaching service. Only Tier 1 and 2 members may, under certain conditions, claim out-of-state service. Certain members may also claim military service credit prior to or interrupting membership.

(g) Tier Reinstatement

In accordance with Chapter 640 of the Laws of 1998, any active member who had a prior membership may elect to be reinstated to their original date and tier of membership.

(h) Employer

Pursuant to Article 11 of the New York State Education Law, employers are required to contribute at an actuarially determined rate adopted annually by the Retirement Board. The actuarially determined employer contribution rate applied to 2022-23 and 2021-22 member salaries is 10.29% and 9.80%, respectively. A reconciliation of total required employer contributions presented in the Schedule of the School Districts' Contributions and additions from employer contributions per the System's Statements of Changes in Fiduciary Net Position for fiscal years 2023 and 2022 is as follows:

	June 30	
	2023	2022
Total required employer contributions	$ 1,900,474	$ 1,736,097
Miscellaneous billing adjustments	(589)	(842)
Additions from employer contributions	$ 1,899,885	$ 1,735,255

In April 2013, the System's Retirement Board adopted a Stable Contribution Option (SCO) provided for under Chapter 57 of the Laws of 2013. Under the law, BOCES and public school districts participating in NYSTRS were offered the choice of either paying the actuarially determined contribution (ADC) or electing to participate in the SCO program, thereby paying a stable contribution rate for up to seven years beginning with the rate applied to the 2013-14 salaries and concluding with the rate applied to the 2022-23 salaries; deferring payment of the difference between the ADC and the contribution determined applying the SCO rate. Interest on deferred contribution amounts were based on the monthly average yield on 10-year U.S. Treasury securities for the 12-month period that precedes August 1 of the applicable deferred year, plus 1.0%. As of June 30, 2017, all districts that participated in the SCO have opted out and have either paid their outstanding deferral in full or have opted to repay the System over five years. The SCO receivable balances at June 30, 2023 and 2022 were $0.

NOTES TO FINANCIAL STATEMENTS *(continued)*

June 30, 2023 and 2022

(dollars in thousands)

(i) Member Contributions

Tier 3 and Tier 4 members were required by law to contribute 3% of salary to the System. Effective October 2000, contributions were eliminated for Tier 3 and 4 members with 10 or more years of service or membership. Effective January 1, 2010, Tier 5 members are required by law to contribute 3.5% of salary throughout their active membership. Effective April 1, 2012, Tier 6 members are required by law to contribute between 3.0% and 6.0% of salary throughout their active membership in accordance with a schedule based upon salary earned. Pursuant to Article 14 and Article 15 of the RSSL, those member contributions are used to help fund the benefits provided by the System. However, if a member dies or leaves covered employment with less than five years of credited service for Tiers 3 - 6, the member contributions with interest calculated at 5.0% per annum are refunded to the employee or designated beneficiary. Eligible Tier 1 and Tier 2 members may make member contributions under certain conditions pursuant to the provisions of Article 11 of the Education Law and Article 11 of the RSSL. Upon termination of membership, such accumulated member contributions are refunded. At retirement, such accumulated member contributions can be withdrawn or are paid as a life annuity.

(j) Permanent Cost-of-Living Adjustment (COLA)

Section 532-a of the Education Law provides a permanent cost-of-living benefit to both current and future retired members. This benefit will be paid commencing September of each year to retired members who have attained age 62 and have been retired for five years or attained age 55 and have been retired for 10 years. Disability retirees must have been retired for five years, regardless of age, to be eligible. The annual COLA percentage is equal to 50.0% of the increase in the Consumer Price Index (CPI), not to exceed 3.0% nor be lower than 1.0%. It is applied to the first $18,000 dollars of the maximum annual benefit. The applicable percentage payable beginning September 2023 and 2022 is 2.5% and 3.0%, respectively.

Members who retired prior to July 1, 1970 are eligible for a minimum benefit of $17,500 dollars for 35 years of credited full-time New York State service. Certain members who retire pursuant to the provisions of Article 14 of the RSSL are eligible for automatic cost-of-living supplementation based on the increase in the CPI with a maximum per annum increase of 3.0%.

(2) Summary of Significant Accounting Policies

(a) Basis of Accounting

The System’s financial statements are prepared using the economic resource measurement focus and accrual basis of accounting. Plan member contributions are recognized in the period in which the contributions are due. Employer contributions are recognized when due and the employer has a legal requirement to provide the contributions. Benefits and refunds are recognized when due and payable in accordance with the terms of the plan. Investment purchases and sales are recorded on a trade-date basis.

(b) Investments

Plan investments are reported at fair value. Fair value is the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. Where plan investments do not have a readily determinable fair value, fair value of the plan investments has been established using the net asset value per share (or its equivalent) of the investment to establish fair value where applicable. Refer to note 6 for more detail regarding the methods used to measure the fair value of investments.

NOTES TO FINANCIAL STATEMENTS *(continued)*

June 30, 2023 and 2022

(dollars in thousands)

(c) System Employees' Pension Plan and Other Postemployment Benefits

The System offers a defined benefit pension plan to its employees. The System records a net pension liability for the difference between the total pension liability calculated by the actuary and the pension plan's fiduciary net position. For purposes of measuring the net pension liability, deferred outflows of resources and deferred inflows of resources related to pensions and pension expense, information about the fiduciary net position of the Employees Retirement System (ERS) and additions to/deductions from ERS's fiduciary net position have been determined on the same basis as they are reported for ERS by the New York State and Local Retirement System (NYSLRS).

The System offers a defined benefit other postemployment benefits (OPEB) plan to its employees. The System records a net OPEB liability for the difference between the total OPEB liability calculated by the actuary and the OPEB plan's fiduciary net position. For purposes of measuring the net OPEB liability, deferred outflows of resources and deferred inflows of resources related to OPEB and OPEB expense, information about the fiduciary net position of the New York State Teachers' Retirement System Retired Employee Health Benefits Trust (the Trust) and additions to/deductions from the Trust's fiduciary net position have been determined on the same basis as they are reported for by the Trust.

For these purposes, benefit payments (including refunds of employee contributions) are recognized when due and payable in accordance with the benefit terms, and investments are reported at fair value for both plans.

In addition to assets, the statement of fiduciary net position will sometimes report a separate section for deferred outflows of resources. This separate financial statement element represents a consumption of net position that applies to a future period and will not be recognized as an outflow of resources (expense/expenditure) until then.

In addition to liabilities, the statement of fiduciary net position will sometimes report a separate section for deferred inflows of resources. This separate financial statement element represents an acquisition of net position that applies to a future period and will not be recognized as an inflow of resources (revenue) until that time.

The System reports deferred outflows of resources and deferred inflows of resources related to their employee's participation in separate pension and OPEB plans.

(d) Capital Assets

Capital assets with a useful life greater than one year and of one hundred thousand dollars or more are recorded at historical cost and capitalized over their useful life. Depreciation has been provided over the estimated useful lives using the straight-line method. The estimated useful lives are as follows:

	Years
Building	39
Building improvements	15
Roads and shrubbery	10
Office furniture and equipment	7
Computer equipment and software	3 - 5
Automobiles	5

(e) Federal Tax Status

The System is exempt from federal income taxes under Section 501(a) of the IRC.

NOTES TO FINANCIAL STATEMENTS *(continued)*

June 30, 2023 and 2022

(dollars in thousands)

(f) Use of Estimates

Management of the System has made a number of estimates and assumptions relating to the reporting of assets and liabilities and in the disclosure of contingencies to prepare these financial statements in conformity with U.S. generally accepted accounting principles. The System's most significant estimates relate to assumptions made about future events as part of the annual actuarial valuation process and the valuation of investments. Due to the inherent nature of these estimates, actual results could differ from those estimates.

(3) Funds

The following funds were established pursuant to the laws of the State of New York.

(a) Annuity Savings Fund

The fund in which contributions of Tier 1 and 2 members covered by the provisions of Article 11 of the Education Law and Article 11 of the RSSL are accumulated. For reporting purposes below, this fund is combined with the Annuity Reserve Fund.

(b) Annuity Reserve Fund

The fund from which the accumulated contributions of members covered by the provisions of Article 11 of the Education Law and Article 11 of the RSSL are paid as a life annuity. For reporting purposes below, this fund is combined with the Annuity Savings Fund.

(c) Pension Accumulation Fund

The fund in which all reserves for the payment of all benefits are accumulated with the exception of the annuity provided by the accumulated contributions of Tier 1 and 2 members, supplemental retirement allowances, and group term life insurance.

(d) Pension Reserve Fund

The fund that pays pensions with the reserves from the Pension Accumulation Fund.

(e) Group Life Insurance Fund

Pursuant to Article 4-B of the RSSL, the Retirement Board established a Group Life Insurance Fund. The Group Life Insurance Fund provides a group term death benefit not to exceed fifty thousand dollars, payable upon the death of eligible members. Group term death benefits paid for the years ended June 30, 2023 and 2022 were $30,590 and $25,209, respectively. For reporting purposes below, this fund is combined with the Pension Accumulation Fund.

(f) CO-ESC Member Contributions Fund

Members covered by the provisions of Article 14 and Article 15 of the RSSL contributed a range of 3% to 6% of salary depending on their tier to the System's CO-ESC Member Contribution Fund. Contributions to this fund were $175,481 and $144,019 for the years ended June 30, 2023 and 2022, respectively. For reporting purposes below, this fund is combined with the Pension Accumulation Fund.

(g) Administrative Fund

All operating expenses of the System are paid through this fund. The fund receives an allocation from employer contributions, which are designated by law to cover all non-investment-related operating expenses.

NOTES TO FINANCIAL STATEMENTS *(continued)*

June 30, 2023 and 2022

(dollars in thousands)

(h) Summary of Fund Balances

Net position restricted for pensions at June 30, 2023 and 2022 consist of the following:

	2023	2022
Administrative fund	$ 58,923	$ 62,053
Annuity savings and reserve funds	55,230	63,454
Pension accumulation, group life insurance and CO-ESC funds	62,608,589	58,826,877
Pension reserve fund	74,498,795	73,012,198
Total	$ 137,221,537	$ 131,964,582

(4) Pension Plan Investments

(a) Investment Policy

The System has been authorized by the New York State Legislature pursuant to the Banking Law, Section 235; the Education Law, Article 11, Section 508; and the RSSL, Article 4-A, Sections 176 and 177, to invest in stocks, bonds, mortgages, real estate, and other investments. A specific investment within these broad asset classes may be subject to particular restrictions or limitations contained in the applicable statutory provision. The Leeway Clause of Section 177 provides that, subject to guidelines adopted by the Retirement Board, up to 35.0% of assets may be invested in types of assets not otherwise specifically authorized, provided the Retirement Board is satisfied such investments were made with the care, skill, prudence and diligence of a prudent person acting in a like capacity and familiar with such matters. Pursuant to regulations promulgated by the New York State Department of Financial Services, investments must be made in a manner consistent with those of a reasonably prudent person exercising care, skill and caution. In addition to applicable legal constraints, the Retirement Board has adopted policies governing the investments made by the System.

NOTES TO FINANCIAL STATEMENTS *(continued)*

June 30, 2023 and 2022

(dollars in thousands)

(b) Asset Allocation

The System's asset allocation policy as of June 30, 2023 and 2022, as adopted by the Retirement Board is as follows:

Asset Class	Target June 30, 2023	Target June 30, 2022	Range June 30, 2023	Range June 30, 2022
Domestic equity	33%	33%	29-37%	29-37%
International equity	15	16	11-19	12-20
Global equity	4	4	0-8	0-8
Real estate equity	11	11	6-16	6-16
Private equity	9	8	4-14	3-13
Total equity	72	72		
Domestic fixed income	16	16	12-20	12-20
High-yield bonds	1	1	0-3	0-3
Global bonds	2	2	0-4	0-4
Real estate debt	6	6	2-10	2-10
Private debt	2	2	0.5-5	0.5-5
Cash equivalents	1	1	1-4	1-4
Total debt	28	28		
Total	100%	100%		

(c) Rate of Return

The annual money-weighted rate of return on System investments, net of pension plan investment expense, was negative 7.12% for the year ended June 30, 2022, but was 9.16% for the year ended June 30, 2023. The money-weighted rate of return expresses investment performance, net of investment expense, adjusted for the changing amounts actually invested.

NOTES TO FINANCIAL STATEMENTS *(continued)*
June 30, 2023 and 2022
(dollars in thousands)

(5) Deposit and Investment Risk Disclosure

(a) Credit Risk

The quality ratings of investments in fixed income securities as described by nationally recognized statistical rating organizations at June 30, 2023 and 2022 are as follows:

	2023		2022	
Quality rating	Fair value	Percentage of portfolio	Fair value	Percentage of portfolio
Short-term:				
P-1	$ 1,143,492	4.4 %	$ 1,899,118	7.2 %
Long-term:				
Aaa	6,370,065	24.4	5,750,836	21.7
Aa	1,395,543	5.3	1,634,395	6.2
A	3,552,611	13.6	4,139,237	15.6
Baa	2,736,108	10.5	2,993,038	11.3
Ba	636,439	2.4	663,043	2.5
B	730,850	2.8	588,177	2.2
Caa	77,292	0.3	32,581	0.1
Other	375,576	1.5	(15,358)	0.0
Total credit risk debt securities	17,017,976	65.2	17,685,067	66.8
U.S. government fixed income securities*	9,094,792	34.8	8,807,561	33.2
Total fixed income securities**	$ 26,112,768	100.0 %	$ 26,492,628	100.0 %

** Obligations of the U.S. government or obligations explicitly guaranteed by the U.S. government are not considered to have credit risk and do not have purchase limitations.*

*** Cash equivalents, real estate debt, high-yield and global bond on the Statements of Fiduciary Net Position at June 30, 2023 and 2022 include $185,423 and $229,059, respectively, in cash and commingled commercial mortgage backed securities.*

Additionally, as of June 30, 2023 and 2022, the System held mortgages, secured by a lien of the properties, valued at $2.6 billion and $3.2 billion, respectively, that are not publicly traded assets and are not rated by the rating agencies.

(b) Custodial Credit Risk

Custodial credit risk is the risk that, in the event of a failure of the counterparty, the System will not be able to recover the value of its deposit or investment, or collateral securities that are in the possession of an outside party. Deposits are exposed to custodial credit risk if they are uninsured and uncollateralized. Investment securities are exposed to custodial credit risk if the securities are uninsured, are not registered in the name of the System, and are held by either the counterparty or the counterparty's trust department or agent but not in the System's name.

The head of the Division of the Treasury in the New York State Department of Taxation and Finance (the Treasurer) is the statutory custodian of the funds of the System and, in this capacity, has arranged to have bank accounts collateralized. Collateral is held in the name of the Treasurer, as custodian for the System, by a bank that does not act as an agent for the System. The System's bank accounts were fully collateralized during the year. At June 30, 2023 and 2022, the System's bank balance was a negative $3,899 and a negative $3,600, respectively, representing a managed overdraft. Consistent with the System's investment policy, all of the System's securities are held by the System's custodial bank in the System's name.

NOTES TO FINANCIAL STATEMENTS *(continued)*

June 30, 2023 and 2022

(dollars in thousands)

(c) Concentration of Investment and Credit Risk

Concentration of credit risk is the risk of loss attributed to the magnitude of the System's investment in a single issuer.

As of June 30, 2023 and 2022, the System did not hold investments in any one issuer that would represent 5.0% or more of fiduciary net position. Obligations issued or explicitly guaranteed by the U.S. government and pooled investments are not considered subject to concentration of credit risk.

Issuer limits for investments held by the System are established for each investment area by the RSSL Article 4-A, Sections 176-179.

Short-term fixed income investments are generally limited to the following investment types maturing in one year or less:

- Obligations of the U.S. or those for which the faith of the United States is pledged to provide for the payment of the interest and principal.
- Obligations issued by any Federal Home Loan Bank or obligations fully guaranteed as to principal and interest by Fannie Mae or Freddie Mac.
- Commercial Paper, Certificates of Deposit, and Supranational obligations that have the highest rating by two nationally recognized rating services
- Other securities meeting legal investment criteria.

Fixed income securities are generally limited to the following investment types with maturities longer than one year:

- Obligations payable in U.S. dollars issued by any department, agency or political subdivision of the U.S. government or issued by any corporation, company or other issuer of any kind or description created or existing under the laws of the U.S.; any state of the U.S., District of Columbia or Commonwealth of Puerto Rico; and obligations of Canada or any province or city of Canada, provided each obligation shall be rated investment grade by two nationally recognized rating services. The aggregate investment by the System in the obligations of any one issuer shall not exceed 2.0% of the assets of the System or 5.0% of the direct liabilities of the issuer.
- Notwithstanding the 2.0% limitation stated above, the System may invest not more than 2.5% of its assets in the obligations of any one railroad or industrial corporation; or any one corporation engaged directly and primarily in the production, transportation, distribution or sale of electricity or gas; or the operations of telephone and telegraph systems or waterworks or in some combination thereof.
- In no event may more than 30.0% of the System's assets be invested in bonds of electric and gas corporations. Equipment trust certificates, subject to the provisions of the law, are not to exceed 5.0% of the assets of the System.
- Obligations issued or guaranteed by the Inter-American Development Bank, Asian Development Bank, the African Development Bank or the Youth Facilities Project Guarantee Fund and participations therein.
- Obligations of the Dominion of Canada, of any province of the Dominion of Canada, and of any city of the Dominion of Canada, payable in U.S. funds, provided that the aggregate unpaid principal amount of all such obligations at any time held by the System shall not exceed 5.0% of the System's assets.
- Bonds of the Savings and Loan Bank of the State of New York, Federal Land Bank, Federal Intermediate Credit Banks, and Banks for Cooperatives.
- Bonds of Freddie Mac, Federal Home Loan Banks, Tennessee Valley Authority, Fannie Mae, and the United States Postal Service.
- Obligations issued or guaranteed by the International Bank for Reconstruction and Development, provided the aggregate unpaid principal amount of such obligations at any time held by the System shall not exceed 5.0% of the System's assets.

NOTES TO FINANCIAL STATEMENTS *(continued)*

June 30, 2023 and 2022

(dollars in thousands)

- Bonds and notes of any bank, trust company, savings bank, or savings and loan association organized under the laws of New York State having a net worth of at least $10 million, which meet all applicable statutes, provided the aggregate unpaid principal amount of bonds and notes secured by conventional mortgages shall not exceed 5.0% of the assets of the System.
- Mortgage pass-through certificates, provided the certificates evidence ownership of undivided interests in pools or mortgage loans secured by first mortgages on real property located in New York state improved by one-to-four family residential dwellings, which meet all applicable statutes. The aggregate unpaid principal on conventional mortgages securing mortgage pass-through certificates cannot exceed 10.0% of the assets of the System nor can the total unpaid principal on any single pool of conventional mortgages securing mortgage pass-through certificates exceed 1.0% of the assets of the System.
- Collateralized Mortgage Obligations, which meet the requirements of applicable statutes.
- Private placements, where the purchase of unrated obligations is authorized by the Banking Law or the RSSL governing fixed income obligations; if not so provided, private placements as well as other domestic fixed income not otherwise provided for may be purchased under the Leeway Clause.

The System may invest in domestic equity securities and interest-bearing obligations payable in U.S. funds, which are convertible into equity securities of any corporation created or existing under the laws of the U.S., any state of the U.S., District of Columbia, and the Commonwealth of Puerto Rico; or any investment company, as defined by, and which is registered under, an act of Congress of the United States, entitled to the Investment Company Act of 1940, as amended, subject to certain limitations.

The System's international equity investments may not exceed 10.0% of the System's assets including emerging market equity securities. To the extent the 10.0% limitation is exceeded, the System's international equity securities may be invested in Leeway investments (which amount shall not exceed 35.0% of System assets).

The maximum amount invested within the System's equities, including domestic and international, may not exceed, in any one year, 15.0% of System assets or 70.0% of the total System assets in aggregate. The System may not own more than 5.0% of the total issued and outstanding equity securities of any one corporation.

The System's real estate investments will be diversified across geographic regions to allow for competitive portfolio performance in the event of a temporary weakness in any one region and to allow for differing urban and suburban market trends within any region. The System may invest in certain conventional mortgages constituting a first lien upon real property located in the U.S. pursuant to statute subject to certain provisions. The value of all real property held by the System shall not exceed ten percent (10.0%) of System assets and the cost of each parcel of real property shall not exceed two percent (2.0%) of the System's assets.

Alternative investments are made pursuant to the Leeway Clause of the RSSL.

NOTES TO FINANCIAL STATEMENTS *(continued)*

June 30, 2023 and 2022

(dollars in thousands)

Interest Rate Risk

Interest rate risk is the risk that changes in interest rates will adversely affect the fair value of the investment. The System is exposed to interest rate risk at June 30, 2023 and 2022 as follows:

	2023		2022	
Investment type	Fair value	Duration (in years)	Fair value	Duration (in years)
Mortgages	$ 2,624,241	1.510	$ 3,200,577	1.840
Cash equivalents*	1,762,024	0.068	2,269,278	0.068
Domestic fixed income	18,091,466	4.298	18,271,844	4.334
CMBS	2,370,989	0.465	2,271,723	0.496
High-yield bonds	1,359,492	0.219	958,586	0.207
Global bonds	2,714,220	6.720	2,950,256	6.810
Total fair value	$ 26,298,191		$ 26,721,687	
Cash equivalents and fixed income portfolio modified duration		6.850		4.810

*Commercial paper, negotiable certificates of deposit and U.S. Treasury, agency, supranational and floating debt issues.

Duration is a measure of a debt investment's exposure to fair value changes arising from changing interest rates. The greater the duration, the greater its price volatility will be in response to a change in interest rates and vice versa.

NOTES TO FINANCIAL STATEMENTS *(continued)*

June 30, 2023 and 2022
(dollars in thousands)

(d) Foreign Currency Risk

Foreign currency risk is the risk that changes in exchange rates will adversely affect the fair value of an investment or a deposit. The System has exposure through global and international holdings in commingled investment trust funds and separate accounts, global real estate investment trusts (REITs), global bonds, and alternatives. The "alternatives" represent private equity and real estate investments denominated in foreign currency. With respect to global bond investments, the majority of currency risk inherent in non-U.S. dollar denominated bonds owned by the System in a separate account is hedged away by the managers through currency forwards. The System has an exposure to foreign currency fluctuation at June 30, 2023 and 2022 as follows:

	2023		2022	
	Equity Securities and REITs	Alternatives, Cash, and Global Bonds	Equity Securities and REITs	Alternatives, Cash, and Global Bonds
Currency:				
Euro	$ 4,826,322	$ 1,828,225	$ 4,405,253	$ 1,963,947
Japanese Yen	3,185,753	134,881	3,217,012	242,259
British Pound Sterling	2,047,293	908,112	2,100,950	685,158
Canadian Dollar	1,329,407	70,136	1,536,996	85,709
Swiss Franc	1,131,053	7,190	1,230,812	6,720
Hong Kong Dollar	1,078,430	29	1,369,233	84
Australian Dollar	862,285	198,436	959,661	213,899
China Renminbi	1,014,328	59	1,176,177	—
New Taiwan Dollar	859,938	(21)	831,925	23
Indian Rupee	782,723	0	606,821	9
South Korean Won	692,837	45,476	689,169	40,792
Swedish Krona	495,057	14,010	525,244	6,657
Danish Krone	418,145	1,844	404,039	2,059
Brazilian Real	323,093	12,226	308,605	7,139
South African Rand	166,258	21,751	212,651	16,724
Other	1,225,433	101,338	1,423,659	93,522
Totals	$ 20,438,355	$ 3,343,692	$ 20,998,207	$ 3,364,701

(e) Securities Lending Transactions

The Retirement and Social Security Law authorizes the System to enter into agreements to loan securities. Agreements to lend a security must be with a broker dealer or with New York State or nationally chartered banks and must not exceed a period of one year. The fair value of securities loaned may not exceed 20% of the fair value of the System's invested assets. The System lends domestic and international bonds and equities. Initial collateral of at least 102% of the fair value of loaned securities is received from the borrower for domestic securities and 105% for international securities. Securities on loan are marked to market daily and collateral for the loan is required not to fall below 100%. The fair value of invested cash collateral is reported as an asset and cash collateral due to borrowers is reported as a liability on the Statement of Fiduciary Net Position. The fair value of the cash collateral invested exceeded the amount the System owed borrowers by approximately $1.8 million as of June 30, 2023 and $1.9 million as of June 30, 2022. Non-cash collateral is not reported on the Statement of Fiduciary Net Position as the System does not have the ability to pledge or sell collateral securities without a borrower default. For each year end, the System had limited credit risk exposure to borrowers because the amounts the System owes the borrowers (the collateral) exceeds the amounts the borrowers owe the System (the loaned securities).

June 30, 2023 and 2022
(dollars in thousands)

As of June 30, 2023 and 2022, JP Morgan Chase Bank, N.A. (JP Morgan) acted as agent for the domestic equity and fixed income securities lending program while Bank of New York Mellon (BNY Mellon) acted as agent for the international equity, global bond, and global equity securities lending program. Under the terms of the contracts with the lending agents, the System is fully indemnified against losses resulting from the failure of the borrowers to return the loaned securities (to the extent the collateral is inadequate to replace the loaned securities) or failure to pay the System for income distributions by the securities' issuers while the securities are on loan. There were no significant violations of legal or contractual provisions, no borrower or lending agent defaults, and no material recoveries of prior period losses during the year. The majority of securities on loan can be recalled by the System on demand or returned by the borrower at any time. Cash collateral is invested by the System's lending agents, in short term investment funds managed by the agent lenders pursuant to System approved investment guidelines. There is no direct match of the maturities of the collateral investments with the maturities of the securities loans. Investments are restricted to issuers with a short-term credit rating issued by Standard & Poor's and Moody's Investors Service, not lower than A- 1/P -1 or long-term ratings not lower than A/A2, respectively, or the equivalent thereof. Non-cash collateral received is limited to high quality U.S. treasuries, agency securities and agency mortgage-backed securities. At June 30, 2023 and 2022, the average effective duration of the fund managed by JP Morgan was 9 and 4 days respectively and that managed by BNY Mellon was 4 days for both. Security loans and related collateral investments are monitored daily to ensure compliance with collateral requirements, limitations, and cash collateral investment guidelines.

Securities Lending Program	2023	2022
Fair value of securities on loan — cash collateral	$ 334,223	$ 688,474
Fair value of securities on loan — non-cash collateral	824,246	853,622
Total fair value of securities on loan	$ 1,158,469	$ 1,542,096
Fair value of liabilities to borrowers — cash collateral	$ 350,249	$ 707,887
Fair value of liabilities to borrowers — non-cash collateral	841,887	876,174
Total collateral due to borrowers	$ 1,192,136	$ 1,584,061
Fair value of cash collateral invested by System	$ 352,050	$ 709,827
Fair value of non-cash collateral held by System	841,887	876,174
Total collateral invested and held by the System	$ 1,193,937	$ 1,586,001

(6) Fair Value Measurement

NYSTRS' investments measured and reported at fair value are classified according to the following hierarchy in which the levels are based on the nature of inputs used to measure the fair value of the investment:

Level 1 – Investments' fair values based on prices quoted in active markets for identical assets.

Level 2 – Investments' fair values based on observable inputs for the assets either directly or indirectly, other than those considered Level 1 inputs, which may include quoted prices for identical assets in markets that are not considered to be active, and quoted prices of similar assets in active or inactive markets.

Level 3 – Investments' fair values based upon unobservable inputs.

The categorization of investments within the hierarchy above is based solely upon the objectivity of the inputs used in the measurement of fair value of the investments and does not reflect the level of risk associated with the investments.

June 30, 2023 and 2022
(dollars in thousands)

Investments classified in Level 1 of the fair value hierarchy are valued from predetermined external pricing vendors or primary dealers who source quoted prices in active markets which are readily attainable exit values of these securities. Investments classified in Level 2 are subject to alternative pricing sources, including a combination of price sources, descriptive data and pricing models based on attributes such as spread data, sector, quality, duration, and prepayment characteristics. Investments classified as Level 3 are valued using best available sources such as property appraisals, discounted cash flow models and public market comparables of similar assets where applicable. The values are supplied by advisers or general partners who hold those or similar assets in investments vehicles they oversee. These pricing sources may or may not be indicative of realizable exit value attainable for the assets.

NYSTRS' investments and securities lending collateral reinvested have the following fair value measurements or net asset values (NAV) as of June 30, 2023 and 2022, respectively:

		Fair Value Measurements Using		
Investments by Fair Value Level	**June 30, 2023**	**Quoted Prices in Active Markets for Identical Assets (Level 1)**	**Significant Other Observable Inputs (Level 2)**	**Significant Unobservable Inputs (Level 3)**
Domestic equity	$ 45,821,761	$ 45,816,070	$ 5,635	$ 56
International equity	17,706,996	17,596,650	109,479	867
Global equity	4,950,959	4,886,258	64,193	508
Real estate equity:				
Direct equity real estate and joint venture investments	5,193,752	—	—	5,193,752
Real estate alternative investments	312,177	—	—	312,177
Domestic REIT	2,158,483	2,031,426	127,057	—
Global REIT	953,986	944,989	8,995	2
Total real estate equity	$ 8,618,398	$ 2,976,415	$ 136,052	$ 5,505,931
Domestic fixed income	18,091,466	146,789	17,944,677	—
High-yield bonds	1,359,125	581	1,358,472	72
Global bonds	2,684,126	(3,851)	2,687,977	—
Real estate debt:				
Domestic commercial mortgage backed securities	2,370,989	—	2,370,988	1
Real estate alternative investments	574,830	—	—	574,830
Mortgages	2,624,241	—	—	2,624,241
Total real estate debt	$ 5,570,060	$ —	$ 2,370,988	$ 3,199,072
Cash Equivalents*	1,745,825	—	1,745,825	—
Securities Lending Collateral, Invested	352,050	—	350,721	1,329
Total investments by fair value level	$ 106,900,766	$ 71,418,912	$ 26,774,019	$ 8,707,835

*Commercial paper, negotiable certificates of deposit and U.S. Treasury, agency, supranational and floating debt issues.

June 30, 2023 and 2022
(dollars in thousands)

Investments Measured at the NAV	June 30, 2023	Unfunded Commitments	Redemption Frequency	Redemption Notice Period
Commingled international equity funds (1)	949,615	—	Daily or Monthly	5-30 days
Privately held real estate investment trusts (2)	1,522,739	85,000	NA	NA
Real estate equity funds (3)				
Closed-end funds	5,119,291	4,088,706	NA	NA
Open-end funds	1,205,272	42,198	Quarterly	30-120 days
Private equity closed-end funds (4)	15,416,611	6,352,804		
Real estate debt funds (5)				
Closed-end funds	1,855,743	1,683,381	NA	NA
Open-end funds	105,258	—	Quarterly	90 days
Private debt closed-end funds (6)	2,045,645	1,230,603	NA	NA
Total investments measured at the NAV	$ 28,220,174	$ 13,482,692		
Investment related cash, receivables and payables not included in above	57,079			
Total investments and securities lending collateral reinvested	$ 135,178,019			

NOTES TO FINANCIAL STATEMENTS *(continued)*
June 30, 2023 and 2022

(dollars in thousands)

Investments by Fair Value Level	June 30, 2022	Fair Value Measurements Using: Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
Domestic equity	$ 41,961,610	$ 41,958,863	$ 2,646	$ 101
International equity	18,598,195	18,438,864	157,797	1,534
Global equity	4,264,158	4,129,267	134,852	39
Real estate equity:				
Direct equity real estate and joint venture investments	4,639,383	—	—	4,639,383
Real estate alternative investments	283,439	—	—	283,439
Domestic REIT	2,681,606	2,470,522	211,084	—
Global REIT	1,341,873	1,327,542	13,802	529
Total real estate equity	$ 8,946,301	$ 3,798,064	$ 224,886	$ 4,923,351
Domestic fixed income	18,271,844	100,966	18,170,878	—
High-yield bonds	958,564	1,213	956,433	918
Global bonds	2,920,498	39,718	2,880,780	—
Real estate debt:				
Domestic commercial mortgage backed securities	2,271,723	28,674	2,243,049	—
Real estate alternative investments	559,903	—	—	559,903
Mortgages	3,200,577	—	—	3,200,577
Total real estate debt	$ 6,032,203	$ 28,674	$ 2,243,049	$ 3,760,480
Cash Equivalents*	2,257,952	—	2,257,952	—
Securities Lending Collateral, Invested	709,827	—	708,364	1,463
Total investments by fair value level	$ 104,921,152	$ 68,495,629	$ 27,737,637	$ 8,687,886

*Commercial paper, negotiable certificates of deposit and U.S. Treasury, agency, supranational and floating debt issues.

NOTES TO FINANCIAL STATEMENTS *(continued)*

June 30, 2023 and 2022

(dollars in thousands)

Investments Measured at the NAV	June 30, 2022	Unfunded Commitments	Redemption Frequency	Redemption Notice Period
Commingled international equity funds (1)	813,333	—	Daily or Monthly	5-30 days
Privately held real estate investment trusts (2)	1,524,520	85,000	NA	NA
Real estate equity funds (3)				
Closed-end funds	4,687,493	4,242,949	NA	NA
Open-end funds	1,331,798	86,707	Quarterly	30-120 days
Private equity closed-end funds (4)	14,073,681	6,449,962		
Real estate debt funds (5)				
Closed-end funds	1,584,217	2,051,393	NA	NA
Open-end funds	114,456	—	Quarterly	90 days
Private debt closed-end funds (6)	1,424,443	1,539,290	NA	NA
Total investments measured at the NAV	$ 25,553,941	$ 14,455,301		
Investment related cash, receivables and payables not included in above	94,917			
Total investments and securities lending collateral reinvested	$ 130,570,010			

(1) Commingled international equity funds consist of three commingled investment vehicles which invest primarily in publicly traded global equity securities. The funds are valued at the net asset value of units held at the end of the period based upon the fair value of the underlying investments.

(2) Privately held real estate investment trusts consist of one trust which primarily invest in U.S. commercial real estate. The fair value of the investment in this group have been determined using the net asset value of units held at the end of the period based upon the property appraisals of the underlying assets. The trust is perpetual in nature, making periodic operating distributions to shareholders. Capital calls and redemptions are determined by a unanimous vote of the trust board members.

(3) Real estate equity funds invest primarily in U.S. commercial real estate with some investing in global commercial real estate. The investment structures are either open-end funds or closed-end funds. In these structures, NYSTRS commits funds along with other investors to create a pool of capital that the fund manager then invests according to an agreed upon strategy such as core, value add or opportunistic. The fair values of the investments in this group have been determined using the NAV per share (or its equivalent) of the Plan's ownership interest in partners' capital. Open-end funds may be redeemed on a quarterly basis with notice. Closed-end funds are not redeemable; however, distributions will be received as the underlying investments of the funds are liquidated, which on average can occur over the span of eight to ten years after final closing.

(4) Private equity funds include buyout, growth equity, venture capital, co-investment, and turnaround/restructuring strategies. These investments are accessed through primary commitments to commingled funds, secondary funds, fund of funds and separately managed accounts. The fair values have been determined using the NAV per share (or its equivalent) of the Plan’s ownership interest in partners’ capital.

(5) Real estate debt funds invest primarily in transitional first mortgage, mezzanine, and subordinate debt positions. The fair values of the investments in this group have been determined using the NAV per share (or its equivalent) of the Plan’s ownership, interest in partners’ capital. Open-end funds may be redeemed on a quarterly basis with notice.

NOTES TO FINANCIAL STATEMENTS *(continued)*

June 30, 2023 and 2022

(dollars in thousands)

Closed-end funds are not redeemable; however, distributions will be received as the underlying investments of the funds are liquidated, which on average can occur over the span of eight to ten years after final closing.

(6) Private debt funds consist of direct lending, mezzanine, distressed and special situations. These investments are accessed through primary commitments to closed-end commingled funds and evergreen funds. The fair values have been determined using the NAV per share (or its equivalent) of the Plan's ownership interest in partners' capital.

(7) Net Pension Liability (Asset) of NYSTRS Participating School Districts

The components of the net pension liability (asset) of the NYSTRS participating school districts at June 30, 2023 and 2022 were as follows:

	2023	2022
Total pension liability	$ 138,365,122	$ 133,883,474
Plan fiduciary net position	137,221,537	131,964,582
School districts' net pension liability (asset)	$ 1,143,585	$ 1,918,892
Plan fiduciary net position as a percentage of total pension liability	99.2%	98.6%

NOTES TO FINANCIAL STATEMENTS *(continued)*
June 30, 2023 and 2022
(dollars in thousands)

(a) Actuarial Methods and Assumptions

The total pension liability at June 30, 2023 was determined using an actuarial valuation as of June 30, 2022, with update procedures used to roll forward the total pension liability to June 30, 2023. The total pension liability at June 30, 2022 was determined using an actuarial valuation as of June 30, 2021, with update procedures used to roll forward the total pension liability to June 30, 2022. These actuarial valuations applied the following actuarial methods and assumptions:

Actuarial cost method	Entry age normal
Inflation	2.40% for June 30, 2023 and June 20, 2022
Projected salary increases	Rates of increase differ based on service
	They have been calculated based upon recent NYSTRS member experience.

Service	Rate
5	5.18%
15	3.64
25	2.50
35	1.95

Projected COLAs	1.3% for June 30, 2023 and June 30, 2022
Investment rate of return	6.95% for June 30, 2023 and June 30, 2022 measurement of total pension liability. The rates are compounded annually, net of pension plan investment expense, including inflation.
Mortality	Annuitant and active mortality rates are based on plan member experience, with adjustments for mortality improvements based on Society of Actuaries Scale MP2021 for June 30, 2023 and June 30, 2022, applied on a generational basis.
Experience Period	Assumptions were computed by the Actuary and were adopted by the Retirement Board in October 2021. They are based upon recent NYSTRS member experience. Detailed assumption information may be found in NYSTRS' annual Actuarial Valuation Report.

The long-term expected rate of return on pension plan investments was determined in accordance with Actuarial Standard of Practice (ASOP) No. 27, *Selection of Economic Assumptions for Measuring Pension Obligations* and generally accepted accounting principles. ASOP No. 27 provides guidance on the selection of an appropriate assumed investment rate of return. Consideration was given to expected future real rates of return (expected returns, net of pension plan investment expense and inflation) for each major asset class as well as historical investment data and plan performance.

NOTES TO FINANCIAL STATEMENTS *(continued)*
June 30, 2023 and 2022
(dollars in thousands)

The Long-Term Expected Real Rates of Return are presented by asset allocation classification. Best estimates of arithmetic real rates of return for each major asset class included in the System's target asset allocation as of the measurement date of June 30, 2023 and June 30, 2022 (see the discussion of the pension plan's investment policy) are summarized in the following table:

Long-Term Expected Real Rate of Return*		
Asset Class	2023	2022
Domestic equity	6.8%	6.5%
International equity	7.6	7.2
Global equity	7.2	6.9
Real estate equity	6.3	6.2
Private equity	10.1	9.9
Domestic fixed income	2.2	1.1
Global bonds	1.6	0.6
Private debt	6.0	5.3
Real estate debt	3.2	2.4
High-yield bonds	4.4	3.3
Cash equivalents	0.3	(0.3)

**Real rates of return are net of pension plan investment expenses and long-term inflation expectations.*

(b) Discount Rate

The discount rate used to measure the total pension liability was 6.95% as of June 30, 2023 and June 30, 2022. The projection of cash flows used to determine the discount rate assumed that contributions from plan members will be made at the current member contribution rates and that contributions from school districts will be made at statutorily required rates, actuarially determined. Based on those assumptions, the System's fiduciary net position was projected to be available to make all projected future benefit payments of current plan members. Therefore, the long-term expected rate of return on pension plan investments was applied to all periods of projected benefit payments to determine the total pension liability.

(c) Sensitivity of the Net Pension Liability (Asset) to Changes in the Discount Rate

The following presents the net pension liability (asset) of the NYSTRS participating school districts calculated using the discount rate of 6.95% for June 30, 2023 and 6.95% for June 30, 2022, as well as what the school districts' net pension liability (asset) would be if it were calculated using a discount rate that is one percentage point lower or one percentage point higher than the current rate:

System's Net Pension Liability (Asset)						
		1% Decrease (5.95%)		Current Discount Rate (6.95%)		1% Increase (7.95%)
June 30, 2023	$	$17,417,380	$	$1,143,585	$	$(12,543,380)
June 30, 2022	$	$17,693,081	$	$1,918,892	$	$(11,347,098)

NOTES TO FINANCIAL STATEMENTS *(continued)*

June 30, 2023 and 2022

(dollars in thousands)

(8) Commitments and Contingencies

The System, in the normal course of business, enters into commitments with off-balance-sheet risk. The System adheres to the same credit policies, financial and administrative controls, and risk limiting and monitoring procedures for commitments as for on-balance-sheet investments.

The commitments for loans on real estate or purchases of real estate are subject to satisfactory appraisals prior to closing. Once investments are made, the System's exposure to potential loss is determined by the value of the underlying collateral.

The future financial commitments outstanding at June 30, 2023 and 2022, respectively, were: real estate and real estate alternative investments of $4.4 billion and $4.5 billion; mortgages and real estate debt funds of $1.7 billion and $2.2 billion; CMBS $13.8 million and $123.9 million; private equity $6.4 billion and $6.4 billion; and private debt investments of $1.2 billion and $1.5 billion.

(9) System Employees' Pension Plan

(a) Plan Description

As an employer, the System participates in ERS, a cost-sharing, multiple-employer defined benefit pension plan which falls under NYSLRS and is administered by the Comptroller of the State of New York. ERS provides retirement, disability, withdrawal, and death benefits to plan members and beneficiaries as authorized by the RSSL of the State of New York. Benefits are guaranteed by the state Constitution and cannot be diminished or impaired. Benefits can be reduced for future members only by an act of the state Legislature. NYSLRS issues a publicly available financial report that contains financial statements and required supplementary information for ERS. The report may be obtained on the Comptroller's website at www.osc.state.ny.us/pension.

(b) Benefits

The classes of employees covered under ERS range from Tiers 1–6. In order to be eligible for retirement, all members must be at least age 55 and have a minimum of five years of service. There is no minimum service requirement for Tier 1 members. Generally, all members are eligible for early retirement at age 55 with a benefit calculation of 1.67% of final average salary. Benefit calculations for Tier 1–5 members with greater than 20 years of service credit are 2.0% of final average salary. Tier 3–5 members are eligible for an additional 1.5% of final average salary applied to each year of service over 30 years. Generally, Tier 6 member retirement benefits are 1.8% of final average salary with 20 years of service, with an additional 2.0% of final average salary for each year of service over 20 years.

For Tiers 1–5, final average salary is the average of the wages earned in the three highest consecutive years of employment. Tier 6 final average salary is the average of the wages earned in the five highest consecutive years of employment.

Other benefits provided under ERS include ordinary disability, accidental disability and post-retirement benefit increases.

(c) Funding Policy

Funding of ERS is accomplished through member and employer contributions and investment earnings, according to the New York State RSSL.

Plan members are required to contribute between 0% and 6% throughout active service. Employers are required to contribute at an actuarially determined rate. An average employer contribution rate for the tiers of 11.4% and 16.1% was applicable to the annual covered payroll for the years ended March 31, 2023 and March 31, 2022, respectively. The contributions paid to ERS during the System's years ended June 30, 2023 and 2022 were $3.9 million and $5.4 million, respectively, and were 100% of the contributions required.

NOTES TO FINANCIAL STATEMENTS *(continued)*
June 30, 2023 and 2022
(dollars in thousands)

(d) Pension Liabilities, Pension Expense, Deferred Outflows of Resources, and Deferred Inflows of Resources Related to Pensions

At June 30, 2023 and 2022, the System reported a liability of $24.8 million and negative $9.9 million, respectively, for its proportionate share of the ERS net pension liability measured as of March 31, 2023 and 2022, respectively. The balance is reported within "other liabilities."

NYSTRS' proportion of the ERS net pension liability was based on the projection of the long-term share of contributions to ERS relative to the projected contributions of all participating employers, actuarially determined. At March 31, 2023, the System's proportion was 0.1158665% and was 0.1207750% at March 31, 2022.

For the years ended June 30, 2023 and 2022, the System recognized pension expense of $8.8 million and $0.6 million, respectively.

Deferred outflows of resources were $15.4 million and $18.1 million at June 30, 2023 and 2022, respectively. Deferred inflows of resources were $1.3 million and $33.8 million at June 30, 2023 and 2022, respectively.

The following presents a summary of deferred outflows of resources and deferred inflows of resources at June 30, 2023 and 2022:

	2023	2022
Deferred outflows of resources:		
Difference between expected and actual experience	$ 2,646	$ 748
Changes of assumptions	12,067	16,477
Changes in proportion and differences between employer contributions and proportionate share of contributions	654	828
	$ 15,367	$ 18,053
Deferred inflows of resources:		
Difference between expected and actual experience	$ 698	$ 970
Net differences between projected and actual investment earnings on pension plan investments	146	32,329
Changes of assumptions	133	278
Changes in proportion and differences between employer contributions and proportionate share of contributions	328	191
	$ 1,305	$ 33,768

Amounts reported as deferred outflows of resources and deferred inflows of resources at June 30, 2023 related to pensions will be recognized in pension expense as follows:

Year Ended June 30:

2024	$ 3,373
2025	(1,225)
2026	5,199
2027	6,715

NOTES TO FINANCIAL STATEMENTS *(continued)*

June 30, 2023 and 2022

(dollars in thousands)

(e) Actuarial Assumptions

The total pension liability for the March 31, 2023 measurement date was determined by using an actuarial valuation as of April 1, 2022, with update procedures used to roll forward the total pension liability to March 31, 2023. The total pension liability for the March 31, 2022 measurement date was determined by using an actuarial valuation as of April 1, 2021, with update procedures used to roll forward the total pension liability to March 31, 2022. These actuarial valuations applied the following actuarial assumptions:

	2023	2022
Inflation	2.9%	2.7%
Salary scale	4.4%, indexed by service	4.4%, indexed by service
Investment rate of return, including inflation	5.9% compounded annually, net of investment expenses	5.9% compounded annually, net of investment expenses
Cost of living adjustments	1.5% annually	1.4% annually
Decrements	Developed from the Plan's experience study of the period April 1, 2015 through March 31, 2020	Developed from the Plan's experience study of the period April 1, 2015 through March 31, 2020
Mortality improvement	Society of Actuaries Scale MP-2021	Society of Actuaries Scale MP-2020

The long-term expected rate of return on pension plan investments was determined using a building-block method in which best-estimate ranges of expected future real rates of return (expected return, net of investment expenses and inflation) are developed for each major asset class. These ranges are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage and by adding expected inflation. The target allocation and best estimates of arithmetic real rates of return for each major asset class for the measurement period March 31, 2023 and 2022 are summarized in the following table:

	2023		2022	
Asset class	Target allocation	Long-term expected real rate of return	Target allocation	Long-term expected real rate of return
Domestic equity	32 %	4.30 %	32 %	3.30 %
International equity	15	6.85	15	5.85
Private equity	10	7.50	10	6.50
Real estate	9	4.60	9	5.00
Opportunistic/ARS portfolio	3	5.38	3	4.10
Credit	4	5.43	4	3.78
Real assets	3	5.84	3	5.58
Fixed income	23	1.50	23	—
Cash	1	—	1	(1.00)
	100 %		100 %	

(f) Discount Rate

The discount rate used to calculate the total pension liability was 5.9% for years ending March 31, 2023 and 2022. The projection of cash flows used to determine the discount rate assumes that contributions from plan members will be made at the current contribution rates and that contributions from employers will be made at statutorily required rates, actuarially determined. Based upon those assumptions, the ERS's fiduciary net position was projected to be available to

NOTES TO FINANCIAL STATEMENTS *(continued)*
June 30, 2023 and 2022
(dollars in thousands)

make all projected future benefit payments of current plan members. Therefore the long-term expected rate of return on pension plan investments was applied to all periods of projected benefit payments to determine the total pension liability.

(g) Sensitivity of the System's Proportionate Share of the ERS Net Pension Liability

The following presents the System's proportionate share of the ERS net pension liability calculated using the discount rate of 5.9% for the years ending June 30, 2023 and 2022, as well as what the System's proportionate share of the ERS net pension liability would be if it were calculated using a discount rate that is 1-percentage-point lower or 1-percentage-point higher than the current rate:

	System's net pension liability (asset)		
	1% Decrease (4.9%)	Current discount rate (5.9%)	1% Increase (6.9%)
June 30, 2023	$ 60,043	$ 24,846	$ (4,565)
June 30, 2022	$ 25,413	$ (9,873)	$ (39,387)

(10) System Employees' Other Post-Employment Benefits

(a) Plan Description

The System's Board established the Trust in 2008 to provide post-employment health insurance benefits. Contributions from the System to the Trust are irrevocable.

The Trust is a defined-benefit, single-employer other post-employment benefit (OPEB) plan that accumulates resources to pay current and future health insurance premiums for retired System employees and beneficiaries. The Trust is administered by a 10-member Board whose members are the same as the System Board. The Trust is a legally separate entity with standalone financial statements and required supplementary information, which can be found on the System's website at www.nystrs.org. The fiduciary net position of the OPEB and changes in fiduciary net position of the OPEB have been determined on the same basis as they are reported in the financial statements of the Trust.

(b) Benefits

Pursuant to contractual agreement and policy, the System provides post-employment healthcare benefits to eligible System employees who retire from the System and reimburses Medicare eligible retirees for their Medicare Part B premiums. The System is a voluntary participating employer in the New York State Health Insurance Program (NYSHIP), administered by the State of New York. Article XI of the New York State Civil Service Law assigns the authority to NYSHIP to establish and amend the benefit provisions of the plan and to establish maximum obligations of the plan members to contribute to the plan. The System's Board is authorized to establish the contribution rates of System employees and retirees up to those set by Civil Service Law, and they are set as part of the collective bargaining process.

In order to be eligible, employees must have worked for at least 10 years for the System, retire directly from System employment, and commence receipt of their pension from ERS. Dependents may also be covered.

System retirees are required to contribute toward the cost of their coverage. Employees who retire on or after July 1, 1985 contribute an amount equal to 14.0% of the premium up to the premium of the Empire Plan option. If more expensive coverage is elected, the retiree pays 14.0% of the Empire Plan option and 100% of the difference between the two.

Employees who retire on or after April 1, 1991, are eligible to have accumulated unused sick leave converted into a credit to offset their contribution requirement.

NOTES TO FINANCIAL STATEMENTS *(continued)*
June 30, 2023 and 2022
(dollars in thousands)

As of June 30, 2023, 689 participants including 371 current employees and 318 retired and/or spouses of retired employees participated in the healthcare plan. As of June 30, 2022, 676 participants including 365 current employees and 311 retired and/or spouses of retired employees participated in the healthcare plan.

(c) Employer Contribution

The employer contribution, or funding, of the System's OPEB obligation is at the discretion of the System's management and Board. The System's current policy is to prefund benefits by contributing an amount that is, at a minimum, equal to the ADC. At June 30, 2023 and 2022, the Trust recognized contributions of $6.4 million and $6.0 million, respectively, which were approximately 100.0% and 112.4% of the ADC or 18.0% and 17.0% of covered payroll, respectively.

(d) OPEB Liabilities, OPEB Expense, Deferred Outflows of Resources and Deferred Inflows of Resources Related to OPEB

At June 30, 2023 and 2022, the System reported a net OPEB liability of $48.8 million and $34.8 million, respectively. The June 30, 2023 OPEB liability was determined using an actuarial valuation as of July 1, 2021, with update procedures used to roll forward the total OPEB liability to the measurement date of June 30, 2022. The total OPEB liability at June 30, 2022 was determined using an actuarial valuation as of July 1, 2020, with update procedures used to roll forward the total OPEB liability to June 30, 2021.

For the years ended June 30, 2023 and 2022, the System recognized OPEB expense of $5.1 million and $2.8 million, respectively.

Deferred outflows of resources were $15.1 million for June 30, 2023 and $10.7 million for June 30, 2022. Deferred inflows of resources were $2.2 million at June 30, 2023 and $13.2 million at June 30, 2022.

The following presents a summary of deferred outflows of resources and deferred inflows of resources at June 30, 2023 and 2022:

Reporting Date	2023	2022
Deferred outflows of resources:		
Difference between expected and actual experience	$ 1,842	$ 1,459
Changes in assumptions	2,387	3,244
Net difference between projected and actual earnings	4,480	—
Contributions subsequent to the measurement date	6,394	6,000
	$ 15,103	$ 10,703
Deferred inflows of resources:		
Difference between expected and actual experience	$ 240	$ 724
Changes in assumptions	2,009	3,500
Net difference between projected and actual earnings	—	9,006
	$ 2,249	$ 13,230

NOTES TO FINANCIAL STATEMENTS *(continued)*

June 30, 2023 and 2022

(dollars in thousands)

Amounts reported as deferred outflows and deferred inflows of resources will be recognized in OPEB expense as follows:

Year ended June 30:

2024	$	924
2025	$	1,500
2026	$	1,163
2027	$	2,728
2028	$	145
Thereafter	$	—

(e) Actuarial Assumptions

	2023	2022
Valuation date	July 1, 2021	July 1, 2020
Investment rate of return	6.50%	6.50%
Payroll increase rate	3.00%	3.00%
Salary increase rate	Varies by service from 3.00%-8.00%	Varies by service from 3.00%-8.00%
Maximum retiree contribution based on salary at retirement	Increase $100 per year after 2025	Increase $100 per year after 2025
Healthcare cost and premium trend rates:		
Non-Medicare	7.40% graded to 4.34% over 19 years	7.70% graded to 4.34% over 20 years
Medicare	8.45% graded to 4.34% over 19 years	8.80% graded to 4.34% over 20 years
Medicare Part B	3.50%	3.50%
Blended Medicare	7.41% graded to 4.16% over 19 years	7.69% graded to 4.16% over 20 years
Pre-retirement mortality	The Pub-2010 General Employee Headcount-Weighted Mortality table [PubG.H-2010 Employee] as published by the SOA with an 98.75% adjustment for both males and females, and with future improvement from the base year of 2010 on a generational basis using SOA's Scale MP-2020. All pre-retirement deaths are assumed ordinary deaths.	The Pub-2010 General Employee Headcount-Weighted Mortality table (PubG.H-2010 Employee) as published by the Society of Actuaries (SOA) with an 98.75% adjustment for both males and females, and with future improvement from the base year of 2010 on a generational basis using SOA's Scale MP-2020. All pre-retirement deaths are assumed ordinary deaths

NOTES TO FINANCIAL STATEMENTS *(continued)*

June 30, 2023 and 2022
(dollars in thousands)

Post-retirement mortality	• **Healthy Retirees:** The Pub-2010 General Healthy Retiree Headcount-Weighted Mortality table [PubG.H-2010 Healthy Retiree] as published by the SOA with a 98.75% adjustment for both males and females, and with future improvement from the base year of 2010 on a generational basis using SOA's Scale MP-2020. • **Beneficiaries:** Pub-2010 General Contingent Survivors Headcount-Weighted Mortality [PubG.H-2010 Contingent Survivors] as published by the SOA with a 98.75% adjustment for both males and females, and with future improvement from the base year of 2010 on a generational basis using SOA's Scale MP-2020. • **Disabled Retirees:** The Pub-2010 General Disabled Retiree Headcount-Weighted Mortality table [PubG.H-2010 Disabled Retiree] as published by the SOA with a 98.75% adjustment for both males and females, and with future improvement from the base year of 2010 on a generational basis using SOA's Scale MP-2020.	• **Healthy Retirees:** The Pub-2010 General Healthy Retiree Headcount-Weighted Mortality table (PubG.H-2010 Healthy Retiree) as published by the SOA with a 98.75% adjustment for both males and females, and with future improvement from the base year of 2010 on a generational basis using SOA's Scale MP-2020. • **Beneficiaries:** Pub-2010 General Contingent Survivors Headcount-Weighted Mortality (PubG.H-2010 Contingent Survivors) as published by the SOA with a 98.75% adjustment for both males and females, and with future improvement from the base year of 2010 on a generational basis using SOA's Scale MP-2020. • **Disabled Retirees:** The Pub-2010 General Disabled Retiree Headcount-Weighted Mortality table (PubG.H-2010 Disabled Retiree) as published by the SOA with a 98.75% adjustment for both males and females, and with future improvement from the base year of 2010 on a generational basis using SOA's Scale MP-2020.
Banked sick leave	Participants are assumed to accrue 4.74 days of unused sick leave per year and use 100% of accumulated leave at retirement for the sick leave offset.	Participants are assumed to accrue 4.74 days of unused sick leave per year and use 100% of accumulated leave at retirement for the sick leave offset.

The long-term expected rate of return on OPEB plan investments was determined using a building-block method in which best estimate ranges of expected future rates of return (expected returns, net of investment expense and inflation) are developed for each major asset class. These returns are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage and by adding expected inflation.

NOTES TO FINANCIAL STATEMENTS *(continued)*
June 30, 2023 and 2022
(dollars in thousands)

Best estimates of arithmetic real rates of return for each major asset class included in the System's target asset allocation as of June 30, 2022 and June 30, 2021 are summarized in the following table:

	Long-Term Expected Real Rate of Return*	
Asset Class	2022	2021
Domestic equity	5.62 %	6.06 %
International equity	6.49	6.83
Domestic fixed income	-0.25	0.12
Cash equivalents	-0.69	-0.32

* Real rates of return are net of the long-term inflation assumption of 2.60% for 2022 and 2021.

(f) *Sensitivity of the Net OPEB Liability to Changes in the Healthcare Cost Trend Rates*

Healthcare cost trend rates measure the anticipated overall rate at which health plan costs are expected to increase in future years. The following presents the net OPEB liability of the System using the healthcare cost trend rates presented previously in the actuarial assumptions, as well as what the System's net OPEB liability would be if it were calculated using healthcare cost trend rates that are 1-percentage-point lower or 1-percentage-point higher than the applied healthcare cost trend rates:

	System's Net OPEB Liability		
Reporting Date	1% Decrease	Current Healthcare Cost Trend Rates	1% Increase
June 30, 2023	$ 35,496	$ 48,847	$ 65,199
June 30, 2022	22,218	34,792	50,200

(g) *Discount Rate*

The discount rate used to measure the total pension liability as of June 30, 2023 and 2022 was 6.50%. The projection of cash flows used to determine the discount rate assumed that contributions would be made at rates equal to the actuarially determined contribution rates. Based on these assumptions, the OPEB Plan's fiduciary net position was projected to be available to make all projected future benefit payments of current plan participants. Therefore, the long-term expected rate of return on plan investments was applied to all periods of projected benefit payments to determine the total OPEB liability.

(h) *Sensitivity of the Net OPEB Liability to Changes in the Discount Rate*

The following presents the net OPEB liability of the System as well as what the System's net OPEB liability would be if it were calculated using a discount rate that is 1-percentage-point lower or 1-percentage-point higher than the applied rate:

	System's Net OPEB Liability		
Reporting Date	1% Decrease	Current Discount Rate	1% Increase
June 30, 2023	$ 63,460	$ 48,847	$ 36,788
June 30, 2022	48,613	34,792	23,387

NOTES TO FINANCIAL STATEMENTS *(continued)*

June 30, 2023 and 2022

(dollars in thousands)

(11) Risk Management

The System is exposed to various risks of loss related to torts; theft of, damage to, and destruction of assets; errors and omissions; job-related illnesses or injuries to employees; and certain natural disasters for which the System carries commercial insurance. There were no settlements in the past three years that exceeded coverage. Management of the System believes there would be no material adverse effect on the financial statements as a result of the outcome of these matters if they occur.

REQUIRED SUPPLEMENTARY INFORMATION

SCHEDULE OF CHANGES IN THE SCHOOL DISTRICTS' NET PENSION LIABILITY (ASSET) (UNAUDITED)

(Last Ten Fiscal Years)
(dollars in thousands)

	2023	2022	2021	2020	2019
Total pension liability					
Service cost	$ 1,809,524	$ 1,751,453	$ 1,755,405	$ 1,563,222	$ 1,528,402
Interest	9,259,036	8,959,475	8,752,345	8,418,885	8,189,405
Changes of benefit terms	12,101	10,091	—	678	815
Differences between expected and actual experience	1,635,898	251,733	558,905	1,169,842	753,802
Changes of assumptions	—	69,931	4,241,884	(285,424)	(1,392,886)
Benefit payments, incl. refunds of member contributions	(8,234,911)	(7,978,624)	(7,731,900)	(7,503,901)	(7,307,318)
Net change in total pension liability	4,481,648	3,064,059	7,576,639	3,363,302	1,772,220
Total pension liability — beginning	133,883,474	130,819,415	123,242,776	119,879,474	118,107,254
Total pension liability — ending (a)	$ 138,365,122	$ 133,883,474	$ 130,819,415	$ 123,242,776	$ 119,879,474
Plan fiduciary net position					
Contributions — employer	$ 1,899,885	$ 1,735,255	$ 1,618,437	$ 1,504,688	$ 1,774,646
Contributions — member	221,152	190,853	159,874	145,034	136,610
Net investment income	11,439,286	(10,078,814)	33,668,008	3,923,633	8,023,180
Benefit payments, incl. refunds of member contributions	(8,234,911)	(7,978,624)	(7,731,900)	(7,503,901)	(7,307,318)
Administrative expenses	(79,298)	(61,230)	(55,492)	(71,385)	(74,242)
Other	10,841	8,685	10,025	3,955	9,087
Net change in plan fiduciary net position	5,256,955	(16,183,875)	27,668,952	(1,997,976)	2,561,963
Plan fiduciary net position — beginning	131,964,582	148,148,457	120,479,505	122,477,481	119,915,518
Cumulative effect of change in accounting principle	—	—	—	—	—
Beginning balance as restated	131,964,582	148,148,457	120,479,505	122,477,481	119,915,518
Plan fiduciary net position — ending (b)	$ 137,221,537	$ 131,964,582	$ 148,148,457	$ 120,479,505	$ 122,477,481
School districts' net pension liability (asset) — ending (a) — (b)	$ 1,143,585	$ 1,918,892	$ (17,329,042)	$ 2,763,271	$ (2,598,007)

See accompanying independent auditors' report.

REQUIRED SUPPLEMENTARY INFORMATION *(continued)*

SCHEDULE OF CHANGES IN THE SCHOOL DISTRICTS' NET PENSION LIABILITY (ASSET) (UNAUDITED) *(continued)*

(Last Ten Fiscal Years)

(dollars in thousands)

	2018	2017	2016	2015	2014
Total pension liability					
Service cost	$ 1,319,513	$ 1,292,143	$ 1,181,609	$ 1,396,824	$ 1,397,547
Interest	8,224,221	7,988,167	7,809,566	7,611,757	7,434,764
Changes of benefit terms	—	—	—	—	—
Differences between expected and actual	964,258	727,895	(111,652)	(161,043)	(181,834)
Changes of assumptions	—	3,045,909	7,085,423	—	—
Benefit payments, incl. refunds of member contributions	(7,108,999)	(6,923,037)	(6,719,866)	(6,531,140)	(6,343,538)
Net change in total pension liability	3,398,993	6,131,077	9,245,080	2,316,398	2,306,939
Total pension liability — beginning	114,708,261	108,577,184	99,332,104	97,015,706	94,708,767
Total pension liability — ending (a)	$ 118,107,254	$ 114,708,261	$ 108,577,184	$ 99,332,104	$ 97,015,706
Plan fiduciary net position					
Contributions — employer	$ 1,597,139	$ 1,857,359	$ 2,046,562	$ 2,633,682	$ 2,400,386
Contributions — member	131,595	129,770	124,587	119,411	120,762
Net investment income	9,928,011	12,951,892	2,392,354	5,400,265	16,664,703
Benefit payments, incl. refunds of member contributions	(7,108,999)	(6,923,037)	(6,719,866)	(6,531,140)	(6,343,538)
Administrative expenses	(60,610)	(61,611)	(60,426)	(56,948)	(55,616)
Other	9,278	7,845	4,014	3,213	1,365
Net change in plan fiduciary net position	4,496,414	7,962,218	(2,212,775)	1,568,483	12,788,062
Plan fiduciary net position — beginning	115,468,360	107,506,142	109,718,917	108,155,083	95,367,021
Cumulative effect of change in accounting principle	(49,256)	—	—	(4,649)	—
Beginning balance as restated	115,419,104	107,506,142	109,718,917	108,150,434	95,367,021
Plan fiduciary net position — ending (b)	$ 119,915,518	$ 115,468,360	$ 107,506,142	$ 109,718,917	$ 108,155,083
School districts' net pension liability (asset) — ending (a) — (b)	$ (1,808,264)	$ (760,099)	$ 1,071,042	$ (10,386,813)	$ (11,139,377)

See accompanying independent auditors' report.

REQUIRED SUPPLEMENTARY INFORMATION *(continued)*

SCHEDULE OF THE SCHOOL DISTRICTS' NET PENSION LIABILITY (ASSET) (UNAUDITED)

(Last Ten Fiscal Years)

(dollars in thousands)

	2023	2022	2021	2020	2019
Total pension liability	$ 138,365,122	$ 133,883,474	$ 130,819,415	$ 123,242,776	$ 119,879,474
Plan fiduciary net position	137,221,537	131,964,582	148,148,457	120,479,505	122,477,481
School districts' net pension liability (asset)	$ 1,143,585	$ 1,918,892	$ (17,329,042)	$ 2,763,271	$ (2,598,007)
Plan fiduciary net position as a percentage of the total pension liability	99.2%	98.6%	113.2%	97.8%	102.2%
Covered payroll	$18,469,130	$17,715,273	$16,973,207	$16,973,171	$16,691,626
School districts' net pension liability (asset) as a percentage of covered payroll	6.2%	10.8%	(102.1)%	16.3%	(15.6)%

SCHEDULE OF THE SCHOOL DISTRICTS' CONTRIBUTIONS (UNAUDITED)

(Last Ten Fiscal Years)

(dollars in thousands)

	2023	2022	2021	2020	2019
Actuarially determined contribution	$ 1,900,474	$ 1,736,097	$ 1,617,547	$ 1,503,823	$ 1,772,651
Contributions in relation to the actuarially determined contribution	1,900,474	1,736,097	1,617,547	1,503,823	1,772,651
Contribution deficiency	$ —	$ —	$ —	$ —	$ —
Covered payroll	$ 18,469,130	$ 17,715,273	$ 16,973,207	$ 16,973,171	$ 16,691,626
Contributions as a percentage of covered payroll	10.29%	9.80%	9.53%	8.86%	10.62%

See accompanying independent auditors' report.

REQUIRED SUPPLEMENTARY INFORMATION *(continued)*

SCHEDULE OF THE SCHOOL DISTRICTS' NET PENSION LIABILITY (ASSET) (UNAUDITED) *(continued)*
(Last Ten Fiscal Years)
(dollars in thousands)

	2018	2017	2016	2015	2014
Total pension liability	$ 118,107,254	$ 114,708,261	$ 108,577,184	$ 99,332,104	$ 97,015,706
Plan fiduciary net position	119,915,518	115,468,360	107,506,142	109,718,917	108,155,083
School districts' net pension liability (asset)	$ (1,808,264)	$ (760,099)	$ 1,071,042	$(10,386,813)	$(11,139,377)
Plan fiduciary net position as a percentage of the total pension liability	101.5%	100.7%	99.0%	110.5%	111.5%
Covered payroll	$16,288,884	$15,846,705	$15,431,009	$15,021,357	$14,771,301
School districts' net pension liability (asset) as a percentage of covered payroll	(11.1)%	(4.8)%	6.9%	(69.1)%	(75.4)%

SCHEDULE OF THE SCHOOL DISTRICTS' CONTRIBUTIONS (UNAUDITED) *(continued)*
(Last Ten Fiscal Years)
(dollars in thousands)

	2018	2017	2016	2015	2014
Actuarially determined contribution	$ 1,596,311	$ 1,857,234	$ 2,046,152	$ 2,633,244	$ 2,400,378
Contributions in relation to the actuarially determined contribution	1,596,311	1,857,234	2,046,152	2,608,266	2,383,145
Contribution deficiency	$ —	$ —	$ —	$ 24,978	$ 17,233
Covered payroll	$ 16,288,884	$ 15,846,705	$ 15,431,009	$ 15,021,357	$ 14,771,301
Contributions as a percentage of covered payroll	9.80%	11.72%	13.26%	17.36%	16.13%

See accompanying independent auditors' report.

REQUIRED SUPPLEMENTARY INFORMATION *(continued)*

SCHEDULE OF INVESTMENT RETURNS (UNAUDITED)

(Last Ten Fiscal Years)

	2023	2022	2021	2020	2019	2018	2017	2016	2015	2014
Annual money-weighted rate of return, net of investment expense	9.16%	(7.12)%	28.97%	3.32%	6.93%	8.95%	13.05%	2.28%	5.18%	18.16%

See accompanying independent auditors' report.

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REQUIRED SUPPLEMENTARY INFORMATION *(continued)*

SCHEDULE OF NYSTRS' PROPORTIONATE SHARE OF THE NET PENSION LIABILITY NEW YORK STATE AND LOCAL EMPLOYEES' RETIREMENT SYSTEM (ERS)

(Last Ten Fiscal Years)

(dollars in thousands)

	2023	2022	2021	2020	2019
System's proportion of the net pension liability	0.1158665 %	0.1207750 %	0.1108277 %	0.1120455 %	0.1095732 %
System's proportionate share of the net pension (asset) liability	$ 24,846	$ (9,873)	$ 110	$ 29,670	$ 7,764
System's covered payroll	34,551	34,055	33,718	31,466	30,546
System's proportionate share of the net pension liability as a percentage of covered payroll	71.9 %	(29.0)%	— %	94.3 %	25.4 %
ERS fiduciary net position as a percentage of the total pension liability	90.78 %	103.65 %	99.95 %	86.39 %	96.27 %

See accompanying independent auditors' report.

REQUIRED SUPPLEMENTARY INFORMATION *(continued)*

SCHEDULE OF NYSTRS' PROPORTIONATE SHARE OF THE NET PENSION LIABILITY NEW YORK STATE AND LOCAL EMPLOYEES' RETIREMENT SYSTEM (ERS) *(continued)*

(Last Ten Fiscal Years)

(dollars in thousands)

	2018	2017	2016	2015	2014
System's proportion of the net pension liability	0.1115115 %	0.1098533 %	0.1095719 %	0.1028788 %	0.1028788 %
System's proportionate share of the net pension (asset) liability	$ 3,599	$ 10,322	$ 17,587	$ 3,475	$ 4,649
System's covered payroll	29,728	28,994	28,251	28,067	26,188
System's proportionate share of the net pension liability as a percentage of covered payroll	12.1 %	35.6 %	62.3 %	12.4 %	17.8 %
ERS fiduciary net position as a percentage of the total pension liability	98.24 %	94.70 %	90.70 %	97.90 %	97.20 %

See accompanying independent auditors' report.

REQUIRED SUPPLEMENTARY INFORMATION *(continued)*

SCHEDULE OF NYSTRS' CONTRIBUTIONS (UNAUDITED)
NEW YORK STATE AND LOCAL EMPLOYEES' RETIREMENT SYSTEM (ERS)

(Last Ten Fiscal Years)

(dollars in thousands)

	2023	2022	2021	2020	2019
Actuarially determined contribution	$ 3,860	$ 5,377	$ 4,499	$ 4,360	$ 4,308
Contributions in relation to the actuarially determined contribution	3,860	5,377	4,499	4,360	4,308
Contribution deficiency	$ —	$ —	$ —	$ —	$ —
Covered payroll	$ 34,551	$ 34,055	$ 33,718	$ 31,466	$ 30,546
Contributions as a percentage of covered payroll	11.17 %	15.79 %	13.34 %	13.86 %	14.10 %

See accompanying independent auditors' report.

REQUIRED SUPPLEMENTARY INFORMATION *(continued)*

SCHEDULE OF NYSTRS' CONTRIBUTIONS (UNAUDITED)
NEW YORK STATE AND LOCAL EMPLOYEES' RETIREMENT SYSTEM (ERS) *(continued)*

(Last Ten Fiscal Years)

(dollars in thousands)

	2018	2017	2016	2015	2014
Actuarially determined contribution	$ 4,310	$ 4,318	$ 5,289	$ 5,131	$ 5,250
Contributions in relation to the actuarially determined contribution	4,310	4,318	5,289	5,131	5,250
Contribution deficiency	$ —	$ —	$ —	$ —	$ —
Covered payroll	$ 29,728	$ 28,994	$ 28,251	$ 28,067	$ 26,188
Contributions as a percentage of covered payroll	14.50 %	14.89 %	18.72 %	18.28 %	20.05 %

See accompanying independent auditors' report.

REQUIRED SUPPLEMENTARY INFORMATION *(continued)*

SCHEDULE OF CHANGES IN THE SYSTEM'S NET OPEB LIABILITY AND RELATED RATIOS (UNAUDITED)

(Last Seven Fiscal Years)

(dollars in thousands)

Reporting Date:	2023	2022	2021	2020	2019
Measurement Date:	2022	2021	2020	2019	2018
Total OPEB liability:					
Service cost	$ 3,069	2,985	$ 2,915	$ 2,907	$ 2,604
Interest	6,588	6,586	6,622	6,169	5,747
Changes of benefit terms	—	—	(9,789)	—	6,211
Differences between expected and actual experience	870	1,259	79	714	(842)
Changes of assumptions	—	(2,450)	4,039	1,102	(878)
Benefit payments	(4,835)	(4,527)	(4,413)	(3,965)	(3,757)
Net change in total OPEB liability	5,692	3,853	(547)	6,927	9,085
Total OPEB liability - beginning	100,663	96,810	97,357	90,430	81,344
Total OPEB liability - ending (a)	$ 106,355	100,663	$ 96,810	$ 97,357	$ 90,430
Plan fiduciary net position:					
Contributions - employer	$ 6,000	6,261	$ 6,004	$ 5,500	$ 5,500
Net investment income	(9,584)	14,535	2,673	3,155	3,213
Benefit payments	(4,835)	(4,527)	(4,413)	(3,965)	(3,757)
Professional fees and services	56	(20)	(66)	(19)	(53)
Net change in plan fiduciary net position	(8,363)	16,248	4,199	4,671	4,902
Plan fiduciary net position - beginning	65,871	49,622	45,424	40,752	35,850
Plan fiduciary net position - ending (b)	$ 57,508	65,871	$ 49,622	$ 45,424	$ 40,752
System's net OPEB liability - ending (a) - (b)	$ 48,847	34,792	$ 47,187	$ 51,933	$ 49,677
Plan fiduciary net position as a percentage of the total OPEB liability	54.07 %	65.44 %	51.26 %	46.66 %	45.07 %
Covered payroll	$ 35,423	33,142	$ 32,125	$ 31,189	$ 30,683
System's net OPEB liability as a percentage of covered payroll	137.90 %	104.98 %	146.89 %	166.51 %	161.90 %

See accompanying independent auditors' report.

REQUIRED SUPPLEMENTARY INFORMATION *(continued)*

SCHEDULE OF CHANGES IN THE SYSTEM'S NET OPEB LIABILITY AND RELATED RATIOS (UNAUDITED) *(continued)*

(Last Seven Fiscal Years)

(dollars in thousands)

Reporting Date:	2018	2017
Measurement Date:	**2017**	**2016**
Total OPEB liability:		
Service cost	$ 2,491	$ 2,579
Interest	5,959	5,589
Changes of benefit terms	—	—
Differences between expected and actual experience	(2,166)	400
Changes of assumptions	(5,849)	—
Benefit payments	(3,412)	(2,980)
Net change in total OPEB liability	(2,977)	5,589
Total OPEB liability - beginning	84,321	78,732
Total OPEB liability - ending (a)	$ 81,344	$ 84,321
Plan fiduciary net position:		
Contributions - employer	$ 5,500	$ 5,500
Net investment income	4,212	382
Benefit payments	(3,412)	(2,980)
Professional fees and services	(15)	(13)
Net change in plan fiduciary net position	6,285	2,890
Plan fiduciary net position - beginning	29,565	26,675
Plan fiduciary net position - ending (b)	$ 35,850	$ 29,565
System's net OPEB liability - ending (a) - (b)	$ 45,494	$ 54,756
Plan fiduciary net position as a percentage of the total OPEB liability	44.07 %	35.06 %
Covered payroll	$ 29,753	$ 29,087
System's net OPEB liability as a percentage of covered payroll	152.91 %	188.25 %

Schedule is intended to show information for 10 years. Additional years will be displayed as they become available.

See accompanying independent auditors' report.

REQUIRED SUPPLEMENTARY INFORMATION *(continued)*

SCHEDULE OF SYSTEM AND OTHER CONTRIBUTING ENTITY CONTRIBUTIONS (UNAUDITED)

(Last Ten Fiscal Years)

(dollars in thousands)

	2023	2022	2021	2020	2019
Actuarially determined contribution	$ 6,394	$ 5,340	$ 5,822	$ 5,958	$ 5,349
Contributions in relation to the actuarially determined contribution:					
System	6,394	6,000	6,261	6,004	5,500
Other contributing entity	—	—	—	—	—
Total contributions	6,394	6,000	6,261	6,004	5,500
Contribution deficiency (excess)	$ —	$ (660)	$ (439)	$ (46)	$ (151)
Covered payroll	$ 35,579	$ 35,423	$ 33,142	$ 32,125	$ 31,189
Contributions as a percentage of covered payroll	17.97 %	16.94 %	18.89 %	18.69 %	17.63 %

See accompanying independent auditors' report.

REQUIRED SUPPLEMENTARY INFORMATION *(continued)*

SCHEDULE OF SYSTEM AND OTHER CONTRIBUTING ENTITY CONTRIBUTIONS (UNAUDITED)

(continued)

(Last Ten Fiscal Years)

(dollars in thousands)

	2018	2017	2016	2015	2014
Actuarially determined contribution	$ 5,279	$ 5,374	$ 4,782	$ 4,542	$ 4,767
Contributions in relation to the actuarially determined contribution:					
System	5,500	5,500	5,500	5,500	5,500
Other contributing entity	—	—	—	—	1
Total contributions	5,500	5,500	5,500	5,500	5,501
Contribution deficiency (excess)	$ (221)	$ (126)	$ (718)	$ (958)	$ (734)
Covered payroll	$ 30,683	$ 29,753	$ 29,087	$ 26,507	$ 25,556
Contributions as a percentage of covered payroll	17.93 %	18.49 %	18.91 %	20.75 %	21.53 %

See accompanying independent auditors' report.

REQUIRED SUPPLEMENTARY INFORMATION *(continued)*

NOTES TO REQUIRED SUPPLEMENTARY INFORMATION (UNAUDITED)

(Last Ten Fiscal Years)

Method and assumptions used in calculations of school districts' Total Pension Liability (TPL)

Changes of benefit terms. Effective with the 2023 actuarial valuation, the following plan change was effective: Chapter 720 of the Laws of 2022 changed the age at which reductions in the ordinary death benefit commence to age 62 for members with a date of membership prior to April 1, 2012 (before it was 61), and to age 63 for members with a date of membership on or after April 1, 2012 (before it was age 61). The post-retirement death benefit has been increased as well.

Changes of assumptions. Actuarial assumptions are revised periodically to more closely reflect actual, as well as anticipated future experience. The actuarial assumptions were revised and adopted by the Retirement Board on October 28, 2021 and first used in the 2021 determination of the Total Pension Liability.

The System's long-term rate of return assumption for purposes of the NPL is 6.95%, effective with the 2021 actuarial valuation. For the 2020 and 2019 actuarial valuations, the System's long-term rate of return assumption was 7.10%. For the 2018 and 2017 actuarial valuations, the System's long-term rate of return assumption was 7.25%. For the 2016 actuarial valuation, the System's long-term rate of return assumption was 7.50%. Prior to the 2016 actuarial valuation, the System's long-term rate of return was 8.00%.

The System's assumed annual inflation rate is 2.40%. For the 2019 and 2020 actuarial valuations, the System's annual inflation assumption was 2.20%. For the 2018 and 2017 actuarial valuations, the System's annual inflation assumption was 2.25%. For the 2016 actuarial valuation, the System's annual inflation assumption was 2.50%. Prior to the 2016 actuarial valuation, the System's annual inflation assumption was 3.00%.

Effective with the 2019 actuarial valuation, the COLAs is projected to increase at a rate of 1.30% annually. Effective with the 2015 actuarial valuation, COLAs were projected to increase at a rate of 1.50% annually. Prior to the 2015 actuarial valuation, COLAs were projected to increase at a rate of 1.625% annually.

Effective with the 2022 actuarial valuation, the assumed scale for mortality improvement was changed from MP2020 to MP2021. Effective with the 2021 actuarial valuation, the assumed scale for mortality improvement was changed from MP2019 to MP2020. Effective with the 2020 actuarial valuation, the assumed scale for mortality improvement was changed from MP2018 to MP2019. Effective with the 2019 actuarial valuation, the assumed scale for mortality improvement was changed from MP2014 to MP2018.

See accompanying independent auditors' report.

REQUIRED SUPPLEMENTARY INFORMATION *(continued)*

NOTES TO REQUIRED SUPPLEMENTARY INFORMATION (UNAUDITED) *(continued)*
(Last Ten Fiscal Years)

Method and assumptions used in calculations of school districts' actuarially determined contributions. The actuarially determined contribution rates in the schedule of school districts' contributions are calculated as of June 30, two years prior to the end of the fiscal year in which contributions are reported. The following actuarial methods and assumptions were used to determine school districts' contributions in 2023. For assumptions and plan provisions used in contributions reported for years prior to 2023, refer to the Annual Actuarial Report for two years prior to the end of the fiscal year in which contributions are reported.

Valuation Date	June 30, 2021
Actuarial cost method	Aggregate (level percent of payroll)*
Amortization method	n/a*
Remaining amortization period	n/a*
Asset valuation method	Five-year phased-in deferred recognition of each year's net investment income/loss in excess of (or less than) the assumed valuation rate of interest at a rate of 20.0% per year, until fully recognized after 5 years.
Inflation	2.40%
Projected salary increases	Rates of increase differ based on service. They have been calculated based upon recent NYSTRS member experience.

Service	Rate
5	5.18%
15	3.64
25	2.50
35	1.95

Projected COLAs	1.3% compounded annually
Valuation rate of interest	6.95% compounded annually, net of pension plan investment expense.

** The System is funded in accordance with the Aggregate Cost Method, which does not identify or separately amortize unfunded actuarial liabilities. Costs are determined by amortizing the unfunded present value of benefits over the average future working lifetime of active plan members, which currently for NYSTRS is approximately 12.56 years.*

Base Rates of Mortality: Rates differ by member status, age and gender. They have been calculated based upon recent NYSTRS member experience

Base Rates of Mortality*					
Active Members			Retired Members		
Age	Male	Female	Age	Male	Female
30	0.03%	0.02%	60	0.35%	0.26%
40	0.05	0.03	70	0.94	0.62
50	0.10	0.07	80	3.84	2.62
60	0.26	0.16	90	13.57	10.98
Disabled Members			Survivor and Beneficiaries		
Age	Male	Female	Age	Male	Female
30	0.47%	0.34%	30	0.04%	0.02%
40	0.77	0.72	40	0.07	0.04
60	2.65	2.14	60	0.64	0.41
80	6.96	5.95	80	4.52	3.27

Key Methods and Assumptions Used to Determine OPEB Contribution Rates:

Asset Valuation Method:	Market Value
Amortization Method:	30-Year Closed Amortization, level percentage of payroll
Remaining Amortization Period:	24 years as of July 1, 2022
Discount Rate:	6.50% per annum
Expected Return on Assets:	6.50% per annum
Salary Increases:	Varies by service from 3.00% - 8.00%
Healthcare cost and premium trend rates:	
Non-Medicare	7.40% graded to 4.34% over 20 years
Medicare	8.45% graded to 4.34% over 20 years
Medicare Part B	3.50%
Blended Medicare	7.41% graded to 4.16% over 19 years
Pre-Retirement Mortality:	The Pub-2010 General Employee Headcount-Weighted Mortality table (PubG.H-2010 Employee) as published by the Society of Actuaries (SOA) with an 98.75% adjustment for both males and females, and with future improvement from the base year of 2010 on a generational basis using SOA's Scale MP-2020. All pre-retirement deaths are assumed ordinary deaths.
Healthy Retirees Mortality:	The Pub-2010 General Healthy Retiree Headcount-Weighted Mortality table [PubG.H-2010 Healthy Retiree] as published by the SOA with a 98.75% adjustment for both males and females, and with future improvement from the base year of 2010 on a generational basis using SOA's Scale MP-2020.
Beneficiaries:	Pub-2010 General Contingent Survivors Headcount-Weighted Mortality [PubG.H-2010 Contingent Survivors] as published by SOA with a 98.75% adjustment for both males and females, and with future improvement from the base year of 2010 on a generational basis using SOA's Scale MP-2020.
Disabled Retirees:	The Pub-2010 General Disabled Retiree Headcount-Weighted Mortality table [PubG.H-2010 Disabled Retiree] as published by the SOA with a 98.75% adjustment for both males and females, and with future improvement from the base year of 2010 on a generational basis using SOA's Scale MP-2020.

See accompanying independent auditors' report.

OTHER SUPPLEMENTARY SCHEDULES
SCHEDULES OF ADMINISTRATIVE EXPENSES

Years ended June 30, 2023 and 2022
(dollars in thousands)

	2023	2022
Salaries and benefits:		
Salaries	$ 37,245	$ 36,038
Civil service	63	57
Employees retirement	5,286	4,451
Health and dental insurance	13,517	12,019
Overtime salaries	58	28
Social Security	2,594	2,511
Total salaries and benefits	58,763	55,104
Building occupancy expenses:		
Building, grounds and equipment	$ 2,660	$ 1,815
Depreciation - building and improvements	1,954	1,950
Depreciation - Equipment	126	146
Office supplies and expenses	185	164
Utilities and municipal assessments	1,101	1,127
Total building occupancy expenses	6,026	5,202
Computer expenses:		
Amortization/depreciation - computer equipment	$ 906	$ 1,108
Computer hardware and software	4,908	4,027
Computer maintenance and supplies	—	44
Total computer expenses	5,814	5,179
Personnel and meeting expenses:		
Board - meetings, travel and education	$ 83	$ 72
Delegates meeting	632	5
Pre-retirement seminars	5	(3)
Professional development	855	636
Travel and automobile expense	211	68
Other personnel expenses	170	116
Total personnel and meeting expenses	1,956	894
Professional and governmental services:		
Auditors - financial*	$ 461	$ 482
Auditors - Department of Financial Services	—	—
Disability medical examinations	80	96
Postage and cartage	863	804
Professional fees and services	1,322	1,218
Publications	255	130
Statutory custodian charges	141	136
Total professional and governmental services	3,122	2,866
Total administrative fund expenses	75,681	69,245
Reconciliation of contribution expense to pension and OPEB expense	3,617	(8,015)
Total Administrative Expenses	$ 79,298	$ 61,230

**Presented on an accrual basis for 2022. Expenses incurred in fiscal year 2023 when services performed.*

See accompanying independent auditors' report.

OTHER SUPPLEMENTARY SCHEDULES *(continued)*

SCHEDULES OF INVESTMENT EXPENSES

Years ended June 30, 2023 and 2022
(dollars in thousands)

	2023		2022	
Investment Category	**Fair Value of Assets Serviced or Under Management**	**Expenses**	**Fair Value of Assets Serviced or Under Management**	**Expenses**
Externally managed/serviced assets:				
International equity	$ 18,647,679	$ 27,619	$ 19,449,286	$ 30,362
Real estate equity	16,464,297	128,485	16,486,742	134,387
Private equity	15,416,611	155,204	14,073,681	149,217
Real estate debt	6,050,162	24,817	5,756,791	17,590
Global equity	4,904,670	2,792	4,218,623	4,418
Global bonds	2,714,220	18,234	2,950,256	19,896
Domestic equity	1,397,214	3,712	1,147,137	5,589
Private debt	2,045,645	27,217	1,424,443	22,272
High-yield bonds	1,359,492	4,317	958,586	3,992
Sub-total	68,999,990	392,397	66,465,545	387,723
General expenses	—	16,365	—	11,841
Totals	**$ 68,999,990**	**$ 408,762**	**$ 66,465,545**	**$ 399,564**

See accompanying independent auditors' report.

OTHER SUPPLEMENTARY SCHEDULES *(continued)*

SCHEDULE OF CONSULTING FEES

Year ended June 30, 2023

Fees in excess of $50,000 for outside professionals other than investment advisers.

Name	Amount	Nature
Turner Construction	$ 1,496,905	Construction Management
StepStone Group LP	1,300,000	Investment Consulting
Mythics Inc	733,870	IT Professional Services
Callan Associates	686,164	Investment Consulting
Carahsoft Technology Corporation	532,812	IT Professional Services
Callan LLC	528,319	Investment Consulting
Seward & Kissel LLP	584,710	Investment Consulting
Plante Moran PC	452,370	Accounting Services
Insight Public Sector Inc.	378,148	IT Professional Services
Nixon Peabody LLP	329,604	Legal Services
Dell Marketing LP	240,954	IT Professional Services
Novacoast Inc	203,552	IT Professional Services
Software House International	192,384	IT Professional Services
Kofax Inc	171,876	IT Professional Services
WCGS Architects, P.C.	151,098	Architectural & Engineering Services
Presidio Holdings Inc.	142,589	IT Professional Services
International Consulting Acquisition Corp.	137,000	IT Professional Services
Pension Benefit Information LLC	136,079	IT Professional Services
Reed Smith LLP	127,982	Legal Services
Clutch Solutions LLC	105,666	IT Professional Services
Winklevoss Technologies LLC	104,602	IT Professional Services
Dyntek Services Inc.	102,402	IT Professional Services
Mercer Investments LLC	150,000	Investment Consulting
Open Text Inc	99,911	IT Professional Services
Compulink Technologies Inc.	94,071	IT Professional Services
Meridian IT Inc.	74,643	IT Professional Services
GOVCONNECTION, Inc.	73,153	IT Professional Services
Microsoft Corporation	71,200	IT Professional Services
Joseph J. Blake and Associates	68,350	Investment Consulting
Lenox Park Solutions, Inc.	65,000	MWBE Consulting
Linea Secure LLC	64,792	IT Professional Services
Cheiron Inc.	62,628	Actuarial Consulting
Core BTS	60,373	IT Professional Services
Atlantic Data Security	57,262	IT Professional Services

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Investments

Investments

REPORT ON INVESTMENT ACTIVITY FOR FISCAL YEAR ENDING JUNE 30, 2023

Overall Objectives and Performance

NYSTRS is committed to a disciplined, risk-controlled investment approach that focuses on thoughtful and prudent diversification of assets across a broad spectrum of capital market segments. Our long-term investment philosophy has enabled the System to provide retirement security to our members since 1921.

Our net position at fiscal year-end was $137.2 billion, and our funded ratio was 99.3% based on the June 30, 2022 actuarial value of assets.

The System's total fund return, net of fees, for the fiscal year ended June 30, 2023 was 9.0%, compared to the assumed rate of return of 6.95%. Our 10-year and 30-year annualized net rates of return were 8.5% and 8.3%, respectively.

Fiscal Year in Review

During the System's 2023 fiscal year, the Federal Reserve remained committed to reducing persistently high inflation. U.S. economic growth was stronger than expected due to a decreased trade deficit, elevated government spending, and strong personal consumption that continued to be supported by pandemic-era household savings, wage gains, and lower individual tax collections.

With the labor market remaining tight, as evidenced by a nearly record low in the unemployment rate and elevated wage growth, the Federal Reserve increased the federal funds target rate by 350 basis points to a range of 5.00% to 5.25%. Inflation began to moderate with the Federal Reserve's preferred measure of inflation reaching a year-on-year rate of 4.1%. Monetary policy makers remained steadfast in their goal of meeting their dual mandate of price stability and full employment and will adjust the stance of monetary policy if risks to either emerge.

In addition to increasing its short-term policy rate, the Federal Reserve continued to unwind accommodative monetary policy by reducing its balance sheet by $573 billion as a result of not reinvesting all maturing Treasury and mortgage-backed securities.

Bond market volatility remained elevated during the fiscal year due to the inflation outlook as well as key market events, such as the U.K. pension/debt market crisis, the U.S. debt ceiling negotiations, and concerns about the solvency of U.S. regional banks. In all these events, policy makers (monetary and/or fiscal) stepped in to avoid risks to markets and economies, while keeping their focus on containing inflation. Equity market volatility subsided over the course of the fiscal year as concerns about the growth and employment outlook eased.

Other major global central banks continued to tighten policy rates and reduce their balance sheets to address high inflation and reverse monetary policy responses to COVID-19.

During the System's 2024 fiscal year, additional U.S. and global central bank monetary policy tightening and potential easing will depend on the outlook for inflation and growth along with the understanding that adjustments to monetary policy affect the economy with the long and variable lags frequently cited by policymakers.

Basis of Presentation

Following is an overview of how each asset class performed during the past fiscal year. Performance calculations are prepared using time-weighted rates of return and are net of fees unless otherwise indicated. Returns for periods of longer than one year are annualized.

Public Equities

Fiscal year 2023 saw a strong recovery for global equity markets as the outlook for inflation improved. The System's policy benchmark for domestic equities, the S&P 1500 index, rose 19.2%, as investors rewarded the major technology companies with higher valuations, reflecting the expected growth potential of artificial intelligence. Despite a regional banking crisis precipitated by the collapse of Silicon Valley Bank in March, U.S. equities were generally resilient to the Federal Reserve's interest rate moves as fears of a recession receded.

REPORT ON INVESTMENT ACTIVITY FOR FISCAL YEAR ENDING JUNE 30, 2023 *(continued)*

International markets also posted gains for the fiscal year. The System's policy benchmark for international equities, the MSCI All Country World Ex-U.S. index, returned 12.7% over the period, with solid gains from developed markets, notably European and Japanese equities. In contrast, China's weak economy drove relatively subdued emerging markets performance.

The System's public equity investments are globally diversified to mitigate risk. A significant portion of the domestic and international public equity allocations is invested in passive strategies that, as expected, generated returns in line with the System's policy benchmarks. The remaining assets, including the System's allocation to global equities, are invested in actively managed strategies that seek to generate returns in excess of their benchmarks. The System's active strategies in domestic and international markets collectively outperformed over the fiscal year. Global strategies modestly underperformed their benchmark for the period but have performed in line since inception.

Staff activities during the year included portfolio rebalancing to support the System's liquidity needs, and separately launching a new externally managed India strategy in December. At the end of the period, the domestic equities allocation was modestly above target while the international and global allocations were modestly below their respective targets. All public equities asset classes remain well within their specified ranges.

The domestic equities portfolio, which represented 33.9% of System assets at the end of the fiscal year, generated a return of 19.4%. The international equities portfolio, which represented 13.9% of System assets, returned 13.6%. The global equities portfolio, which represented 3.7% of System assets, returned 16.1%.

Overall, NYSTRS' public equity investments generated a return for the fiscal year of 17.5% net of fees. Over the past five years, the System's public equity investments have generated an average return of 9.1% per year.

Private Equity

The target allocation for private equity is 9.0% with a range of 4.0% to 14.0%. The System invests through partnership structures that generally cover periods of 10 years or more with the goal to achieve higher long-term returns than available through public markets. The program seeks to outperform the S&P 500 by 5% over the long term. The System is focused on investing with disciplined top-performing managers who have demonstrated an ability to prudently invest across varying macroeconomic backdrops and cycles while maintaining a strong alignment of interest with NYSTRS.

The System's private equity portfolio is comprised of buyout, growth/venture capital, co-investment and turnaround/restructuring strategies that are accessed through a variety of vehicles including, but not limited to, commingled funds, fund of funds, secondary funds, and separately managed accounts.

The System has a mature, cash-flow positive private equity program diversified by investment strategy, industry and geographic focus. The program continues to focus on recommitting to its top-performing partnerships, while strategically adding new relationships that provide increased exposure to strategies with a track record of strong performance. The System will opportunistically seek to rebalance the private equity portfolio through secondary markets should pricing become compelling.

By fiscal year-end, the System had active commitments of $23.0 billion across 66 fund sponsors. The private equity portfolio was valued at $15.4 billion, representing 11.4% of the System's total assets. Unfunded commitments totaled $6.4 billion. Over the last fiscal year, the private equity program returned 5.8%, versus the stated benchmark of 24.6%. Over the last 20 years, the private equity program returned 14.9%, versus the stated benchmark of 15.0%.

REPORT ON INVESTMENT ACTIVITY FOR FISCAL YEAR ENDING JUNE 30, 2023 *(continued)*

Real Estate Equity

The target allocation for real estate equity is 11.0% with a range of 6.0% to 16.0%. The System invests in equity real estate through directly owned properties, commingled funds, and public real estate securities. The portfolio is diversified by geography, property type and investment structure. As of June 30, 2023, the actual amount of System assets invested was 12.2%. The equity real estate portfolio returned negative 3.9% for the fiscal year compared to the policy benchmark of negative 10.7%.

The unlevered NCREIF Property Index (NPI) of privately owned core diversified properties returned 5.0% for the fiscal year. Similar to last year, the returns varied widely by property type. Industrial properties continue to be the best performing property type driven by higher rental rates due to increased demand for space to support distribution, last-mile delivery of online goods, and inventory build-up to avoid supply chain disruptions. Multi-family properties continued to be supported by tenant demand as home affordability is challenged by higher house prices and rising interest rates. Retail property values overall remained relatively stable for grocery-anchored and necessity-based shopping centers. Office returns were dismal, especially in the U.S. global gateway markets (e.g., New York, San Francisco, Washington DC, Seattle and Los Angeles), as the continued effect of employees working from home has significantly affected office owners' need for space. Tenants are leasing space, however with smaller footprints as space needs have declined significantly. In addition, staffing cuts and layoffs are occurring across the tech industry, which has been one of the biggest drivers of office space demand. The overarching issue for all property classes has been the rapid rise in borrowing costs, which has had a significant (negative) effect on earnings and valuations.

The System's direct property portfolio generated an overall net return of negative 4.2% for the fiscal year ended June 30, 2023. The poor return was somewhat offset by the System's multi-family and industrial assets. However, there was a stark contrast in performance between private real estate and public real estate securities during the fiscal year. The System's public real estate securities returned negative 0.8% during the fiscal year, significantly underperforming the private real estate markets (excluding office). The public real estate returns have often been a leading indicator of the future direction of private real estate returns; therefore, we remain focused on leasing to credit tenants and managing expenses in our directly owned properties and partnering with best-in-class investment managers in our commingled funds.

The System's Real Estate department continues to focus on long-term demand drivers to identify property sectors and geographic regions poised to provide the best long-term, risk-adjusted returns.

Fixed Income

NYSTRS manages its fixed income investments with a focus on preserving capital and generating cash flow to meet the System's current and growing $8.2 billion annual retirement benefit obligation. These goals are accomplished by seeking returns with appropriate levels of risk. In order to mitigate risk, the System's internally and externally managed fixed income portfolios are well diversified by sector, issuer, and interest rate exposure. In addition, the System's internal and external portfolio managers actively monitor and manage risk while striving to generate excess returns and taking advantage of market opportunities as they arise.

The domestic, investment grade fixed income market, as measured by the Bloomberg U.S. Aggregate Float Adjusted Bond Index, generated returns of negative 0.8% during the fiscal year as the level of interest rates increased across maturities. The worst performing securities were long maturity Treasuries and securitized debt. Lower quality corporate debt performed the best as credit spreads tightened over the course of the fiscal year.

As of June 30, 2023, the internally managed domestic fixed income portfolio represented approximately 13.5% of System investments. The System's long-term bond portfolio's investment return was negative 0.3% for the one-year period ended June 30, 2023 and 0.9% for the five-year period ended June 30, 2023. This compares to benchmark returns of negative 0.8% for the one-year period and 0.8% for the five-year period. The one-year outperformance was largely attributable to the portfolio's lower interest rate risk in U.S. Treasuries and higher exposure to the corporate bond sector versus the benchmark.

In the global bond universe measured by the Bloomberg Global Aggregate Float Adjusted Ex-CNY Bond Index (hedged to USD), returns were negative 0.1% for the fiscal year ended June 30, 2023. Long maturity global Treasuries performed the worst while lower rated corporate issues performed the best. Overall returns for bonds denominated in Euros and Canadian dollars outperformed U.S. dollar, Japanese Yen, and British Pound securities.

As of June 30, 2023, approximately 2.0% of System assets were invested in externally managed global bond portfolios predominately hedged to U.S. dollars. Net of fees, for the one- and five-year periods, global bonds returned 0.0% and 1.1%, respectively. This compares to the benchmark return of negative 0.1% for the one-year period and 0.6% for the five-year period. For fiscal year 2023, the portfolio's sector and maturity positioning contributed to the outperformance.

REPORT ON INVESTMENT ACTIVITY FOR FISCAL YEAR ENDING JUNE 30, 2023 *(continued)*

In the high-yield space, returns as measured by the ICE BofA BB-B U.S. High Yield Constrained Index were 8.6%. Short maturity and lower quality securities drove performance while the industrial and financial sectors outperformed utilities.

As of June 30, 2023, approximately 1.0% of System assets were invested in externally managed high-yield portfolios. Net of fees for the one-year and five-year periods, the System's high-yield portfolio returned 9.1% and 3.3%, respectively. Comparable returns for the benchmark were 8.6% and 3.4%. Security selection drove outperformance for the fiscal year.

Private Debt

As of fiscal year-end, the target allocation for private debt was 2.0% with a range of 0.5% to 5.0% of total plan assets. Partnership structures typically cover periods of 10 years or more, with the objective of achieving a higher current yield than available through core/investment grade fixed income and high-yield securities. The program seeks to outperform the Morningstar LSTA U.S. Leveraged Loan Index by 3.0% over the long term.

NYSTRS' strategic focus is on small-to-middle market lenders who seek outsized returns through highly negotiated situations and non-sponsor-led transactions. Given the risk-return characteristics available in the marketplace, NYSTRS will continue to target U.S. dollar denominated investment strategies to avoid taking currency risk.

The System's private debt portfolio is comprised of direct lending, mezzanine, and special situations investments accessed through a variety of investment vehicles including, but not limited to, commingled funds, separately managed accounts, and evergreen structures.

By fiscal year-end, the System had active commitments of $3.5 billion across nine fund sponsors. The private debt portfolio was valued at $2.0 billion, representing 1.5% of the System's total assets. Unfunded commitments totaled $1.2 billion. Over the last fiscal year, the private debt program returned a time-weighted one-year return of 9.2% versus the stated benchmark timeweighted one-year return of 13.7%. Over the last five years, the private debt program returned 9.3% versus the stated benchmark of 7.1%.

Real Estate Debt

As of fiscal year-end, the target allocation for real estate debt was 6.0% with a range of 2.0% to 10.0%. The System invests in real estate debt through directly held first mortgages, public real estate debt securities, and subordinate/mezzanine debt (through commingled funds and separately managed accounts). The portfolio is diversified by geography, property type, and investment structure. As of June 30, 2023, the actual amount of System assets invested was 5.6%. The debt real estate portfolio returned 0.2% for the fiscal year compared to the policy benchmark of negative 0.6%.

The System's directly held mortgage portfolio consists of a diverse group of first mortgage investments collateralized by high quality, core, stabilized properties. Due to increases in interest rates during the year, all-in market yields for similar quality mortgages were in the range of 5.50%-5.75% on June 30, 2023. Therefore, the System's existing mortgage portfolio was valued at a discount due to our lower in-place weighted average coupon of 4.43% (from loans originated in the past when rates were much lower) relative to current market rates. While existing mortgages are valued at a discount due to higher current interest rates, the System is actively pursuing new mortgage originations, which will benefit from these higher rates.

The public commercial mortgage-backed securities (CMBS) market continued to be volatile throughout the fiscal year due to recession concerns, continued inflation, and regional bank failures (during the first quarter of 2023). New issuance remained relatively light throughout the fiscal year with overall real estate transaction volume being muted. Reference rates during the fiscal year continued their steep ascent with the one-month term Secured Overnight Financing Rate moving from 1.73% to 5.14% and the five-year U.S. Treasury yield going from 2.88% to 4.16%. The Real Estate department focuses on higher yielding single-asset/single-borrower CMBS securities. Given the elevated volatility, an additional focus was placed on higher rated AAA and AA securities that had a significant amount of credit enhancement and equity subordinate to our positions. The focus on these securities is underlying collateral (i.e., properties) that are very high quality with a low loan-to-value of last dollar exposure. The increase in reference rates, coupled with continued volatility, created a meaningful increase in all-in yield and buying opportunities.

To supplement the direct first mortgage and CMBS investments, the System continues to invest in senior mezzanine and bridge first mortgage loans on transitional assets with experienced, well-capitalized borrowers. These shorter-term investments can generate yields at a 250-300 basis points premium to the direct first mortgage and CMBS markets. Our loan-to-value limit remains at 75% on these assets; the same standard we use for CMBS and first mortgages.

REPORT ON INVESTMENT ACTIVITY FOR FISCAL YEAR ENDING JUNE 30, 2023 *(continued)*

Cash Equivalents

The System's short-term fixed income portfolio consists of high-quality securities which can easily be converted into cash for the purposes of making monthly payment of pension benefits, facilitating asset allocation, or supporting the operating commitments of the System. Securities held in this portfolio generally mature in 12 months or less.

The System's short-term portfolio has an asset allocation target of 1.0%. As of June 30, 2023, the portfolio represented 1.3% of total invested System assets, within the allowable range of 0.0% to 4.0%. At fiscal year-end, both the portfolio's weighted average maturity and weighted average life were 25 days. For the one- and five-year periods ended June 30, 2023, the System's short-term portfolio's annual return was 3.9% and 1.7%, respectively. This compares to its iMoneyNet Money Fund Averages/All-Taxable Index benchmark returns of 3.5% and 1.3% for the comparable periods. The portfolio benefited from its short maturities, which allowed for reinvestment at higher interest rates as the Federal Reserve consistently raised the Federal Funds target rate throughout the fiscal year.

Other Programs

Securities Lending

The System's securities lending program generates incremental income by lending in-demand domestic and international equity and fixed income securities against approved forms of collateral. The System uses multiple agent lenders to manage the securities lending program. Each lending program is proactively monitored by NYSTRS staff to ensure it is managed in compliance with the System's contractual, statutory and risk guidelines.

As of June 30, 2023, 1.3% of the System's assets available to lend were on loan and collateralized at 102.5%. Utilization decreased from 1.9% on June 30, 2022 as a result of fewer loans of domestic and French equity securities. Borrower demand continues to generate the majority of securities lending income, which totaled $5.2 million for the fiscal year, compared to $3.9 million for the fiscal year ended June 30, 2022. The unrealized gain on investments in the System's cash collateral reinvestment portfolio decreased from the 2022 fiscal year, settling at $1.8 million (including unpaid income) as of June 30, 2023.

For information describing the securities lending process, please see the Notes to Financial Statements under the heading "Securities Lending Transactions."

This Report on Investment Activity was prepared by the following NYSTRS executive staff members:

Paul Cummins
Managing Director of Public Equities

David C. Gillan
Managing Director of Real Estate

Michael Federici
Managing Director of Fixed Income

Gerald J. Yahoudy II
Managing Director of Private Equity

ASSET ALLOCATION — as of June 30, 2023

The most significant contributor to a fund's long-term investment performance is the allocation decision among the various asset classes, including equities, fixed income and real estate. The allocation process helps control risk and sets guidelines to diversify the System's portfolio. The asset allocation policy adopted by the Board allows ranges around an optimal target allocation. The Retirement Board, with the assistance of an external consultant, reviews the asset allocation policy on an annual basis to analyze recent and historical investment experience. Since this is a long-term plan, adjustments to the allocation are usually made on an annual basis when necessary. The current targets, ranges and actual allocations are detailed below:

	Target	Range	Actual
Equity			
Domestic Equity	33 %	29-37%	33.9 %
International Equity	15 %	11-19%	13.9 %
Global Equity	4 %	0-8%	3.7 %
Real Estate Equity	11 %	6-16%	12.2 %
Private Equity	9 %	4-14%	11.4 %
Total Equity	***72 %***		***75.1 %***
Debt			
Domestic Fixed Income	16 %	12-20%	13.5 %
High-Yield Bonds	1 %	0-3%	1.0 %
Global Bonds	2 %	0-4%	2.0 %
Real Estate Debt	6 %	2-10%	5.6 %
Private Debt	2 %	0.5-5%	1.5 %
Cash Equivalents	1 %	1-4%	1.3 %
Total Debt	***28 %***		***24.9 %***

CHANGES IN NET ASSET VALUE

The fair value of investments presented below are based on net asset value which differs from the financial statement presentation.

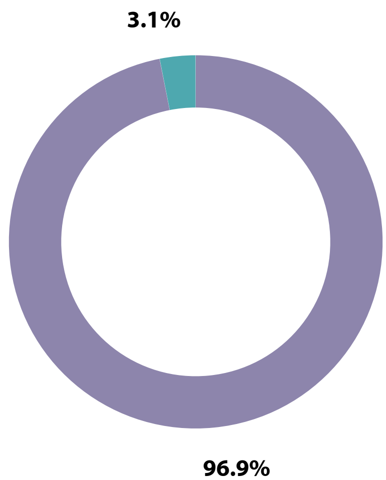
Asset Class	Net Asset Value 6/30/2022	Net Income	Net Appreciation (Depreciation)	Net Cash Inflows (Outflows)	Net Asset Value 6/30/2023
Equity					
Domestic Equity	$ 41,996,868,488	$ 747,095,398	$ 7,017,780,864	$ (3,906,874,778)	$ 45,854,869,972
International Equity	19,595,505,819	399,944,316	2,069,746,033	(3,252,619,762)	18,812,576,406
Global Equity	4,226,308,132	119,935,274	579,933,361	(561)	4,926,176,206
Real Estate Equity	16,501,072,976	445,309,795	(970,868,505)	507,123,552	16,482,637,818
Private Equity	14,073,680,952	(155,204,436)	982,624,341	515,510,435	15,416,611,292
Total Equity	**96,393,436,367**	**1,557,080,347**	**9,679,216,094**	**(6,136,861,114)**	**101,492,871,694**
Debt					
Domestic Fixed Income	18,361,855,026	459,582,741	(514,068,377)	(128,098,308)	18,179,271,082
High-Yield Bonds	974,221,159	71,528,989	35,697,428	300,000,000	1,381,447,576
Global Bonds	2,889,171,848	71,582,143	(63,730,322)	(200,000,000)	2,697,023,669
Real Estate Debt	7,708,370,916	428,734,650	(400,521,391)	(204,572,729)	7,532,011,446
Private Debt	1,424,443,081	(27,216,811)	183,882,661	464,536,125	2,045,645,056
Cash Equivalents	2,269,491,952	5,260,546	85,351,918	(594,407,757)	1,765,696,659
Total Debt	**33,627,553,982**	**1,009,472,258**	**(673,388,083)**	**(362,542,669)**	**33,601,095,488**
Total	**$ 130,020,990,349**	**$ 2,566,552,605**	**$ 9,005,828,011**	**$ (6,499,403,783)**	**$ 135,093,967,182**

DIVERSIFICATION OF INVESTMENTS — as of June 30, 2023

Asset Class	Net Asset Value 6/30/2023	Percent	Net Asset Value 6/30/2022	Percent
Equity:				
Public Equity (Domestic Equity, International Equity and Global Equity)				
Communications Services	$5,038,641		$5,013,917	
Consumer Discretionary	7,845,618		7,081,510	
Consumer Staples	4,737,018		4,763,774	
Energy	3,151,648		3,217,122	
Financials	10,156,218		9,230,881	
Health Care	8,379,808		8,847,607	
Industrials	7,677,622		6,526,245	
Information Technology	15,802,291		13,825,353	
Materials	2,759,931		2,918,490	
Other	672,574		623,574	
Real Estate	1,638,776		1,833,313	
Utilities	1,733,478		1,936,896	
Total Public Equity	69,593,623	51.5%	65,818,682	50.6%
Real Estate Equity				
Core Funds	1,666,549		1,972,753	
Direct Properties/Other Real Estate Owned	6,716,491		6,163,903	
Opportunistic Funds	3,015,020		2,598,609	
Real Estate Investment Trusts (REITs)	3,129,407		4,034,440	
Timber	312,177		283,439	
Value Added Funds	1,642,994		1,447,929	
Total Real Estate Equity	16,482,638	12.2	16,501,073	12.7
Private Equity				
Co-Investments	1,199,325		1,337,717	
Fund of Funds	700,052		720,000	
LBO/MBO	10,637,431		9,351,261	
Other	—		—	
Secondary Funds	136,821		178,663	
Turnaround	1,223,866		1,026,080	
Venture Capital	1,519,116		1,459,960	
Total Private Equity	15,416,611	11.4	14,073,681	10.8
Total Equity	101,492,872	75.1%	96,393,436	74.1%
Debt:				
Fixed Income (Domestic Fixed Income, High-Yield Bonds, Global Bonds)				
Corporate	7,300,744		7,700,712	
Global Treasuries	9,370,360		9,399,300	
Government Related	1,319,650		1,192,765	
Other	138,732		135,833	
Securitized	4,128,256		3,796,638	
Total Fixed Income	22,257,742	16.5	22,225,248	17.1
Real Estate Debt				
Commercial Mortgage Backed (CMBS)	2,371,939		2,249,218	
Core Plus	1,872,312		1,706,663	
Direct Mortgages	2,624,241		3,200,577	
Opportunistic	663,519		551,913	
Total Real Estate Debt	7,532,011	5.6	7,708,371	5.9
Private Debt				
Direct Lending	1,190,713		674,778	
Mezzanine	278,888		249,091	
Special Situation	576,044		500,574	
Total Private Debt	2,045,645	1.5	1,424,443	1.1
Cash Equivalents				
Corporate	731,928		1,167,659	
Global Treasuries	214,363		99,952	
Government Related	391,905		436,329	
Other	16,200		11,326	
Securitized	411,301		554,226	
Total Cash Equivalents	1,765,697	1.3	2,269,492	1.8
Total Debt	**33,601,095**	**24.9%**	**33,627,554**	**25.9%**
Total	**$ 135,093,967**	**100.0%**	**$ 130,020,990**	**100.0%**

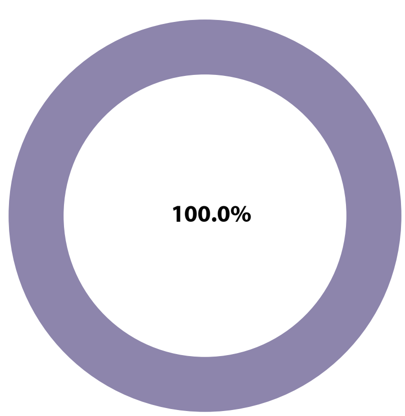
The above schedule is presented at net asset value which differs from the financial statement presentation.

DOMESTIC EQUITY DISTRIBUTION — as of June 30, 2023



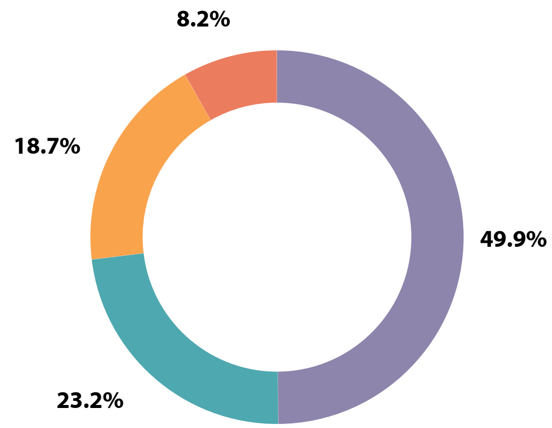
Internal		96.9%
	S&P 1500 Index2	79.6%
	S&P 100 Index	3.5%
	S&P 1500 Value Tilt2	3.0%
	S&P 1500 Growth Tilt2	3.0%
	S&P 500 Index	4.3%
	S&P 600 Index	0.6%
	All Cap Disciplined Equity	2.1%
	S&P 400 Index	0.8%
External		3.1%
	Large Cap	3.1%

DOMESTIC EQUITY EXTERNALLY MANAGED STYLE DISTRIBUTION — as of June 30, 2023



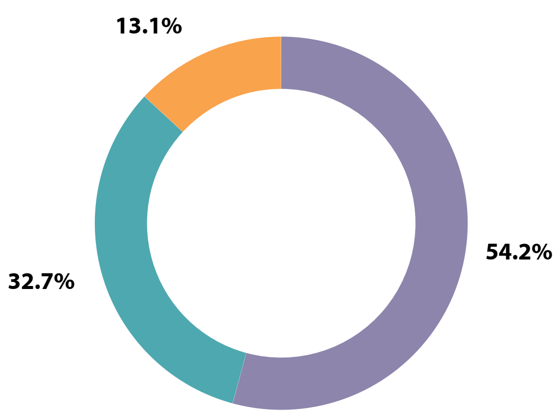
Large Cap Enhanced	100.0%

INTERNATIONAL EQUITY STYLE DISTRIBUTION — as of June 30, 2023



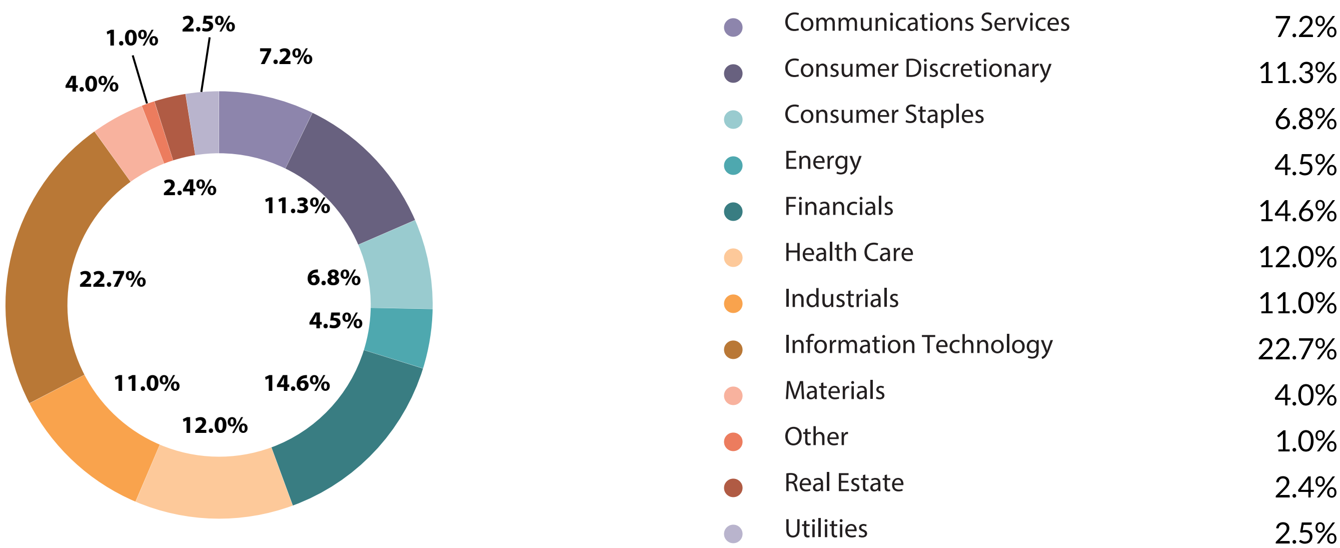
Developed Markets - Passive	49.9%
Developed Markets - Active	23.2%
Emerging, Frontier & Stand Alone Markets - Passive	18.7%
Emerging, Frontier & Stand Alone Markets - Active	8.2%

GLOBAL EQUITY STYLE DISTRIBUTION — as of June 30, 2023



U.S. Markets - Active	54.2%
International Developed - Active	32.7%
International Emerging, Frontier & Stand Alone - Active	13.1%

PUBLIC EQUITY HOLDINGS BY INDUSTRY DISTRIBUTION — as of June 30, 2023



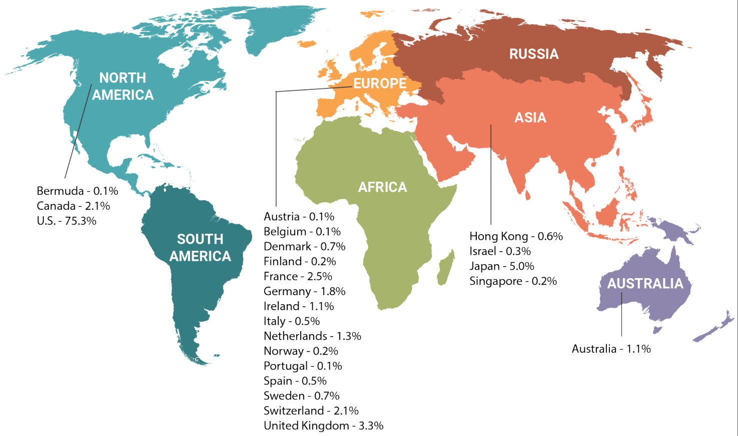
TEN LARGEST PUBLIC EQUITY HOLDINGS — as of June 30, 2023

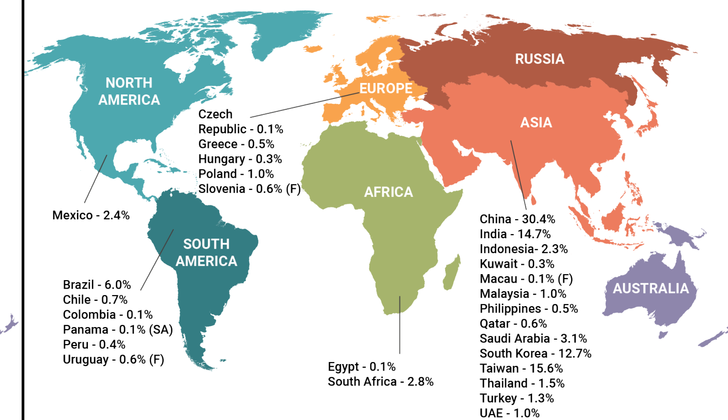
Rank	Company	Cost	Fair Value	Percent of Equities
1	Apple Inc.	$ 142,487,512	$ 3,390,459,821	4.9 %
2	Microsoft Corp.	298,812,273	3,074,335,866	4.4
3	Alphabet Inc.	270,689,051	1,663,651,343	2.4
4	Amazon.com Inc.	181,531,595	1,388,858,047	2.0
5	Nvidia Corp	63,982,368	1,225,473,711	1.8
6	Meta Platforms Inc.	239,931,630	826,540,281	1.2
7	Tesla Inc.	734,240,100	806,465,466	1.2
8	Berkshire Hathaway Inc.	188,590,133	699,157,074	1.0
9	UnitedHealth Group Inc.	82,416,398	568,831,672	0.8
10	Exxon Mobil Corp	95,525,025	503,271,269	0.7
Total		**$ 2,298,206,085**	**$ 14,147,044,550**	**20.4 %**

A complete list of the System's equity holdings is available at NYSTRS.org (see About Us/Investments) or through the Communications and Outreach department.

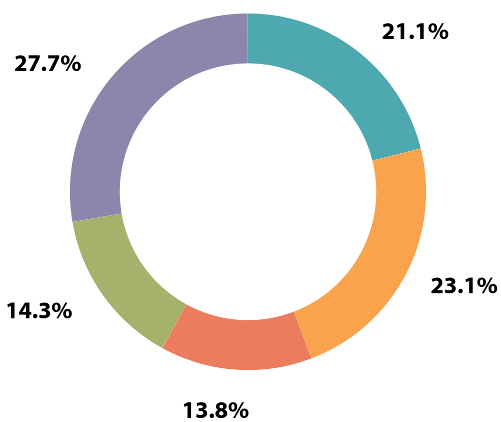
PUBLIC EQUITY COUNTRY EXPOSURE DISTRIBUTION — as of June 30, 2023

Percentage of Portfolio for Developed Countries	Percentage of Portfolio for Emerging, Frontier (F) & Stand Alone (SA) Markets
$63,879,918,707	$5,713,703,879



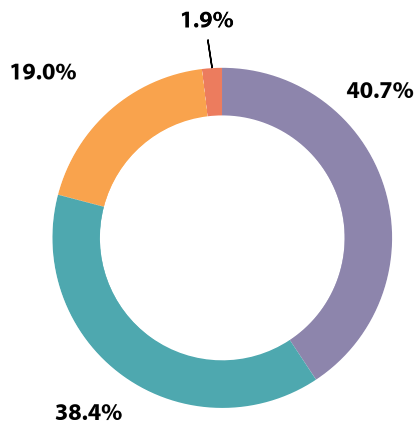


REAL ESTATE EQUITY BY PROPERTY TYPE — as of June 30, 2023



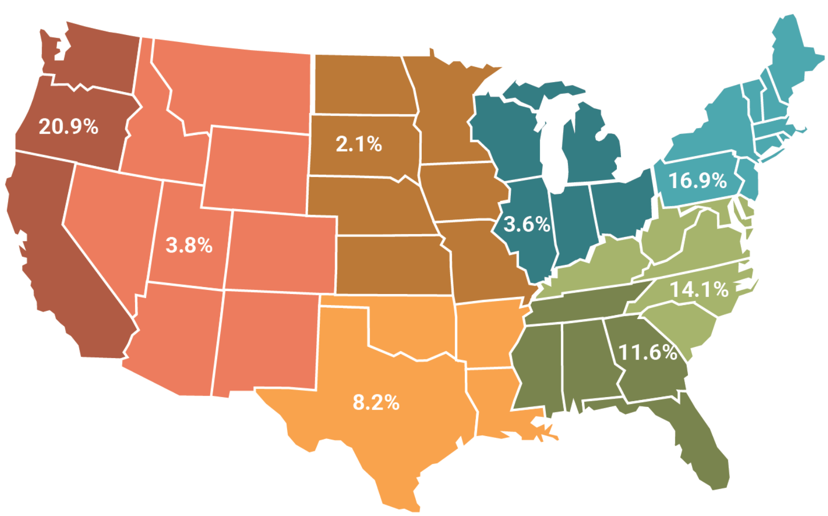
Office	21.1%
Residential	23.1%
Retail	13.8%
Hotel/Other	14.3%
Industrial/R&D	27.7%

REAL ESTATE EQUITY BY INVESTMENT TYPE — as of June 30, 2023



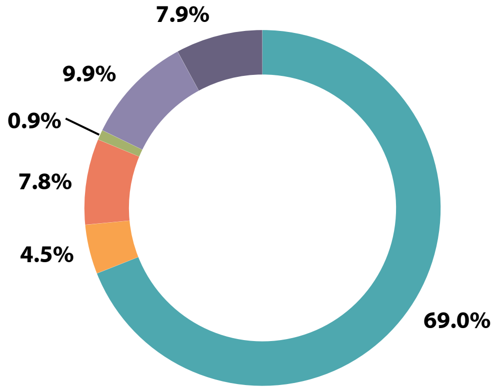
Direct Investments	40.7%
Private Securities	38.4%
Public Securities	19.0%
Timber Investments	1.9%

REAL ESTATE EQUITY GEOGRAPHICAL DISTRIBUTION — as of June 30, 2023



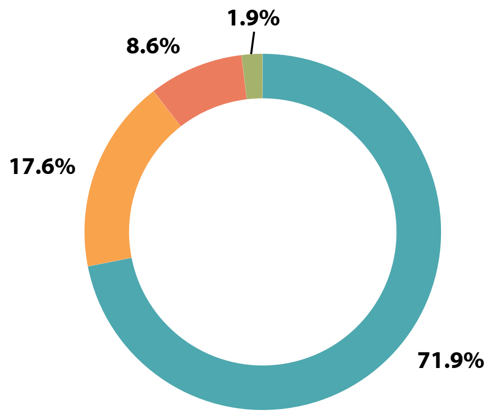
Pacific	20.9%
Mountain	3.8%
West North Central	2.1%
East North Central	3.6%
Northeast	16.9%
Mideast	14.1%
Southeast	11.6%
Southwest	8.2%
Non-U.S.	14.9%
Asia	6.3 %
Europe	7.2 %
Americas	1.4 %
Other U.S.	3.9%

PRIVATE EQUITY BY INVESTMENT TYPE — as of June 30, 2023



LBO/MBO	69.0%
Fund of Funds	4.5%
Co-Investments	7.8%
Secondary Funds	0.9%
Venture Capital	9.9%
Turnaround	7.9%

PRIVATE EQUITY BY GEOGRAPHY* — as of June 30, 2023



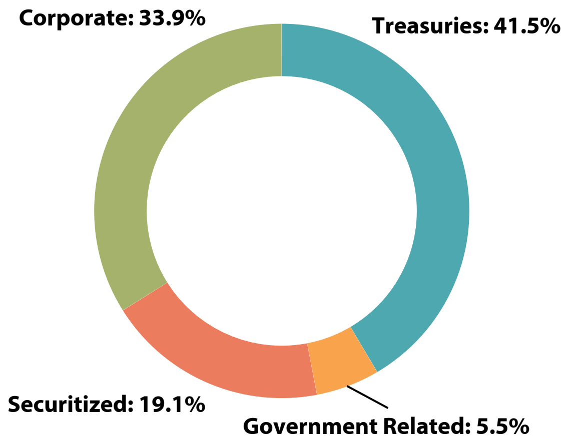
North America	71.9 %
Western Europe	17.6 %
Asia	8.6 %
Rest of World	1.9 %

**Excluding fund of funds and secondary funds.*

DOMESTIC FIXED INCOME AND HIGH-YIELD BONDS DISTRIBUTION

— as of June 30, 2023

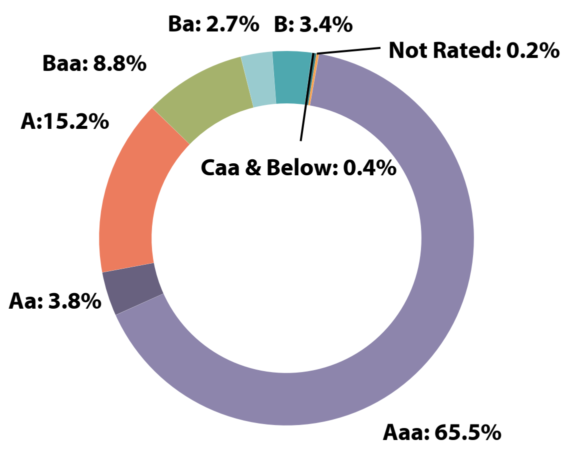
Yield to Maturity 5.0%



	Weight	Yield to Maturity
Treasuries	41.5%	4.43%
Government Related	5.5%	4.79%
Securitized	19.1%	4.79%
Corporate	33.9%	5.81%

DOMESTIC FIXED INCOME AND HIGH-YIELD BONDS QUALITY DISTRIBUTION

— as of June 30, 2023



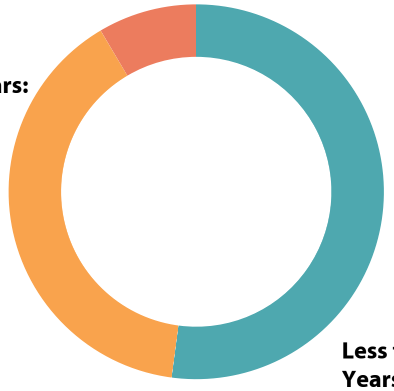
*	Aaa	65.5 %
	Aa	3.8 %
	A	15.2 %
	Baa	8.8 %
	Ba	2.7 %
	B	3.4 %
	Caa & Below	0.4 %
**	Not Rated	0.2 %

**Includes explicitly and implicitly guaranteed debt issued by the U.S. government and its agencies.*

***Includes cash (U.S. dollar equivalents) and State Street Government Short-Term Investment Fund.*

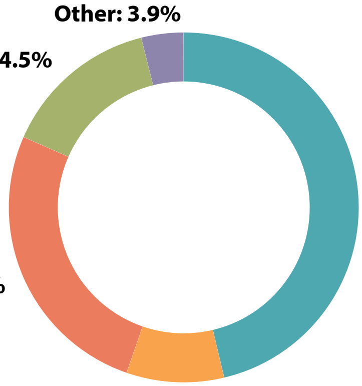
DOMESTIC FIXED INCOME AVERAGE MATURITY — as of June 30, 2023

Effective Duration 5.3 Years



	Weight	Effective Duration in Years
Less than 5 Years	52.1%	2.8
5-10 Years	39.4%	6.6
10+ Years	8.5%	14.4

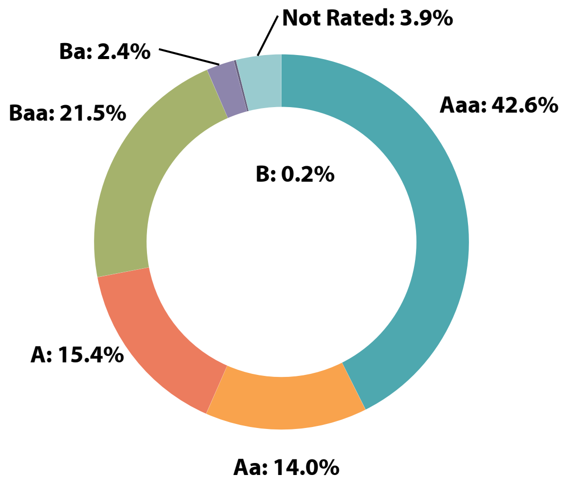
GLOBAL BONDS SECTOR DISTRIBUTION — as of June 30, 2023



Global Treasuries	46.3%
Government Related	9.0%
Corporate	26.3%
Securitized	14.5%
* Other	3.9%

**Includes cash (U.S. dollar equivalents) and State Street Government Short-Term Investment Fund.*

GLOBAL BONDS QUALITY DISTRIBUTION — as of June 30, 2023



Aaa	42.6%
Aa	14.0%
A	15.4%
Baa	21.5%
Ba	2.4%
B	0.2%
Caa & Below	0.0%
* Not Rated	3.9%

**Includes cash (U.S. dollar equivalents) and State Street Government Short-Term Investment Fund.*

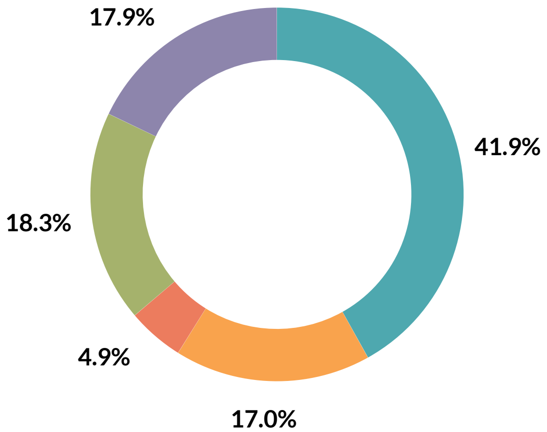
TEN LARGEST FIXED INCOME HOLDINGS* — as of June 30, 2023

Rank	Issue	Fair Value	Percent Total Fixed Income Fair Value
1	US Treasury Note 1.75% Due 11/15/2029	$223,603,125	1.0%
2	US Treasury Note 1.75% Due 08/15/2041	168,230,003	0.8%
3	US Treasury Note 1.125% Due 02/15/2031	164,468,750	0.7%
4	US Treasury Note 1.625% Due 05/15/2031	148,715,821	0.7%
5	US Treasury Note 1.25% Due 08/15/2031	140,601,784	0.6%
6	US Treasury Note 2.00% Due 11/15/2041	136,501,904	0.6%
7	US Treasury Note 0.875% Due 11/15/2030	121,382,813	0.5%
8	US Treasury Note 0.625% Due 05/15/2030	120,164,063	0.5%
9	US Treasury Note 0.625% Due 08/15/2030	119,501,954	0.5%
10	US Treasury Note 2.25% Due 05/15/2041	115,800,694	0.5%
Total		**$1,458,970,911**	**6.4%**

**Includes internally managed domestic and externally managed high-yield and global bond portfolios, excludes short-term portfolio holdings.*

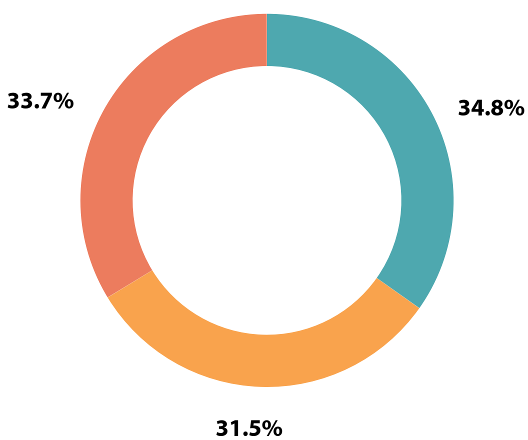
A complete list of the System's fixed income holdings (excluding cash equivalents) is available at NYSTRS.org (see About Us/Investments) or through the Communications & Outreach department.

REAL ESTATE DEBT BY PROPERTY TYPE — as of June 30, 2023



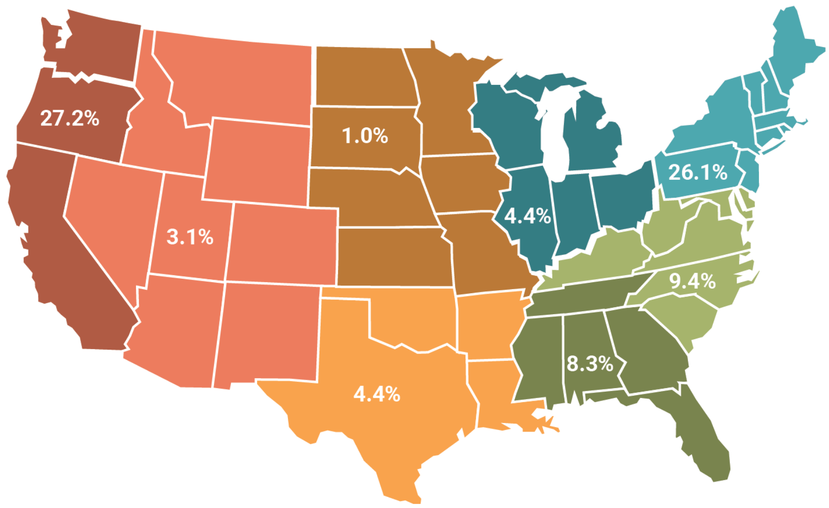
Office	41.9 %
Residential	17.0 %
Retail	4.9 %
Mixed Use/Other	18.3 %
Industrial/R&D	17.9 %

REAL ESTATE DEBT BY INVESTMENT TYPE — as of June 30, 2023



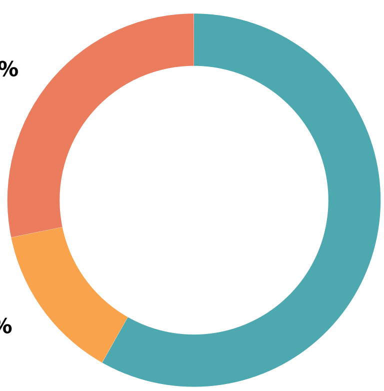
Conventional Mortgages	34.8 %
CMBS	31.5 %
Mezzanine Debt	33.7 %

REAL ESTATE DEBT GEOGRAPHICAL DISTRIBUTION— as of June 30, 2023



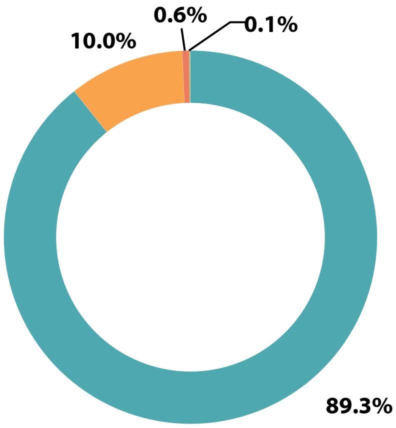
Pacific	27.2 %
Mountain	3.1 %
West North Central	1.0 %
East North Central	4.4 %
Northeast	26.1 %
Mideast	9.4 %
Southeast	8.3 %
Southwest	4.4 %
Non-U.S.	2.0 %
Asia	0.3 %
Europe	1.6 %
Americas	0.1 %
Other U.S.	14.1 %

PRIVATE DEBT BY INVESTMENT TYPE — as of June 30, 2023



Direct Lending	58.2 %
Mezzanine	13.6 %
Special Situation	28.2 %

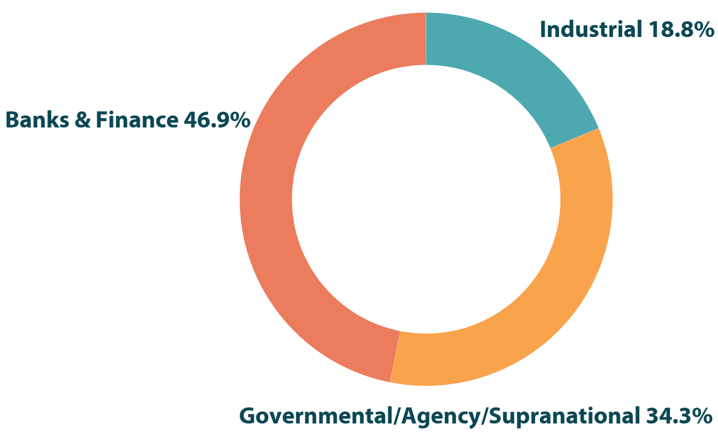
PRIVATE DEBT GEOGRAPHICAL DISTRIBUTION* — as of June 30, 2023



●	North America	89.3 %
●	Western Europe	10.0 %
●	Asia	0.6 %
●	Rest of World	0.1 %

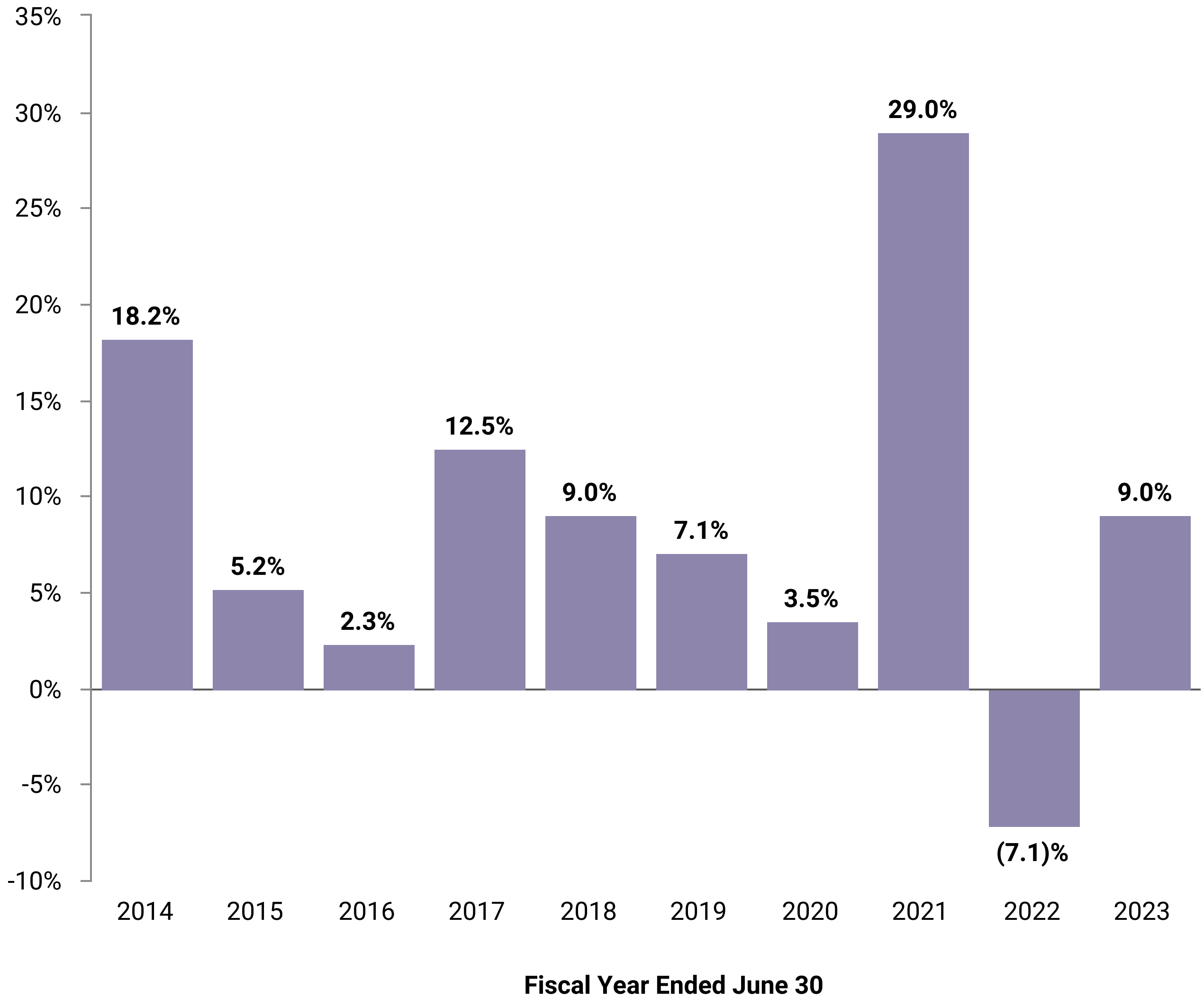
**Excluding fund of funds and secondary funds.*

CASH EQUIVALENTS SECTOR DISTRIBUTION — as of June 30, 2023



●	Industrial	18.8%
●	Governmental/Agency/Supranational	34.3%
●	Banks & Finance	46.9%

ANNUAL PERFORMANCE HISTORY



INVESTMENT PERFORMANCE RESULTS — as of June 30, 2023

The System is a long-term investor and therefore can withstand some short-term volatility. The liabilities are generally long-term in nature and may not become payable for 30 or more years in the future. The time-weighted performance (net of fees) and associated benchmark returns are shown in the following table. Some benchmarks have varied over time and those shown below are the current policy benchmarks.

	Annualized Rates of Return				
	1-YR	3-YR	5-YR	10-YR	30-YR
Domestic Equity	**19.4 %**	**14.7 %**	**11.7 %**	**12.5 %**	**10.1 %**
Benchmark: S&P Composite 1500 Index*	19.2	14.7	11.8	12.6	10.1
International Equity	**13.6**	**7.7**	**4.0**	**5.2**	**5.4**
Benchmark: MSCI ACWI Ex-U.S. Index	12.7	7.2	3.5	4.8	4.9
Global Equity	**16.1**	**11.7**	**7.8**	**—**	**—**
Benchmark: MSCI ACWI Index	16.5	11.0	8.1	—	—
Real Estate Equity	**(3.9)**	**9.7**	**6.7**	**8.9**	**9.6**
Benchmark: NCREIF - ODCE Index	(10.7)	7.0	6.2	7.9	7.9
Private Equity	**5.8**	**20.7**	**15.5**	**15.9**	**14.3**
Benchmark: S&P 500 Index plus 5%*	24.6	19.6	17.3	17.9	15.0
Domestic Fixed Income	**(0.3)**	**(3.0)**	**0.9**	**1.3**	**4.4**
Benchmark: Bloomberg U.S. Aggregate Float Adjusted Bond Index*	(0.8)	(4.0)	0.8	1.5	4.4
High-Yield Bonds	**9.1**	**2.9**	**3.3**	**—**	**—**
Benchmark: ICE BofA BB-B U.S. High Yield Constrained Index*	8.6	2.6	3.4	—	—
Global Bonds	**0.0**	**(3.1)**	**1.1**	**2.2**	**—**
Benchmark: Bloomberg Global Aggregate Float Adjusted Ex-CNY Bond Index (hedged to USD)*	(0.1)	(3.6)	0.6	2.0	—
Real Estate Debt	**0.2**	**1.0**	**3.0**	**3.8**	**6.0**
Benchmark: Giliberto-Levy Custom Index	(0.6)	(0.7)	2.5	3.1	6.0
Private Debt	**9.2**	**13.7**	**9.3**	**—**	**—**
Benchmark: Morningstar LSTA Leveraged Loan Index plus 3%	13.7	9.3	7.1	—	—
Cash Equivalents	**3.9**	**1.4**	**1.7**	**1.1**	**2.6**
Benchmark: iMoneyNet Money Fund Avg/Taxable (All)	3.5	1.2	1.3	0.8	2.1
Total Fund	**9.0**	**9.3**	**7.6**	**8.5**	**8.3**
Benchmark: Blended Benchmark	10.3 %	8.6 %	7.9 %	8.5 %	8.1 %

*See footnote on page 112.

MANAGER INVESTMENT PERFORMANCE RESULTS — as of June 30, 2023

The assets under management (at market), time-weighted performance results (unless indicated otherwise) and the appropriate benchmark or equity multiple for each manager/advisor are summarized in the following table.

	Assets Managed ($ millions)	Rates of Return from Inception[1]	Benchmark from Inception[1]	Equity Multiple[3]	Inception Date
Domestic Equity					
Managers					
T. Rowe Price Associates Inc.	$1,400.2	15.0 %	14.5 %		Jan-09
International Equity					
Managers					
AQR Capital Management LLC	1,035.1	5.5	5.2		Feb-12
Ariel Investments LLC	319.8	4.0	4.6		Apr-17
Arrowstreet Capital LP	886.6	9.2	3.6		Jul-17
Baillie Gifford Overseas Ltd.	777.9	7.2	5.4		Sep-11
BlackRock Institutional Trust Co. NA	5,850.4	6.1	5.8		Dec-11
Dimensional Fund Advisors	211.0	3.0	1.9		Feb-13
LSV Asset Management	883.5	4.8	3.8		Jul-11
Marathon Asset Management LLP	518.9	6.8	6.1		Jan-12
Rhumbline Advisors Limited Partnership	964.5	7.7	7.4		Jun-20
State Street Global Advisors	6,085.6	5.7	5.4		Jul-12
William Blair Investment Management LLC	783.5	6.4	4.2		Oct-10
Xponance Inc.	329.6	4.4	4.1		May-13
Global Equity					
Managers					
Arrowstreet Capital LP	1,711.5	14.0	9.2		May-19
Harding Loevner LP	1,367.0	6.2	7.5		May-18
Leading Edge Investment Advisors	522.8	10.4	10.7		Jun-20
LSV Asset Management	1,324.8	4.2	7.5		May-18
Real Estate Equity					
Advisors					
BentallGreenOak	1,238.4	11.3	7.7		Apr-95
Cabot Properties LP	345.7	17.9	5.4		May-19
CBRE Investment Management	715.4	13.3	5.4		Nov-18
Clarion Partners	518.9	8.5	6.3		Jun-90
Forest Investment Associates	312.2	4.7	5.5		Dec-98
J.P. Morgan Asset Management	3,079.3	9.7	6.4		Oct-90
Sentinel Real Estate Corporation	813.9	12.9	7.8		Mar-96

[1] Returns for periods over 1 year are annualized.

[2] Return is an IRR (Internal Rate of Return), not time-weighted.

[3] Equity multiples are only shown for aggregates where returns are calculated as an IRR.

MANAGER INVESTMENT PERFORMANCE RESULTS — as of June 30, 2023 *(continued)*

	Assets Managed ($ millions)	Rates of Return from Inception[1]	Benchmark from Inception[1]	Equity Multiple[3]	Inception Date
Real Estate Equity *(continued)*					
Managers					
Adelante Capital Management LLC	$266.6	9.3 %	8.6 %		Aug-98
AEW Capital Management LP	215.3	1.5	1.4		Oct-17
Brookfield Public Securities Group LLC	72.3	0.6	1.2		Sep-17
Cohen & Steers Capital Management Inc.	1,251.4	7.9	5.1		Feb-18
Dimensional Fund Advisors	338.0	2.5	1.3		Nov-17
Heitman Real Estate Securities LLC (Global)	336.8	2.2	1.2		Sep-17
Heitman Real Estate Securities LLC (Domestic)	127.6	(10.3)	(9.9)		Jan-22
Principal Real Estate Investors LLC	429.8	(13.5)	(13.9)		Mar-22
Fund Investments					
Real Estate Equity Core Funds	1,666.5	6.3	6.2		Jul-85
Real Estate Equity Opportunistic Funds	3,015.0	11.0[2]	–	1.4	Mar-99
Real Estate Equity Value-Added Funds	1,643.0	12.0[2]	–	1.5	Dec-89
Private Equity					
Fund Investments	15,418.0	14.5[2]	–	1.7	Oct-92
High-Yield Bonds					
Managers					
Columbia Management Investment Advisers, LLC	359.1	3.2	3.4		Oct-18
J.P. Morgan Investment Management Inc.	347.6	3.3	3.3		Apr-18
Nomura Corp. Research and Asset Mgt. Inc.	357.4	2.6	3.0		Dec-17
Global Bonds					
Managers					
Goldman Sachs Asset Management LP	660.5	0.8	0.5		Aug-16
Loomis, Sayles & Company LP	1,098.7	2.3	1.8		Nov-12
Wellington Management Company LLP	937.9	1.9	2.0		Aug-13
Real Estate Debt					
Managers					
BlackRock Financial Management Inc.	1,453.0	4.2	4.2		Apr-01
Prima Capital Advisors LLC	774.1	4.3	3.8		Nov-03
Raith Capital Partners LLC	144.9	0.5	(1.7)		Mar-19
Fund Investments					
Real Estate Debt Core Plus Funds	1,872.3	3.7[2]	–	1.1	Dec-04
Real Estate Debt Opportunistic Funds	663.5	1.0[2]	–	1.0	Jun-98
Private Debt					
Fund Investments	2,045.6	10.0[2]	–	1.2	Jul-17

[1] *Returns for periods over 1 year are annualized.*

[2] *Return is an IRR (Internal Rate of Return), not time-weighted.*

[3] *Equity multiples are only shown for aggregates where returns are calculated as an IRR.*

CORPORATE GOVERNANCE

Shareholder responsibility is fundamental to good corporate governance, which recognizes an appropriate balance between the rights of shareholders (the owners of the corporation) and the need for management and the Board to direct the corporation's affairs with a long-term perspective. The System's shareholder voting rights must be managed with the same care as any of its other assets. Therefore, the Retirement Board has established a formal proxy voting policy reflecting three objectives: to protect the System's rights, promote responsible corporate policies and activities, and enhance long-term value.

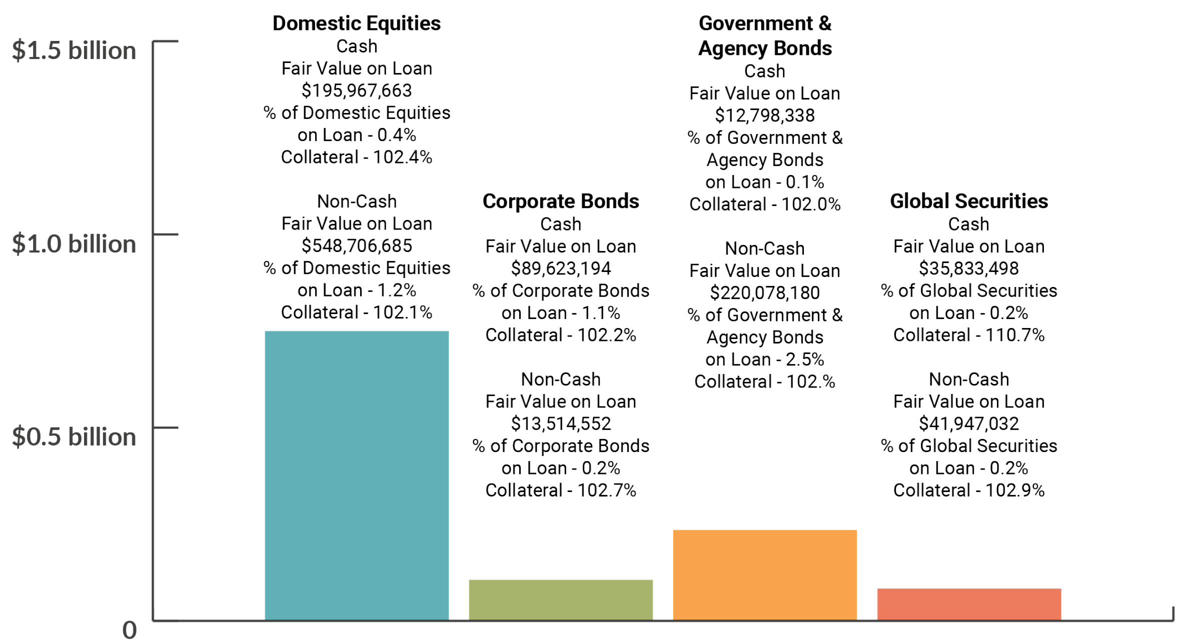
For the 2022 calendar year, a total of 134,046 proposals* were voted, many of which focused on board-related issues, ratification of auditors, and executive compensation. System policy generally supports management if the position is reasonable, not detrimental to the long-term economic prospects of the company, and does not tend to diminish the rights of shareholders.

Domestic & Canadian Portfolios			International & Global Portfolios		
Position	**Number of Proposals**	**Percentage of Proposals**	**Position**	**Number of Proposals**	**Percentage of Proposals**
For	16,935	91.1%	For	98,911	85.7%
Against	1,593	8.6%	Against	13,741	11.9%
Abstain	61	0.3%	Abstain	2,805	2.4%
Total	**18,589**	**100.0%**	**Total**	**115,457**	**100.0%**

**Proposals at companies held in multiple externally managed international and global portfolios are counted once for each portfolio.*

SECURITIES LENDING PROGRAM — as of June 30, 2023

Cash: $334,222,692 - Non-Cash: $824,246,449 - Total: $1,158,469,141



SCHEDULE OF INVESTMENT FEES AND EXPENSES — Year ended June 30, 2023*

(dollars in thousands)

	Assets Managed ($ millions)	Investment Management Expenses 2022-2023
Domestic Equity:		
Managers	$ 1,400	$ 2,792
International Equity:		
Managers	$ 18,750	$ 27,619
Global Equity:		
Managers	$ 4,926	$ 18,234
Real Estate Equity:		
Advisors	$ 7,024	$ 22,875
Managers	3,631	16,649
Fund Investments	5,822	88,961
Total Real Estate Equity:	$ 16,477	$ 128,485
Private Equity:		
Fund Investments	$ 15,417	$ 155,204
High-Yield:		
Managers	$ 1,381	$ 4,317
Global Bonds:		
Managers	$ 2,697	$ 3,712
Real Estate Debt:		
Managers	$ 2,372	$ 4,853
Servicers	1,143	71
Fund Investments	2,536	19,893
Total Real Estate Debt:	$ 6,051	$ 24,817
Private Debt:		
Fund Investments	$ 2,046	$ 27,217
Total Investment Manager Fees:		$ 392,397

	Investment Management Expenses 2022-2023
Legal Expenses:	
DLA Piper LLP (US)	$ 59
Katten Muchin Rosenman LLP	69
Nixon Peabody LLP	62
Nossaman LLP	52
Sheppard Mullin Richter & Hampton LLP	74
Sidley Austin LLP	273
Other Legal Expenses	215
Total Legal Expenses:	$ 804
General Expenses:	
Advisory Committee - Investment	$ 60
Advisory Committee - Real Estate	57
Abel Noser Solutions, LLC	48
Callan LLC	528
Callan Associates	686
Investment Information Services	10,726
Mercer Investments LLC	50
Real Estate Origination Costs	389
Real Estate Professional Fees	242
Real Estate Service Costs	108
State Street Corporation	1,367
StepStone Group LP	1,300
Total General Expenses:	$ 15,561
Total Investment Fees and Expenses:	**$ 408,762**

**The above schedule is presented at net asset value which differs from financial statement presentation.*

INVESTMENT ADVISORY COMMITTEE

Robert Levine, CFA, Chairman
Chief Investment Officer, President & CEO (Retired)
Nomura Corporate Research and Asset Management, Inc.
New York, New York

Howard J. Bicker
Executive Director/CIO (Retired)
Minnesota State Board of Investment
Saint Paul, Minnesota

Daniel J. Bukowski
Managing Partner
Net Alpha Advisors, LLC
Chicago, Illinois

Johanna Fink
President
The Hovenden Group, LLC
Charlestown, Massachusetts

Laura Hotaling
Portfolio Manager
MLC Asset Management
New York, New York

Steven Huber, CFA, FSA
Portfolio Manager for Global Multi-Sector Bond Strategies (Retired)
T. Rowe Price Group, Inc.
Baltimore, Maryland

James W. O'Keefe
Managing Director (Retired)
UBS Global Asset Management
Hartford, Connecticut

June W. Yearwood
Managing Director
The Church Pension Fund
New York, New York

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Managing Director (Retired)
UBS Realty Investors LLC
Hartford, Connecticut

Herman Bulls
Vice Chairman, Americas
JLL
Washington, DC

Eileen Byrne
Managing Director (Retired)
BlackRock Inc.
New York, New York

Paul J. Dolinoy
President (Retired)
Equitable Real Estate/Lend Lease
Atlanta, Georgia

Maureen A. Ehrenberg
President
Lessen
Chicago, Illinois

Jill S. Hatton
Managing Director (Retired)
BlackRock Inc.
Boston, Massachusetts

Daniel J. Hogarty Jr.
President and CEO (Retired)
Troy Savings Bank
Albany, New York

Laura Huntington, CFA
President
Institutional Property Consultants
Lakewood, Washington

INVESTMENT CONSULTANTS

Abel Noser Solutions, LLC
New York, New York

Callan LLC
San Francisco, California

Mercer Investments LLC
Boston, Massachusetts

StepStone Group LP
La Jolla, California

MASTER CUSTODIAN

State Street Bank & Trust Co.
Boston, Massachusetts

SECURITIES LENDING

JPMorgan Chase Bank N.A.
New York, New York

The Bank of New York Mellon
New York, New York

EXTERNAL INVESTMENT MANAGERS & ADVISORS

Domestic Equity:
T. Rowe Price Associates Inc.

International Equity:
AQR Capital Management LLC
Ariel Investments LLC
Arrowstreet Capital LP
Baillie Gifford Overseas Ltd.
BlackRock Institutional Trust Co. NA
Dimensional Fund Advisors
Goldman Sachs Asset Management LP
LSV Asset Management
Marathon Asset Management LLP (Marathon-London)
Rhumbline Advisors Limited Partnership
State Street Global Advisors
William Blair Investment Management LLC
Xponance Inc. (Manager of Managers)

Global Equity:
Arrowstreet Capital LP
Harding Loevner LP
LSV Asset Management
Leading Edge Investment Advisors (Manager of Managers)

Real Estate Equity:
Advisors:
Abacus Capital Group LLC
BentallGreenOak
Cabot Properties LP
CBRE Investment Management
Clarion Partners
Federal Capital Partners
Forest Investment Associates
Invesco Advisers Inc.
J.P. Morgan Asset Management
Sentinel Real Estate Corporation

Managers:
Adelante Capital Management LLC
AEW Capital Management LP
Brookfield Public Securities Group LLC
Cohen & Steers Capital Management Inc.
Dimensional Fund Advisors LP
Heitman Real Estate Securities LLC
Principal Real Estate Investors LLC

Fund Investments:
Abacus Multi-Family Partners III LP
Abacus Multi-Family Partners IV LP
Abacus Multi-Family Partners V LP
Abacus Multi-Family Partners VI LP
Aermont Capital Real Estate Fund IV SCSP
AG Core Plus Realty Fund IV LP
AG Realty Fund VII LP
AG Realty Fund VIII LP
AG Realty Fund IX LP
AG Realty Value Fund X LP
AG Realty Value Fund XI LP
Artemis Real Estate Partners Fund I LP
Artemis Real Estate Partners Fund II LP
Artemis Real Estate Partners Fund III LP
Artemis Real Estate Partners Fund IV LP
BentallGreenOak US Cold Storage LP

EXTERNAL INVESTMENT MANAGERS & ADVISORS *(continued)*

Real Estate Equity: *(continued)*

Fund Investments: *(continued)*

BlackRock Europe Property Fund III LP
Blackstone BioMed Life Science Real Estate LP
Blackstone Real Estate Partners Asia LP
Blackstone Real Estate Partners Asia II LP
Blackstone Real Estate Partners Asia III LP
Blackstone Real Estate Partners Europe IV LP
Blackstone Real Estate Partners Europe V LP
Blackstone Real Estate Partners Europe Fund VI SCSp
Blackstone Real Estate Partners V TE2 LP
Blackstone Real Estate Partners VI TE2 LP
Blackstone Real Estate Partners VII TE1 LP
Blackstone Real Estate Partners VIII LP
Blackstone Real Estate Partners IX LP
Blackstone Real Estate Partners X LP
Brockton Capital Fund III LP
Brookfield DC Office Partners LLC
Brookfield DTLA Holdings LLC
Brookfield Properties Office Partners Inc.
Brookfield Real Estate Secondaries Account (N) LP
Brookfield Strategic Real Estate Partners III LP
Brookfield Strategic Real Estate Partners IV LP
Cabot Industrial Core Fund II LP
Cabot Industrial Core Fund III LP
Cabot Industrial Value Fund V LP
Cabot Industrial Value Fund VI LP
CBRE Strategic Partners Europe III LP
CBRE Strategic Partners U.S. Opportunity 5 LP
Cerberus Institutional Real Estate Partners LP - Series Two
Cerberus Institutional Real Estate Partners III LP
Clarion Development Ventures III LP
DLJ Real Estate Capital Partners III LP
DLJ Real Estate Capital Partners IV LP
Excelsior II LLC
Exeter Europe Industrial Core Fund SCSp
Exeter Europe Logistics Value Fund IV SCSp
Exeter Industrial Value Fund LP
Exeter Industrial Value Fund II LP
Exeter Industrial Value Fund III LP
Exeter Industrial Value Fund IV LP
Exeter Industrial Value Fund V LP
FCP Realty Fund II LP
FCP Realty Fund III LP
FCP Realty Fund IV LP
FCP Realty Fund V LP
Gateway Real Estate Fund IV LP
Gateway Real Estate Fund V LP
Gateway Real Estate Fund VI LP
GCM Grosvenor - NYSTRS RE Inv. Partners LP
GCM Grosvenor - NYSTRS RE Inv. Partners LP 2016-1
GCM Grosvenor - NYSTRS CRE Opportunity Partners LP
GCM Grosvenor - NYSTRS RE Inv. Partners LP 2018-1
GCM Grosvenor - NYSTRS RE Inv. Partners LP 2021-1
GreenOak US III LP
Harrison Real Estate Partners VIII LP
Heritage Fields LLC
LaSalle Asia Opportunity Fund III
Lone Star Fund III (U.S.) LP
Lone Star Fund IV (U.S.) LP
Lone Star Fund V (U.S.) LP
Lone Star Fund VI (U.S.) LP
Lone Star Fund VII (U.S.) LP
Lone Star Fund IX (U.S.) LP
Lone Star Fund X (U.S.) LP
Lone Star Fund XI LP
Lone Star Real Estate Fund II (U.S.) LP
Lone Star Real Estate Fund III (U.S.) LP
Northwood Real Estate Partners LP - Series VI
Northwood Real Estate Partners LP - Series VIII
NYSTRS/FCP Multifamily Preferred Equity and Mezzanine Program
O'Connor North America Property Partners LP
O'Connor North America Property Partners II LP
Pennybacker EIV LP
Pennybacker V LP
Penwood Select Industrial Partners IV LP
Penwood Select Industrial Partners V LP
Penwood Select Industrial Partners VI LP
Perella Weinberg Real Estate Fund II LP
PGV SCSp
PRISA I
PRISA II
PRISA III
PW Real Estate Fund III LP
Rockpoint Finance Fund I LP
Rockpoint Growth and Income Real Estate Fund I LP
Rockpoint Growth and Income Real Estate Fund II LP
Rockpoint Growth and Income Real Estate Fund III LP
Rockpoint Real Estate Fund II LP
Rockpoint Real Estate Fund III LP
Rockpoint Real Estate Fund IV LP
Rockpoint Real Estate Fund V LP
Rockpoint Real Estate Fund VI LP
Starwood Distressed Opportunity Fund IX LP
Starwood Global Opportunity Fund VII-A LP
Starwood Opportunity Fund X Global LP
Starwood Opportunity Fund XI Global LP
TA Realty Logistics Fund LP
TPG Real Estate Partners IV LP
UBS Trumbull Property Fund
Walton Street Real Estate Fund VI LP
WB SJC Residential Site Partnership LP
Westbrook Real Estate Fund VI LP
Westbrook Real Estate Fund VII LP
Westbrook Real Estate Fund VIII LP
Westbrook Real Estate Fund IX LP
Westbrook Real Estate Fund X LP
Westbrook Real Estate Partners LP (Fund V)
Westbrook Real Estate Fund XI LP

EXTERNAL INVESTMENT MANAGERS & ADVISORS *(continued)*

Private Equity:

Fund Investments:

A&M Capital Partners II, LP
A&M Capital Partners III, LP
Abbott Select Buyouts Fund
Abbott Select Buyouts Fund II
Abbot Select EM Buyouts LP
Abbott Select EM II, LP
ABRY Partners Fund V
ABRY Partners Fund VI
ABRY Partners Fund VII
ABRY Partners Fund VIII
ABRY Partners IX LP
Advent GPE X
Aisling Capital II LP
Aisling Capital III LP
Amulet Capital Fund I LP
Amulet Capital Fund II LP
Amulet Capital Fund III LP
Amulet Capital Overage Fund I LP
Apex VI
Ares Corporate Opportunities Fund II LP
Astorg VII
BGH Capital Fund I LP
CapStreet IV LP
CapStreet V LP
Carlyle Asia Partners IV LP
Carlyle Asia Partners V LP
Chisholm Partners III
ChrysCapital VIII LP
Cinven III
Cinven IV
Cinven V
Cinven VI
Cinven VII
Cinven Strategic Financials Co-Investment Fund LP
Cinven Strategic Financials Fund LP
Clayton Dubilier & Rice VI
Clearlake Capital Partners III LP
Clearlake Capital Partners IV LP
Clearlake Capital Partners V LP
Clearlake Capital Partners VI LP
Clearlake Capital Partners VII, LP
Co-Investment Partners (NY) LP
Co-Investment Partners (NY) II LP
Co-Investment Partners (NY) III LP
Co-Investment Partners Europe LP
Cortec Group Fund V LP
Cortec Group Fund VI LP
Cortec Group Fund VII LP
Cortec Group Fund VIII LP
Cressey & Co. V LP
Cressey & Co. Fund VI LP
Cressey & Co. Overage Fund VI LP
Cressey & Co. Overage Fund VII LP
CVC Capital Partners VI LP
CVC European Equity Partners V LP
DCP Capital Partners LP
DCP Capital Partners II LP
ECI 11 LP
ECI 12 LP
EIV Capital III LP
EIV Capital Fund IV LP
EIV Capital IV Top-Up Fund LP
GTCR Fund VIII
GTCR Fund X
GTCR Fund XI
GTCR Fund XII
GTCR Fund XIII
GTCR Fund XIV LP
Hahn & Company III LP
Hahn & Company III-S LP
HarbourVest Partners VII-Mezzanine Fund
HarbourVest Partners VII-Venture Fund
HarbourVest VI - Partnership Fund
HarbourVest/The Maple Fund (Tranche H1)
HarbourVest/The Maple Fund (Tranche H2)
HarbourVest/The Maple Fund (Tranche H3)
HarbourVest/The Maple Fund (Tranche N1)
HarbourVest/The Maple Fund (Tranche N2)
HarbourVest/The Maple Fund (Tranche N3)
HarbourVest/The Maple Fund (Tranche N4)
HarbourVest/The Maple Fund (Tranche N5)
HarbourVest/The Maple Fund (Tranche N6)
HarbourVest/NYSTRS Co-Investment Fund
HarbourVest/NYSTRS Co-Investment Fund II
HarbourVest/NYSTRS Co-Investment Fund III, LP
Hg Genesis 10 A LP
Hg Saturn 3 A LP
Hellman & Friedman VI LP
Hellman & Friedman VII LP
Hellman & Friedman VIII LP
Hellman & Friedman IX LP
Hellman & Friedman X LP
HIPEP Select Asia Fund LP
HIPEP Select Asia II LP
HIPEP Select Asia III LP
Industri Kapital 2007 Fund
Inflexion 2010 Buyout Fund
Inflexion Buyout Fund IV LP
Inflexion Buyout Fund V LP
Inflexion Enterprise Fund IV LP
Inflexion Enterprise Fund V LP
Inflexion Partnership Capital Fund LP
Inflexion Partnership Capital Fund II LP
Inflexion Strategic Partners LP
Inflexion Supplemental Fund IV LP
Inflexion Supplemental Fund V LP
JFL Equity Investors V LP
Kinderhook Capital Fund VI LP
Kinderhook Capital Fund 7 LP
Lexington Capital Partners V
Lexington Capital Partners VI
Lexington Capital Partners VII
Lexington Emerging Partners LP
Lexington Middle Market Investors
Lexington Middle Market Investors II

EXTERNAL INVESTMENT MANAGERS & ADVISORS *(continued)*

Private Equity: *(continued)*

Fund Investments: *(continued)*

Lightspeed Venture Partners IX LP
Lightspeed Venture Partners X LP
Lightspeed Venture Partners Select LP
Linden Capital Partners Fund IV LP
Linden Capital Partners Fund V LP
Livingbridge 7 LP
Lovell Minnick Partners Fund V LP
LS Power Equity Partners IV LP
Madison Dearborn Capital Partners V
MBK Partners Fund IV LP
MBK Partners Fund V LP
Metalmark Capital Partners LP
Mill Point Capital Partners II LP
Monomoy Capital Partners III LP
Monomoy Capital Partners IV LP
Nautic V LP
Nautic VI LP
Nautic VII LP
Nautic Partners VIII LP
Nautic Partners IX LP
Nautic Partners X LP
NMS Fund III LP
NMS Fund IV LP
Olympus Growth Fund V
Olympus Growth Fund VI
One Rock Capital Partners II LP
One Rock Capital Partners III LP
P123 Ltd.
PBPE V LP
Pacific Equity Partners Fund V LP
Pacific Equity Partners Fund VI LP
Patria - Private Equity Fund VI LP
Phoenix Equity Partners 2010 Fund
Phoenix Equity Partners 2016 Fund
Pine Brook Capital Partners II LP
Primavera Capital Fund III LP
Primavera Capital Fund IV LP
Silver Lake Partners III LP
Silver Lake Partners IV LP
Silver Lake Partners V LP
Silver Lake Partners VI LP
Silver Lake Partners VII LP
Siris Partners III LP
Siris Partners IV LP
SK Capital Partners V LP
SK Capital Partners VI LP
SK Capital Partners Overage V LP
SKCP Catalyst Fund I LP
SKCP Catalyst Fund II LP
StepStone Pioneer Capital Europe I LP
Sterling Foundation Fund LP
Sterling Group Partners III LP
Sterling Group Partners IV LP
Sterling Group Partners V LP
Strategic Partners III - Venture LP
Strategic Partners III LP
Sycamore Partners III LP
Tailwater Energy Fund III LP
Tailwater Energy Fund IV LP
TCV IX LP
TCV X LP
TCV XI LP
TDR Capital IV LP
Technology Crossover Ventures VII
Tenex Capital Partners II LP
Tenex Capital Partners III LP
The First Capital Access Fund LP
The Veritas Capital Fund VIII LP
Thoma Bravo Discover Fund LP
Thoma Bravo Discover Fund II LP
Thoma Bravo Discover Fund III LP
Thoma Bravo Discover Fund IV LP
Thoma Bravo Fund X
Thoma Bravo Fund XI LP
Thoma Bravo Fund XII LP
Thoma Bravo Fund XIII LP
Thoma Bravo Fund XIV LP
Thoma Bravo Special Opportunities Fund I LP
Thoma Bravo Special Opportunities Fund II LP
TSG6 LP
TSG7 A LP
TSG7 B LP
TSG8 LP
TSG9 LP
Valor Equity Partners Opportunity Fund I LP
Valor Equity Partners IV LP
Valor Equity Partners V LP
Valor Equity Partners VI LP
Veritas Capital Buyout Fund VI LP
Waud Capital Partners III LP
Waud Capital Partners IV LP

High-Yield Bonds:

Columbia Management Investment Advisors LLC
J.P. Morgan Investment Management Inc.
Nomura Corp. Research and Asset Mgt. Inc.
PGIM Inc.

Global Bonds:

Goldman Sachs Asset Management LP
Loomis, Sayles & Company LP
Wellington Management Company LLP

Real Estate Debt:

Managers:

Blackrock Financial Management Inc.
Prima Capital Advisors LLC
Raith Capital Partners LLC

Fund Investments:

Artemis Real Estate Partners Debt Fund LP
Barings Real Estate Credit Strategies Account-NY LP
Blackstone Real Estate Debt Strategies IV LP
Blackstone Real Estate Debt Strategies High-Grade LP
Brookfield Real Estate Finance Fund IV LP

EXTERNAL INVESTMENT MANAGERS & ADVISORS *(continued)*

Real Estate Debt: *(continued)*

Fund Investments: *(continued)*

Brookfield Real Estate Finance Fund V LP
Brookfield Real Estate Finance Fund VI LP
Brookfield Senior Mezzanine Real Estate Finance Fund LP
Brookfield Senior Real Estate Finance Account (N) LP
GCM Grosvenor - NYSTRS Debt Inv. Partners LP
GCM Grosvenor - NYSTRS Debt Inv. Partners LP 2018-1
GCM Grosvenor - NYSTRS Debt Inv. Partners LP 2021-1
Madison Realty Capital Debt Fund III LP
PCCP Mezzanine Recovery Partners I LP
Pramerica Real Estate Capital IV LP
Prima Capital Advisors LLC
Raith Real Estate Debt Separate Account
Sullivan Debt Fund LP
TCI Real Estate Partners Fund II LP

Private Debt:

Fund Investments:

ABRY Advanced Securities Fund II
ABRY Advanced Securities Fund III
ABRY Advanced Securities Fund IV
ABRY Senior Equity Fund II
ABRY Senior Equity Fund III
ABRY Senior Equity Fund IV
ABRY Senior Equity Fund V
ABRY Senior Equity VI
Blue Torch Credit Opportunities Fund II LP
Blue Torch Credit Opportunities Fund III LP
Clearlake Flagship Plus Partners LP
Clearlake Opportunities Partners LP
Clearlake Opportunities Partners II LP
Clearlake Opportunities Partners III LP
Comvest Credit Partners V LP
Comvest Credit Partners VI LP
H.I.G. Whitehorse Direct Lending 2020 Fund LP
H.I.G. Whitehorse Principal Lending Fund
ICG Europe Fund V
ICG Europe Fund VI
ICG Europe Fund VII
ICG North American Private Debt Fund II LP
MGG SF Evergreen Fund LP
MGG Special Opportunities Fund LP
Orion Energy Credit Opportunities Fund II LP
Orion Energy Credit Opportunities Fund III LP
Peninsula Fund V
Peninsula Fund VII

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Actuarial

Actuarial

ACTUARIAL CERTIFICATION LETTER

New York State Teachers' Retirement System
10 Corporate Woods Drive
Albany, NY 12211-2395
(800) 348-7298
NYSTRS.org
Thomas K. Lee, Executive Director & CIO

Office of the Actuary

October 27, 2023

Retirement Board
New York State Teachers' Retirement System
10 Corporate Woods Drive
Albany, New York 12211-2395

Dear Members of the Board:

The financial objective of the New York State Teachers' Retirement System is to properly fund the retirement and ancillary benefits of members to ensure sufficient assets are being accumulated to pay benefits as they become due. The Retirement System is a cost-sharing multiple-employer defined benefit pension plan. Employer contributions are made by participating employers in accordance with an actuarially determined employer contribution rate. This rate is determined by an actuarial valuation made as of each June 30th. Members contribute in accordance with a fixed rate schedule as required by statute.

The most recently completed actuarial valuation was made as of June 30, 2022. This valuation relies on member data provided by the participating employers to the Retirement System. The administrative and actuarial staffs review this data for reasonability as well as reconcile it against prior data. In addition, the valuation relies on financial data provided by the Retirement System's Finance Department. The Retirement System's independent auditors provide reasonable assurances of the data provided by the Finance Department as part of the annual audit. We believe the member and financial data to be reasonable and appropriate for purposes of this valuation. Plan provisions are summarized in both the introduction section and the financial section of this report.

Actuarial assumptions, as adopted by the Retirement Board, are reviewed each year against experience on both an annual and quinquennial basis and changes are recommended when warranted. Assumptions are typically revised every five years. The actuarial assumptions used in the June 30, 2022 valuation were adopted by the Retirement Board in October 2021 and first effective with the June 30, 2021 actuarial valuation.

The actuarial funding method is the Aggregate Cost Method and is specified in statute. In this method, actuarial gains and losses are not separately amortized, but are spread as part of the annual normal rate calculation over the present value of future salaries of active members. This method is an appropriate contribution allocation procedure for the purpose of ongoing plan funding and having sufficient assets to pay benefits as they become due. A summary of the actuarial methods and assumptions used in the actuarial valuation is included later in this section. More detail on the valuation and actuarial methods and assumptions is available in the System's Actuarial Valuation Report. The actuarial cost method for funding differs from that used for financial reporting purposes as required by the Governmental Accounting Standards Board.

ACTUARIAL CERTIFICATION LETTER *(continued)*

The System's market value rate of return on assets for the fiscal year ending June 30, 2022 was negative 7.1%. The System's five-year annualized rate of return stood at 7.7%. The June 30, 2022 actuarial valuation produced a required employer contribution rate of 9.76% of payroll, representing a decrease of 5% over the prior year's rate of 10.29%. There was a gain on the actuarial value of assets for the year, which was the primary reason for the decrease in the employer contribution rate. The actuarial value of assets is determined by recognizing gains and losses gradually over a five-year period, thereby moderating their impact on the employer contribution rate.

Looking ahead to next year, the capital markets, with respect to the equity markets, produced strong returns during the fiscal year ending June 30, 2023. The System's total fund net rate of return was 9.0% for the fiscal year. This will slightly lower the System's five-year annualized rate of return to 7.6%.

The plan's funded ratio, as of June 30, 2022, calculated using the Actuarial Value of Assets (AVA) was 99.3% and calculated using the Market Value of Assets (MVA) was 97.4%. While the funded ratios will fluctuate from year to year, a funded ratio of 100% is desirable and indicative of a well-funded System. The primary reason for this healthy funded ratio is that, in accordance with statute, the System has collected the actuarially required contribution annually from employers. The significance of this cannot be overstated. It does not, however, imply that future contributions will not be required. A 10-year schedule of actuarially determined and actual contributions made are provided as required supplementary information in the financial section. Various exhibits in the actuarial section provide further information on the actuarial assets, liabilities, and the funding level. More detailed information can be found in the System's Actuarial Valuation Report.

All actuarial assumptions and methods used for funding purposes have been determined in accordance with generally accepted actuarial principles, procedures, and Actuarial Standards of Practice as prescribed by the Actuarial Standards Board, and Statements of the Governmental Accounting Standards Board, where applicable. All schedules in the actuarial section were prepared under my direction. Specifically, these schedules consist of the Summary of Actuarial Methods and Assumptions, Actuarial Present Value of Future Benefits, Analysis of Funding Progress, Percent Funded, Solvency Test, Analysis of Financial Experience, History of Member Payroll and the Employer Contribution Rate, and Schedule of Retired Members and Beneficiaries Added to and Removed from the Benefit Payroll. I am a member of the Society of Actuaries and the American Academy of Actuaries and meet the qualification standards of the American Academy of Actuaries to render the actuarial opinion contained herein.

Respectfully submitted,

Richard A. Young, ASA, EA, MAAA, FCA
Chief Actuary

cc: T. Lee

SUMMARY OF PLAN PROVISIONS AND ACTUARIAL METHODS AND ASSUMPTIONS — as of June 30, 2022

Plan Provisions

Plan Provisions are summarized in the Introduction section and Notes to the Financial Statements. Detailed Plan Provisions are available in the annual Actuarial Valuation Report and online at NYSTRS.org. All Plan Provisions and all changes in Plan Provisions are valued as part of the Actuarial Valuation.

Methods

Actuarial funding method:	Aggregate Cost Method (gains and losses are smoothed over the average future working lifetime of active members). All benefits are included in the actuarial valuation. See *Summary of Benefits* in the Introduction.
Actuarial asset valuation method:	Five-year phased-in deferred recognition of each year's net investment income/loss, in excess of (or less than) the assumed gain for each year in the five-year period.

Assumptions

Assumptions are computed by the Actuary and were adopted by the Retirement Board in October 2021. They are based upon recent NYSTRS member experience. Selected sample rates are shown below. Detailed assumption information may be found in NYSTRS' annual Actuarial Valuation Report.

Valuation Rate of Interest	6.95% compounded annually. The valuation rate of interest contains a 2.40% assumed annual rate of inflation.
Projected COLA Rate	1.3% annually

Base Rates of Mortality*

Active Members			Retired Members		
Age	Male	Female	Age	Male	Female
30	0.03%	0.02%	60	0.35%	0.26%
40	0.05	0.03	70	0.94	0.62
50	0.10	0.07	80	3.84	2.62
60	0.26	0.16	90	13.57	10.98
Disabled Members			**Survivor and Beneficiaries**		
Age	Male	Female	Age	Male	Female
30	0.47%	0.34%	30	0.04%	0.02%
40	0.77	0.72	40	0.07	0.04
60	2.65	2.14	60	0.64	0.41
80	6.96	5.95	80	4.52	3.27

Rates of Salary Increase Including Cost-of-Living, Merit and Productivity

Years of Service	Rate
5	5.18%
15	3.64
25	2.50
35	1.95

Rates of Withdrawal

Years of Service	Male
5	4.67%
15	0.84
20	0.50
25	0.32
Years of Service	**Female**
5	4.86%
15	0.98
20	0.43
25	0.25

Rates of Service Retirement (By Years of Service)

Male Age	5 - 20 Years	20 - 30 Years	30+ Years
55	1.69%	3.69%	35.74%
60	3.25	7.49	31.11
65	13.52	28.48	31.11
70	17.84	34.58	25.91
Female Age			
55	2.20%	4.89%	36.05%
60	3.67	8.58	32.94
65	13.46	30.66	34.52
70	16.93	27.62	26.82

Rates of Disability Retirement

Age	Male
35	0.02%
40	0.03
45	0.06
50	0.10
Age	**Female**
35	0.02%
40	0.03
45	0.08
50	0.13

No assumption is made for optional forms of benefit available at retirement because options are actuarially equivalent to the single life benefit.

There are no other specific assumptions or significant events that have a material impact on the most recent Actuarial Valuation.

**Future annuitant mortality rates are the annuitant mortality base rates adjusted for mortality improvement using Society of Actuaries Scale MP-2021.*

ACTUARIAL PRESENT VALUE OF FUTURE BENEFITS

— as of June 30, 2022 and June 30, 2021
(in thousands)

Each year an actuarial valuation determines the actuarial present value of future benefits (PVB), which is the present value of retirement and ancillary benefit payments, excluding group life insurance benefits, that the Retirement System can expect to pay in the future to current retirees and members. The PVB is based upon both service and salary projected to retirement. The results of the two most recent actuarial valuations are displayed in the following table.

	2022	2021
Present Value of Benefits Currently Being Paid:		
Service Retirement Benefits	$ 70,199,316	$ 68,662,650
Disability Retirement Benefits	422,523	413,056
Death Benefits	2,485	2,523
Survivor Benefits	1,248,183	1,169,906
Cost-of-Living Allowance	5,464,928	5,052,489
Total Present Value of Benefits Currently Being Paid	77,337,435	75,300,623
Present Value of Benefits Payable in the Future to Current Active Members:		
Service Retirement Benefits	68,190,109	65,619,677
Disability Retirement Benefits	655,807	632,570
Termination Benefits	1,817,728	1,735,183
Death and Survivor Benefits	514,797	501,731
Cost-of-Living Allowance	1,521,282	1,490,590
Total Active Member Liabilities	72,699,722	69,979,750
Present Value of Benefits Payable in the Future to Current Inactive (Vested) Members:		
Retirement Benefits	537,273	492,184
Death Benefits	283	269
Cost-of-Living Allowance	45,055	41,246
Total Vested Liabilities	582,611	533,698
Unclaimed Funds	26,678	24,600
Total Actuarial Present Value of Future Benefits	**$ 150,646,447**	**$ 145,838,672**

Note: Totals may not sum due to rounding.

FUNDING PROGRESS

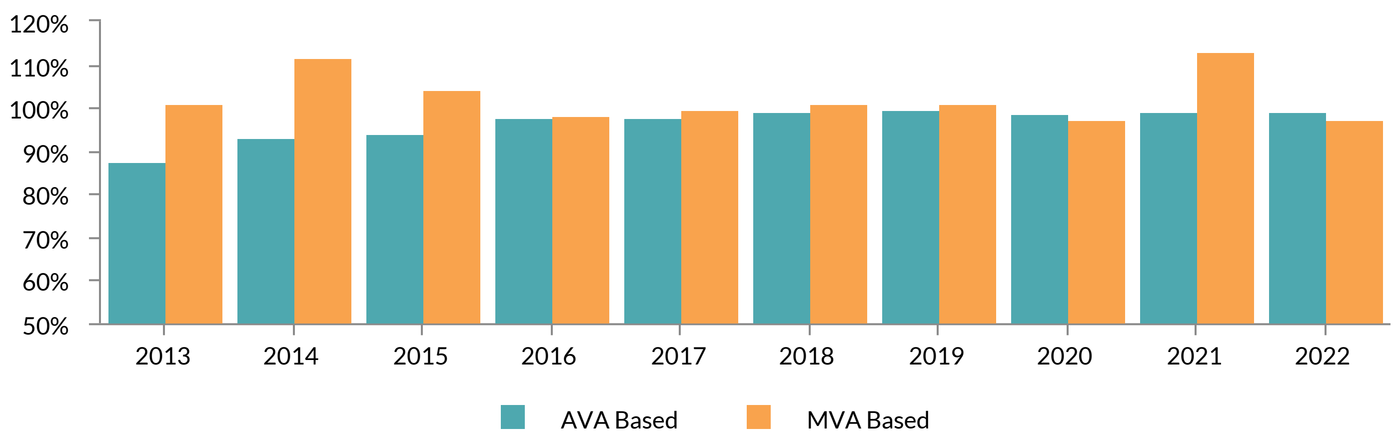
The portion of the actuarial present value of future benefits that is attributed to service rendered as of the valuation date is known as the actuarial accrued liability. In order to effectively assess the funding progress of a retirement system, it is necessary to compare the ratio of plan assets to the actuarial accrued liability over a period of time. Plan assets can be expressed as the market value of assets or as the actuarial value of assets. The market value of assets represents the market value of investments as of a particular date. The actuarial value of assets smooths the volatility inherent in the market value of assets by phasing in unexpected gains and losses over a period of five years, and represents more of an average value. The Retirement System's funding method has allowed the accumulation of assets appropriate for the funding of its liabilities in a systematic and reasonable manner.

ANALYSIS OF FUNDING PROGRESS

(in millions)

Fiscal Year Ended	Market Value of Assets (MVA)	Actuarial Value of Assets (AVA)[1]	Actuarial Accrued Liability[2]	Unfunded Actuarial Accrued Liability (Surplus)	Annual Member Payroll	Unfunded Actuarial Accrued Liability as a Percentage of Payroll	Percent Funded Based On	
							MVA	AVA
2013	$95,367.0	$82,742.5	$94,583.8	$11,841.3	$14,647.8	80.8 %	100.8 %	87.5 %
2014	108,155.1	90,007.1	96,904.5	6,897.4	14,771.3	46.7	111.6	92.9
2015	109,718.9	99,301.8	105,401.8	6,100.0	15,021.4	40.6	104.1	94.2
2016	107,506.1	107,039.2	109,305.1	2,265.9	15,431.0	14.7	98.4	97.9
2017	115,468.4	113,059.7	115,672.5	2,612.8	15,846.7	16.5	99.8	97.7
2018	119,915.5	117,859.5	118,861.1	1,001.6	16,288.9	6.1	100.9	99.2
2019	122,477.5	120,586.9	121,049.3	462.4	16,691.6	2.8	101.2	99.6
2020	120,479.5	122,400.4	123,801.7	1,401.3	16,973.2	8.3	97.3	98.9
2021	148,148.5	130,173.8	131,077.4	903.6	16,973.2	5.3	113.0	99.3
2022	131,964.6	134,527.0	135,530.9	1,003.9	17,715.3	5.7	97.4	99.3

PERCENT FUNDED



[1] The Retirement System's asset valuation method was changed effective with the June 30, 2015 actuarial valuation.
[2] Effective June 30, 2006, the Actuarial Accrued Liability is calculated under the Entry Age Normal Cost Method, including the Group Life Insurance Fund, as was required by Governmental Accounting Standards Board (GASB) Statement No. 50 prior to its replacement by GASB Statement No. 67. The System is funded in accordance with the Aggregate Cost Method. GASB Statement No. 50 required that the Entry Age Normal Cost Method be used to calculate the accrued liability for purposes of presenting the funded percentage.

SOLVENCY TEST

(in millions)

Fiscal Year Ended	Aggregate Accrued Liabilities* for: Active Member Accumulated Contributions (A)	Current Retired Members and Beneficiaries (B)	Service Rendered by Active Members (Employer-Financed Portion) (C)	Actuarial Value of Assets (D)	Percentage of Aggregate Accrued Liabilities Covered by Actuarial Value of Assets (A)	(B)	(C)
2013	$4,366.3	$57,681.9	$32,535.6	$82,742.5	100.0 %	100.0 %	63.6 %
2014	4,457.8	59,190.2	33,256.5	90,007.1	100.0	100.0	79.3
2015	4,555.1	64,504.9	36,341.8	99,301.8	100.0	100.0	83.2
2016	4,657.8	65,858.4	38,788.9	107,039.2	100.0	100.0	94.2
2017	4,751.2	68,736.2	42,185.1	113,059.7	100.0	100.0	93.8
2018	4,844.9	70,128.9	43,887.3	117,859.5	100.0	100.0	97.7
2019	5,114.7	70,971.4	44,963.2	120,586.9	100.0	100.0	99.0
2020	5,397.7	72,839.6	45,564.4	122,400.4	100.0	100.0	96.9
2021	5,696.0	75,887.8	49,493.6	130,173.8	100.0	100.0	98.2
2022	6,041.2	77,980.8	51,508.9	134,527.0	100.0	100.0	98.1

**NYSTRS is funded in accordance with the Aggregate Cost Method. The accrued liabilities in this chart are calculated in accordance with the Entry Age Normal Cost Method for purposes of disclosing the funded ratio.*

ANALYSIS OF FINANCIAL EXPERIENCE

The table below shows, for each potentially significant experience source, the effect on the employer contribution rate due to the difference between actual experience and that predicted by the actuarial assumptions. A positive number (+) represents an actuarial loss and the negative numbers (-) represent an actuarial gain.

Experience Source	Change in the Employer Contribution Rate during Fiscal Year Ended June 30, 2022	June 30, 2021
Plan and Assumption Changes:	+0.12 %	+4.50%
Net Investment (Gain)/Loss:	-1.17	-3.64
Salary/Service:	+0.49	-0.10
New Entrants:	-0.14	-0.08
Withdrawal:	-0.01	+0.02
Mortality:	-0.01	+0.04
Retirement:	0.00	+0.13
Pension Payments:	-0.07	-0.07
Cost-of-Living Adjustment:	+0.22	+0.02
Change in the Administrative Rate:	-0.01	+0.01
Miscellaneous:	+0.06	-0.34
Total Change in Employer Contribution Rate	**-0.52%**	**+0.49%**
Employer Contribution Rate at Prior Year-End	10.29%	9.80%
Employer Contribution Rate at Year-End	9.76 %	10.29%

HISTORY OF MEMBER PAYROLL AND THE EMPLOYER CONTRIBUTION RATE*

Fiscal Year Ended	Participating Employers	Active Members	Annual Member Payroll (in millions)	Percentage Increase in Annual Member Payroll	Average Full-Time Member Salary	Percentage Increase in Average Full-Time Member Salary	Employer Contribution Rate (Percent of Payroll)
2014	824	270,039	$14,771.3	0.8%	$77,585	1.6%	16.25%
2015	822	267,715	15,021.4	1.7	78,695	1.4	17.53
2016	821	266,350	15,431.0	2.7	79,813	1.4	13.26
2017	822	264,761	15,846.7	2.7	80,951	1.4	11.72
2018	824	264,590	16,288.9	2.8	82,071	1.4	9.80
2019	823	263,517	16,691.6	2.5	84,078	2.4	10.62
2020	822	261,232	16,973.2	1.7	84,985	1.1	8.86
2021	821	259,158	16,973.2	0.0	86,307	1.6	9.53
2022	822	263,475	17,715.3	4.4	88,698	2.8	9.80
2023	827	268,058	18,469.1	4.3	90,633	2.2	10.29

For recent changes in the actuarial methods and assumptions, plan provisions, or significant events, please refer to the annual Actuarial Valuation Report and the Report on Recommended Actuarial Assumptions.

SCHEDULE OF RETIRED MEMBERS AND BENEFICIARIES ADDED TO AND REMOVED FROM THE BENEFIT PAYROLL*

	Number of Retired Members and Beneficiaries		Annual Benefit of Retired Members and Beneficiaries						
Fiscal Year Ended	Added During the Year	Removed During the Year	Added During the Year	Removed During the Year	Total Number of Retired Members and Beneficiaries	Total Annual Benefit**	Percentage Increase in Total Annual Benefit	Average Annual Benefit	Percentage Increase in Average Annual Benefit
2014	7,003	3,894	$332,495,800	$110,681,561	155,931	$6,494,492,795	3.5%	$41,650	1.5%
2015	6,679	4,152	314,972,220	123,973,317	158,458	6,685,491,698	2.9	42,191	1.3
2016	6,719	4,029	318,693,576	122,540,821	161,148	6,881,644,453	2.9	42,704	1.2
2017	6,880	4,210	332,625,259	131,259,139	163,818	7,083,010,573	2.9	43,237	1.2
2018	6,951	4,484	342,878,955	144,338,778	166,285	7,281,550,750	2.8	43,790	1.3
2019	7,424	4,506	366,842,566	149,818,310	169,203	7,498,575,006	3.0	44,317	1.2
2020	8,205	4,839	417,236,881	163,825,172	172,569	7,751,986,715	3.4	44,921	1.4
2021	8,205	4,984	429,827,431	175,457,944	175,790	8,006,356,202	3.3	45,545	1.4
2022	7,812	5,033	421,461,528	185,748,482	178,569	8,242,069,248	2.9	46,156	1.3
2023	7,318	5,160	445,699,140	199,090,181	180,727	8,488,678,207	3.0	46,970	1.8

**Computed on the Maximum annual benefit including supplementation and COLA.*

***Annual benefits paid in this chart may differ from retirement benefit payments that appear elsewhere in this report because this chart reflects the rate of annual payment for retired members and their beneficiaries in pay as of the last day of the fiscal year.*

Plante Moran, PC
P.O. Box 307
3000 Town Center, Suite 100
Southfield, MI 48075
Tel: 248.352.2500
Fax: 248.352.0018
plantemoran.com

Retirement Board

Re: New York State Teachers' Retirement System:

Contemporaneously with the audit of the financial statements of the New York State Teachers' Retirement System (the System) for the year ended June 30, 2023, an actuary from our firm performed certain procedures to assess the reasonableness of the actuarial assumptions, methods, and procedures used by the System's actuary to calculate the employer contributions for the System as reported in the System's June 30, 2023 basic financial statements. Specifically, an actuary from our firm reviewed the following for reasonableness as compared to Actuarial Standard of Practice (ASOP) No. 4, *Measuring Pension Obligations*, as adopted by the Actuarial Standards Board:

- The actuarial assumptions, methods and procedures described in the System's Actuarial Valuation Report as of June 30, 2021, used to derive the resultant employer contribution rate of 10.29% applied to employer payroll for the fiscal year ended June 30, 2023.

- The System's Experience Studies incorporated in the System's Actuarial Report as of June 30, 2021, and the opinions of the System's actuary presented therein.

Based on the results of the above procedures, we determined that the methods, procedures, and actuarial assumptions used to develop the employer contributions reported in the System's 2023 basic financial statements appeared reasonable in the context of ASOP No. 4.

This report is intended solely for the use of the New York State Teachers' Retirement System and should not be used for any other purpose.

Plante Moran, PC

PLANTE MORAN, PC

October 25, 2023

Statistical

Statistical

The objective of the statistical section is to provide financial statement users with historical perspective, context and detail to assist in using the information in the financial statements, notes to financial statements, and required supplementary information to better understand and assess the economic condition of NYSTRS. This section relies on a snapshot of member data provided by the participating employers to the Retirement System taken at the end of each fiscal year.

Demographic & Economic Information

The schedules on pages 125-137 are intended to assist users in understanding the environment within which NYSTRS operates and to provide information that facilitates comparison of financial statement information over time and among similar entities. The demographic and economic information schedules presented are:

Financial Trends Information

The schedules on pages 138-140 are intended to assist users in understanding and assessing how the financial position of NYSTRS has changed over time. The financial trend schedules presented are:

Operating Information

The schedules on pages 142-146 are intended to provide contextual information about the operations and resources of NYSTRS to assist readers in using financial statement information. The operating information schedules are:

Demographic & Economic Information

ACTIVE MEMBERS:

	Male	Female	Total
June 30, 2022	61,368	202,107	**263,475**
Changes During Year:			
Added	3,656	12,563	**16,219**
Withdrawn	1,191	3,554	**4,745**
Retired	1,510	5,170	**6,680**
Died	67	144	**211**
June 30, 2023	62,256	205,802	**268,058**

MEMBERS RETIRED FOR:

	Service*			Disability				Total		
	Male	Female	Total	Male	Female	Total		Male	Female	Total
June 30, 2022	48,637	120,931	**169,568**	408	1,640	**2,048**		49,045	122,571	**171,616**
Changes During Year:										
Retired	1,492	5,095	**6,587**	18	75	**93**		1,510	5,170	**6,680**
Died	1,852	2,674	**4,526**	27	62	**89**		1,879	2,736	**4,615**
Lump Sum	14	99	**113**	0	0	**0**		14	99	**113**
Restored to Active Membership	0	0	**0**	0	1	**1**		0	1	**1**
June 30, 2023	48,263	123,253	**171,516**	399	1,652	**2,051**	**	48,662	124,905	**173,567**

BENEFICIARIES OF DECEASED:

	Service Annuitants			Disability Annuitants			Active Members			Total		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
June 30, 2022	1,648	4,938	**6,586**	109	157	**266**	22	79	**101**	1,779	5,174	**6,953**
Changes During Year:												
Added	182	447	**629**	3	3	**6**	2	1	**3**	187	451	**638**
Died	111	305	**416**	3	5	**8**	1	6	**7**	115	316	**431**
June 30, 2023	1,719	5,080	**6,799**	109	155	**264**	23	74	**97**	1,851	5,309	**7,160**

SUMMARY:

	Male	Female	Total
Active Members	62,256	205,802	**268,058**
Retired Members	48,662	124,905	**173,567**
Beneficiaries	1,851	5,309	**7,160**
Total	112,769	336,016	**448,785**

**Also includes vested retirees.*
*** Includes 12 males and 32 females retired for disability who receive a service benefit.*

DISTRIBUTION OF ACTIVE MEMBERS BY AGE AND YEARS OF SERVICE*

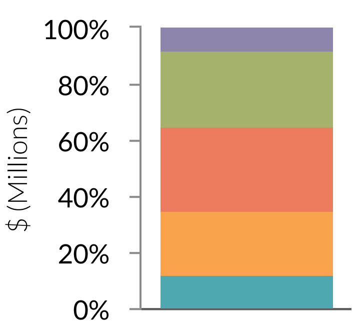
— as of June 30, 2023

		Years of Credited Service					
Age		0-5	6-10	11-15	16-20	21-25	26-30
20-24	Count of Members	10,334	1	0	0	0	0
	Average Salary	*$46,052*	*$31,896*	*$0*	*$0*	*$0*	*$0*
25-29	Count of Members	21,469	1,522	0	0	0	0
	Average Salary	*$58,207*	*$69,773*	*$0*	*$0*	*$0*	*$0*
30-34	Count of Members	15,884	11,272	1,149	0	0	0
	Average Salary	*$62,849*	*$73,229*	*$83,331*	*$0*	*$0*	*$0*
35-39	Count of Members	10,599	8,746	10,196	2,178	0	0
	Average Salary	*$61,065*	*$74,535*	*$86,686*	*$97,141*	*$0*	*$0*
40-44	Count of Members	8,755	6,374	6,780	15,114	2,884	1
	Average Salary	*$59,190*	*$73,391*	*$87,688*	*$102,318*	*$111,998*	*$79,830*
45-49	Count of Members	6,713	4,963	3,948	8,714	15,877	1,542
	Average Salary	*$57,693*	*$66,713*	*$84,557*	*$104,755*	*$115,908*	*$124,260*
50-54	Count of Members	5,629	4,858	3,559	5,289	11,074	10,999
	Average Salary	*$51,850*	*$62,771*	*$77,917*	*$98,060*	*$115,202*	*$122,675*
55-59	Count of Members	3,892	3,244	2,642	3,781	5,189	6,042
	Average Salary	*$49,545*	*$57,723*	*$70,519*	*$88,137*	*$107,904*	*$121,609*
60-64	Count of Members	2,342	1,593	1,382	2,598	3,144	2,337
	Average Salary	*$48,010*	*$55,958*	*$65,414*	*$81,770*	*$97,556*	*$112,538*
65-69	Count of Members	1,070	550	496	808	921	570
	Average Salary	*$50,074*	*$51,546*	*$64,571*	*$82,948*	*$93,744*	*$104,226*
70+	Count of Members	544	245	181	216	257	169
	Average Salary	*$40,277*	*$58,881*	*$63,389*	*$79,366*	*$83,972*	*$91,241*
Total	Count of Members	87,231	43,368	30,333	38,698	39,346	21,660
	Average Salary	*$57,711*	*$70,710*	*$83,350*	*$98,841*	*$112,214*	*$120,685*

**Average salary data is for the 196,079 members who earned a full year of service.*
The average salary for all active members, full-time and part-time, is $81,519.

DISTRIBUTION OF ACTIVE MEMBERS BY AGE

— as of June 30, 2023



Age Group	Percent
60+ Years of Age	**8%**
50-59 Years of Age	**27%**
40-49 Years of Age	**30%**
30-39 Years of Age	**22%**
20-29 Years of Age	**12%**

AVERAGES

— as of June 30, 2023

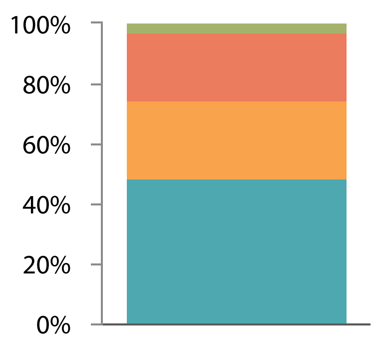
Gender	Age	Years of Service
Female	44	12
Male	44	13

DISTRIBUTION OF ACTIVE MEMBERS BY AGE AND YEARS OF SERVICE* *(continued)* — as of June 30, 2023

		Years of Credited Service					
Age		**31-35**	**36-40**	**41-45**	**46-50**	**51+**	**Total**
20-24	**Count of Members**	0	0	0	0	0	10,335
	Average Salary	$0	$0	$0	$0	$0	$46,047
25-29	**Count of Members**	0	0	0	0	0	22,991
	Average Salary	$0	$0	$0	$0	$0	$59,410
30-34	**Count of Members**	0	0	0	0	0	28,305
	Average Salary	$0	$0	$0	$0	$0	$69,681
35-39	**Count of Members**	0	0	0	0	0	31,719
	Average Salary	$0	$0	$0	$0	$0	$78,852
40-44	**Count of Members**	0	0	0	0	0	39,908
	Average Salary	$0	$0	$0	$0	$0	$91,407
45-49	**Count of Members**	1	0	0	0	0	41,758
	Average Salary	$147,201	$0	$0	$0	$0	$102,297
50-54	**Count of Members**	1,150	0	0	0	0	42,558
	Average Salary	$125,348	$0	$0	$0	$0	$105,982
55-59	**Count of Members**	3,474	246	0	0	0	28,510
	Average Salary	$126,135	$127,973	$0	$0	$0	$102,584
60-64	**Count of Members**	1,024	665	36	0	0	15,121
	Average Salary	$123,996	$129,400	$133,014	$0	$0	$93,846
65-69	**Count of Members**	299	161	96	11	0	4,982
	Average Salary	$114,850	$125,329	$126,887	$159,731	$0	$90,337
70+	**Count of Members**	96	49	48	43	23	1,871
	Average Salary	$95,529	$110,987	$129,622	$141,446	$188,869	$88,009
Total	**Count of Members**	6,044	1,121	180	54	23	268,058
	Average Salary	$124,594	$127,711	$128,842	$145,241	$188,869	$90,633

**Average salary data is for the 196,079 members who earned a full year of service.*
The average salary for all active members, full-time and part-time, is $81,519.

DISTRIBUTION OF ACTIVE MEMBERS BY SERVICE — as of June 30, 2023

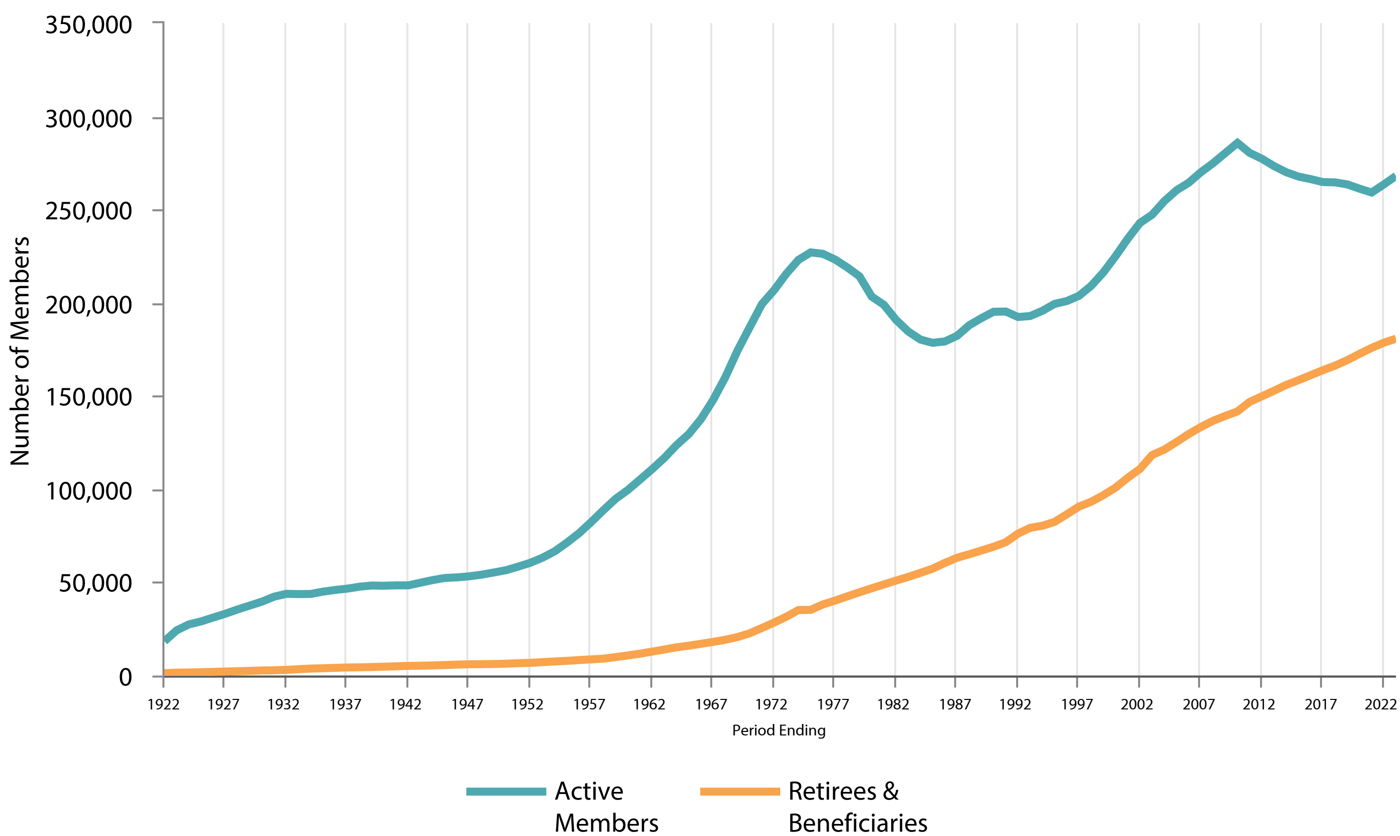


Service Group	Percent
31+ Years of Service	3%
21-30 Years of Service	23%
11-20 Years of Service	26%
0-10 Years of Service	49%

ACTIVE MEMBERS AND ANNUITANTS 1922-2023

As of June 30	Active Members	Retirees & Beneficiaries	As of June 30	Active Members	Retirees & Beneficiaries
1922	18,412	1,296	1975	227,038	35,252
1925	29,057	1,815	1980	203,330	46,812
1930	39,663	2,732	1985	178,516	57,366
1935	45,031	3,919	1990	195,194	69,127
1940	48,193	4,771	1995	199,398	82,459
1945	52,359	5,637	2000	224,986	100,839
1950	56,504	6,374	2005	260,356	125,325
1955	71,273	7,897	2010	285,774	141,716
1960	99,555	10,796	2015	267,715	158,458
1965	129,543	16,043	2020	261,232	172,569
1970	186,914	22,700	2023	268,058	180,727

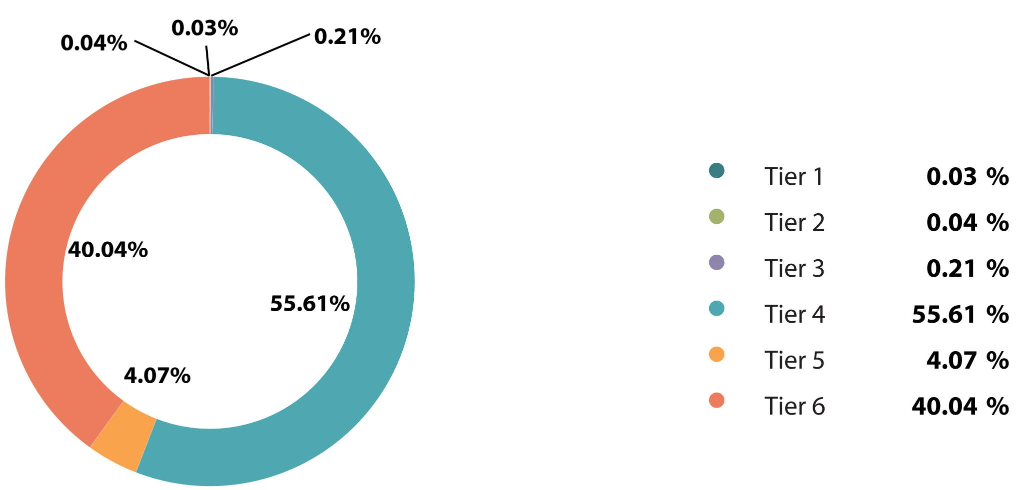
See related graph below.



NUMBER OF ACTIVE MEMBERS BY TIER

As of June 30	Tier 1	Tier 2	Tier 3	Tier 4	Tier 5	Tier 6	Total
2004	22,986	13,947	18,835	198,747	—	—	254,515
2005	17,901	13,210	18,535	210,710	—	—	260,356
2006	13,621	12,084	18,173	220,532	—	—	264,410
2007	10,838	10,178	17,743	231,286	—	—	270,045
2008	8,630	8,171	17,007	241,093	—	—	274,901
2009	6,943	6,752	16,111	250,532	—	—	280,338
2010	5,582	5,706	14,942	255,966	3,578	—	285,774
2011	3,814	4,137	12,690	247,530	12,264	—	280,435
2012	2,756	3,253	11,180	239,199	19,969	916	277,273
2013	1,968	2,447	9,450	231,258	19,452	8,753	273,328
2014	1,439	1,810	7,753	222,545	19,124	17,368	270,039
2015	1,116	1,348	6,222	214,020	18,878	26,131	267,715
2016	832	974	4,920	204,912	18,540	36,172	266,350
2017	607	720	3,881	195,226	17,722	46,605	264,761
2018	446	546	2,993	186,581	16,499	57,525	264,590
2019	349	403	2,276	178,516	14,595	67,378	263,517
2020	249	282	1,638	170,306	13,040	75,717	261,232
2021	169	202	1,106	162,627	12,061	82,993	259,158
2022	121	160	771	155,480	11,369	95,574	263,475
2023	93	112	561	149,061	10,906	107,325	268,058

ACTIVE MEMBERS BY TIER



MEMBERS RETIRED IN 2022-2023 FOR:

	Service*	Disability
Number Retired	**6,587**	**93**
Age at Retirement:		
Average	61 yrs., 0 mos.	51 yrs., 3 mos.
Median	60 yrs., 10 mos.	52 yrs., 3 mos.
Years of Service:		
Average	25 yrs., 5 mos.	20 yrs., 4 mos.
Median	27 yrs., 6 mos.	20 yrs., 5 mos.
**Benefit:		
Average	$49,794	$37,113
Median	$50,998	$36,752
Final Average Salary (FAS):		
Average	$94,394	$99,180
Median	$94,249	$98,519
***Benefit as % of FAS:		
Average	47.98%	36.49%
Median	52.42%	34.44%

MEMBERS RETIRED IN 2022-2023 FOR SERVICE* WITH:

	Less Than 10 Yrs. Svc.	10 or More Yrs. and Less Than 20 Yrs. Svc.	20 or More Yrs. and Less Than 30 Yrs. Svc.	30 or More Yrs. Svc.
Number Retired	**411**	**938**	**2,282**	**2,956**
Age at Retirement:				
Average	62 yrs., 9 mos.	62 yrs., 2 mos.	62 yrs., 7 mos.	59 yrs., 2 mos.
Median	62 yrs., 5 mos.	62 yrs., 1 mo.	62 yrs., 5 mos.	57 yrs., 11 mos.
Years of Service:				
Average	6 yrs., 8 mos.	14 yrs., 7 mos.	24 yrs., 0 mos.	32 yrs., 8 mos.
Median	6 yrs., 7 mos.	15 yrs., 0 mos.	23 yrs., 8 mos.	32 yrs., 0 mos.
**Benefit:				
Average	$3,924	$13,342	$41,698	$73,988
Median	$3,243	$10,198	$40,285	$69,003
Final Average Salary (FAS):				
Average	$37,865	$58,798	$91,517	$115,771
Median	$32,902	$50,617	$88,764	$107,705
***Benefit as % of FAS:				
Average	10.24%	22.20%	45.02%	63.69%
Median	10.00%	22.04%	44.67%	62.83%

**Also includes vested retirees.*
***The Maximum, even though the member may have chosen an option.*
****The average and median of individual benefits as percentages of final average salary.*

ALL RETIREES AS OF JUNE 30, 2023 RETIRED FOR:

	Service*	Disability
Number Retired	**171,560**	**2,007**
Age at Retirement:		
Average	59 yrs., 3 mos.	49 yrs., 7 mos.
Median	58 yrs., 3 mos.	50 yrs., 4 mos.
Age Attained as of June 30, 2023:		
Average	73 yrs., 11 mos.	66 yrs., 5 mos.
Median	73 yrs., 11 mos.	66 yrs., 10 mos.
Years of Service:		
Average	27 yrs., 6 mos.	18 yrs., 4 mos.
Median	30 yrs., 0 mos.	17 yrs., 7 mos.
**Benefit:		
Average	$45,023	$23,117
Median	$45,506	$21,007
Final Average Salary (FAS):		
Average	$78,681	$63,844
Median	$76,443	$60,256
***Benefit as % of FAS:		
Average	53.18%	35.41%
Median	60.00%	33.33%

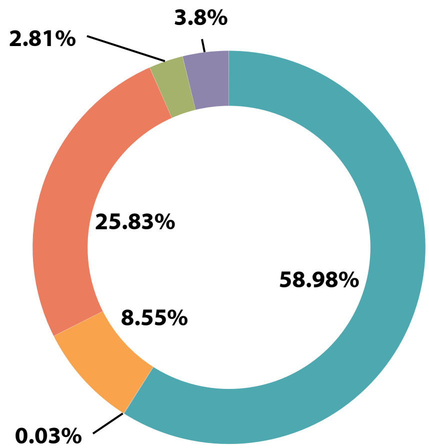
ALL RETIREES AS OF JUNE 30, 2023 RETIRED FOR SERVICE* WITH:

	Less Than 10 Yrs. Svc.	10 or More Yrs. and Less Than 20 Yrs. Svc.	20 or More Yrs. and Less Than 30 Yrs. Svc.	30 or More Yrs. Svc.
Number Retired	**5,424**	**24,385**	**51,388**	**90,363**
Age at Retirement:				
Average	60 yrs., 6 mos.	59 yrs., 6 mos.	60 yrs., 8 mos.	58 yrs., 3 mos.
Median	59 yrs., 9 mos.	58 yrs., 3 mos.	61 yrs., 2 mos.	57 yrs., 2 mos.
Years of Service:				
Average	7 yrs., 4 mos.	14 yrs., 5 mos.	24 yrs., 6 mos.	34 yrs., 2 mos.
Median	7 yrs., 5 mos.	14 yrs., 5 mos.	24 yrs., 7 mos.	33 yrs., 7 mos.
**Benefit:				
Average	$4,321	$10,267	$35,824	$62,077
Median	$3,720	$7,973	$33,372	$58,149
Final Average Salary (FAS):				
Average	$41,177	$45,787	$75,313	$91,725
Median	$37,548	$38,674	$71,107	$86,269
***Benefit as % of FAS:				
Average	10.55%	21.75%	47.26%	67.59%
Median	10.19%	21.00%	47.56%	66.67%

**Also includes vested retirees.*
***The Maximum, even though the member may have chosen an option.*
****The average and median of individual benefits as percentages of final average salary.*

RETIREMENT BENEFIT OPTIONS AND PERCENT OF ELECTION

2019-2023 Retirees



Option	Number Electing	Percent of Election*
Maximum	21,211	58.98 %
Annuity/Declining Reserve	11	0.03 %
Joint & Survivor	3,074	8.55 %
Pop-Up	9,288	25.83 %
Guarantee	1,012	2.81 %
Alternative	1,368	3.80 %
Total	**35,964**	**100.00 %**

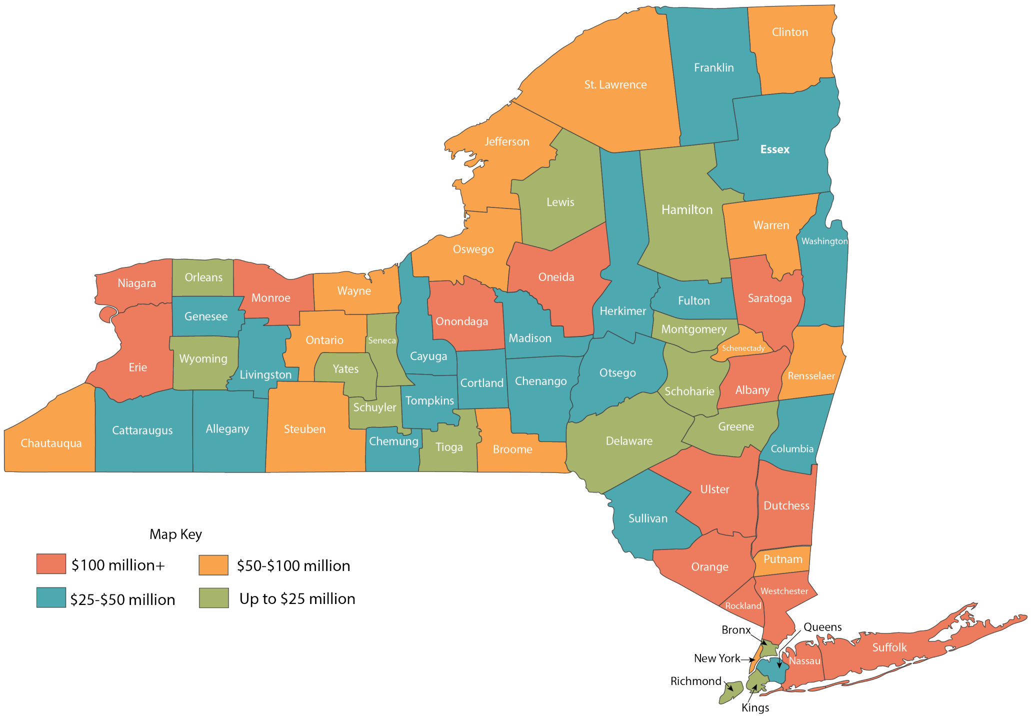
Percentages may not sum to 100% due to rounding.

RETIRED MEMBERS' CHARACTERISTICS* BY YEAR OF RETIREMENT

Retired in Fiscal Year Ended	Number of Retired Members	Average Age at Retirement (yrs.- mos.)	Average Service at Retirement (yrs.- mos.)	Average Final Average Salary	Average Maximum Annual Benefit
2014	6,547	61-0	25-4	$84,545	$44,978
2015	6,161	60-11	25-4	84,362	44,487
2016	6,245	61-2	25-0	84,308	44,215
2017	6,396	61-3	25-0	85,242	45,049
2018	6,416	61-1	25-1	86,910	45,725
2019	6,890	61-0	25-1	87,085	45,713
2020	7,642	61-4	25-8	90,228	48,273
2021	7,617	61-5	26-3	91,713	49,145
2022	7,135	61-3	25-7	92,434	48,724
2023	6,680	61-0	25-5	94,394	49,794

Averages are for service and vested retirees.

DISTRIBUTION OF BENEFITS PAID BY COUNTY* — as of June 30, 2023



County	Retired Members and Beneficiaries	Annual Benefits Paid**	County	Retired Members and Beneficiaries	Annual Benefits Paid**	County	Retired Members and Beneficiaries	Annual Benefits Paid**
Albany	3,306	$140,480,232	Jefferson	1,512	$60,045,693	St. Lawrence	1,852	$68,340,637
Allegany	671	$25,198,091	Kings	225	$11,070,204	Saratoga	4,062	$179,665,033
Bronx	276	$14,609,812	Lewis	386	$14,641,432	Schenectady	1,837	$77,445,854
Broome	2,439	$95,417,646	Livingston	1,084	$44,437,735	Schoharie	501	$18,909,923
Cattaraugus	991	$41,092,011	Madison	1,078	$42,400,876	Schuyler	286	$10,535,891
Cayuga	1,094	$42,648,948	Monroe	9,793	$407,916,592	Seneca	450	$17,241,135
Chautauqua	1,962	$83,835,594	Montgomery	562	$23,201,644	Steuben	1,443	$53,051,120
Chemung	1,122	$42,549,537	Nassau	10,013	$597,611,888	Suffolk	18,544	$1,140,516,823
Chenango	733	$26,886,539	New York	1,136	$57,688,471	Sullivan	871	$41,894,973
Clinton	1,317	$51,828,511	Niagara	2,413	$111,175,873	Tioga	580	$22,441,187
Columbia	773	$32,778,817	Oneida	3,362	$133,847,697	Tompkins	1,132	$39,301,688
Cortland	821	$31,228,626	Onondaga	7,443	$289,291,945	Ulster	3,054	$142,015,017
Delaware	651	$23,769,835	Ontario	2,189	$88,942,136	Warren	1,554	$64,068,973
Dutchess	3,646	$175,303,517	Orange	3,520	$176,880,930	Washington	790	$31,243,930
Erie	11,468	$512,525,997	Orleans	472	$21,317,714	Wayne	1,391	$53,233,686
Essex	689	$25,304,166	Oswego	1,825	$67,725,105	Westchester	7,223	$421,518,993
Franklin	755	$27,672,270	Otsego	1,153	$40,952,306	Wyoming	541	$21,001,421
Fulton	798	$33,046,619	Putnam	1,110	$63,998,427	Yates	435	$16,645,031
Genesee	818	$34,025,465	Queens	798	$45,916,437			
Greene	594	$23,103,032	Rensselaer	1,799	$72,731,609	Out of State	43,696	$1,715,032,049
Hamilton	146	$6,153,191	Richmond	38	$1,656,371			
Herkimer	1,031	$37,914,195	Rockland	2,473	$126,551,230	**Grand Total**	**180,727**	**$8,161,478,330**

**Computed on the optional annual benefit including supplementation and COLA.*
***Annual benefits paid in this chart may differ from retirement benefit payments that appear elsewhere in this report because this chart reflects the rate of annual payment for retired members and their beneficiaries in pay as of the last day of the fiscal year.*

DISTRIBUTION OF RETIRED MEMBERS AND BENEFICIARIES BY TIER

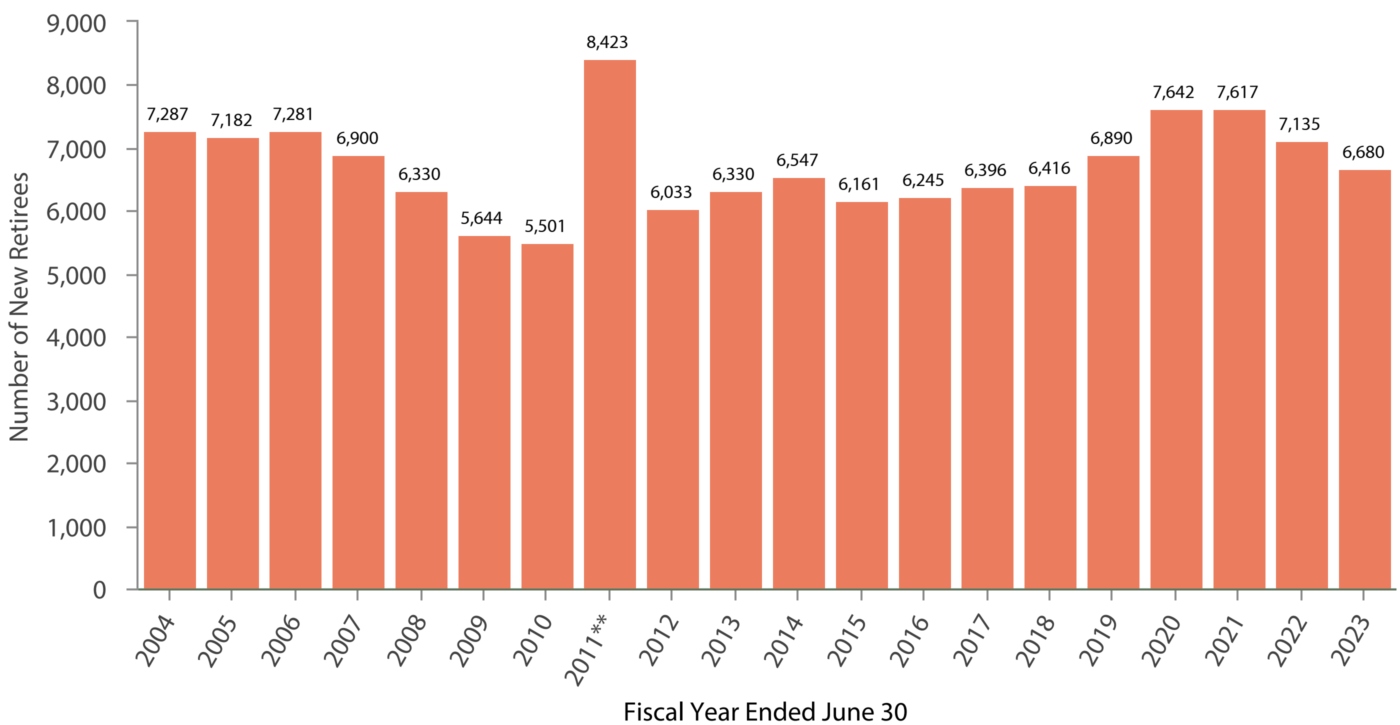
— as of June 30, 2023

	Tier 1	Tier 2	Tier 3		Tier 4	Tier 5	Tier 6	Total
Members Retired for:								
Service*	70,975	16,076	20,224	(173) **	63,888	211	142	171,516
Disability	425	155	212	(26) **	1,258	1	0	2,051
Beneficiaries of Deceased:								
Service Annuitants	5,177	470	414	(6) **	737	1	0	6,799
Disability Annuitants	143	24	27	(4) **	70	0	0	264
Active Members	83	1	2	(0) **	7	0	4	97
Total	**76,803**	**16,726**	**20,879**	**(209)****	**65,960**	**213**	**146**	**180,727**

**Also includes vested retirees.*

***Those receiving an Article 14 (Tier 3) benefit. The remainder are receiving an Article 15 (Tier 4) benefit. Tier 3 members receive the better of the two benefits.*

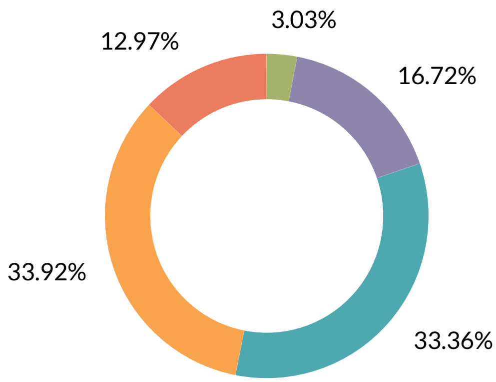
HISTORY OF THE NUMBER OF NEW RETIREES*



**Includes service, vested and disability retirements.*

***Retirements in this fiscal year include the impact of legislatively enacted early retirement incentive programs.*

RETIRED MEMBERS AND BENEFICIARIES* WITH MONTHLY BENEFITS BY DECADE OF RETIREMENT — as of June 30, 2023



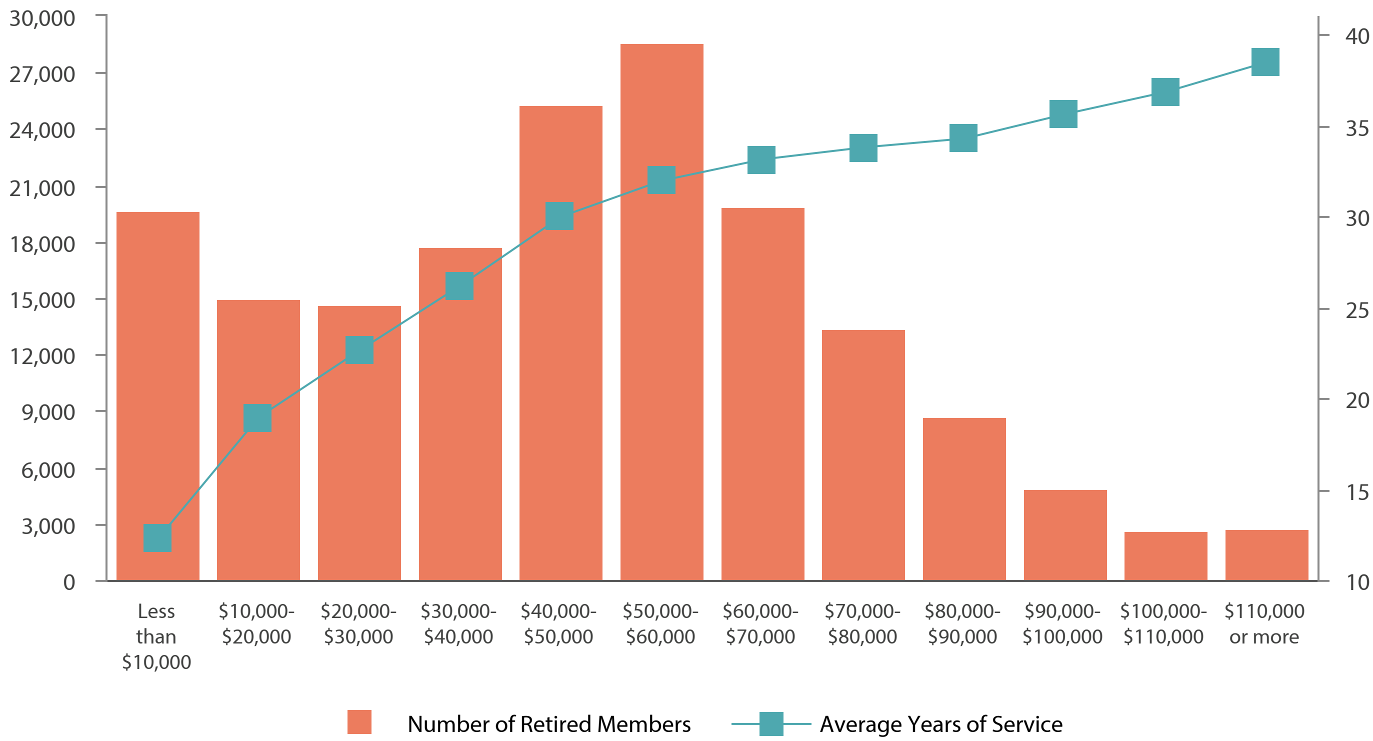
Calendar Years	Number of People	Percentage**	Average Monthly Maximum Benefit	Average Total Monthly Maximum Benefit***
1989 or earlier	5,465	3.03 %	$1,477.21	$2,070.27
1990-1999	30,209	16.72 %	$2,902.06	$3,299.39
2000-2009	60,258	33.36 %	$3,900.38	$4,141.91
2010-2019	61,264	33.92 %	$3,981.38	$4,063.34
2020-2022	23,434	12.97 %	$4,174.36	$4,174.36
Total	**180,630**			

**Excludes 97 beneficiaries of deceased active members.*

***Percentages may not sum to 100% due to rounding.*

****Average total monthly Maximum benefit includes supplementation and COLA.*

DISTRIBUTION OF THE ANNUAL BENEFIT* OF ALL RETIRED MEMBERS — as of June 30, 2023



**Maximum annual retirement benefit including supplementation and COLA.*

HISTORY OF THE MONTHLY COLA

Commencing September	Year Ended March 31 CPI* Percentage Change	Applicable COLA Percentage	Maximum Annual Base Benefit Amount	Maximum Monthly COLA Increase	Cumulative Maximum Monthly COLA	Average Monthly COLA Increase	Cumulative Average Monthly COLA
2001	2.92%	1.5%	$18,000	$22.50	$22.50	$18.80	$18.80
2002	1.48%	1.0%	$18,000	$15.00	$37.50	$12.64	$31.44
2003	3.02%	1.6%	$18,000	$24.00	$61.50	$20.32	$51.76
2004	1.74%	1.0%	$18,000	$15.00	$76.50	$12.85	$64.61
2005	3.15%	1.6%	$18,000	$24.00	$100.50	$20.68	$85.29
2006	3.36%	1.7%	$18,000	$25.50	$126.00	$22.09	$107.38
2007	2.78%	1.4%	$18,000	$21.00	$147.00	$18.29	$125.67
2008	3.98%	2.0%	$18,000	$30.00	$177.00	$26.24	$151.91
2009	-0.38%	1.0%	$18,000	$15.00	$192.00	$13.17	$165.08
2010	2.31%	1.2%	$18,000	$18.00	$210.00	$15.86	$180.94
2011	2.68%	1.4%	$18,000	$21.00	$231.00	$18.55	$199.49
2012	2.65%	1.4%	$18,000	$21.00	$252.00	$18.59	$218.08
2013	1.47%	1.0%	$18,000	$15.00	$267.00	$13.30	$231.38
2014	1.51%	1.0%	$18,000	$15.00	$282.00	$13.32	$244.70
2015	-0.07%	1.0%	$18,000	$15.00	$297.00	$13.36	$258.06
2016	0.85%	1.0%	$18,000	$15.00	$312.00	$13.36	$271.42
2017	2.38%	1.2%	$18,000	$18.00	$330.00	$16.03	$287.45
2018	2.36%	1.2%	$18,000	$18.00	$348.00	$16.02	$303.47
2019	1.86%	1.0%	$18,000	$15.00	$363.00	$13.35	$316.82
2020	1.54%	1.0%	$18,000	$15.00	$378.00	$13.35	$330.17
2021	2.62%	1.4%	$18,000	$21.00	$399.00	$18.69	$348.86
2022	8.54%	3.0%	$18,000	$45.00	$444.00	$40.02	$388.88
2023	4.98%	2.5%	$18,000	$37.50	$481.50	$33.39	$422.27

**Consumer Price Index*

DISTRIBUTION OF MONTHLY COLA INCREASE COMMENCING SEPTEMBER 2023

Monthly COLA Increase	Number of Retired Members and Beneficiaries
$37.50	116,124
$30.00 - $37.49	3,795
$24.00 - $29.99	3,513
$18.00 - $23.99	9,475
$12.00 - $17.99	5,006
$6.00 - $11.99	6,842
$0.01 - $5.99	2,218
$0 (currently ineligible)	33,754
Total	**180,727**

DISTRIBUTION OF CUMULATIVE MONTHLY COLA COMMENCING SEPTEMBER 2023

Cumulative Monthly COLA	Number of Retired Members and Beneficiaries
$481.50	14,393
$400.00 - $481.49	15,741
$320.00 - $399.99	17,514
$240.00 - $319.99	26,061
$160.00 - $239.99	29,877
$80.00 - $159.99	31,636
$0.01 - $79.99	11,751
$0 (currently ineligible)	33,754
Total	**180,727**

Financial Trends Information

CHANGES IN FIDUCIARY NET POSITION

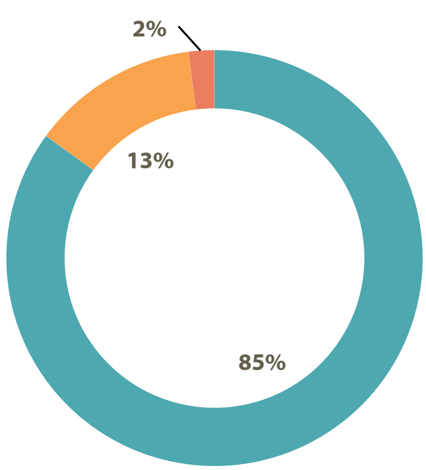
Last Ten Fiscal Years
(dollars in thousands)

Additions:	2014	2015	2016	2017	2018
Net investment income	$16,664,703	$ 5,400,265	$ 2,392,354	$ 12,951,892	$ 9,928,009
Employer contributions	2,400,386	2,633,682	2,046,562	1,857,359	1,597,139
Member contributions	120,762	119,411	124,587	129,770	131,595
Transfers	1,365	3,213	4,014	7,845	9,278
Total additions	19,187,216	8,156,571	4,567,517	14,946,866	11,666,021
Deductions: (See Benefits and Return of Contributions by Type on Pages 141-142)					
Benefit payments	6,324,546	6,513,931	6,701,637	6,903,361	7,088,949
Return of contributions	18,992	17,209	18,229	19,676	20,049
Administrative expenses	55,616	56,948	60,426	61,611	60,610
Total deductions	6,399,154	6,588,088	6,780,292	6,984,648	7,169,608
Change in fiduciary net position restricted for pensions	$12,788,062	$ 1,568,483	$ (2,212,775)	$ 7,962,218	$ 4,496,413

CHANGES IN FIDUCIARY NET POSITION *(continued)*
Last Ten Fiscal Years
(dollars in thousands)

Additions:	2019	2020	2021	2022	2023
Net investment income	$ 8,023,180	$ 3,923,633	$ 33,668,008	$(10,078,814)	$ 11,439,286
Employer contributions	1,774,646	1,504,688	1,618,437	1,735,255	1,899,885
Member contributions	136,610	145,034	159,874	190,853	221,152
Transfers	9,087	3,955	10,025	8,685	10,841
Total additions	9,943,523	5,577,310	35,456,344	(8,144,021)	13,571,164
Deductions: (See Benefits and Return of Contributions by Type on Pages 141-142)					
Benefit payments	7,285,362	7,484,462	7,717,521	7,961,870	8,214,699
Return of contributions	21,956	19,439	14,379	16,754	20,213
Administrative expenses	74,242	71,385	55,492	61,230	79,298
Total deductions	7,381,560	7,575,286	7,787,392	8,039,854	8,314,210
Change in fiduciary net position restricted for pensions	$ 2,561,963	$ (1,997,976)	$ 27,668,952	$(16,183,875)	$ 5,256,954

BREAKDOWN OF INCOME SOURCES
Fiscal Years Ended 1994-2023



Investment Income	85 %
Employer Contributions	13 %
Member Contributions	2 %

BENEFITS AND RETURN OF CONTRIBUTIONS BY TYPE

Last Ten Fiscal Years
(dollars in thousands)

Type of Benefit	2014	2015	2016	2017	2018
Age and service benefits:					
Retirees	$6,233,619	$6,419,576	$6,601,664	$6,794,278	$6,978,694
Survivors	28,918	31,888	34,051	41,662	35,234
In-service death benefits	21,634	20,730	22,801	23,606	29,845
Disability benefits:					
Ordinary	39,871	41,251	42,591	43,469	44,828
Accidental	504	486	530	346	348
Total benefits	$6,324,546	$6,513,931	$6,701,107	$6,903,015	$7,088,949
Type of Return of Contributions					
Death	$ 2,325	$ 2,350	$ 3,011	$ 3,061	$ 3,211
Separation from service	16,667	14,859	15,218	16,615	16,838
Total return of contributions	$ 18,992	$ 17,209	$ 18,229	$ 19,676	$ 20,049

BENEFITS AND RETURN OF CONTRIBUTIONS BY TYPE *(continued)*

Last Ten Fiscal Years

(dollars in thousands)

Type of Benefit	2019	2020	2021	2022	2023
Age and service benefits:					
Retirees	$7,179,640	$7,375,088	$7,614,539	$7,847,887	$8,086,493
Survivors	40,775	38,101	35,205	44,429	51,933
In-service death benefits	21,339	25,873	22,366	22,184	27,420
Disability benefits:					
Ordinary	43,256	45,045	45,055	46,963	48,447
Accidental	352	355	356	407	406
Total benefits	$7,285,362	$7,484,462	$7,717,521	$7,961,870	$8,214,699
Type of Return of Contributions					
Death	$ 2,865	$ 3,215	$ 2,497	$ 3,167	$ 3,594
Separation from service	19,091	16,224	11,882	13,587	16,619
Total return of contributions	$ 21,956	$ 19,439	$ 14,379	$ 16,754	$ 20,213

Operating Information

AVERAGE BENEFIT PAYMENTS — JULY 1, 2013 – JUNE 30, 2023

	Years of Credited Service							
Retirement Effective Dates	0-5	5-10	10-15	15-20	20-25	25-30	30-35	35+
Period 7/1/2013 to 6/30/2014								
Average monthly benefit	$221	$367	$837	$1,571	$2,836	$4,140	$5,275	$7,305
Average final average salary	$41,966	$38,623	$51,493	$65,104	$80,215	$93,124	$100,079	$115,852
Number of retired members	47	484	649	562	1,133	1,161	1,778	733
Period 7/1/2014 to 6/30/2015								
Average monthly benefit	$255	$306	$842	$1,543	$2,879	$4,163	$5,277	$6,887
Average final average salary	$35,508	$33,815	$51,353	$64,139	$82,057	$92,745	$100,927	$110,667
Number of retired members	37	400	615	521	1,081	1,255	1,660	592
Period 7/1/2015 to 6/30/2016								
Average monthly benefit	$188	$321	$873	$1,532	$2,873	$4,280	$5,353	$6,907
Average final average salary	$35,355	$34,747	$51,987	$63,932	$81,515	$94,402	$102,221	$112,592
Number of retired members	32	491	589	582	1,079	1,223	1,676	573
Period 7/1/2016 to 6/30/2017								
Average monthly benefit	$120	$329	$868	$1,645	$2,871	$4,282	$5,452	$7,076
Average final average salary	$23,555	$35,957	$52,383	$66,494	$81,188	$94,415	$104,070	$115,549
Number of retired members	117	457	569	565	1,079	1,185	1,864	560
Period 7/1/2017 to 6/30/2018								
Average monthly benefit	$119	$335	$854	$1,665	$2,960	$4,499	$5,433	$7,112
Average final average salary	$29,014	$36,702	$51,465	$68,612	$83,811	$98,562	$103,842	$116,274
Number of retired members	51	493	567	581	1,173	1,088	1,921	542
Period 7/1/2018 to 6/30/2019								
Average monthly benefit	$172	$329	$813	$1,733	$2,972	$4,406	$5,518	$7,006
Average final average salary	$39,231	$35,270	$51,300	$70,026	$84,394	$96,529	$105,222	$115,394
Number of retired members	55	516	582	657	1,250	1,177	2,124	529
Period 7/1/2019 to 6/30/2020								
Average monthly benefit	$136	$364	$838	$1,684	$2,903	$4,449	$5,623	$7,062
Average final average salary	$30,831	$38,777	$50,970	$67,553	$82,646	$98,885	$107,546	$117,306
Number of retired members	39	423	562	718	1,455	1,255	2,499	691
Period 7/1/2020 to 6/30/2021								
Average monthly benefit	$213	$399	$819	$1,586	$2,868	$4,375	$5,702	$7,273
Average final average salary	$41,885	$39,264	$49,996	$63,726	$81,929	$98,964	$109,407	$120,727
Number of retired members	20	305	520	710	1,551	1,378	2,466	667
Period 7/1/2021 to 6/30/2022								
Average monthly benefit	$166	$363	$843	$1,736	$2,903	$4,429	$5,846	$7,247
Average final average salary	$33,158	$39,216	$51,881	$69,624	$83,482	$100,211	$112,474	$120,833
Number of retired members	30	380	464	717	1,547	1,145	2,262	590
Period 7/1/2022 to 6/30/2023								
Average monthly benefit	$179	$357	$858	$1,797	$3,024	$4,635	$5,922	$7,547
Average final average salary	$31,293	$38,951	$53,546	$72,522	$86,527	$103,896	$113,796	$125,671
Number of retired members	42	393	483	602	1,361	1,145	2,139	515

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RETIRED MEMBERS AND BENEFICIARIES BY TYPE OF BENEFIT

— as of June 30, 2023

Amount of Monthly Benefit	Number of Retired Members	Type of Retirement					
		1	2	3	4	5	6
$1 - $500	13,902	7,027	6,407	87	300	18	63
$501 - $1,000	12,954	6,269	5,907	317	392	58	11
$1,001 - $1,500	10,542	6,352	3,333	394	390	65	8
$1,501 - $2,000	9,743	6,167	2,697	391	439	48	1
$2,001 - $2,500	10,585	7,148	2,531	325	547	31	3
$2,501 - $3,000	11,385	8,357	2,160	215	633	17	3
$3,001 - $3,500	13,459	10,878	1,726	139	705	10	1
$3,501 - $4,000	16,537	14,445	1,310	83	693	5	1
$4,001 - $4,500	17,834	16,119	957	48	699	9	2
$4,501 - $5,000	15,394	14,174	596	28	594	1	1
over $5,000	48,392	45,975	981	24	1,407	2	3
Total	**180,727**	**142,911**	**28,605**	**2,051**	**6,799**	**264**	**97**

Type of retirement:

1 - Normal retirement for age and service

2 - Early retirement*

3 - Disability retirement

4 - Beneficiary payment, normal or early retirement

5 - Beneficiary payment, disability retirement

6 - Beneficiary payment, in-service death benefit

**Tiers 2-5: retirement at age less than 62 and service less than 30 years.*
Tier 6: retirement at age less than 63.

RETIRED MEMBERS AND BENEFICIARIES BY TYPE OF BENEFIT *(continued)*

— as of June 30, 2023

Amount of Monthly Benefit	Number of Retired Members	Option Selected 1	2	3	4	5	6
$1 - $500	13,902	10,722	776	1,094	589	287	434
$501 - $1,000	12,954	9,477	846	1,604	513	163	351
$1,001 - $1,500	10,542	7,443	732	1,617	388	134	228
$1,501 - $2,000	9,743	6,772	750	1,627	298	119	177
$2,001 - $2,500	10,585	7,232	867	1,891	315	100	180
$2,501 - $3,000	11,385	7,612	986	2,205	284	119	179
$3,001 - $3,500	13,459	8,904	1,184	2,700	342	73	256
$3,501 - $4,000	16,537	10,752	1,284	3,728	377	97	299
$4,001 - $4,500	17,834	11,249	1,406	4,373	376	75	355
$4,501 - $5,000	15,394	9,344	1,351	3,972	311	58	358
over $5,000	48,392	27,262	4,690	13,770	951	121	1,598
Total	**180,727**	**116,769**	**14,872**	**38,581**	**4,744**	**1,346**	**4,415**

Option selected:

1 - Unmodified; Single life annuity (Maximum)

2 - Joint and survivor

3 - Joint and survivor with pop-up

4 - Guarantee period

5 - Declining reserve / Annuity reserve

6 - Alternative

PRINCIPAL PARTICIPATING EMPLOYERS

Current Year and Nine Years Ago

Participating Employer 2023	Covered Employees	Rank	Percentage of Total System**
Buffalo Public Schools	4,607	1	1.72%
Rochester City School District	3,654	2	1.36%
Syracuse City School District	2,994	3	1.12%
Yonkers Public Schools	2,167	4	0.81%
Brentwood Union Free Schools	1,894	5	0.71%
Greece Central Schools	1,433	6	0.53%
Sachem City School District	1,407	7	0.52%
Newburgh Central Schools	1,343	8	0.50%
Eastern Suffolk 1 City School District	1,263	9	0.47%
Wappingers Central Schools	1,220	10	0.46%
All Other*	246,076 +		91.80%
Total	**268,058** +		**100.00%**

+ Covered Employees represents members of the System which includes those currently employed and members formerly employed by a participating employer but not yet retired.
** For a breakdown of the "All Other" category, please see below.*
***Percentages may not sum to 100% due to rounding.*

All Other Participating Employers:

Type	Number	Covered Employees
Public School Districts	670	224,861 +
Boards of Cooperative Educational Services (BOCES)	36	12,757
SUNY	31	2,635
Community Colleges	30	2,557
Charter Schools	32	2,424
Special Act Districts	9	485
Other	9	357
Total All Other	**817**	**246,076** +

+ Covered Employees represents members of the System which includes those currently employed and members formerly employed by a participating employer but not yet retired.

PRINCIPAL PARTICIPATING EMPLOYERS *(continued)*

Current Year and Nine Years Ago

Participating Employer 2014	Covered Employees	Rank	Percentage of Total System**
Buffalo Public Schools	4,737	1	1.75%
Rochester City School District	3,929	2	1.45%
Syracuse City School District	2,648	3	0.98%
Yonkers Public Schools	2,048	4	0.76%
Brentwood Union Free Schools	1,694	5	0.63%
Greece Central Schools	1,435	6	0.53%
Sachem Central Schools	1,384	7	0.51%
Newburgh City School District	1,291	8	0.48%
Clarkstown Central Schools	1,222	9	0.45%
Wappingers Central Schools	1,221	10	0.45%
All Other	248,430 +		92.00%
Total	**270,039** +		**100.00%**

+ Covered Employees represents members of the System which includes those currently employed and members formerly employed by a participating employer but not yet retired.
***Percentages may not sum to 100% due to rounding.*

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New York State Teachers' Retirement System

10 Corporate Woods Drive
Albany, NY 12211-2395
(800) 348-7298

NYSTRS.org