



Risk Committee Meeting

July 30, 2025

Committee Members

Ruth Mahoney, Chair

Donald A. Little III, Jennifer Longtin, Nicholas Smirensky

Call to Order by Chair

**AGENDA** p. 1

- A. Approval of Minutes of April 23, 2025 pp. 2-3
- B. Compliance Update and Compliance Program Overview pp. 4-16
- C. Investment Risk Update and RM KRI Dashboard pp. 17-28
- D. Quarterly Review of Risk Management Team (Motion for **Executive Session** pursuant to Open Meetings Law §105(1)(f) to discuss personnel matters)

NEW YORK STATE  
TEACHERS' RETIREMENT SYSTEM  
10 CORPORATE WOODS DRIVE, ALBANY NY

Risk Committee Meeting

A meeting of the Risk Committee of the Retirement Board of the New York State Teachers' Retirement System was held at the System on April 23, 2025.

The following individuals were in attendance:

Committee Members: Paul Farfaglia, Ruth Mahoney, Oliver Robinson, Nicholas Smirensky

Board Members: Juliet Benaquisto, Eric Iberger, Donald A. Little III

Risk Committee Advisors via WebEx: Sean Atkinson, Peter Cosgrove, Steve Huber

NYSTRS' Staff: Thomas K. Lee, Don Ampansiri, Matt Tice, Matt Albano, John Rosenburg, Ryan Ranado, Rick Jensen, Ryan Warren

Visitors via WebEx: Donna Martin, Albany NY

The meeting was called to order by R. Mahoney, Chair at 8:31 a.m.

The following items were discussed:

1. Approval of the minutes of January 29, 2025

Upon motion of P. Farfaglia, seconded by N. Smirensky and unanimously carried, the meeting minutes of the January 29, 2025 were approved.

2. Enterprise Risk and Compliance Update

M. Albano and M. Tice gave an update on compliance (Appendix A, pp. 3-4).

3. Investment Risk Key Risk Indicators and Investment Risk Report

M. Albano and R. Ranado presented the key risk indicators report and the investment risk report (Appendix B, pp. 5-16).

Upon motion of P. Farfaglia, seconded by N. Smirensky and unanimously carried, the Committee went into Executive Session at 8:34 a.m. to hear an information security update, results of security testing and a personnel update.

With unanimous consent, the meeting came out of Executive Session at 9:13 a.m. and there being no further business, the Committee unanimously adjourned at 9:13 a.m.

Respectfully submitted,

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Thomas K. Lee

# Enterprise Risk and Compliance Update

Risk Committee: July 30, 2025

*Matthew Albano, CFA, Chief Risk Officer*

*Matthew Tice, Director of Enterprise Risk*



# Regulatory Items Requiring Board Action

July Meeting	Regulatory Item	Owner
	Adopt the ECR	Actuary
	Approve the Signatory Authority List	Finance
	Adopt the Annual Investment Asset Allocation	Executive
October Meeting	Regulatory Item	Owner
	Approve Actuarial Assumptions	Actuary
	External Audit Report	Internal Audit
	Approve changes to IPM	Executive

- Period of **April** through **June**: **89** required regulatory items were due and all were completed by departments.

# NYSTRS Compliance Program Overview

Risk Committee July 30, 2025

*Matthew Albano, CFA, Chief Risk Officer*

*Matthew Tice, Director of Enterprise Risk*



# Agenda

Governance at NYSTRS

Compliance Program Overview

Comparable Pension Plans

# Governance at NYSTRS

*A strong governance structure is vital to our success!*

Three key documents guide governance and policy:

## Board Governance Manual

- Assists Board in fulfilling fiduciary duties and define roles and responsibilities

## Investment Policy Manual

- Defines investment policy and supports investment compliance

## NYSTRS Code of Ethics

- Provides policies and guidance to support fiduciary responsibilities

# Compliance Program Overview

## *Investment Compliance*

### Governance

#### *Investment Policy Manual (IPM)*

- Reviewed annually by asset classes, Risk Management and Legal
- Approved by NYSTRS Board

### Asset Classes

- Monitor adherence to portfolio guidelines
- Take corrective action as needed
- Ensure compliance with laws, rules, regulations, and policies
- Supervise staff to ensure compliance

### Risk and IOD Responsibilities

- Personal Trade Monitoring
- Material Non-Public Information (With Legal Department)
- Assist Managing Directors with portfolio guideline compliance
- Review and distribute “Leeway” report (status of invested assets)
- Prepare regulatory filings as required
- *Risk monitors and reports on regulatory catalog to the Risk Committee*

# Compliance Program Overview

## *Operational Compliance*

### Governance

#### ***NYSTRS Code of Ethics***

- Reviewed as needed by Legal, Risk, and Human Resources

### Executive Staff Responsibilities

- Take corrective action as needed
- Ensure compliance with laws, rules, regulations, and policies
- Supervise staff to ensure compliance

### Legal and Risk Responsibilities

- Legal provides advice on new or existing compliance requirements
- Legal and Risk provides guidance on policy application
- Risk oversees the operational policy update process
- *Risk monitors and reports on regulatory catalog to the Risk Committee*

# Compliance Program Overview

## *Independent Assurance and Consultative*

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### Internal Audit

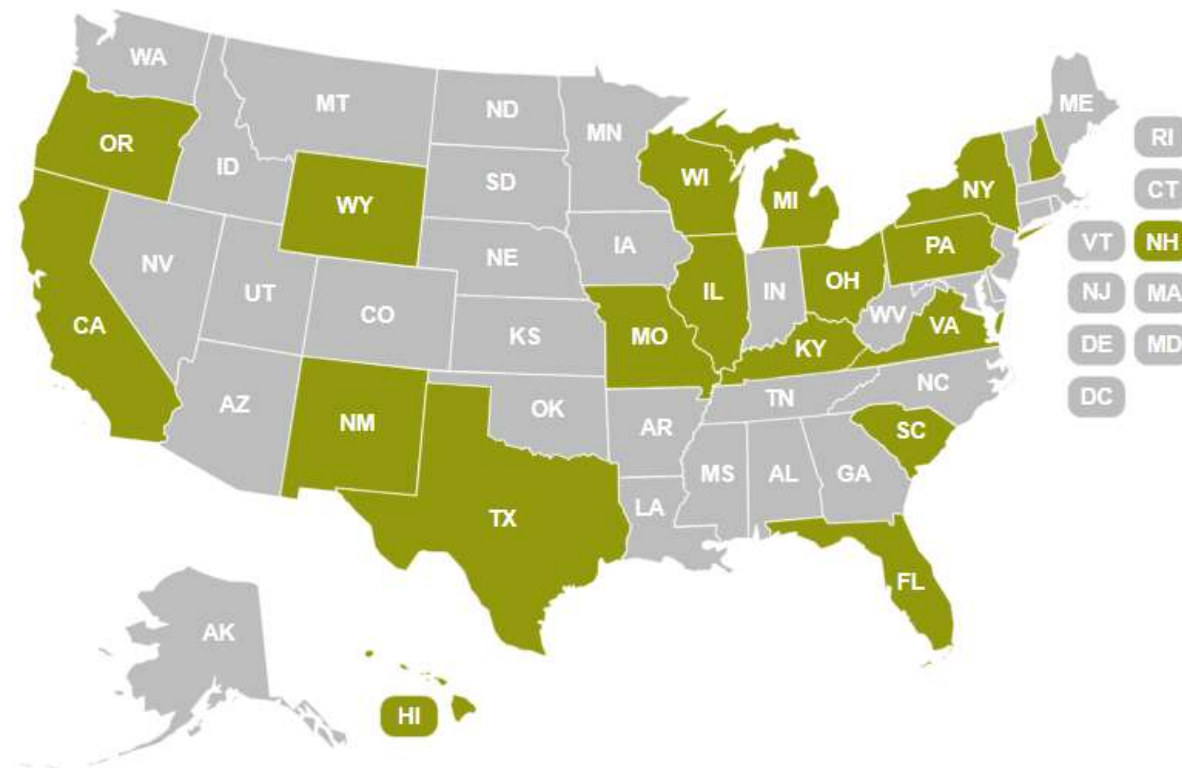
- Provides reasonable assurance
- Reports findings to senior management and Audit Committee of the NYSTRS Retirement Board

### Consultative

- Outside Counsel
- Internal Audit

# Comparable Pension Plans

- NYSTRS participated in the 2024 Integrated Enterprise Compliance Survey conducted by Funston Advisory Services LLC.
  - National Survey of Largest U.S. Public Retirement Systems
  - Twenty-seven public retirement systems, all with Assets Under Management over \$5 billion, participated:

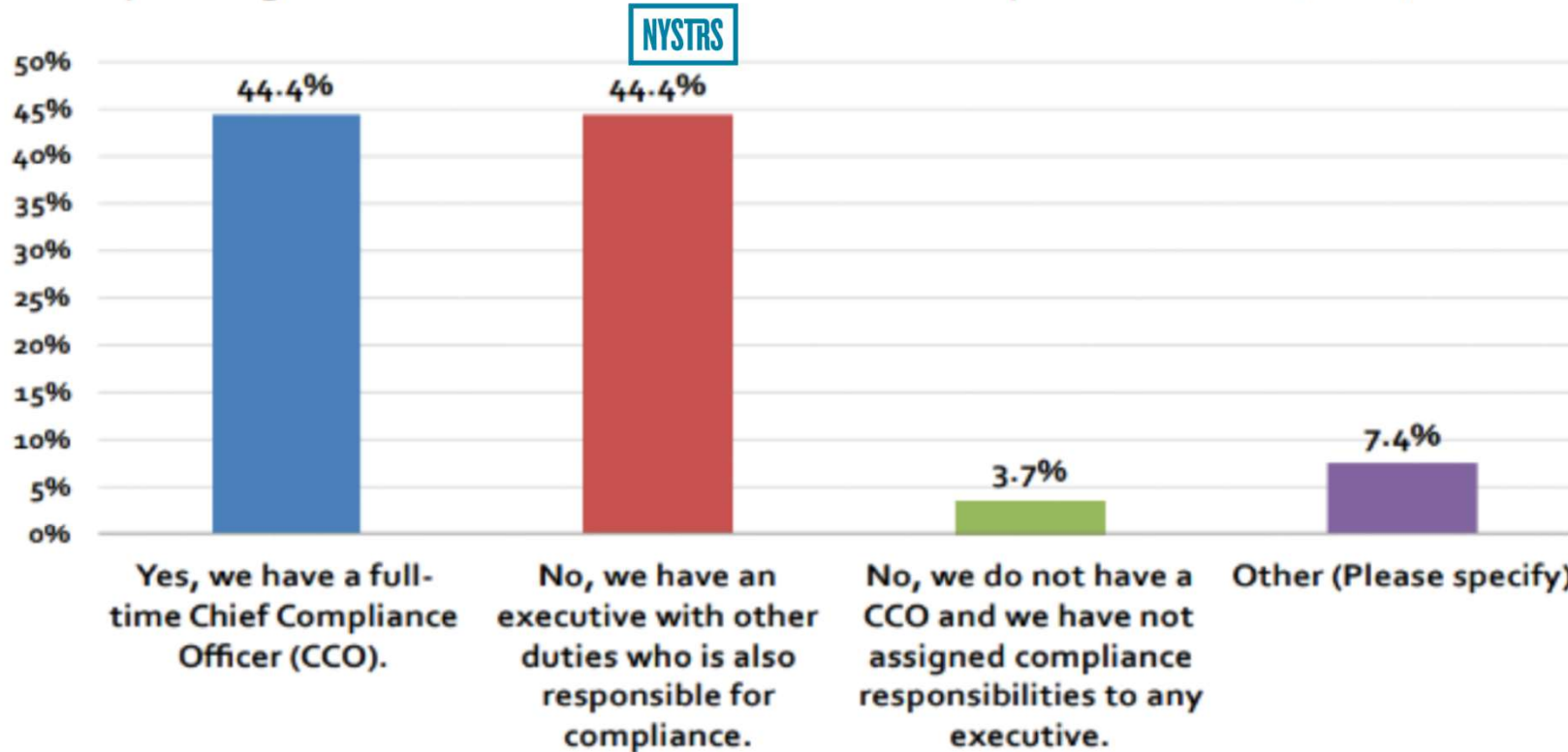




# Comparable Pension Plans

## Chief Compliance Officer

Does your organization have a dedicated Chief Compliance Officer (CCO)?



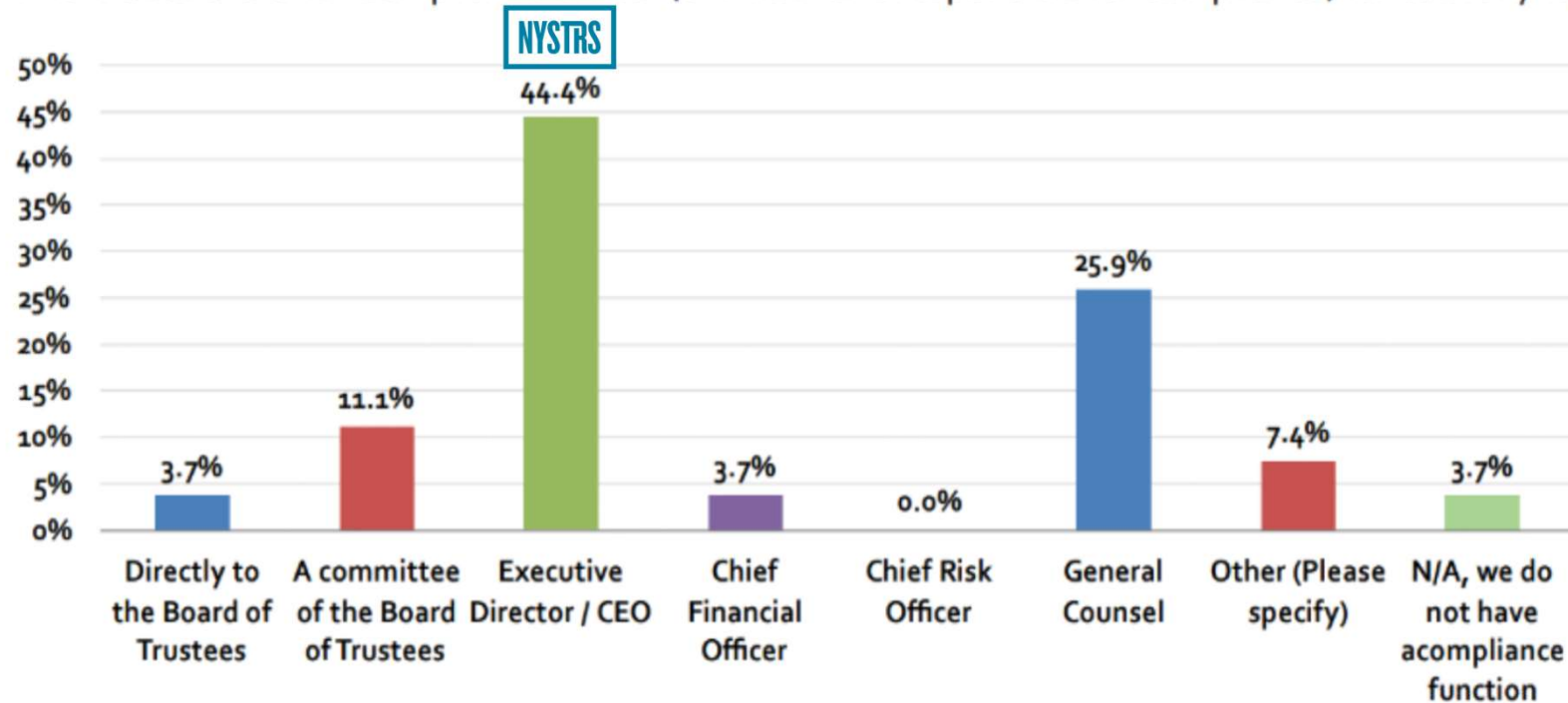
"Other" responses:

- We will have a Compliance Officer in the near future.
- Internal audit.

# Comparable Pension Plans

## Reporting Relationship

To whom does the Chief Compliance Officer (or whoever is responsible for compliance) functionally report?



"Other" responses:

- Will report to the Chief Financial Officer.
- Deputy Chief Investment Officer

# NYSTRS Compliance Program Summary

- NYSTRS Compliance Program is aligned with peer plans and has processes in place to remain in compliance with internal and external requirements.
- Compliance reporting is also consistent with the Chief Risk Officer reporting to the Executive Director / CIO and Risk Committee of the Board.

# Questions?



# Investment Risk Update

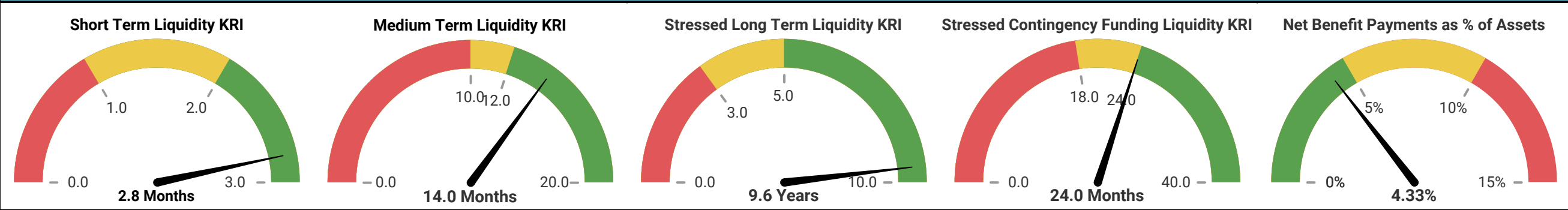
## Risk Management

Risk Committee: July 30, 2025

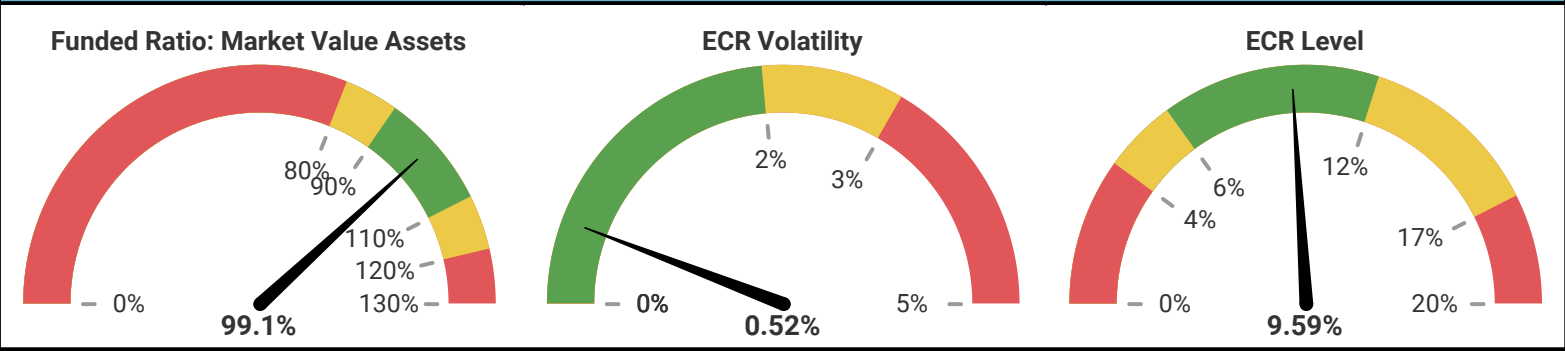
*Matthew Albano, CFA, Chief Risk Officer*

*Ryan Ranado, CFA, Assistant Director of Investment Risk Management*

Liquidity Key Risk Indicators (as of 6/30/2025)



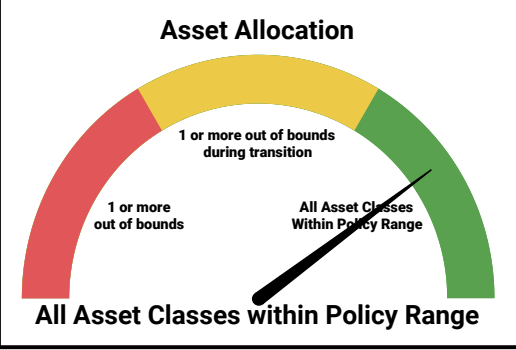
Unfunded Liability Key Risk Indicators (as of 6/30/2024)



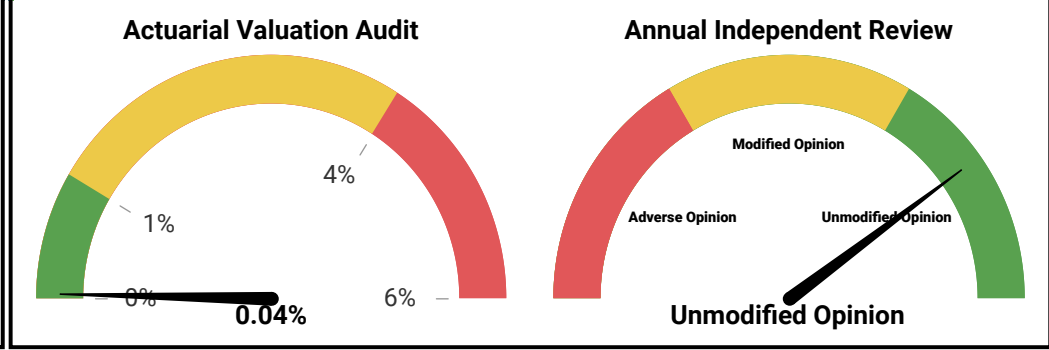
Investment Risk - Key Risk Indicators Summary

- All liquidity KRI's are back within risk appetite after the Stressed Contingency Funding KRI dipped slightly below last quarter.
- Staff continues to meet weekly on asset allocation to monitor current market volatility and address liquidity requirements.
- All asset classes were within their respective asset allocation ranges as of quarter-end.
- Total Plan Risk increased this quarter to 11.81% from 10.32% last quarter, as a result of elevated volatility during the quarter.

Market Key Risk Indicator (as of 6/30/2025)

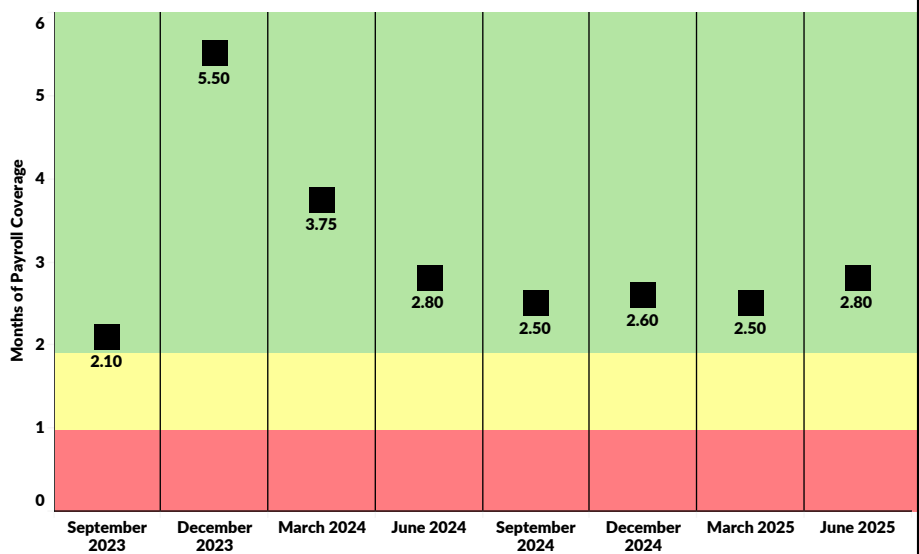


Actuarial Valuation Key Risk Indicators (as of 10/31/2024)



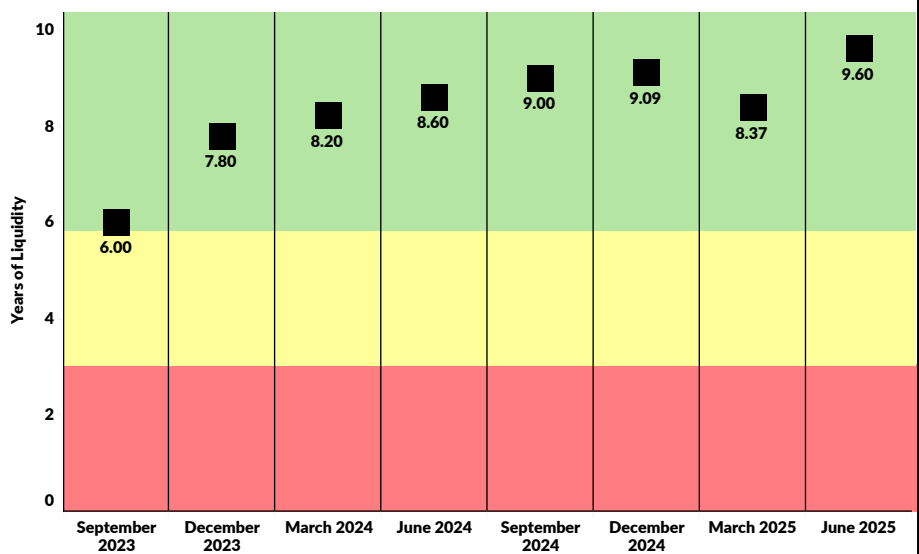
Liquidity Key Risk Indicators

Funding Liquidity - Short Term Payroll Coverage



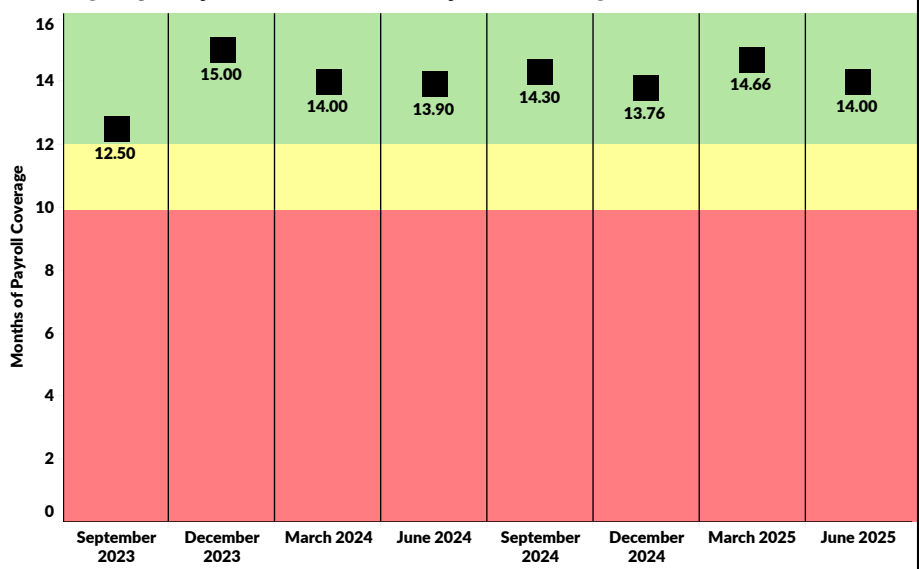
Short Term Payroll coverage calculates how many months of payroll we are carrying in cash.

Stressed Long Term Funding Liquidity - Allocation to Liquid Assets



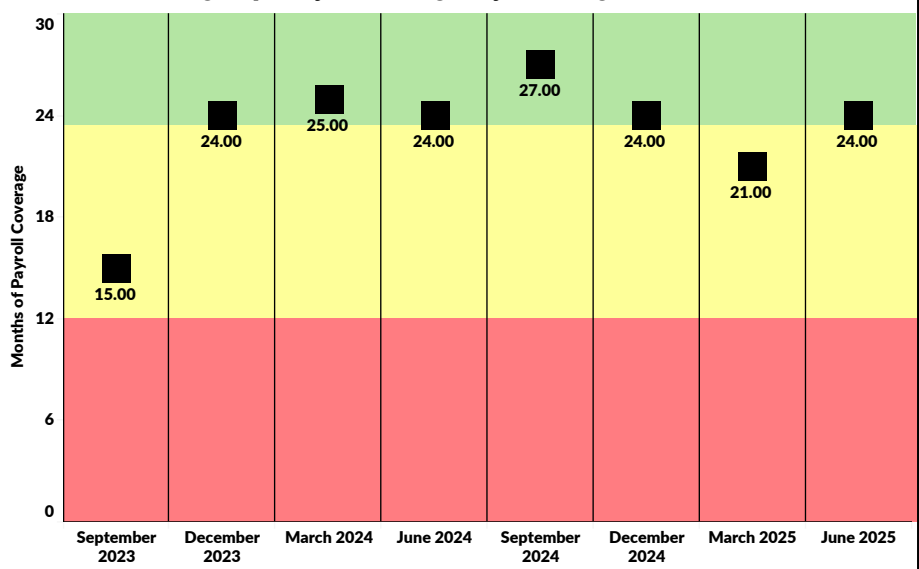
The Stressed Long Term Liquidity KRI assumes a hypothetical 40% portfolio loss then calculates years of required cash flow coverage from remaining public market assets and 12 months \*estimated net cash flows (\*includes stressed projections for: portfolio income, employer contributions and unfunded capital calls).

Funding Liquidity - Medium Term Payroll Coverage



The Medium Term Payroll Coverage KRI seeks to evaluate how many months of payroll can be made using Cash and Domestic Fixed Income above it's minimum allocation bound. It also takes into account the projected income and ECR contributions over the next 12 months, offset by 25% of capital calls on unfunded commitments. Capital calls of 25% are indicative of a "non-stressed" market environment.

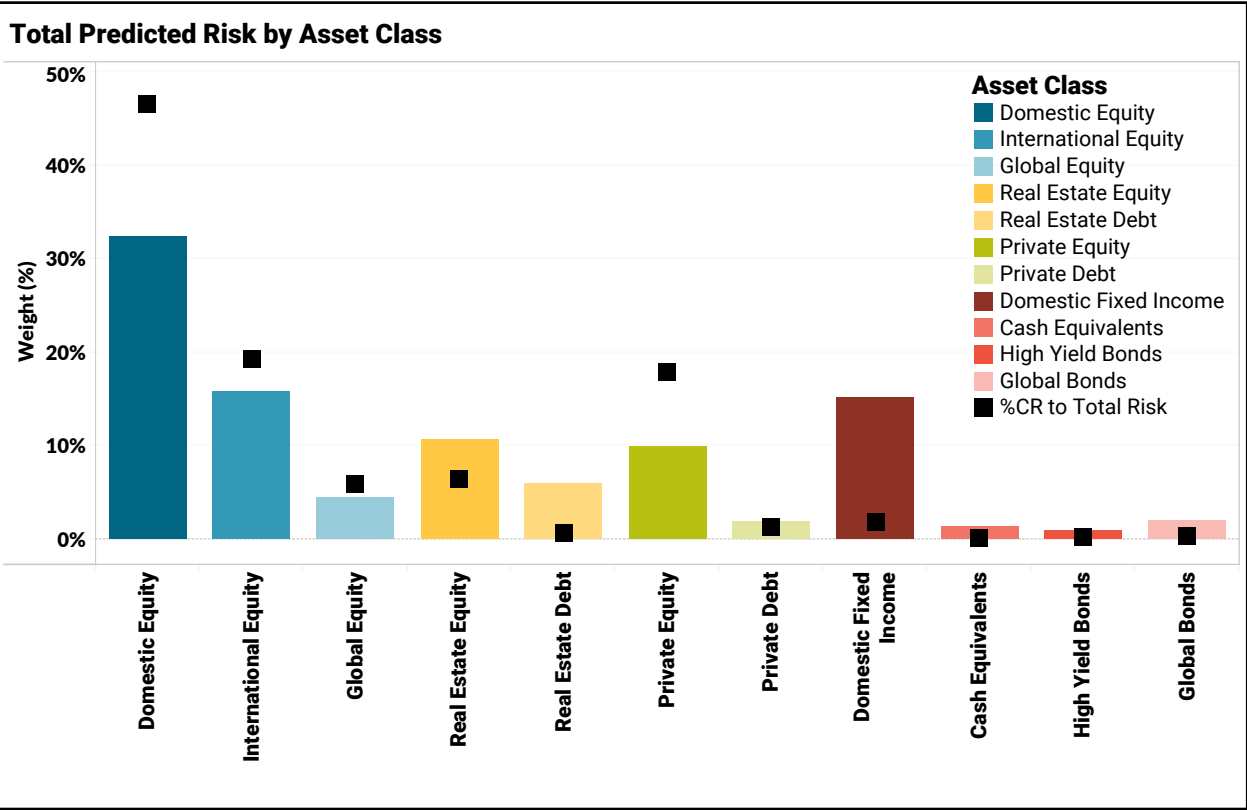
Stressed Funding Liquidity - Contingency Funding Plan



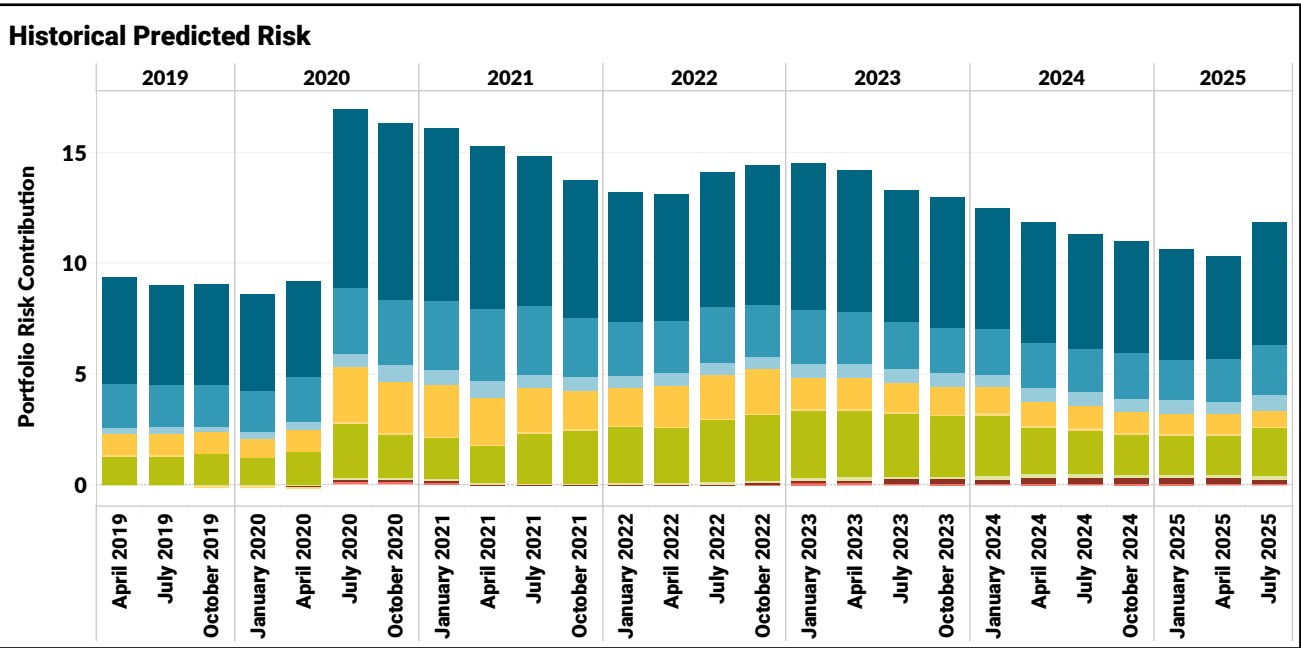
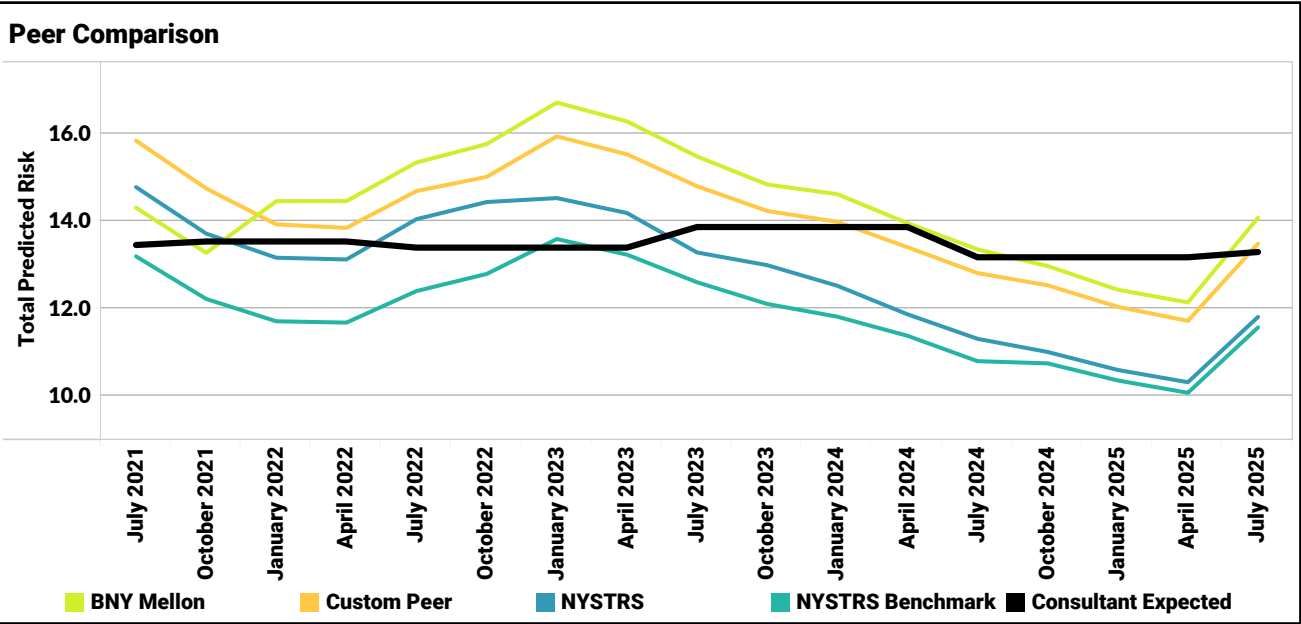
The Stressed Contingency Funding Liquidity KRI seeks to evaluate how many months of payroll can be made during a GFC like scenario before NYSTRS' CFP is triggered. GFC loss is experienced over 12 months with asset classes returning capital market assumptions years 2-5. Employer contributions are capped at 17%.

Investment Risk Board Report July 2025

**Observations:**  
Uncertainty related to tariffs sparked elevated levels of volatility, which caused total plan risk to increase from 10.32 to 11.81. Equity investments continue to contribute the majority of total plan risk, with public equities asset classes contributing 71.4% of total plan risk.

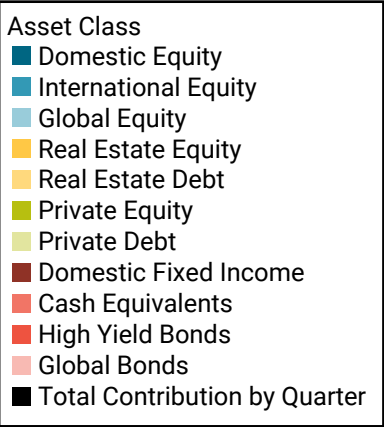
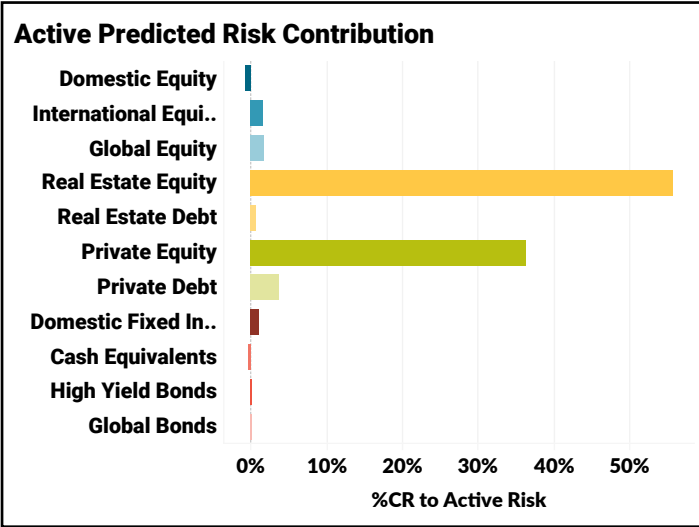
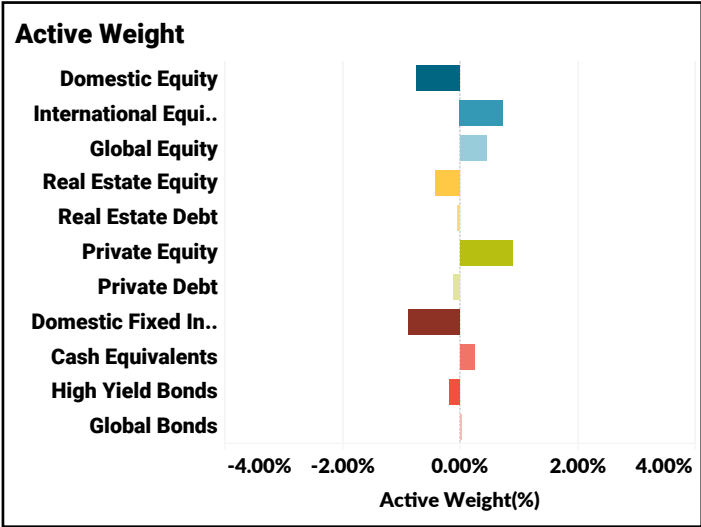
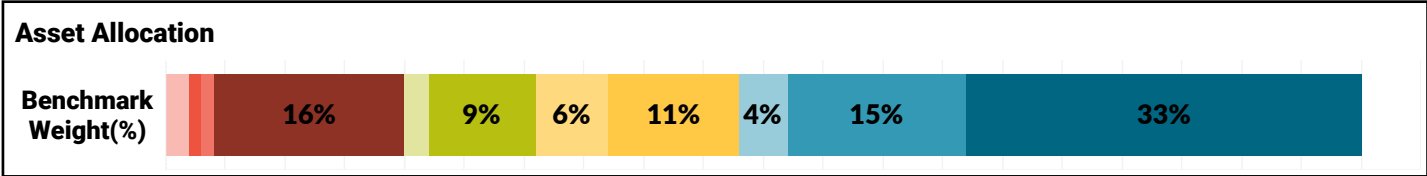


Asset Class	Mkt Value(\$M)	Weight (%)	%CR to Total Risk	Portfolio Risk Contribution	Total Risk
Total Plan	\$146,952	100.00%	100.00%	11.81	11.81
Domestic Equity	\$47,414	32.26%	46.51%	5.49	17.77
International Equity	\$23,109	15.73%	19.14%	2.26	16.08
Global Equity	\$6,558	4.46%	5.75%	0.68	15.67
Real Estate Equity	\$15,568	10.59%	6.38%	0.75	9.29
Real Estate Debt	\$8,741	5.95%	0.66%	0.08	3.13
Private Debt	\$2,760	1.88%	1.24%	0.15	8.92
Private Equity	\$14,540	9.89%	17.90%	2.11	26.34
Cash Equivalents	\$1,848	1.26%	0.00%	0.00	0.08
Domestic Fixed Income	\$22,227	15.13%	1.82%	0.21	5.87
High Yield Bonds	\$1,215	0.83%	0.25%	0.03	4.88
Global Bonds	\$2,971	2.02%	0.35%	0.04	5.34





Investment Risk Board Report July 2025

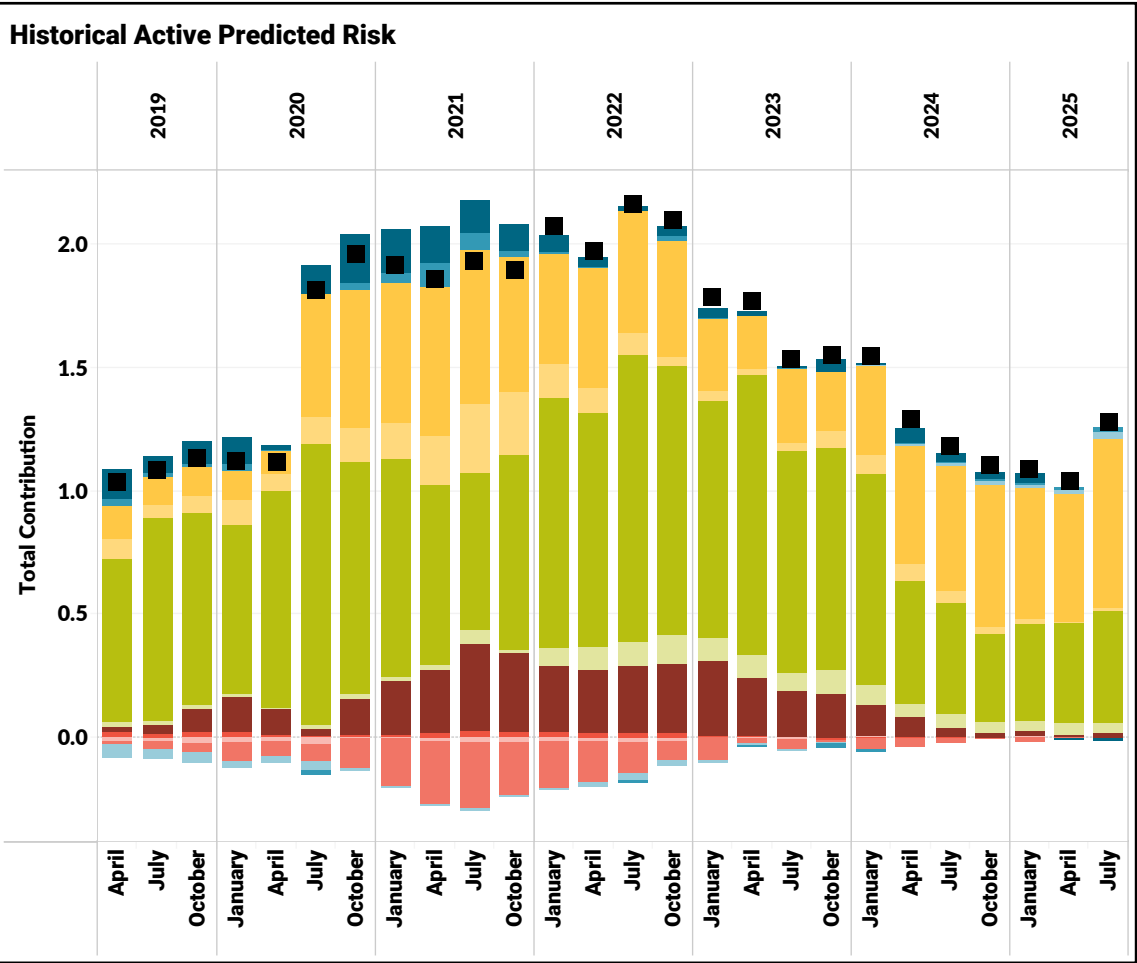


**Active Predicted Risk:**  
Active Predicted Risk is defined as the expected volatility of excess returns, and results from differences between actual portfolio weights and holdings vs. policy weights and holdings. Excess returns may be positive or negative.

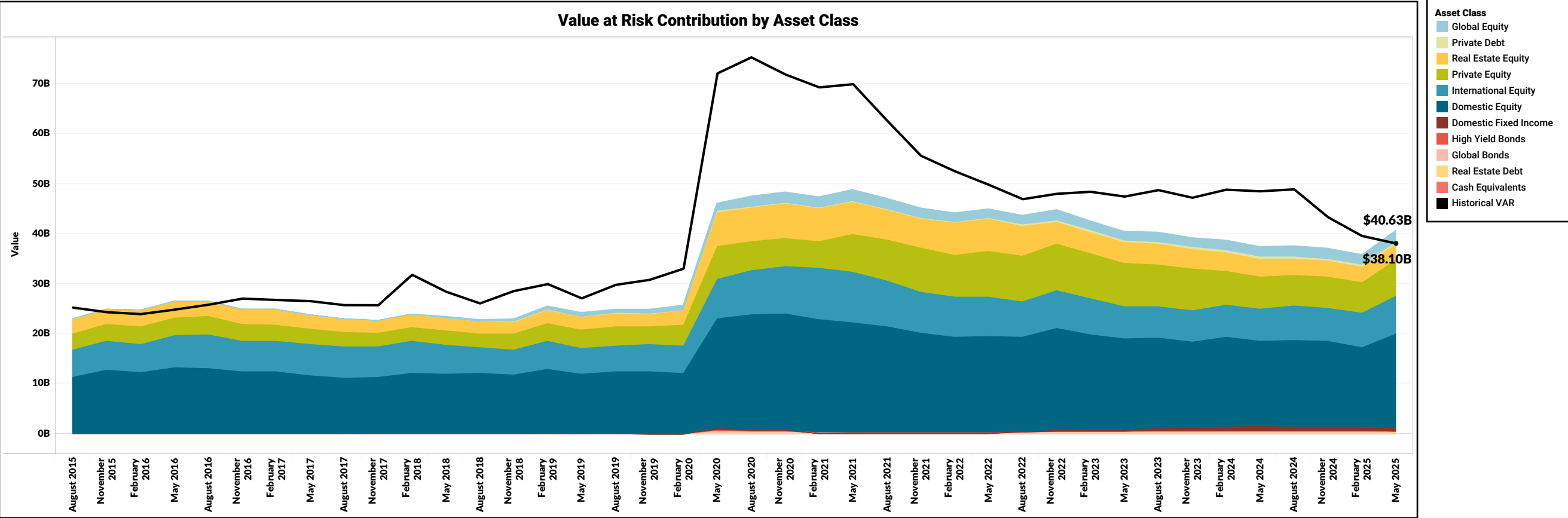
Active Risk for the Fund is largely controlled by limiting the difference between the actual and policy benchmark (target) weights for each asset class.

Benchmarking issues associated with private market portfolios also affect the measurement of 'active' risk. We see this most significantly with NYSTRS' private equity portfolio.

Asset Class	Weight(%)	Benchmark Weight(%)	Active Weight(%)	%CR to Active Risk	Total Contribution	Active Risk
Total Risk	100.00%	100.00%	0.00%	100.00%	1.24	1.24
Domestic Equity	32.26%	33.00%	-0.74%	-0.74%	-0.01	0.11
International Equity	15.73%	15.00%	0.73%	1.60%	0.02	0.49
Global Equity	4.46%	4.00%	0.46%	1.78%	0.02	2.42
Real Estate Equity	10.59%	11.00%	-0.41%	55.63%	0.69	8.80
Real Estate Debt	5.95%	6.00%	-0.05%	0.62%	0.01	0.90
Private Equity	9.89%	9.00%	0.89%	36.36%	0.45	6.67
Private Debt	1.88%	2.00%	-0.12%	3.71%	0.05	5.19
Domestic Fixed Income	15.13%	16.00%	-0.87%	1.10%	0.01	0.23
Cash Equivalents	1.26%	1.00%	0.26%	-0.34%	0.00	0.08
High Yield Bonds	0.83%	1.00%	-0.17%	0.16%	0.00	0.33
Global Bonds	2.02%	2.00%	0.02%	0.12%	0.00	0.93

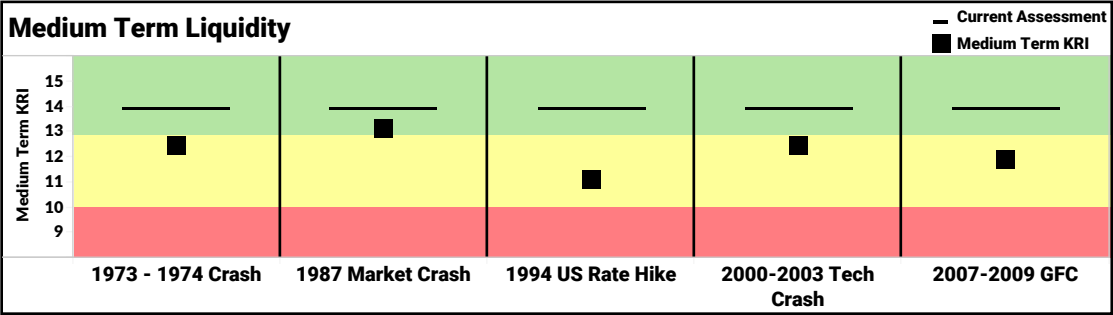


Investment Risk Board Report July 2025



Portfolio Name	Total Portfolio VAR (\$M)	Diversification Benefit	Contribution to VAR (\$M)	(%)Contribution to VAR
Total Portfolio	\$48,236	(\$7,598)	\$40,632	100.00%
Domestic Equity	\$19,633		\$18,801	46.27%
Private Equity	\$8,798		\$7,126	17.54%
International Equity	\$8,545		\$7,625	18.77%
Real Estate Equity	\$4,136		\$3,036	7.47%
Domestic Fixed Income	\$3,034		\$736	1.81%
Global Equity	\$2,391		\$2,321	5.71%
Real Estate Debt	\$638		\$268	0.66%
Private Debt	\$553		\$484	1.19%
Global Bonds	\$370		\$140	0.35%
High Yield Bonds	\$133		\$96	0.24%
Cash Equivalents	\$4		\$0	0.00%

Historical Scenario Analysis - Liquidity KRI



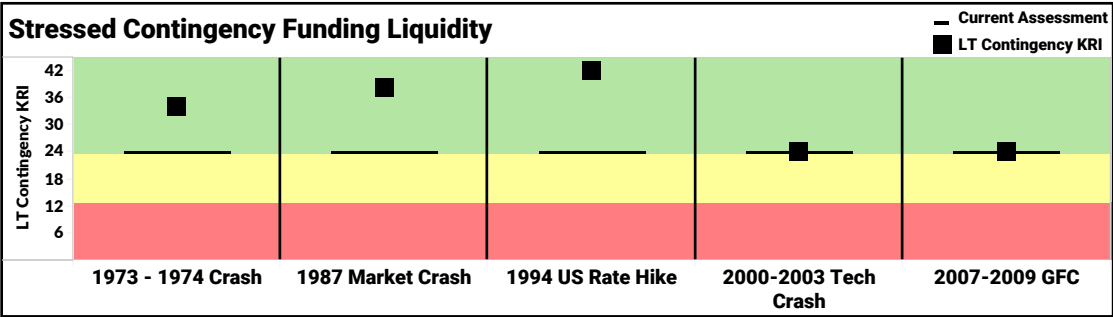
Scenario Analysis:

A scenario analysis seeks to determine how a portfolio may be affected by subjecting it to various historical or hypothetical market conditions. The charts to the left estimate how some of our liquidity KRI’s would be impacted by the various historical scenarios.

Historical Scenarios:

The following historical scenarios apply market conditions experienced during their respective timeframes to NYSTRS' current portfolio over the course of a 1-year period. High level scenario inputs are provided below for context:

Historical Scenario	Date	Domestic Equity	UST Yields: 2y5y10y (bps)	Credit Spreads: AA/BB/CCC (bps)	Total Plan Loss
1973-1974 Stagflation & Rate Hikes	1/1/73 - 8/31/74	-34%	347	LIBOR 334	-22.58%
1987 Stock Market Crash	8/3/87 - 11/30/87	-26%	Unchanged	Unchanged	-11.88%
1994 US Rate Hike	1/31/94 - 12/13/94	-5%	162/152/131	2/36/0	-3.99%
Tech Crash & Recession	1/9/00 - 3/12/03	-46%	-488/-387/-281	-13/244/1151	-23.05%
Global Financial Crisis	9/30/07 - 3/4/09	-52%	-308/-226/-115	234/849/3779	-35.95%



Medium Term Liquidity KRI:

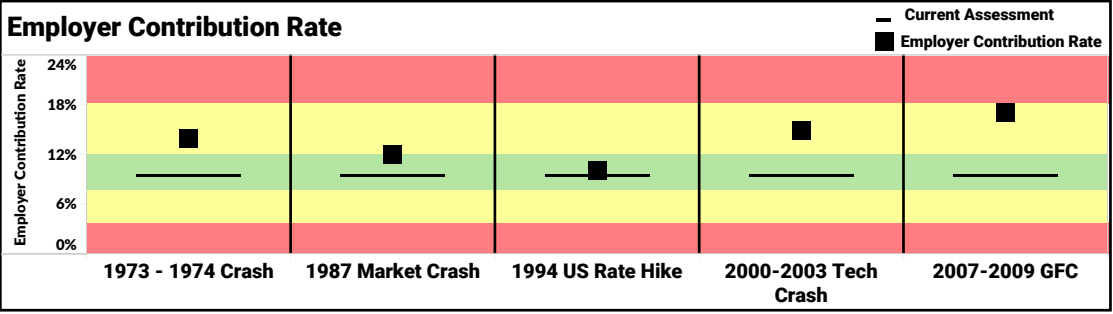
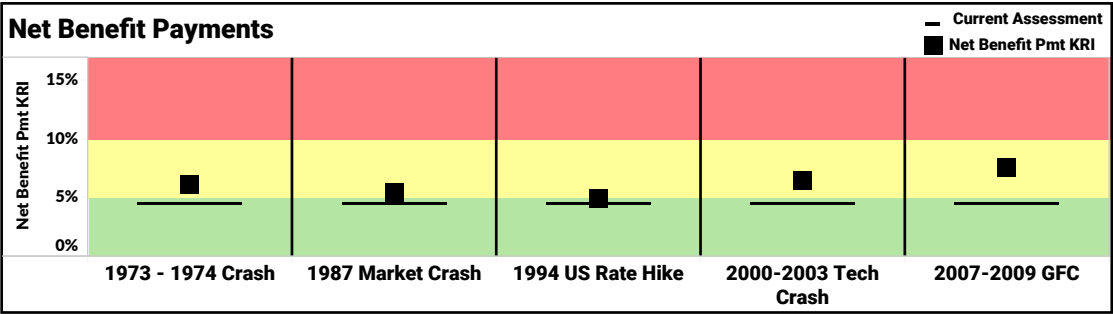
The top chart depicts how each historical scenario would impact funding liquidity after a one-time rebalance to target policy weights. Cash and Domestic Fixed Income coverage represents how much of each asset class could be used to make payroll before lower asset allocation bounds were breached and additional rebalancing was required.

Stressed Contingency Funding Liquidity KRI :

The second chart depicts how each historical scenario would impact the Stressed Contingency Funding Liquidity KRI. This KRI is a measure which seeks to evaluate how many months of payroll can be made during one of these scenarios before NYSTRS’ Contingency Funding Plan is triggered.

Net Benefit Payments as % of Assets:

The third chart depicts how each historical scenario would impact net benefit payments as a percentage of assets. Figures are representative of each scenarios market bottom and do not incorporate expected cash flows or market recovery. (Net Benefit Payments=Annual Benefit Payments-Employer & Employee Contributions)

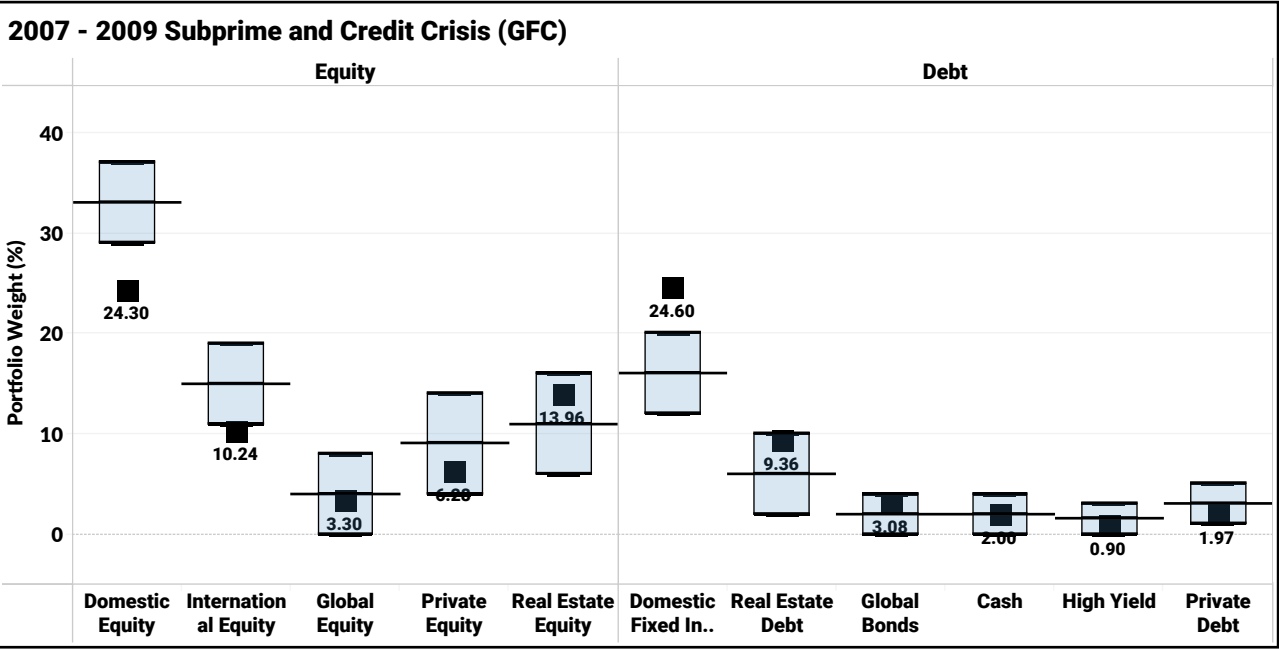
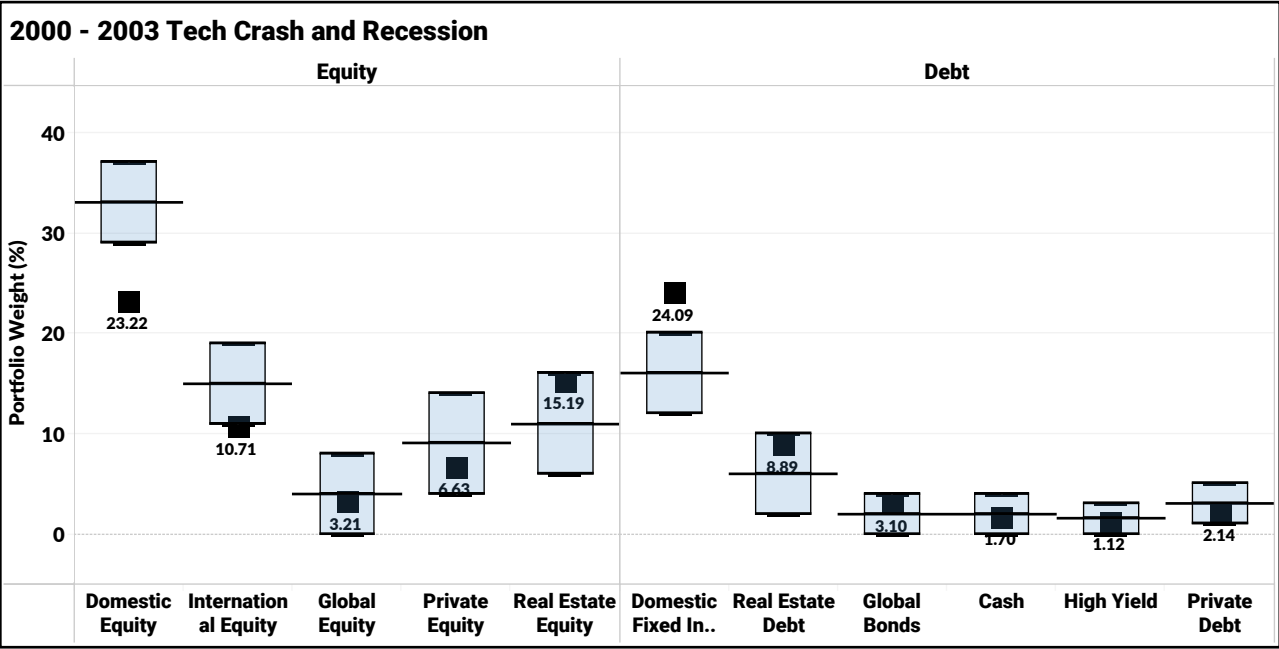
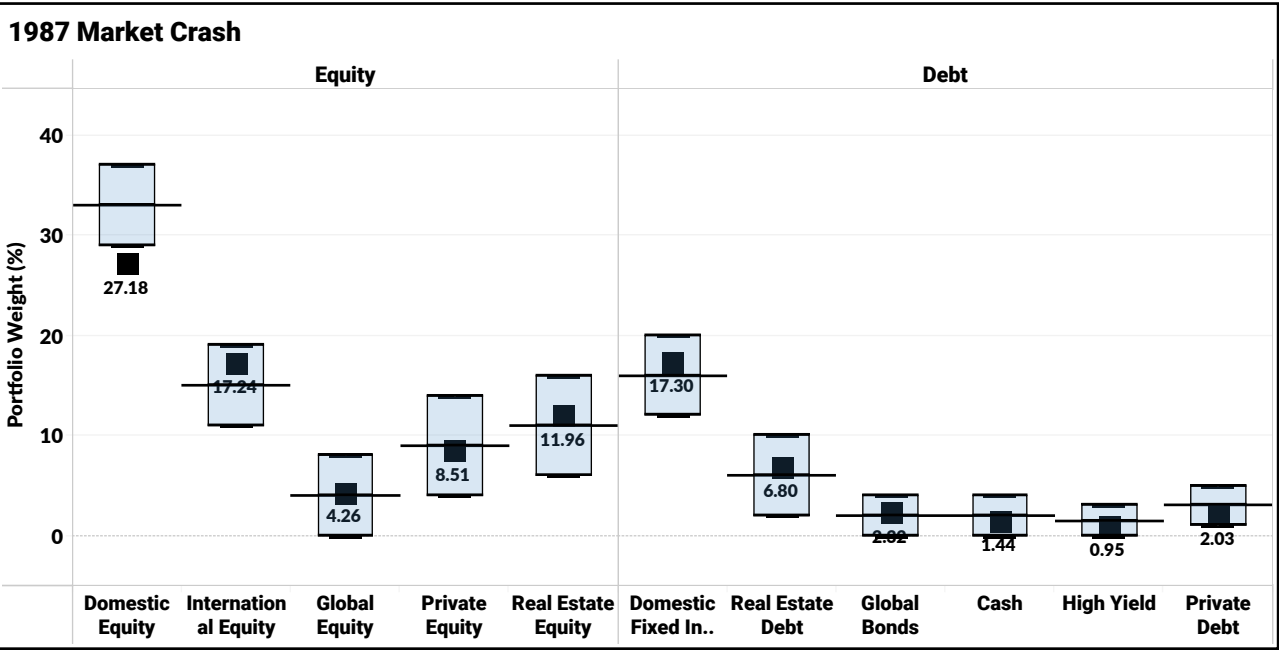
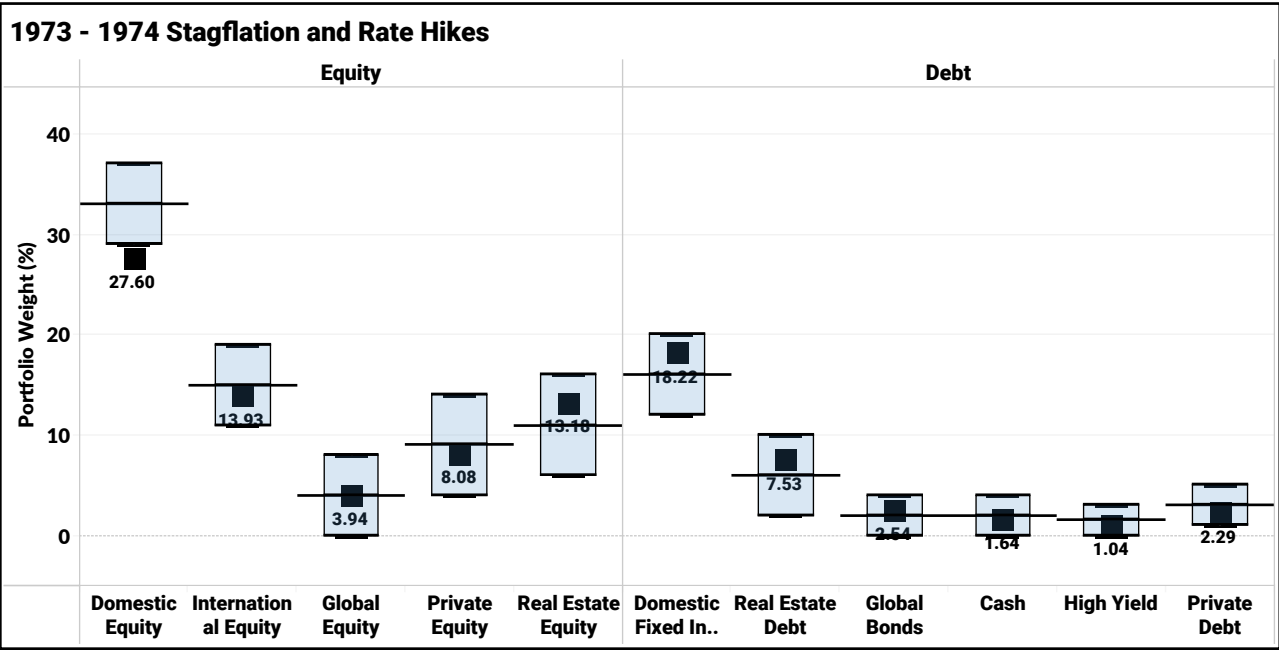


Employer Contribution Rate:

The bottom chart depicts how each historical scenario would immediately impact the Employer Contribution Rate (ECR) as a percentage of pay. Figures are representative of each scenario’s market bottom and do not incorporate a market recovery. Note that absent a market recovery, the ECR would continue to increase in future years as the major asset loss continues to be smoothed in over the remainder of the five year smoothing period.

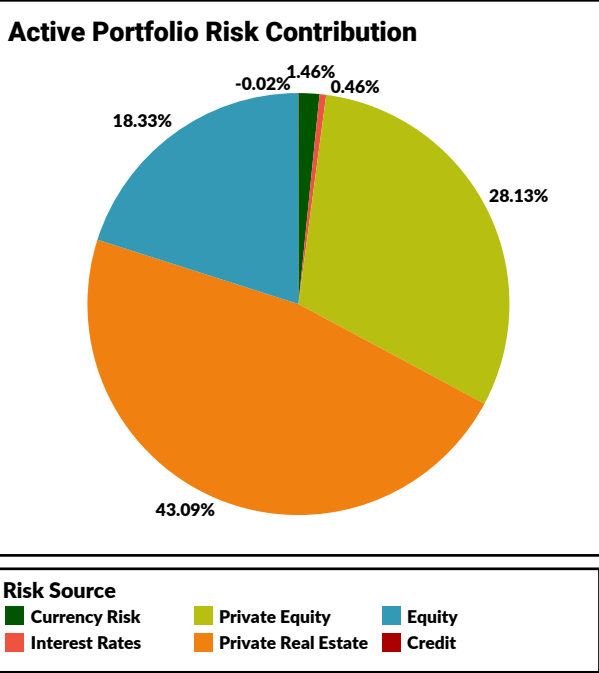
Scenario Analysis – Impact to Asset Allocation KRI

Data as of 05/31/2025



Predicted Risk by Risk Factor

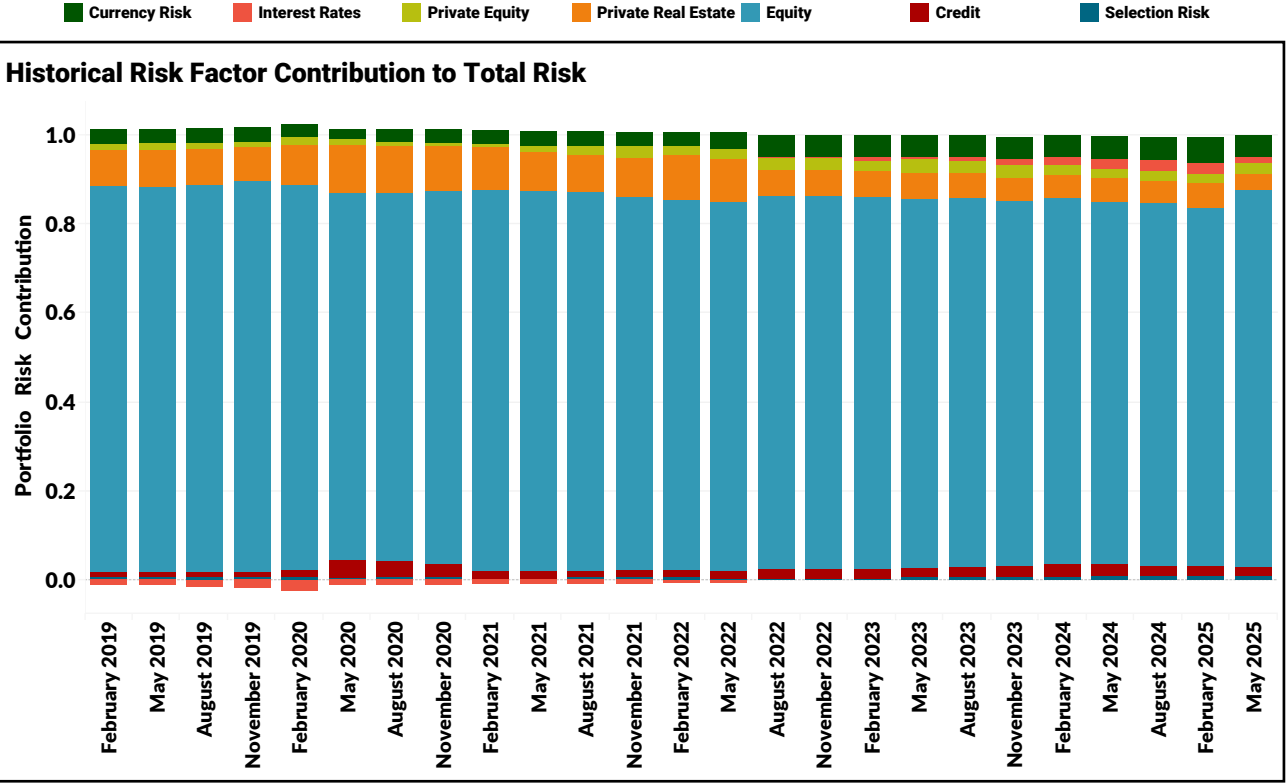
Top 20 - Currency Total Exposure	
US Dollar	78.67%
Euro	4.83%
British Pound Sterling	2.81%
Japanese Yen	2.66%
Canadian Dollar	1.64%
Hong Kong Dollar	1.55%
Indian Rupee	1.13%
Swiss Franc	1.06%
New Taiwan Dollar	0.90%
Australian Dollar	0.89%
Chinese Yuan	0.76%
Swedish Krona	0.53%
Korean Won	0.52%
Brazilian Real	0.30%
Singapore Dollar	0.23%
Norwegian Krone	0.19%
Danish Krone	0.18%
South African Rand	0.14%
United Arab Emirates Dirham	0.14%
Mexican Peso	0.12%



**Risk Factors:**  
Risk factors are characteristics shared by a group of securities that influence their risk and return as well as their correlations. The five risk factor groups used for this analysis (equity, interest rates, credit, private equity, and private real estate) can be further decomposed into underlying factors such as industry, style, interest rate term structure, and geography. Each factor has an expected volatility and correlation with the other risk factors. All of NYSTRS holdings are modeled according to their exposures to individual risk factors.

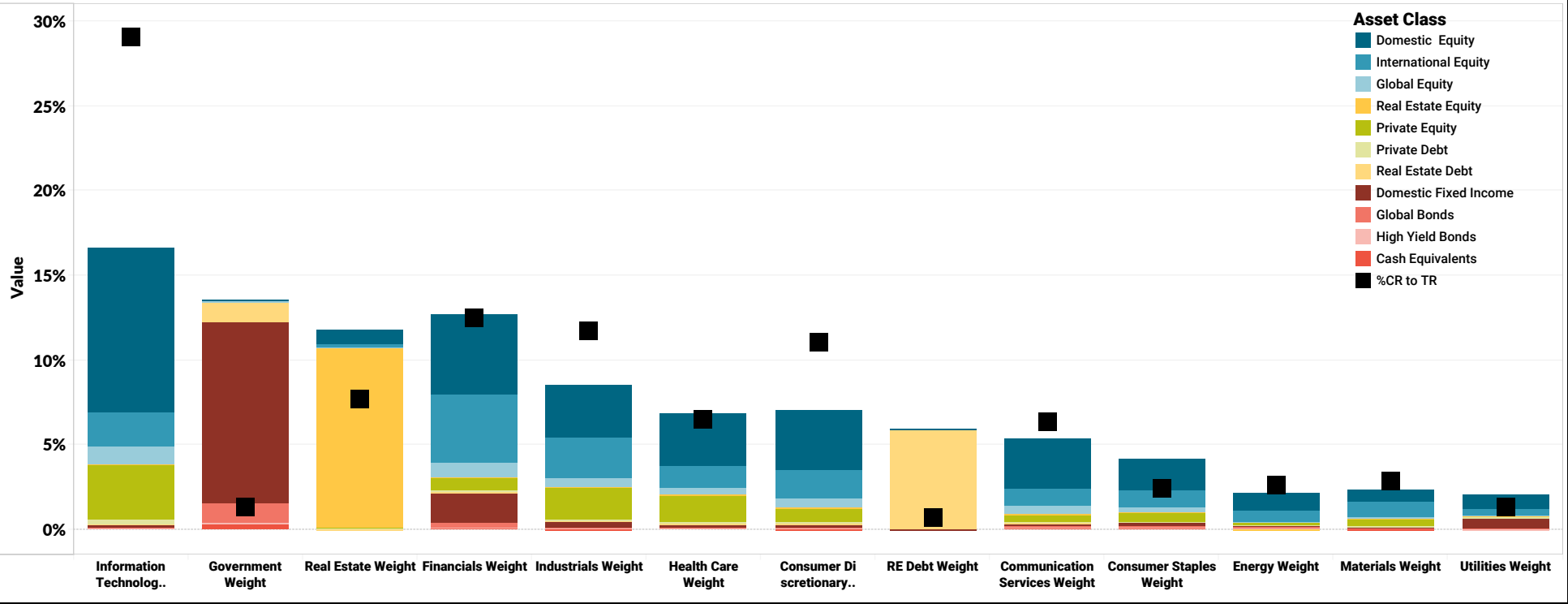
**Observations:**  
Observations: Equity risk factors contributed 84.56% of total plan risk, up from 80.75% last quarter.

Risk Source	Portfolio Risk Contribution	Portfolio Risk Contribution (%)	Benchmark Risk Contribution	Benchmark Portfolio Risk Contribution (%)	Active Portfolio Risk Contribution (%)
Total Risk	11.80	100.00%	11.57	100.00%	100.00%
Local Market Risk	11.25	95.34%	11.10	95.91%	98.54%
Common Factor Risk	11.17	94.62%	11.00	95.03%	89.99%
Equity	9.98	84.56%	9.21	79.55%	18.33%
Interest Rates	0.20	1.69%	0.22	1.93%	0.46%
Credit	0.27	2.32%	0.28	2.41%	-0.02%
Private Equity	0.29	2.46%	0.13	1.10%	28.13%
Private Real Estate	0.42	3.59%	1.16	10.04%	43.09%
Selection Risk	0.08	0.71%	0.10	0.88%	8.55%
Currency Risk	0.55	4.66%	0.47	4.09%	1.46%



Investment Risk Board Report July 2025

Sector Concentration Weight By Asset Class



NYSTRS Sector	Market Value (\$M)	Weight (%)	Portfolio Risk Contribution	(%)CR to Total Risk	Total Risk
Total Plan	\$146,952	100.00%	11.81	100.00%	11.81
Information Technology	\$24,555	16.71%	3.43	29.05%	22.55
Real Estate Equity	\$17,339	11.80%	0.91	7.70%	9.73
Government	\$17,984	12.24%	0.16	1.35%	5.67
Financials	\$18,723	12.74%	1.63	13.78%	13.93
Industrials	\$12,804	8.71%	1.38	11.69%	16.71
Health Care	\$10,241	6.97%	0.76	6.46%	13.68
Consumer Discretionary	\$10,638	7.24%	1.31	11.06%	19.45
Real Estate Debt	\$8,741	5.95%	0.08	0.66%	3.13
Communication Services	\$7,720	5.25%	0.75	6.35%	16.67
Consumer Staples	\$6,246	4.25%	0.28	2.41%	10.01
Energy	\$3,367	2.29%	0.31	2.62%	19.22
Materials	\$3,528	2.40%	0.34	2.88%	16.02
Utilities	\$3,072	2.09%	0.16	1.33%	11.11

Observations:

Sector contribution to risk is in line with expectations. Information Technology continues to drive an outsized contribution to total risk relative to its weight in the portfolio.

Sectors:

In developing the sector schedule, NYSTRS began with industry recognized sectors used by MSCI and S&P. Five custom sectors were added to this base to accommodate the Fund’s allocation to Government, Real Estate Debt, Real Estate Equity, Cash and “Other” investments.

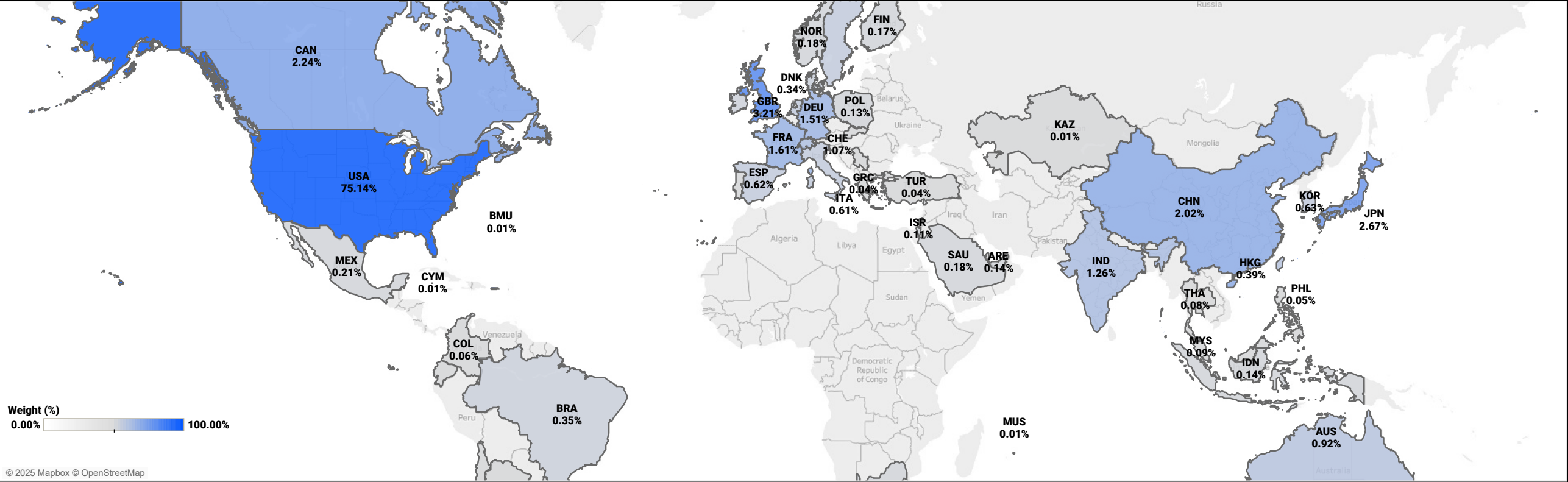
The bar chart representing weight for each sector was then further divided by asset class; with shades of blue denoting public equity asset classes, red denoting public fixed income asset classes, green denoting private equity and debt, and orange denoting real estate equity and debt.

Defensive sectors such as Utilities, and Consumer Staples tend to be more stable and less volatile regardless of the condition of the overall financial markets. Because these sectors are not highly correlated with the business cycle, they are also known as "non-cyclical". Cyclical sectors such as Consumer Discretionary and Materials tend to be correlated with the business cycle and can be more volatile than defensive sectors.

These characteristics can be seen in the chart. The risk contribution by the defensive sectors is less than their market value allocation and the risk contribution by the cyclical sectors is higher than their market value allocation.

Investment Risk Board Report July 2025

**Observations:**  
Total Developed and Emerging market regions remain within 1% of the benchmark. Note: Country of exposure is generally determined by the country of incorporation of the issuing company.



Geographic Region	Market Value (\$M)	Weight(%)	BMK Weight (%)	Active Weight (%)	Portfolio Risk Contribution	(%)CR to Total Risk	Total Risk
Total Plan	\$146,952	100.00%	100.00%	0.00%	11.81	100.00%	11.81
Total Developed	\$136,458	92.85%	93.60%	-0.75%	10.98	92.99%	11.85
United States	\$110,438	75.14%	79.19%	-4.05%	8.47	71.70%	11.50
Europe and Middle East	\$16,501	11.23%	8.98%	2.24%	1.63	13.77%	16.85
Japan	\$3,921	2.67%	2.47%	0.20%	0.35	2.93%	19.70
Pacific ex Japan	\$2,307	1.57%	1.29%	0.28%	0.25	2.12%	19.17
Canada	\$3,291	2.24%	1.66%	0.58%	0.29	2.47%	15.17
Total Emerging	\$9,618	6.54%	5.82%	0.72%	0.80	6.78%	15.92
Asia	\$7,616	5.18%	4.92%	0.26%	0.62	5.29%	16.94
EMEA	\$944	0.64%	0.50%	0.15%	0.08	0.70%	17.44
Latin America	\$1,057	0.72%	0.41%	0.31%	0.09	0.80%	18.81
Total Other	\$896	0.61%	0.58%	0.03%	0.02	0.19%	5.99
Rest of the World	\$580	0.39%	0.34%	0.05%	0.00	0.04%	3.73
Frontier	\$316	0.22%	0.24%	-0.02%	0.02	0.15%	13.77



Investment Risk Board Report July 2025

Appendix:

MSCI ACWI & FRONTIER MARKETS INDEX									
MSCI ACWI INDEX					MSCI EMERGING & FRONTIER MARKETS INDEX				
MSCI WORLD INDEX			MSCI EMERGING MARKETS INDEX			MSCI FRONTIER MARKETS INDEX			
DEVELOPED MARKETS			EMERGING MARKETS			FRONTIER MARKETS			
Americas	Europe & Middle East	Pacific	Americas	Europe, Middle East & Africa	Asia	Europe	Africa	Middle East	Asia
Canada	Austria	Australia	Brazil	Czech Republic	China	Croatia	Kenya	Bahrain	Bangladesh
United States	Belgium	Hong Kong	Chile	Egypt	India	Estonia	Mauritius	Jordan	Pakistan
	Denmark	Japan	Colombia	Greece	Indonesia	Iceland	Morocco	Oman	Sri Lanka
	Finland	New Zealand	Mexico	Hungary	Korea	Lithuania	Nigeria		Vietnam
	France	Singapore	Peru	Kuwait	Malaysia	Kazakhstan	Tunisia		
	Germany			Poland	Philippines	Romania	WAEMU <sup>2</sup>		
	Ireland			Qatar	Taiwan	Serbia			
	Israel			Saudi Arabia	Thailand	Slovenia			
	Italy			South Africa					
	Netherlands			Turkey					
	Norway			United Arab Emirates					
	Portugal								
	Spain								
	Sweden								
	Switzerland								
	United Kingdom								
MSCI STANDALONE MARKET INDEXES <sup>1</sup>									
						Americas	Europe	Africa	Middle East
						Argentina	Bosnia Herzegovina	Botswana	Lebanon
						Jamaica	Bulgaria	Zimbabwe	Palestine
						Panama	Malta		
						Trinidad & Tobago	Ukraine		

\*MSCI.com/market-classification





**Investment Committee Meeting**

July 30, 2025

COMMITTEE MEMBERS

Nicholas Smirensky, Chair  
Eric Iberger, David Keefe, Scott Levy, Jennifer Longtin, Ruth Mahoney

**AGENDA** pp. 29-30

**Approval of Minutes**

- A. Approval of Minutes of April 23, 2025 Investment Committee Meeting pp. 31-37

**PRESENTATIONS**

- A. StepStone Annual Private Equity/Debt Review pp. 38-59

**UPDATES**

- A. Investment Committee Executive Summary – M. Andriola pp. 60-66  
B. Managing Director Updates  
    1. Public Equities Update – B. Unni pp. 67-68  
    2. Fixed Income Update – M. Federici p. 69  
    3. Real Estate Update – D. Gillan pp. 70-73  
    4. Private Equity/Debt Update – G. Yahoudy pp. 74-75  
        • Introduction to Private Debt – M. Hernandez and E. Aku pp. 76-88  
C. Callan – Asset Allocation Recap pp. 89-114  
D. Cashflow Management Process – H. Yik pp. 115-119

**INVESTMENT COMMITTEE ACTION REQUIRED**

- A. **Consent Agenda Recommendation Items A1 a-i** pp. 120-128  
    1. Renew Agreements  
        a. Advent Capital Management LLC p. 120  
        b. Baillie Gifford Overseas Limited p. 121  
        c. BlackRock Carbon Transition p. 122  
        d. Blue Owl Real Estate Debt Advisors (Successor-in-Interest to Prima Capital Advisors) p. 123  
        e. Global REIT Managers (DFA, Heitman) p. 124  
        f. Leading Edge p. 125  
        g. PIMCO p. 126  
        h. T. Rowe Associates, Inc. p. 127  
        i. William Blair and Company p. 128  
    2. Annual Review & ReAuthorization of Delegated Investment Authority  
        a. Investment Discretion section of IPM pp. 129-135  
        b. Resolution on Investment Discretion p. 136  
    3. Resolution on Asset Allocation p. 137

### **Informational Reports**

1. EDCIO Investment Discretion Report pp. 138-141
2. Mail Vote Quarterly Board Report p. 142
3. REAC Quarterly Transactions Board Report p. 143

**NEW YORK STATE  
TEACHERS' RETIREMENT SYSTEM  
INVESTMENT COMMITTEE MEETING  
April 23, 2025**

NEW YORK STATE TEACHERS' RETIREMENT SYSTEM  
10 CORPORATE WOODS DRIVE, ALBANY NEW YORK

A meeting of the Investment Committee of the Retirement Board of the New York State Teachers' Retirement System was held at the System on April 23, 2025. Nicholas Smirensky, Chair, called the meeting to order at 9:13 a.m.

ATTENDANCE:

Investment Committee Members

Juliet Benaquisto, Eric Iberger, David Keefe, Ruth Mahoney, Nicholas Smirensky

Board Members

Paul Farfaglia, Phyllis Harrington (via WebEx), Donald A. Little III, Oliver Robinson

Staff

Thomas K. Lee, Richard Young, Don Ampansiri, Kathy Ebert, Gerald Yahoudy, Matt Albano, Michael Federici, Danny Malavé, Emily Ekland, Han Yik, Beth Dellea, Margaret Andriola (via WebEx), Sarah Garrand, Aaron Vanderziel, Binoop Uni, Kevin Maloney, Michael Morrell, Christopher Brown, Rebecca Kannan, Binoop Unni, Melody Prangley, Bruce Woolley, Heidi Brennan, Justin Milanese, Ben Keezer, James Kielty, Wanette Alston, Stacey Lesser Meehan

System Consultants

Callan – Tom Shingler, Kevin Machiz, Carlo Stadlinger, Jay Kloepper (via WebEx)

StepStone – Dev Subhash, Yin Ling, Scott Schwind, Lee Singer (via WebEx)

Presenters: Greg Reynolds, Charlie Asfour – Comvest

Marc Ganzi, Rommel Marcelle - DigitalBridge

Visitors via WebEx: Donna Martin, Albany NY

## Approval of Minutes

### A. Approval of Minutes of January 29, 2025 Committee Meeting

There being no additions or corrections to the minutes of the January 29, 2025 Investment Committee meeting, the minutes were approved with a motion made by R. Mahoney, seconded by E. Iberger and unanimously carried.

## Presentations

### A. Current Market Perspectives

David Kostin, Chief US Equity Strategist for Goldman Sachs, provided an overview of current market conditions and facilitated a question and answer session.

### B. Callan – System Asset Allocation Review

T. Shingler and K. Machiz from Callan reviewed the results and recommendations of the System's annual asset allocation review (Appendix A pp. 7-30).

Upon motion of E. Iberger, seconded by R. Mahoney and unanimously carried, the Committee went into Executive Session at 10:31 a.m. to hear a presentation on a private debt recommendation.

The Committee unanimously came out of Executive Session at 11:37 a.m. to participate in the NYSTRS' Excellence Awards.

O. Robinson presented the Significant Contribution to Excellence Award to Michael Rivette and Stephanie Price and the Continual Contribution to Excellence Award to Kristen Slauson-Smith.

The Committee adjourned for lunch at noon.

The Committee reconvened after lunch at 12:40 p.m.

Upon motion of R. Mahoney, seconded by E. Iberger and unanimously carried, the Committee went into Executive Session at 12:40 a.m. to hear a presentation on a real estate manager recommendation.

Upon motion of O. Robinson, seconded by R. Mahoney and unanimously carried, the Committee came out of Executive Session at 2:01 p.m.

#### Staff Updates

1. Investment Committee Executive Summary (Appendix B, pp. 31-39)
2. Public Equities Update (Appendix C, pp. 40-41)
3. Fixed Income Update (Appendix D, p. 42)

Aaron Vanderwiel from Fixed Income gave an update on the Long Term Bond portfolio.

4. Real Estate Update (Appendix E, pp. 43-46)
5. Private Equity/Debt Update (Appendix F, pp. 47-48)

#### Policy Review and Action

- A. Consent Agenda Recommendation Item 1 (Appendix G, pp. 49-50)

N. Smirensky, Chair, asked the Committee members if any of the consent agenda items should be moved to regular discussion items. Hearing no objections, the Committee proceeded to move the Consent Agenda items (item 1) with one motion:

Upon motion of E. Iberger, seconded by D. Keefe and unanimously carried, the Committee voted to recommend the following resolutions to the Board:

1. Renew Agreements
  - Adelante Capital Management LLC

RESOLVED, That the System's Executive Director and Chief Investment Officer is authorized to renew the agreement with

Adelante Capital Management LLC to manage a portion of the System's portfolio, to be actively invested in the securities of real estate investment trusts ("REITs") and real estate operating companies ("REOCs"), for a period of one year, effective July 1, 2025.

- Goldman Sachs Asset Mgt India Equity Strategy

RESOLVED, That, the Executive Director and Chief Investment Officer, or designee, is authorized to renew the agreement with Goldman Sachs Asset Management, L.P. to manage a portion of the System's assets as an active India equity manager benchmarked to the MSCI India IMI Index for a period of one year commencing July 5, 2025.

- JP Morgan Chase Bank NA (Securities Lending)

RESOLVED, the Executive Director and Chief Investment Officer is authorized to renew the agreement with JPMorgan Chase Bank, N.A., to act as an agency securities lender for a portion of the System's public securities assets for a period of one year, effective July 1, 2025.

- LSV Asset Management

WHEREAS, LSV Asset Management was hired as an international equity manager on July 25, 2011 and as a global equity manager on February 15, 2018; now be it therefore

RESOLVED, That, the Executive Director and Chief Investment Officer is authorized to renew the agreement with LSV Asset Management for a period of one year, effective July 25, 2025, to manage (i) a portion of the System's assets as an international equity manager benchmarked to the MSCI ACWI ex-US index, and (ii) a portion of the System's assets as a global equity manager benchmarked to the MSCI ACWI index.

- Wellington Management Company LLP

RESOLVED, That the Executive Director and Chief Investment Officer is authorized to renew the agreement with Wellington Management Company, LLP to manage a portion of the System's fixed income portfolio in a Global Aggregate fixed income mandate benchmarked to the Bloomberg Global Aggregate Float Adjusted ex CNY Bond Index in U.S. Dollars hedged to the U.S. Dollar for a period of one year, effective June 20, 2025.

## 2. Resolution on Comvest Credit Partners Domestic Co-Invest Fund LP

Upon motion of E. Iberger, seconded by D. Keefe and unanimously

carried, the Committee voted to recommend the following resolution to the Board:

WHEREAS, the System previously made a \$300 million commitment to Comvest Credit Partners VII (“CCP VII”) in September 2023 pursuant to the investment authority granted by the Retirement Board to the Executive Director and Chief Investment Officer in the “Delegation of Investment Authority” section of the System’s Investment Policy Manual; and

WHEREAS, the System currently proposes to make a \$200 million commitment to Comvest Credit Partners Domestic Co-Invest Fund, L.P. (the “Co-Invest Fund”), which is expected to make certain co-investments alongside CCP VII and Comvest Credit Opportunities Fund I (“CCO I”); and

WHEREAS, the System’s proposed \$200 million commitment to the Co-Invest Fund, when added to the System’s existing \$300 million commitment to CCP VII, will cause the System’s aggregate commitment to CCP VII’s portfolio investments to exceed \$300 million, potentially exceeding the scope of investment authority granted by the Retirement Board to the Executive Director and Chief Investment Officer and thereby necessitating the approval of the Retirement Board; and

NOW, THEREFORE, BE IT RESOLVED, That, subject to the satisfactory completion of due diligence, the Executive Director and Chief Investment Officer, or designee, is authorized to make a \$200 million commitment to the Co-Invest Fund; and be it further

RESOLVED That the Executive Director and Chief Investment Officer, or designee, is authorized to execute such documents and to take such actions as may be necessary or required to implement the foregoing resolution.

## 3. Resolution on DigitalBridge Partners III LP

Upon motion of E. Iberger, seconded by D. Keefe and unanimously

carried, the Committee voted to recommend the following resolution to the Board:

RESOLVED, That, subject to the satisfactory completion of due diligence, the Executive Director and Chief Investment Officer is authorized to make a commitment of up to \$100 million to DigitalBridge Partners III, L.P., and up to \$50 million to the associated side car co-investment fund, and to execute such documents and take such actions as may be necessary or required to implement the foregoing.

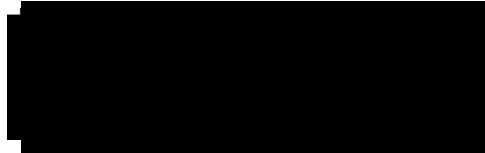


Informational reports

- The Committee reviewed the following informational reports: EDCIO Investment Discretion Report (Appendix H, pp. 51-53), Mail Vote Quarterly Board Report (Appendix I, p. 54) and REAC Quarterly Transactions Board Report (Appendix J, p. 55)

There being no further business and with unanimous consent, the meeting adjourned at 3:08 p.m.

Respectfully submitted,

A large black rectangular redaction box covering the signature of the person submitting the report.

---

Thomas K. Lee



# New York State Teachers' Retirement Board: Private equity & private debt strategic review

July 30, 2025

## NOTES

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All data is as of December 31, 2024, unless otherwise noted.

# Overview

I. 2026 Strategic Review – private equity and private debt.....Page 4

II. Private equity portfolio review.....Page 7

III. Private debt portfolio review.....Page 14





# I. 2026 Strategic Review – Private Equity and Private Debt

# 2026 objectives, portfolio summaries and recommendations

## Objectives:

- Ensure appropriate commitment pace and any strategic enhancements given NYSTRS' liquidity position and unfunded private equity and private debt portfolios

## Portfolio summaries: (as of 12/31/24)

- The private equity portfolio has strong ITD performance of 12.7% and is slightly above the 9% target
- The private debt portfolio has strong ITD performance of 10.0% and is currently building towards the 2% target

## 2026 recommendations:

- We recommend a commitment pacing of \$1.8B to \$2.2B for private equity
- We recommend a commitment pacing of \$800M to \$1.2B for private debt
- We recommend a new target allocation of 70% Direct Lending/Credit and 30% Other Private Debt Strategies from a previous target of 80%/20%, to further diversify the portfolio and allow it to capture potential opportunities

# NYSTRS' exposure allocation – detailed 2026 Strategic Review

PE Sectors	Actual Exposure	Long-Term Target	Actual vs. Target	Recommended Changes
Large/Mega Buyout	22.1%	15.0%	+7.1%	N/A
Small/Medium Buyout	47.9%	55.0%	-7.1%	N/A
Turnaround/Restructuring	6.6%	10.0%	-3.4%	N/A
<b>Total Buyout</b>	<b>76.6%</b>	<b>80.0%</b>	<b>-3.4%</b>	<b>N/A</b>
Growth/Venture Capital	10.1%	10.0%	+0.1%	N/A
Other (Co-inv / FOFs / 2nd)	13.3%	10.0%	+3.3%	N/A
<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>-</b>	<b>N/A</b>

PE Geographies	Actual Exposure	Long-Term Target	Actual vs. Target	Recommended Changes
North America	84.8%	80.0%	+4.8%	N/A
Rest of World	15.2%	20.0%	-4.8%	N/A
<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>-</b>	<b>N/A</b>

PD Sectors	Actual Exposure	Long-Term Target	Actual vs. Target	Recommended Changes
Direct Lending / Credit	63.8%	80.0%	-16.2%	70.0%
Other Private Debt Strategies	36.2%	20.0%	+16.2%	30.0%
<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>-</b>	<b>100.0%</b>

PD Geographies	Actual Exposure	Long-Term Target	Actual vs. Target	Recommended Changes
North America	96.5%	90.0%	+6.5%	N/A
Rest of World	3.5%	10.0%	-6.5%	N/A
<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>-</b>	<b>N/A</b>



## II. Private equity portfolio review





# Private equity portfolio review

## Executive summary

- Over the last twelve months, the portfolio invested \$1.6 billion and received distributions of \$1.7 billion, resulting in net cash inflows of \$48.7 million
- \$14.7 billion of net asset value ("NAV"), or 10.0% of NYSTRS' total portfolio market value, as of December 31, 2024. This is above NYSTRS' target allocation of 9.0%
- Since inception, the portfolio has generated a net IRR of 12.7% and a DPI of 1.2x with additional gains in the unrealized value
- NYSTRS' private equity portfolio is mature and well diversified

## NYSTRS - private equity portfolio

As of December 31, 2024, USD in millions

NYSTRS - Private Equity Portfolio			
	December 31, 2024	December 31, 2023	Yearly change
Number of Managers (ITD)	125	125	0
Number of Active Managers	54	55	-1
Number of Funds/SMAs (ITD)	357	348	9
Number of Active Funds/SMAs	170	167	3
Committed Capital <sup>1</sup>	\$35,700.8	\$34,187.1	\$1,513.7
Unfunded Commitment	5,485.3	5,366.5	118.8
Total Exposure	20,166.6	19,200.5	966.1
Contributed Capital	31,853.2	30,230.9	1,622.3
Distributed Capital	38,150.3	36,485.4	1,665.0
Market Value	14,681.3	13,834.0	847.3
<b>Total Value</b>	<b>\$52,831.6</b>	<b>\$50,319.4</b>	<b>\$2,512.2</b>
Gain/(Loss)	20,978.4	20,088.4	890.0
DPI <sup>2</sup>	1.20x	1.21x	-0.01x
TVM <sup>3</sup>	1.66x	1.66x	-0.01x
<b>Net IRR<sup>4</sup></b>	<b>12.7%</b>	<b>12.8%</b>	<b>-15 bps</b>

1. Committed Capital is presented net of any commitment releases or expirations and reflects foreign currency exchange rate fluctuations.

2. DPI, or Distributed to Paid-In Multiple, is a performance metric that measures distributions received relative to capital invested. DPI is calculated as Distributed Capital divided by Contributed Capital.

3. TVM, or Total Value Multiple, is a performance metric that measures total value created by the Portfolio relative to capital invested, without consideration for time. TVM is calculated as Total Value, which is comprised of Market Value plus Distributed Capital, divided by Contributed Capital.

4. IRR, or Internal Rate of Return, is a performance metric that is calculated based on the Portfolio's daily cash flows and market value as of quarter-end. IRR is net of fund manager's fees, expenses and carried interest.

Past performance is not indicative of future results and there can be no assurance that the investment will achieve comparable results or avoid substantial losses.

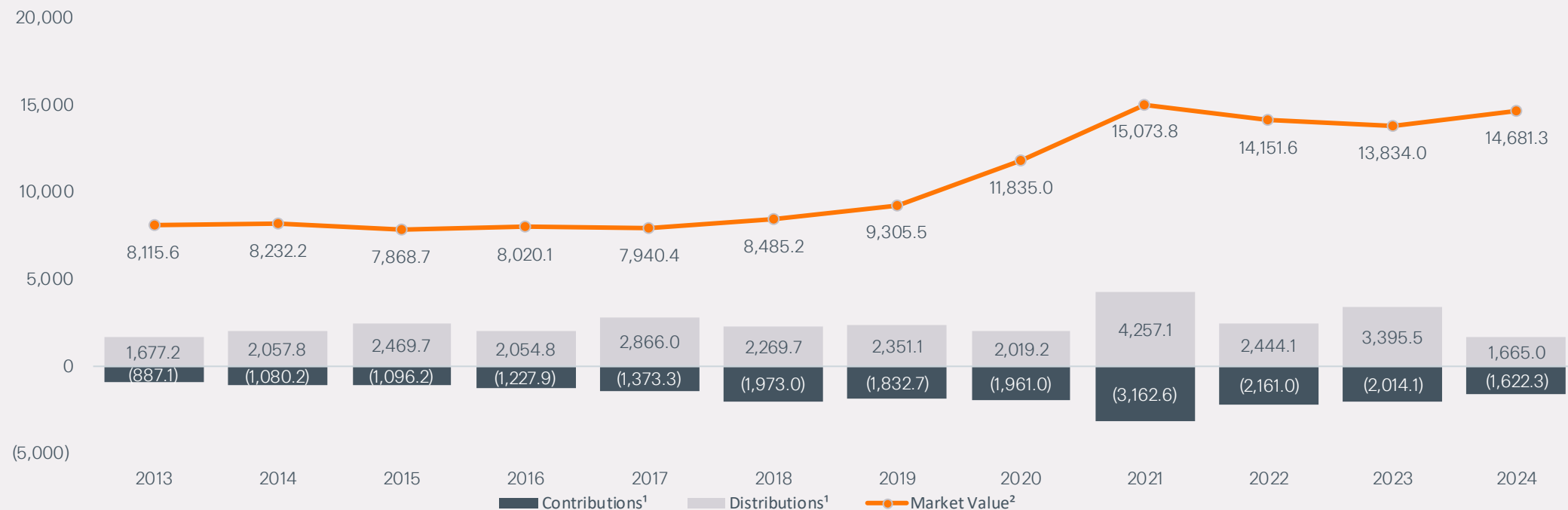
# Annual cash flow

Over the past 12 years, NYSTRS' PE portfolio has recorded a total of \$20.4 billion in contributions and \$29.5 billion in distributions, resulting in a total positive net cash flow of \$9.1 billion

Secondary proceeds from sales in 2019, 2021 and 2023 with a portion of 2019 sale coming in 2019 and 2020

## Annual contributions and distributions

As of December 31, 2024, USD in millions



1. Contributions and distribution data reflect cash flow activity within the given calendar year

2. Market Value data above reflects NYSTRS' Year-End Total Market Value for the calendar year

Past performance is not indicative of future results and there can be no assurance that the investment will achieve comparable results or avoid substantial losses.

# Private equity performance

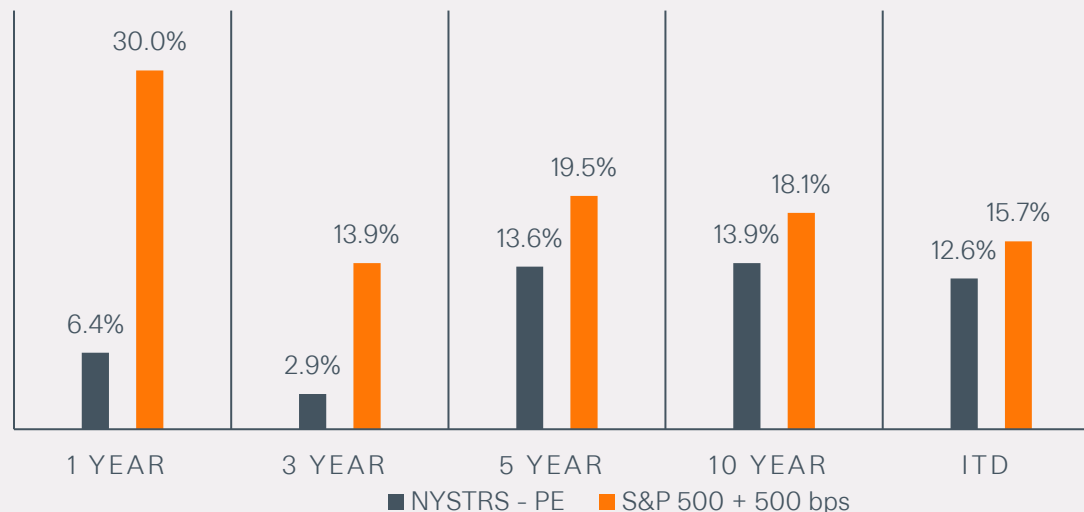
Over the last 12 months, the private equity portfolio produced a total net TWR of 6.4% that underperformed the policy benchmark (S&P 500 index +500 bps)

As of December 31, 2024, NYSTRS' PE portfolio underperformed the policy benchmark over all time periods since inception

Since inception, NYSTRS has underperformed the policy benchmark by 310 bps but outperformed the S&P 500 by 190 bps

## Benchmark comparison

As of December 31, 2024



Benchmark (%) Comparison						
	1 Year	3 Year	5 Year	10 Year	ITD	TVM
NYSTRS - PE	6.4%	2.9%	13.6%	13.9%	12.6%	1.7x
S&P 500 + 500 bps	30.0%	13.9%	19.5%	18.1%	15.7%	N/A

Data provided by NYSTRS; 1 Year, 3 Year, 5 Year, and 10 Year returns are TWRs, ITD return is IRR. NYSTRS' illiquidity spread was added to the benchmark result.

**Past performance is not indicative of future results and there can be no assurance that the investment will achieve comparable results or avoid substantial losses.** The referenced indices are shown for general market comparisons and are not meant to represent any particular fund. An investor cannot directly invest in a private market index. Moreover, indices do not reflect commissions or fees that may be charged to an investment product based on the index, which may materially affect the performance data presented. The public market index comparisons are being provided solely for informational purposes as an indication of returns that could be earned by investors by making similar investments in the index and should not be relied upon for any purpose.

# 2026 Strategic Review - Private Equity

## Strategy

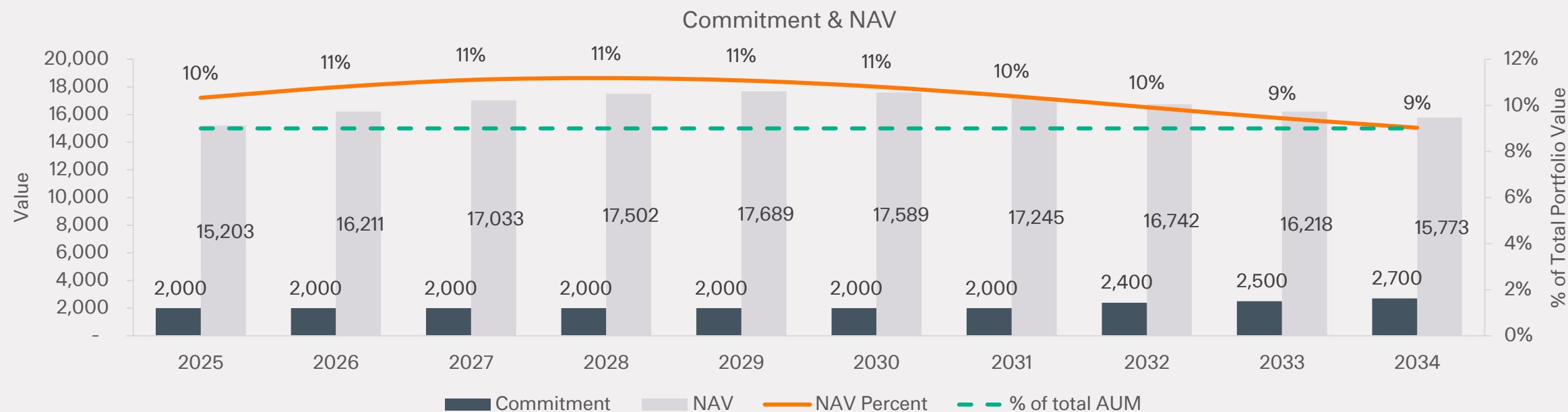
- Continue to emphasize buyouts; particularly small and mid-market sector
- Continue focus on sector-focused funds that have operational capabilities or enhanced deal flow
- Continue to emphasize commitments to North American managers
- Utilize customized SMAs for specific exposures (i.e. emerging manager program and co-investment SMAs)

	2020	2021	2022	2023	2024	2025	2026
<b>Market value as % of total portfolio</b>							
Plan	8% target 3-13% policy range	8% target 3-13% policy range	8% target 3-13% policy range	9% target 4-14% policy range	9% target 4-14% policy range	9% target 4-14% policy range	9% target 4-14% policy range
Actual	8.7%	9.9%	11.0%	9.5%	10.0%	9.7%	N/A <sup>1</sup>
<b>Commitments</b>							
Plan	\$2.0B - \$2.4B	\$2.0B - \$2.4B	\$2.0B - \$2.4B	\$1.2B - \$1.7B	\$1.6B - \$2.0B	\$1.8B - \$2.2B	\$1.8B - \$2.2B
Actual	\$2.4B	\$2.3B	\$1.6B	\$1.1B	\$1.5B	\$1.3B YTD	N/A

1. NAV data is as of 12/31/2024, we are not able to provide actual market value as % of portfolio data for 2026 at this time

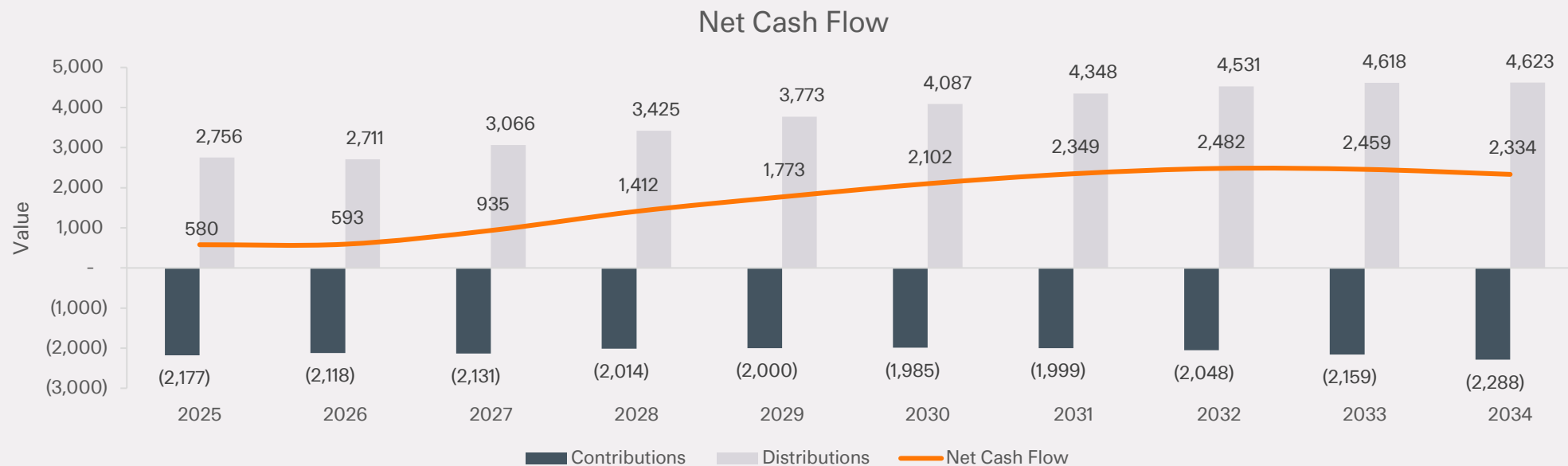
# Private equity pacing model: commitment & NAV

- At the end of 2025, the portfolio is expected to be at approximately 10.0%, which is slightly above the 9% target
- Steady commitments of approximately \$2.0B over the next three plus years should bring private equity closer to the target allocation



# Private equity pacing model: net cash flows

The private equity portfolio should remain cash flow positive or self funding through 2034 based on the current assumptions





# III. Private debt portfolio review



# Private debt portfolio review

## Executive summary

- Over the last 12 months, the portfolio invested \$820.1 million and received distributions of \$675.4 million, resulting in net cash outflows of \$144.7 million
- The private debt portfolio represents \$2.6 billion of Net Asset Value ("NAV"), or 1.8% of NYSTRS' total portfolio market value, as of December 31, 2024. This is below NYSTRS' target allocation of 2.0%
- Since inception, the portfolio has generated a net IRR of 10.0%
- Moderate yearly decline in internal rate of return as of December 31, 2024 due to significant capital deployment to new commitments during 2023 and 2024

## StepStone recommendations

- Continue building out the private debt portfolio, emphasizing core manager relationships and a majority allocation to direct lending
- Continue including strong investment options focused on capital solutions and asset-backed debt to augment the program's return
- We recommend a new target allocation of 70% Direct Lending/Credit and 30% Other Private Debt Strategies from a previous target of 80%/20%, to further diversify the portfolio and allow it to capture potential opportunities
- Employ a consistent investment pacing plan incorporating cash flow and liquidity requirements
- Continued focus on North America

## NYSTRS - private equity portfolio

As of December 31, 2024, USD in millions

NYSTRS - Private Equity Portfolio			
	December 31, 2024	December 31, 2023	Yearly Change
Number of Managers (ITD)	18	16	2
Number of Active Managers	12	10	2
Number of Funds/SMAs (ITD)	44	39	5
Number of Active Funds/SMAs	34	30	4
Committed Capital <sup>1</sup>	\$4,851.4	\$4,334.3	\$517.1
Unfunded Commitment	1,637.5	1,581.3	56.1
Total Exposure	4,256.0	3,865.2	390.8
Contributed Capital	4,237.7	3,417.6	820.1
Distributed Capital	2,474.5	1,799.1	675.4
Market Value	2,618.6	2,283.9	334.7
<b>Total Value</b>	<b>\$5,093.0</b>	<b>\$4,082.9</b>	<b>\$1,010.1</b>
Gain/(Loss)	855.3	665.3	190.0
DPI <sup>2</sup>	0.58x	0.53x	0.06x
TVM <sup>3</sup>	1.20x	1.19x	0.01x
<b>Net IRR<sup>4</sup></b>	<b>10.0%</b>	<b>10.5%</b>	<b>-49 bps</b>

1. Committed Capital is presented net of any commitment releases or expirations and reflects foreign currency exchange rate fluctuations.

2. DPI, or Distributed to Paid-In Multiple, is a performance metric that measures distributions received relative to capital invested. DPI is calculated as Distributed Capital divided by Contributed Capital.

3. TVM, or Total Value Multiple, is a performance metric that measures total value created by the Portfolio relative to capital invested, without consideration for time. TVM is calculated as Total Value, which is comprised of Market Value plus Distributed Capital, divided by Contributed Capital.

4. IRR, or Internal Rate of Return, is a performance metric that is calculated based on the Portfolio's daily cash flows and market value as of quarter-end. IRR is net of fund manager's fees, expenses and carried interest.

Past performance is not indicative of future results and there can be no assurance that the investment will achieve comparable results or avoid substantial losses.

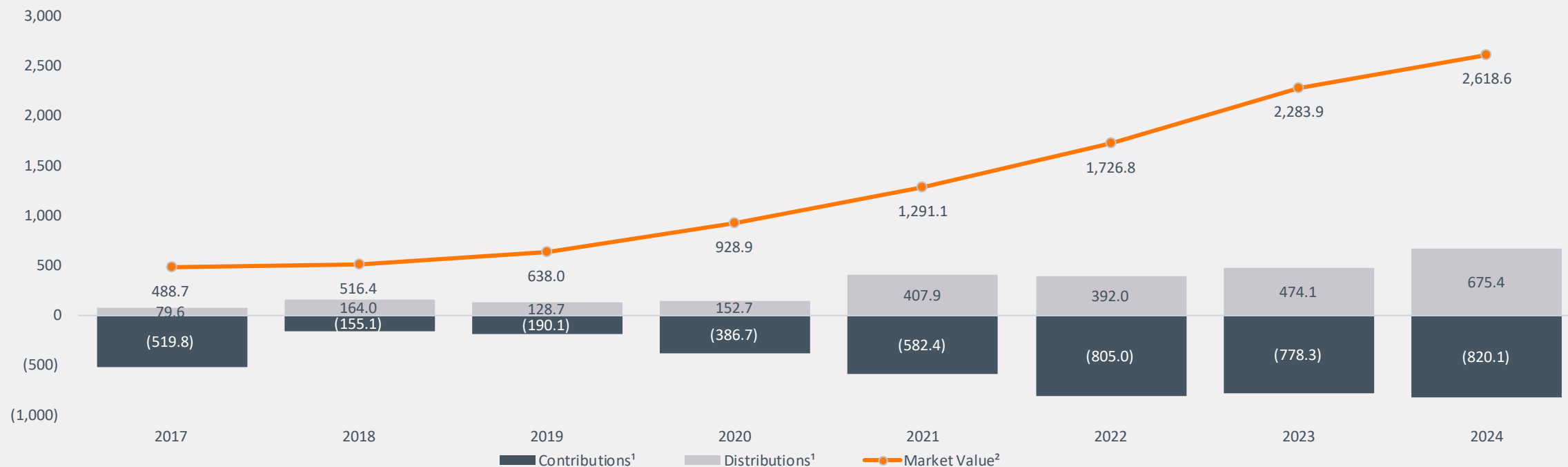


# Annual cash flow

Over the past six years, NYSTRS' private debt portfolio has recorded a total of \$3.6 billion in contributions and \$2.2 billion in distributions, resulting in a total net cash outflow of \$1.3 billion

## Annual contributions and distributions

As of December 31, 2024, USD in millions



1. Contributions and distribution data reflect cash flow activity within the given calendar year

2. Market Value data above reflects NYSTRS' Year-End Total Market Value for the calendar year

Past performance is not indicative of future results and there can be no assurance that the investment will achieve comparable results or avoid substantial losses.

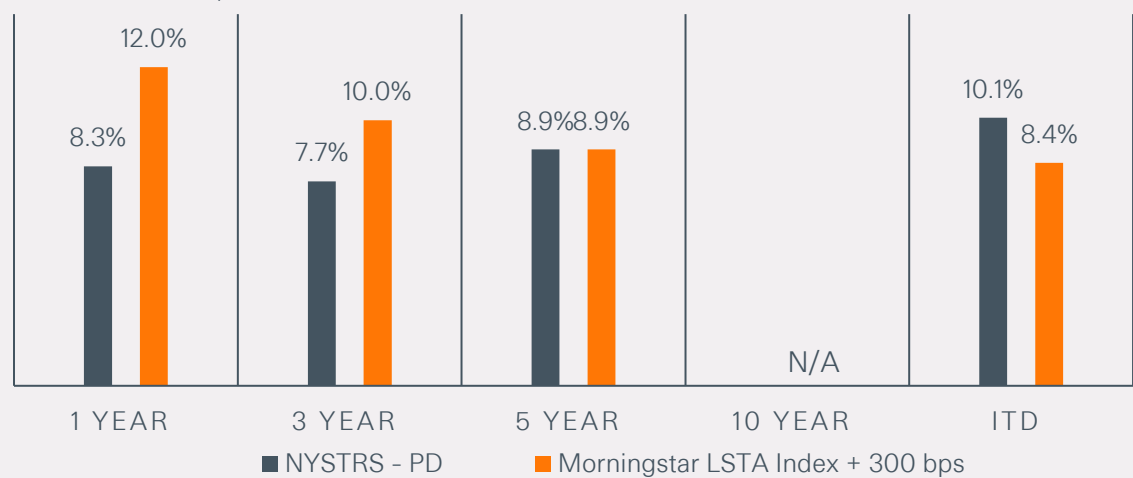
# Private debt performance

Over the last 12 months, the private debt portfolio produced a net TWR of 8.3%, underperforming the policy benchmark (Morningstar LSTA plus 300 bps)

NYSTRS' ITD net IRR of 10.1% outperformed the policy benchmark by 170 bps

## Benchmark comparison

As of December 31, 2024



	Benchmark (%) Comparison					
	1 Year	3 Year	5 Year	10 Year	ITD	TVM
NYSTRS - PD	8.3%	7.7%	8.9%	n/a	10.1%	1.2x
Morningstar LSTA Index + 300 bps	12.0%	10.0%	8.9%	n/a	8.4%	N/A

Data provided by NYSTRS; 1 Year, 3 Year, 5 Year, and 10 Year returns are TWRs, ITD return is IRR. NYSTRS' illiquidity spread was added to the benchmark result. **Past performance is not indicative of future results and there can be no assurance that the investment will achieve comparable results or avoid substantial losses.** The referenced indices are shown for general market comparisons and are not meant to represent any particular fund. An investor cannot directly invest in in private market index. Moreover, indices do not reflect commissions or fees that may be charged to an investment product based on the index, which may materially affect the performance data presented. The public market index comparisons are being provided solely for informational purposes as an indication of returns that could be earned by investors by making similar investments in the index and should not be relied upon for any purpose.

# 2026 Strategic Review - Private Debt

## Strategy

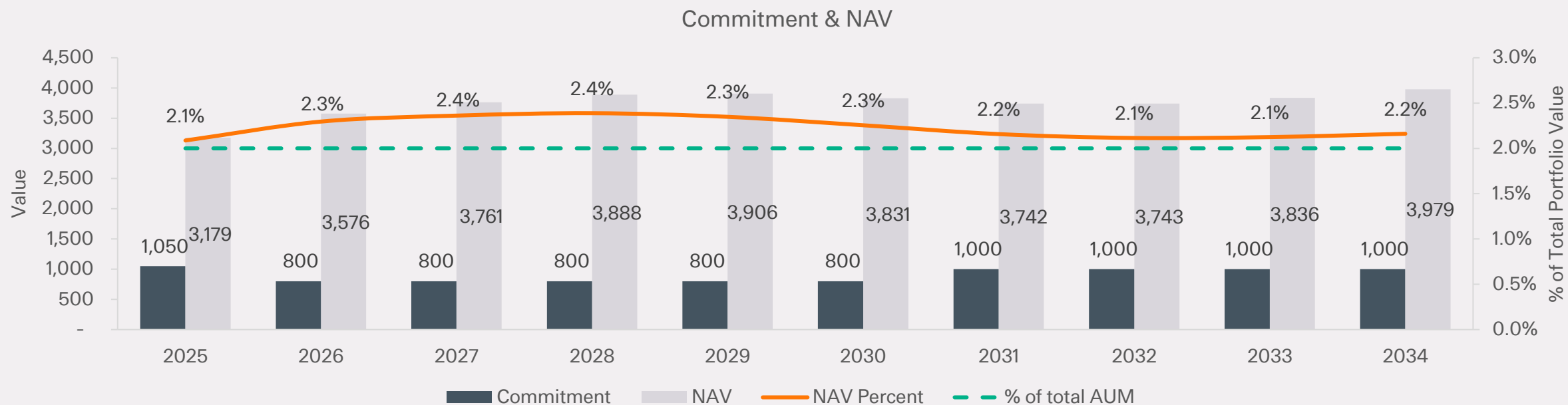
- Employ a consistent investment pacing plan to achieve the 2% target, emphasizing core manager relationships with a focus on Direct Lending
- Consider investments focused on capital solutions and asset-backed debt to augment returns and diversify the portfolio
- Continue to focus on North America

	2020	2021	2022	2023	2024	2025	2026
<b>Market value as % of total portfolio</b>							
Plan	1% target 0.5-5% policy range	1% target 0.5-5% policy range	1% target 0.5-5% policy range	2% target 0.5-5% policy range	2% target 0.5-5% policy range	2% target 0.5-5% policy range	2% target 0.5-5% policy range
Actual	0.7%	0.8%	1.3%	1.7%	1.8%	1.9%	N/A <sup>1</sup>
<b>Commitments</b>							
Plan	\$475M - \$575M	\$475M - \$575M	\$700M - \$800M	\$700M - \$1B	\$700M - \$1B	\$800M - \$1.2B	\$800M - \$1.2B
Actual	\$475M	\$600M	\$600M	\$900M	\$540M	\$800M YTD	N/A

1. NAV data is as of 12/31/2024, we are not able to provide actual market value as % of portfolio data for 2026 at this time

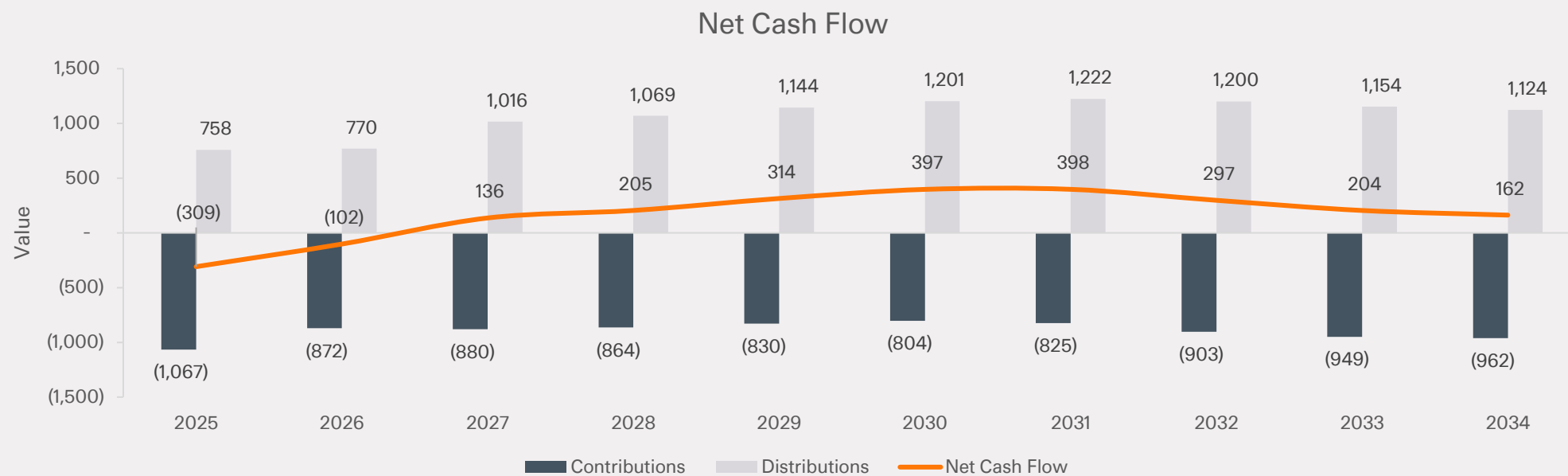
# Private debt pacing model: commitment & NAV

- At the end of 2025, the portfolio is expected to reach its 2.0% target allocation
- With the current 2% target, commitments are expected to remain relatively steady throughout the next five years



# Private debt pacing model: net cash flows

The private debt portfolio is cash flow negative through 2026 then turns positive from 2027 and beyond



## RISKS AND OTHER CONSIDERATIONS

**Risks Associated with Investments.** Identifying attractive investment opportunities and the right underlying fund managers is difficult and involves a high degree of uncertainty. There is no assurance that the investments will be profitable and there is a substantial risk that losses and expenses will exceed income and gains.

**Restrictions on Transfer and Withdrawal; Illiquidity of Interests; Interests Not Registered.** The investment is highly illiquid and subject to transfer restrictions and should only be acquired by an investor able to commit its funds for a significant period of time and to bear the risk inherent in such investment, with no certainty of return. Interests in the investment have not been and will not be registered under the laws of any jurisdiction. Investment has not been recommended by any securities commission or regulatory authority. Furthermore, the aforementioned authorities have not confirmed the accuracy or determined the adequacy of this document.

**Limited Diversification of Investments.** The investment opportunity does not have fixed guidelines for diversification and may make a limited number of investments.

**Reliance on Third Parties.** StepStone will require, and rely upon, the services of a variety of third parties, including but not limited to attorneys, accountants, brokers, custodians, consultants and other agents and failure by any of these third parties to perform their duties could have a material adverse effect on the investment.

**Reliance on Managers.** The investment will be highly dependent on the capabilities of the managers.

**Risk Associated with Portfolio Companies.** The environment in which the investors directly or indirectly invests will sometimes involve a high degree of business and financial risk. StepStone generally will not seek control over the management of the portfolio companies in which investments are made, and the success of each investment generally will depend on the ability and success of the management of the portfolio company.

**Uncertainty Due to Public Health Crisis.** A public health crisis, such as the recent outbreak of the COVID-19 global pandemic, can have unpredictable and adverse impacts on global, national and local economies, which can, in turn, negatively impact StepStone and its investment performance. Disruptions to commercial activity (such as the imposition of quarantines or travel restrictions) or, more generally, a failure to contain or effectively manage a public health crisis, have the ability to adversely impact the businesses of StepStone's investments. In addition, such disruptions can negatively impact the ability of StepStone's personnel to effectively identify, monitor, operate and dispose of investments. Finally, the outbreak of COVID-19 has contributed to, and could continue to contribute to, extreme volatility in financial markets. Such volatility could adversely affect StepStone's ability to raise funds, find financing or identify potential purchasers of its investments, all of which could have material and adverse impact on StepStone's performance. The impact of a public health crisis such as COVID-19 (or any future pandemic, epidemic or outbreak of a contagious disease) is difficult to predict and presents material uncertainty and risk with respect to StepStone's performance.

**Taxation.** An investment involves numerous tax risks. Please consult with your independent tax advisor.

**Conflicts of Interest.** Conflicts of interest may arise between StepStone and investors. Certain potential conflicts of interest are described below; however, they are by no means exhaustive. There can be no assurance that any particular conflict of interest will be resolved in favor of an investor.

**Allocation of Investment Opportunities.** StepStone currently makes investments, and in the future will make investments, for separate accounts having overlapping investment objectives. In making investments for separate accounts, these accounts may be in competition for investment opportunities.

**Existing Relationships.** StepStone and its principals have long-term relationships with many private equity managers. StepStone clients may seek to invest in the pooled investment vehicles and/or the portfolio companies managed by those managers.

**Carried Interest.** In those instances where StepStone and/or the underlying portfolio fund managers receive carried interest over and above their basic management fees, receipt of carried interest could create an incentive for StepStone and the portfolio fund managers to make investments that are riskier or more speculative than would otherwise be the case. StepStone does not receive any carried interest with respect to advice provided to, or investments made on behalf, of its advisory clients.

**Other Activities.** Employees of StepStone are not required to devote all of their time to the investment and may spend a substantial portion of their time on matters other than the investment.

**Material, Non-Public Information.** From time to time, StepStone may come into possession of material, non-public information that would limit their ability to buy and sell investments.

**ESG Integration.** While StepStone seeks to integrate certain ESG factors into its investment process and firm operations, there is no guarantee that StepStone's ESG strategy will be successfully implemented or that any investments or operations will have a positive ESG impact. Applying ESG factors to investment decisions involves qualitative and subjective decisions and there is no guarantee the criteria used by StepStone to formulate decisions regarding ESG, or StepStone's judgment regarding the same, will be reflected in the beliefs or values of any particular client or investor. There are significant differences in interpretation of what constitutes positive ESG impact and those interpretations are rapidly changing. The description of ESG integration herein is provided to illustrate StepStone's intended approach to investing and firm operations; however, there is no guarantee that the processes will be followed in every circumstance or at all.

**Performance Information.** No investment decisions may be made in reliance on this document. In considering performance information herein, readers should bear in mind that past performance is not necessarily indicative of future results and that actual results may vary. There can be no assurance that any StepStone fund will be able to successfully implement its investment strategy or avoid losses. Performance shown herein may include investments across different StepStone funds. The aggregate returns are not indicative of the returns an individual investor would receive from these investments. No individual investor received such aggregate returns as the investments were made across multiple funds and accounts over multiple years.



[stepstonegroup.com](https://stepstonegroup.com)



New York State  
Teachers'  
Retirement  
System

# Investment Committee Executive Summary

Investment Committee July 30, 2025

*Margaret Andriola, CIPM, CPA*  
*Chief Financial Officer*



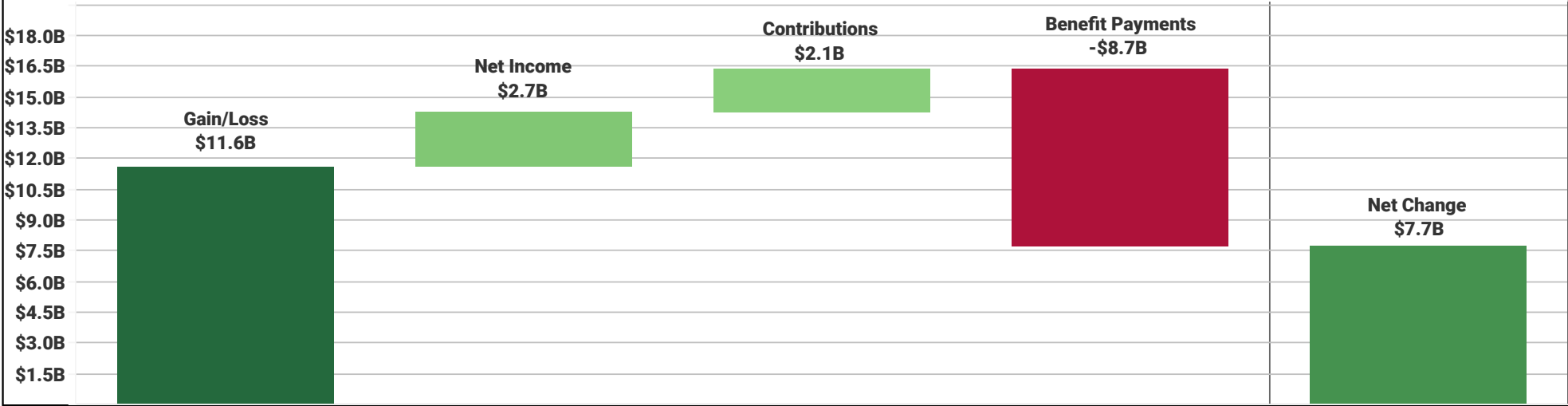
# Investment Committee Executive Summary

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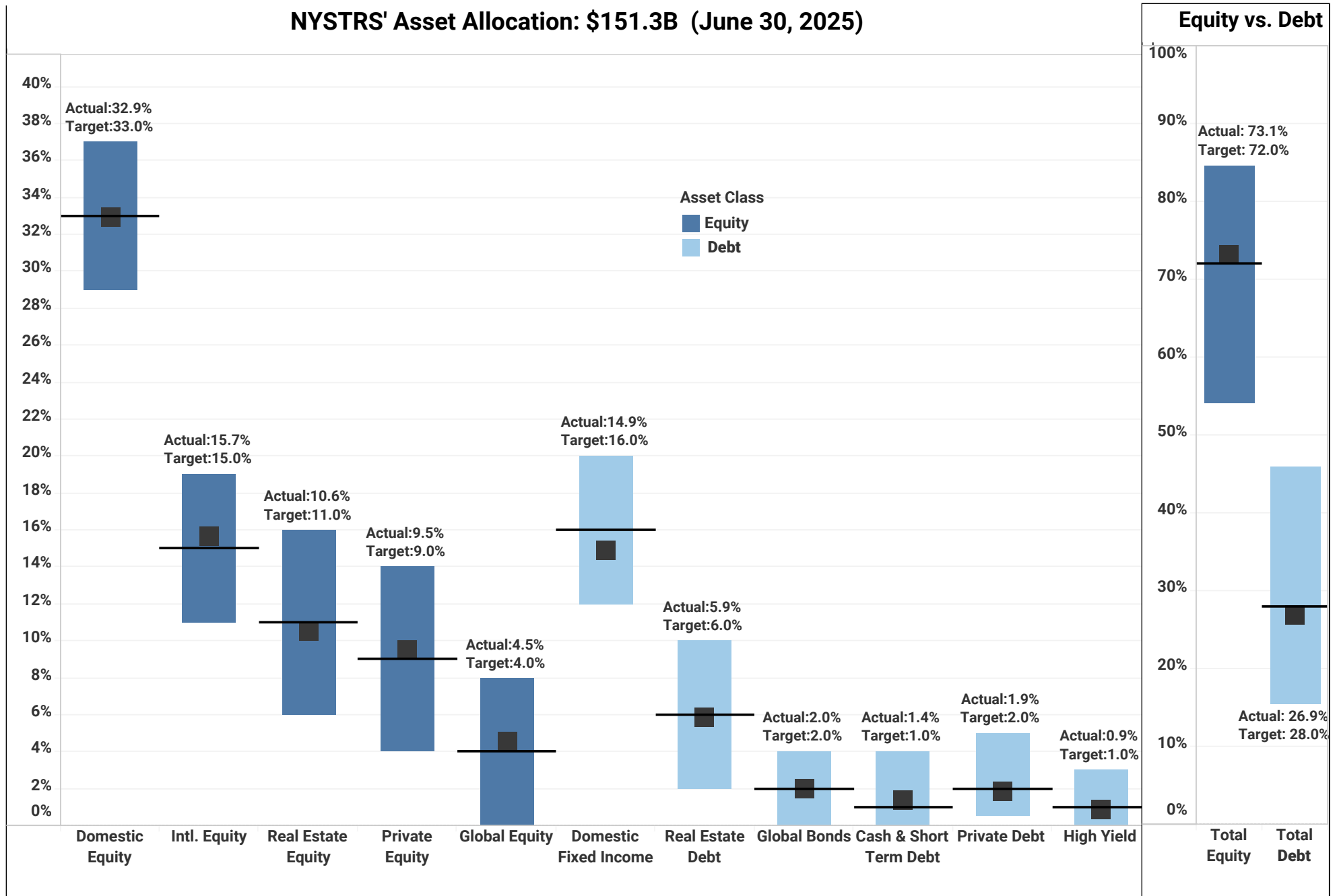
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## Components of Change in Total Investments FYTD: 7/1/2024 to 6/30/2025 \$143.6B to \$151.3B



# Investment Committee Executive Summary

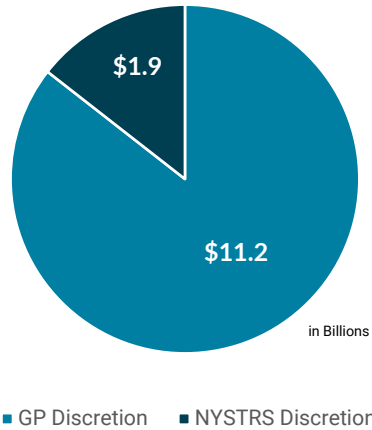
NYSTRS' Asset Allocation: \$151.3B (June 30, 2025)



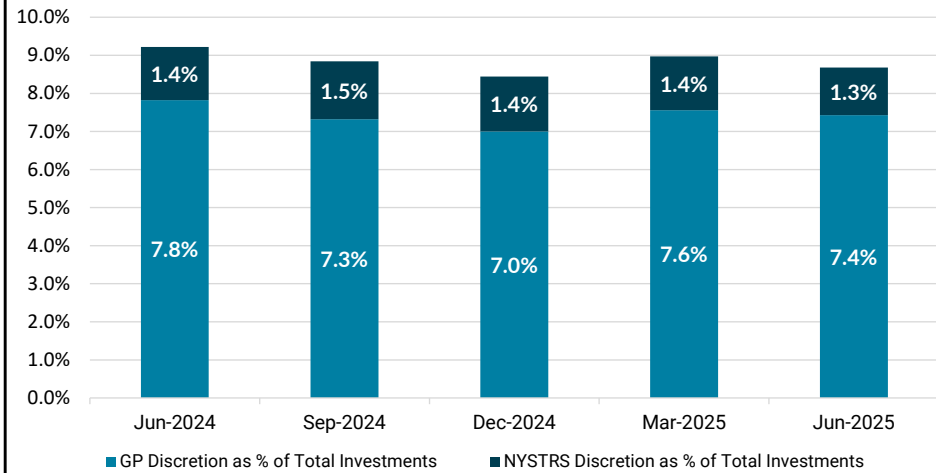
# Investment Committee Executive Summary

## Unfunded Commitments - Private Assets

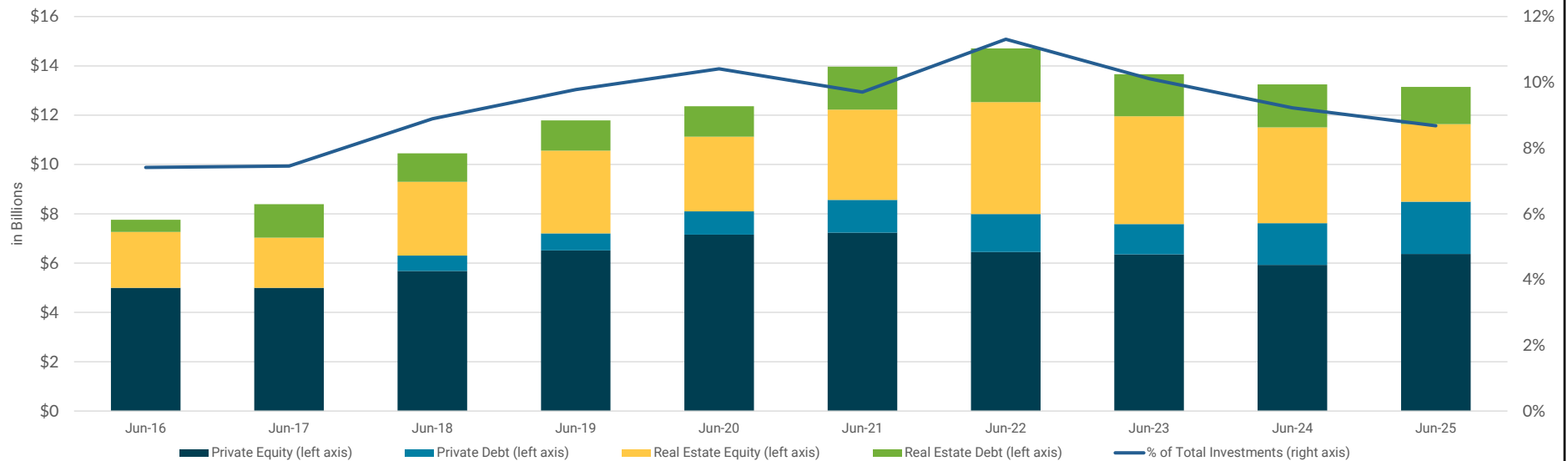
Total Unfunded Commitments at 6/30/2025 \$13.1B



Unfunded Commitments - GP vs. NYSTRS Discretion

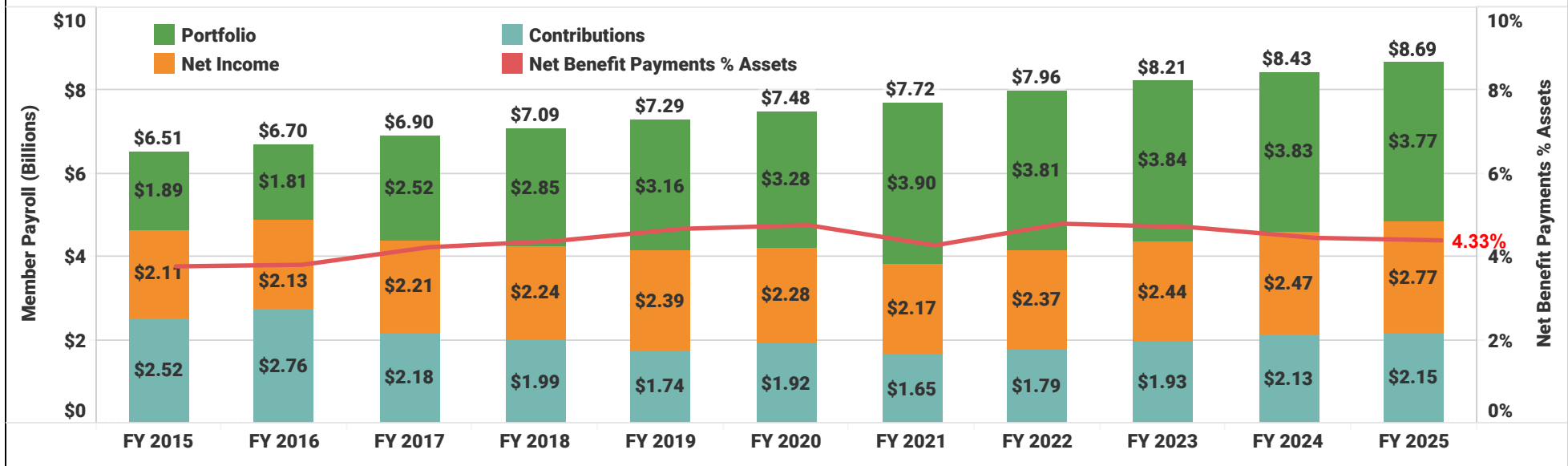


Unfunded Commitments - by Asset Class and % of Total Investments

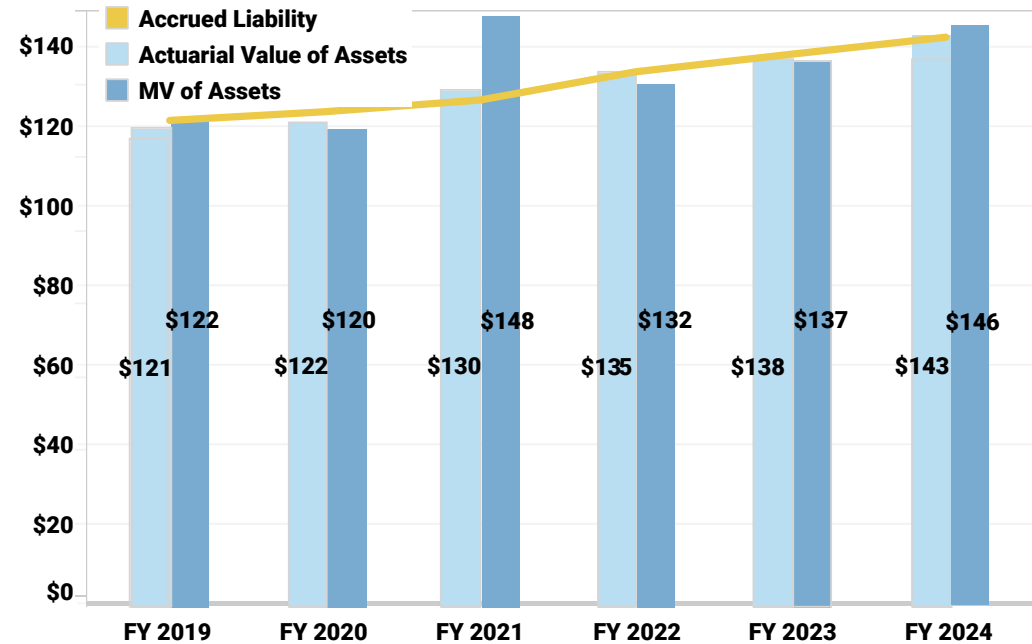


# Investment Committee Executive Summary

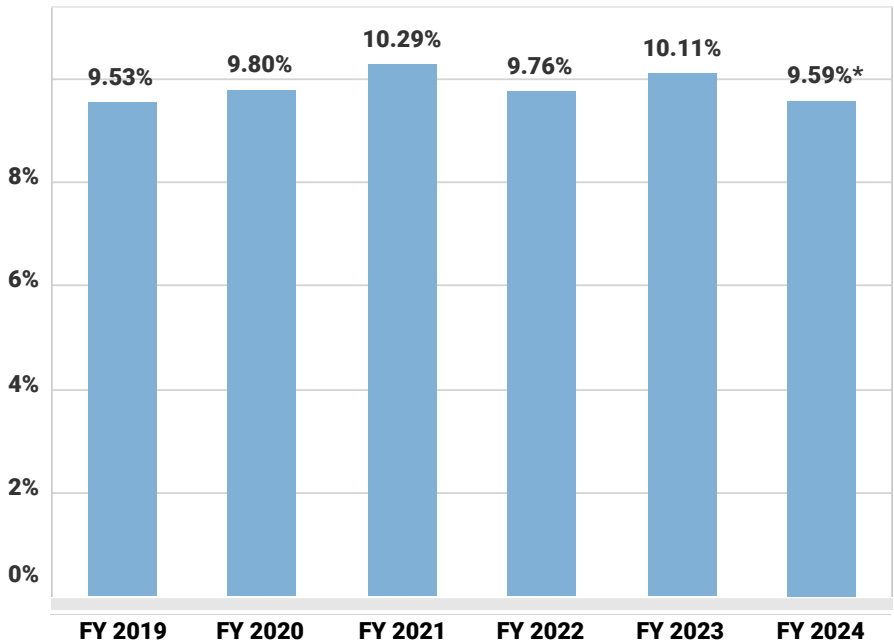
Member Payroll Funding Sources



Assets & Actuarial Accrued Liability (Billions)



Employer Contribution Rate



\* FY 2024 estimated rate of 9.59% is pending Board approval in July 2025.

# Investment Committee Executive Summary

## Public Market Performance as of June 30, 2025

Asset Class	Current QTR	
	Net Return	Excess Return
Domestic Equity	10.6%	0.1%
International Equity	12.4%	0.4%
Global Equity	10.5%	-1.1%
Private Equity	N/A	N/A
Real Estate Equity	1.3%	1.0%
Domestic Fixed Income	1.3%	0.1%
Global Bonds	2.0%	0.4%
High Yield Bonds	3.6%	0.1%
Private Debt	N/A	N/A
Real Estate Debt	2.1%	0.2%
Short Term	1.1%	0.1%
<b>Total Public Markets</b>	<b>8.0%</b>	<b>0.1%</b>

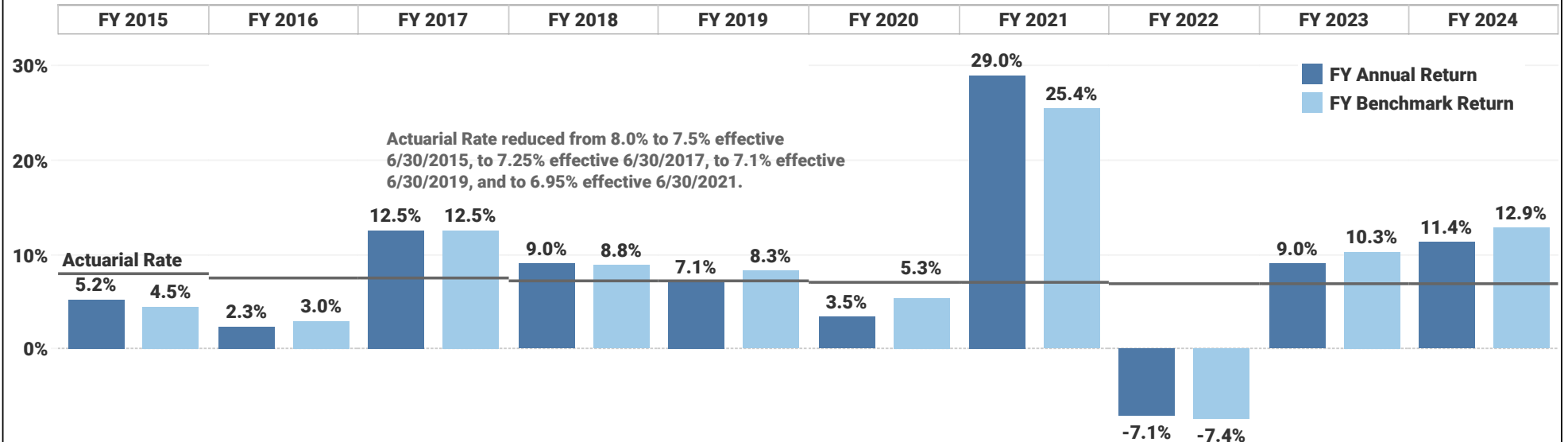
RE Equity is REITs only and RE Debt is CMBS only.

For additional performance information see Supplemental Materials.

## Total Fund Performance as of March 31, 2025

Asset Class	QTR		FYTD		10YR	
	Net Return	Excess Return	Net Return	Excess Return	Net Return	Excess Return
Domestic Equity	-4.6%	-0.1%	3.4%	-0.1%	12.0%	-0.1%
International Equity	5.5%	0.3%	5.3%	0.2%	5.5%	0.5%
Global Equity	0.1%	1.4%	4.3%	0.1%	N/A	N/A
Private Equity	1.3%	4.3%	4.9%	-2.7%	13.6%	-3.9%
Real Estate Equity	0.7%	-0.2%	-0.8%	-2.7%	5.6%	0.9%
Domestic Fixed Income	3.0%	0.2%	5.0%	0.2%	1.6%	0.1%
Global Bonds	1.7%	0.3%	4.5%	0.0%	2.1%	0.3%
High Yield Bonds	1.0%	-0.1%	5.7%	0.3%	N/A	N/A
Private Debt	1.9%	0.7%	6.0%	-1.1%	N/A	N/A
Real Estate Debt	2.1%	-1.1%	5.6%	-1.3%	3.7%	0.4%
Short Term	1.1%	0.1%	3.7%	0.3%	2.0%	0.4%
<b>Total Fund</b>	<b>0.2%</b>	<b>0.4%</b>	<b>4.0%</b>	<b>-0.6%</b>	<b>7.8%</b>	<b>-0.3%</b>

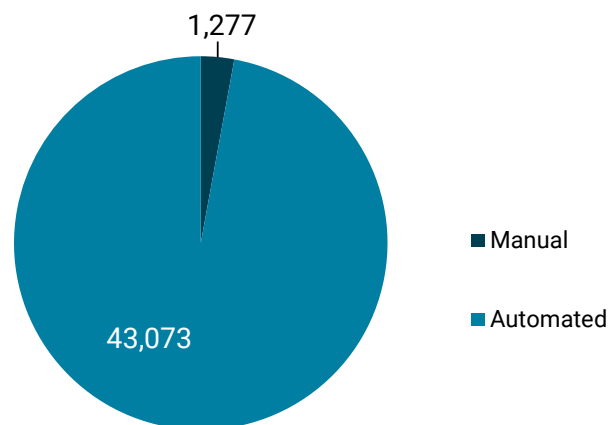
## Annual Performance



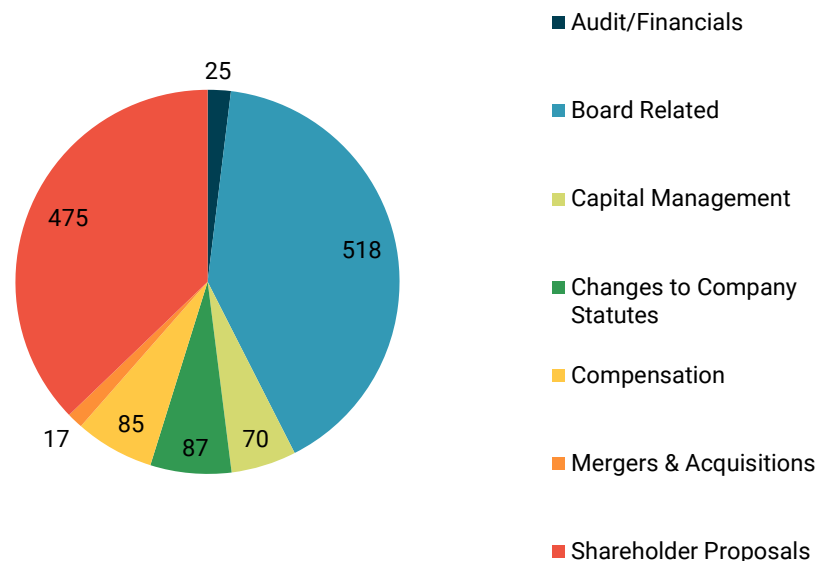
# Investment Committee Executive Summary

## Proxy Voting Summary: 4/1/2025 - 6/30/2025

Total Proxy Proposals - 44,350



Manual Proposals - 1,277



The System has implemented automated voting for those issues that can reliably be voted according to NYSTRS' Stock Proxy Voting policy without review in the U.S. and Canada and has implemented automated voting for a majority of issues in all other international markets. Those requiring review are voted manually utilizing research provided by our proxy advisory service to support the decision. In general, the System supports corporate management if management's position appears reasonable, is not detrimental to the long range economic prospects of the company, and does not tend to diminish shareholder rights. Should a complex issue arise which is not included in the Stock Proxy Voting policy, the Executive Director and Chief Investment Officer or his designee is authorized to exercise best judgment in voting such issue.

**Audit/Financials** - The System may oppose auditor selection if there are concerns about objectivity.

**Board Related** - The System supports independent and diverse directors.

**Capital Management** - The System generally supports proposals that provide the company with flexibility provided they do not limit shareholder rights.

**Changes to Company Statutes** - The System generally supports proposals relating to bylaw or organizational changes provided they do not limit shareholder rights.

**Compensation** - The System generally supports reasonable compensation plans which are tied to objective performance measures. Stock option plans should be used to motivate corporate personnel.

**Mergers & Acquisitions** - Proposals are reviewed on a case by case basis.

**Shareholder Proposals** (type & number) - Compensation: 19, Environment: 144, Governance: 100, Social: 167, and Other: 45.



New York State  
Teachers'  
Retirement  
System

# Public Equities Managing Director Update

Investment Committee July 30, 2025

*Binoop Unni, CFA, CAIA*  
*Public Equities*

# Public Equity MD Update

	Mkt Val	Asset Allocation %			Portfolio Net Returns %					Excess Returns %				
	\$B*	Actual	Target	Range	Qtr	FYTD	1Y	3Y Ann	5Y Ann	Qtr	FYTD	1Y	3Y Ann	5Y Ann
<b>Public Equities</b>	\$ 80.4				11.17	15.74	15.74	17.87	14.62	0.08	0.06	0.06	0.33	0.25
<b>Domestic Equities</b>	\$ 49.8	32.89	33	29-37	10.62	14.38	14.38	19.15	16.43	0.05	-0.10	-0.10	0.13	0.08
Domestic Passive	\$ 42.7				10.61	14.41	14.41	19.04	16.37	0.04	-0.07	-0.07	0.02	0.02
Domestic Active	\$ 7.1				10.71	14.17	14.17	19.95	16.96	0.15	-0.31	-0.31	0.93	0.61
<b>International Equities</b>	\$ 23.7	15.69	15	11-19	12.45	18.40	18.40	14.88	10.76	0.41	0.68	0.68	0.89	0.64
International Passive	\$ 16.4				12.21	18.16	18.16	14.26	10.40	0.18	0.44	0.44	0.27	0.28
International Active	\$ 7.4				12.95	18.89	18.89	16.28	11.57	0.92	1.16	1.16	2.29	1.44
<b>Global Equities</b>	\$ 6.8	4.52	4	0-8	10.48	15.23	15.23	16.93	13.95	-1.05	-0.94	-0.94	-0.42	0.30

\* Due to rounding, market values may not sum. Note: Data as of 6/30/2025.

## Market Commentary

- “Liberation Day” tariffs led to a turbulent start to the quarter, highlighted by a rare simultaneous decline in U.S. Treasuries, the dollar, and equities.
- Despite elevated volatility in April, global equities (MSCI ACWI) advanced 11.53% for the quarter and 16.17% for the fiscal year.
- International markets (MSCI ACWI ex-USA) rose 12.03% during the quarter, outperforming the 10.57% gain in U.S. equities (S&P 1500).
- U.S. small caps and Technology stocks entered bear market territory but recovered after a 90-day pause in new tariffs.

## Portfolio Performance & Activity

- The Public Equities portfolio returned 11.17% for the quarter and 15.74% for the fiscal year, ending the quarter at \$80.4B.
- \$909M was raised from International Equities during the quarter.
- Domestic Equities are a bit below target, while International and Global Equities are slightly above target.
- Domestic and International Equities outperformed their respective benchmarks, while Global strategies underperformed on a relative basis.
- Staff considers the current leadership transition at William Blair to be orderly and well-managed.
- Staff is closely monitoring the leadership changes within Goldman Sachs’ India strategy.



# Fixed Income MD Update

	Mkt Val	Asset Allocation %			Portfolio Net Returns %					Excess Returns %				
	\$B	Actual	Target	Range	Qtr	FYTD	1Y	3Y Ann	5Y Ann	Qtr	FYTD	1Y	3Y Ann	5Y Ann
<b>Internally Managed</b>	\$25.2	16.6	17	12-24										
Domestic Fixed Income	\$22.5	14.9	16	12-20	1.32	6.36	6.36	3.09	0.07	0.10	0.30	0.30	0.48	0.78
Short-Term Bond	\$2.1	1.4	1	0-4	1.08	4.80	4.80	4.75	2.91	0.08	0.39	0.39	0.41	0.30
Emerging Market Debt	\$0.5	0.3			2.39					0.52				
<b>Externally Managed</b>	\$3.9	2.5	3	0-7										
Global Aggregate Bonds	\$2.2	1.5	2	0-4	1.85	6.40	6.40	3.44	0.11	0.27	0.29	0.29	0.21	0.37
Global Carbon Transition	\$0.3	0.2			2.00	7.43	7.43			0.02	0.13	0.13		
High Yield	\$1.3	0.9	1	0-3	3.58	9.48	9.48	9.45	5.57	0.11	0.40	0.40	0.21	0.20

## Qtr. Market Commentary:

- **US:** Volatile April but returns positive as credit rallied. Overall Treasury returns flat, but long-end underperformed (steeper curve)
- **Global:** Euro markets outperformed US and Asia. Hedging detracted 3% with weak US dollar
- **Credit:** Global investment grade and high yield spreads spiked on tariff headlines, but neared record lows by quarter end
- **EM:** Little spillover from US tariff policies; benefitted from declining geopolitical risks

## Positioning and Performance:

- **Domestic FI:** \$376 million net outflows in qtr.
  - FY outperformance from yield, duration and rolldown positioning; security/sector neutral
  - Kept tracking error low due to rapid policy shifts
  - Futures trading helping to navigate uncertainty
- **EM:** At \$500 million target; Oct-Jun returns 0.8%
- **Short-Term:** Benefitting from Fed rate cut pause
- **External:** Good FY in tough macro and tight credit environment; high yield led by lower rated (CCC)

## Outlook and Team Updates:

- **Policy:** High tariffs short and long-term effects; US fiscal outlook worse and unsustainable
- **Macro:** Minor tariff inflation so far with more in coming months; US growth  $\approx$  1.6% in 2025/2026; Sustained weaker dollar would have implications for all asset classes
- **Rates:** Long-term bonds (over 10 year) volatile in US and other developed markets
- **Credit:** Corp and EM credit fundamentals strong, but very low spreads are priced to perfection
- 1 new Investment Officer; GWI intern



New York State  
Teachers'  
Retirement  
System

# Commercial Real Estate (CRE) Equity and Debt Investments Managing Director Update

Investment Committee - July 30, 2025

*David C. Gillan, CPA*  
*Managing Director of Real Estate*

CRE <u>Equity</u> Portfolio	<u>6/30/25 Value</u> \$15,971	<u>Target</u> 11%	<u>Range</u> 6%-16%	<u>Actual</u> 10.6%	<u>w/Commitments</u> 12.4%	
Performance for Periods Ended <u>March 31, 2025</u>						
Strategy (Inception Date)	Net Asset Value	Current Quarter	1 Year	5 Year	10 Year	Since Inception
Direct Properties (2/90)	\$6,383	0.3%	-6.1%	2.1%	5.1%	8.6%
Core Funds (7/85)	\$1,406	-0.5%	-3.4%	-2.2%	1.2%	5.7%
Value Added (12/89)	\$1,820	0.1%	-2.8%	9.4%	12.6%	7.4%
Opportunistic (3/99)	\$3,596	1.6%	1.3%	8.2%	7.5%	8.5%
U.S. RE Securities (7/95)	\$2,115	1.0%	10.4%	11.5%	6.2%	10.9%
Global RE Securities (9/17)	\$767	1.7%	4.8%	7.1%	-	2.8%
Timber (12/98)	\$239	-0.1%	0.0%	10.2%	6.8%	5.4%
<b>Total CRE Equity Portfolio</b>	<b>\$16,326</b>	<b>0.7%</b>	<b>-1.3%</b>	<b>4.7%</b>	<b>5.6%</b>	<b>7.8%</b>
NCREIF-ODCE (Spliced)	-	0.9%	1.2%	2.0%	4.7%	6.0%

### Portfolio Activity:

- Although we continue to review a great volume of opportunities, current market conditions continue to make it difficult to place equity capital where staff are comfortable from a risk/return standpoint.
- With that said, over the last year staff has been able to unearth opportunities to make commitments to grocery anchored retail as well as an industrial and multifamily asset.
- The team will continue to focus on high quality assets where income is the primary driver of return in locations with resilient employment bases.
- During the quarter, the System closed on a \$100M commitment to a global value-add digital infrastructure fund and \$50M commitment to an associated co-investment sidecar.

### Market Commentary:

- Green Street's CPPI (unlevered US commercial property values) reflected a 3.4% increase over the prior twelve months. The CPPI is now 17.6% below the 2022 peak. Office is still off 37%, driven by West Coast markets.
- Post Covid, investors who had traditionally invested in office assets, that required large equity checks, rotated into acquiring residential and warehouse assets.
- Although Residential and Warehouse cap rates were already low (low 4% cap rates), this rotation kept cap rates relatively subdued (high 4 to 5% cap rates) as borrowing rates moved substantially, creating negative leverage on going-in yields for these property types.
- In addition to the traditional property types, investors are now directing a considerable amount of capital towards data centers due to anticipated growth in demand for the foreseeable future (from cloud computing, AI and the continued roll out of 5G).

### Portfolio Performance & Positioning:

- Over the last 12 months, the CRE Equity portfolio produced a total net return of -1.3%, which underperformed the NCREIF ODCE policy benchmark.
- Drivers of the lower nominal performance have primarily been the continued valuation declines in West Coast office properties, declines for select multi-family properties in markets where a great deal of supply has delivered putting pressure on rents for existing properties, and the decline in the public share price of our Lineage investment, where cold storage demand has continued to suffer.
- Drivers of the positive relative performance to the benchmark include a recovery in value for our NYC office property due to strong leasing and the performance of our public security portfolios driven by secular trends in residential, retail and technology.

<b>CRE Debt Portfolio</b>	<b><u>6/30/25 Value</u></b> <b>\$8,869</b>	<b><u>Target</u></b> <b>6%</b>	<b><u>Range</u></b> <b>2%-10%</b>	<b><u>Actual</u></b> <b>5.9%</b>	<b><u>w/Commitments</u></b> <b>6.8%</b>	
<b>Performance for Periods Ended March 31, 2025</b>						
<b>Strategy (Inception Date)</b>	<b>Net Asset Value</b>	<b>Current Quarter</b>	<b>1 Year</b>	<b>5 Years</b>	<b>10 Years</b>	<b>Since Inception</b>
First Mortgages (7/85)	\$2,353	2.3%	7.5%	3.4%	3.6%	7.7%
Commercial MBS (4/01)	\$3,699	2.5%	8.6%	4.2%	3.0%	4.6%
Core Plus Strategies (8/04)	\$2,114	1.6%	5.6%	3.5%	4.6%	3.8%
Opportunistic Debt (9/01)	\$669	1.1%	1.9%	4.4%	6.4%	1.4%
<b>Total CRE Debt Portfolio</b>	<b>\$8,835</b>	<b>2.1%</b>	<b>7.0%</b>	<b>3.6%</b>	<b>3.7%</b>	<b>7.6%</b>
GL Custom Index (Spliced)	-	3.2%	8.1%	2.8%	3.3%	7.7%

### Portfolio Activity:

- Staff is focused on the most attractive public and private debt opportunities based on yield, credit, and duration.
- Real estate debt investments continue to provide strong risk adjusted returns.
  - Five-to-seven-year first mortgages on stabilized assets provide yields in the 5.25%-5.50% range.
  - Investment grade CMBS securities provide yields in the 5.25%-7.75% range.
  - Senior mezzanine and bridge loans provide net yields in excess of 7.00%.
- During the second quarter, the System closed on two first mortgages (\$55.0 million and \$56.4 million) on stabilized multifamily assets in Tempe, Arizona.

### Market Commentary:

- In June, the Federal Reserve kept the target FED funds rate unchanged at 4.25%-4.50%. However, the FED's updated projections revised down the 2025 GDP growth forecast to 1.4% and marking up the core inflation forecast to 3.1%. These changes reflect the possible impact of proposed tariffs which may put pressure on the FED to ease rates in the future.
- The 10-year U.S. Treasury yield continues to be volatile in 2025 with the peak at 4.80% in January and the low at 3.99% at the end of March.
- There are \$2.4 trillion in commercial mortgages maturing within the next three years. Staff will continue to sift through opportunities where the System can provide reasonable loan proceeds on high-quality assets with strong borrowers.

### Portfolio Performance & Positioning:

- Over the last 12 months, the CRE Debt Portfolio produced a total net return of 7.0% which underperformed the benchmark due primarily to the shorter duration of the System's portfolio relative to the Giliberto Levy benchmark.
- CMBS drove positive performance vs the benchmark. Our CMBS portfolio consists of investment grade and single asset/single borrower positions which were able to benefit from individual security and credit selection.
- The existing first mortgage portfolio contains legacy office loans which continue to face value declines, while at the same time the portfolio is increasing duration from new originations focused on multi-family and industrial loans.
- We continue to work through legacy office and other troubled loans in the debt separate accounts where property business plans underperformed, putting pressure on property cash flow and debt service coverage.

# Commercial Real Estate (CRE) Investments – MD Update

Equity Real Estate Performance for Periods Ended <u>March 31, 2025</u>						
Strategy (Inception Date)	Net Asset Value	Current Quarter	1 Year	5 Year	10 Year	Since Inception
Direct Properties (2/90)	\$6,383	0.3%	-6.1%	2.1%	5.1%	8.6%
Core Funds (7/85)	\$1,406	-0.5%	-3.4%	-2.2%	1.2%	5.7%
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U.S. RE Securities (7/95)	\$2,115	1.0%	10.4%	11.5%	6.2%	10.9%
Global RE Securities (9/17)	\$767	1.7%	4.8%	7.1%	-	2.8%
Timber (12/98)	\$239	-0.1%	0.0%	10.2%	6.8%	5.4%
<b>Total CRE Equity Portfolio</b>	<b>\$16,326</b>	<b>0.7%</b>	<b>-1.3%</b>	<b>4.7%</b>	<b>5.6%</b>	<b>7.8%</b>
<b>Blended Benchmark*</b>	<b>-</b>	<b>1.1%</b>	<b>3.3%</b>	<b>2.7%</b>	<b>4.3%</b>	<b>5.9%</b>

Debt Real Estate Performance for Periods Ended <u>March 31, 2025</u>						
Strategy (Inception Date)	Net Asset Value	Current Quarter	1 Year	5 Years	10 Years	Since Inception
First Mortgages (7/85)	\$2,353	2.3%	7.5%	3.4%	3.6%	7.7%
Commercial MBS (4/01)	\$3,699	2.5%	8.6%	4.2%	3.0%	4.6%
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<b>Blended Benchmark*</b>	<b>-</b>	<b>2.9%</b>	<b>7.8%</b>	<b>2.7%</b>	<b>3.2%</b>	<b>7.7%</b>

\* The Blended Benchmarks used here represent the market-value weighted average of the underlying benchmarks for all of the public/private strategies. The System's Real Estate Policy benchmark is the NCREIF-ODCE for the Real Estate Equity Portfolio, and the Gilberto-Levy Custom Index for the Real Estate Debt Portfolio.



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# Private Equity & Private Debt Managing Director Update

Investment Committee July 30, 2025

*Gerald J. Yahoudy II, CAIA, FDP*  
*Private Equity & Private Debt*

# Private Equity & Private Debt MD Update

	Mkt Val	Asset Allocation %			Net Return % (as of 3/31/25)						Benchmark	Excess Return % vs. Benchmark					
	\$B	Actual	Target	Range	1Y	3Y	5Y	10Y	20Y	30Y		1Y	3Y	5Y	10Y	20Y	30Y
Private Equity	\$14.30	9.5	9.0	4-14	6.2	3.6	15.7	13.6	13.6	13.4	S&P 500 + 5%	-7.1	-10.5	-7.9	-3.9	-1.6	-2.0
Private Debt	\$ 2.80	1.9	2.0	0.5-5	8.0	7.7	12.9	-	-	-	Morningstar LSTA + 3%	-1.9	-2.5	0.9	-	-	-

Note: Market Values and Asset Allocation %'s are estimated as of 6/30/25 based on latest valuations rolled forward for cash flows through 6/30/25.

## Market Commentary:

- Market activity increased year over year, with PE exits/distributions accelerating over the last 6 months.
- Private credit continues to grow as an asset class and remains a go to source for buyouts and M&A.

## Portfolio Activity & Asset Allocation:

- Quarterly valuations for both private equity and private debt increased 1.3% and 1.9% respectively from 12/31/24.
- For the quarter ended 6/30, one PE fund and two PD funds were approved by the IIC/Board, all with existing GP relationships.
- Cash flows for the fiscal year ended 6/30/25 were positive for PE and negative for PD.

## Portfolio Performance & Positioning:

- Net returns positive overall. On relative basis vs. the benchmark, PD has outperformed over the long run while PE has underperformed. PE and PD continue to outperform the public market portion of the benchmark over the long run.
- Continued implementation of additional strategies beyond direct lending such as opportunistic, secondaries, and structured equity for diversification purposes.

## Other Updates:

- Intro to Private Debt (see attached slides)



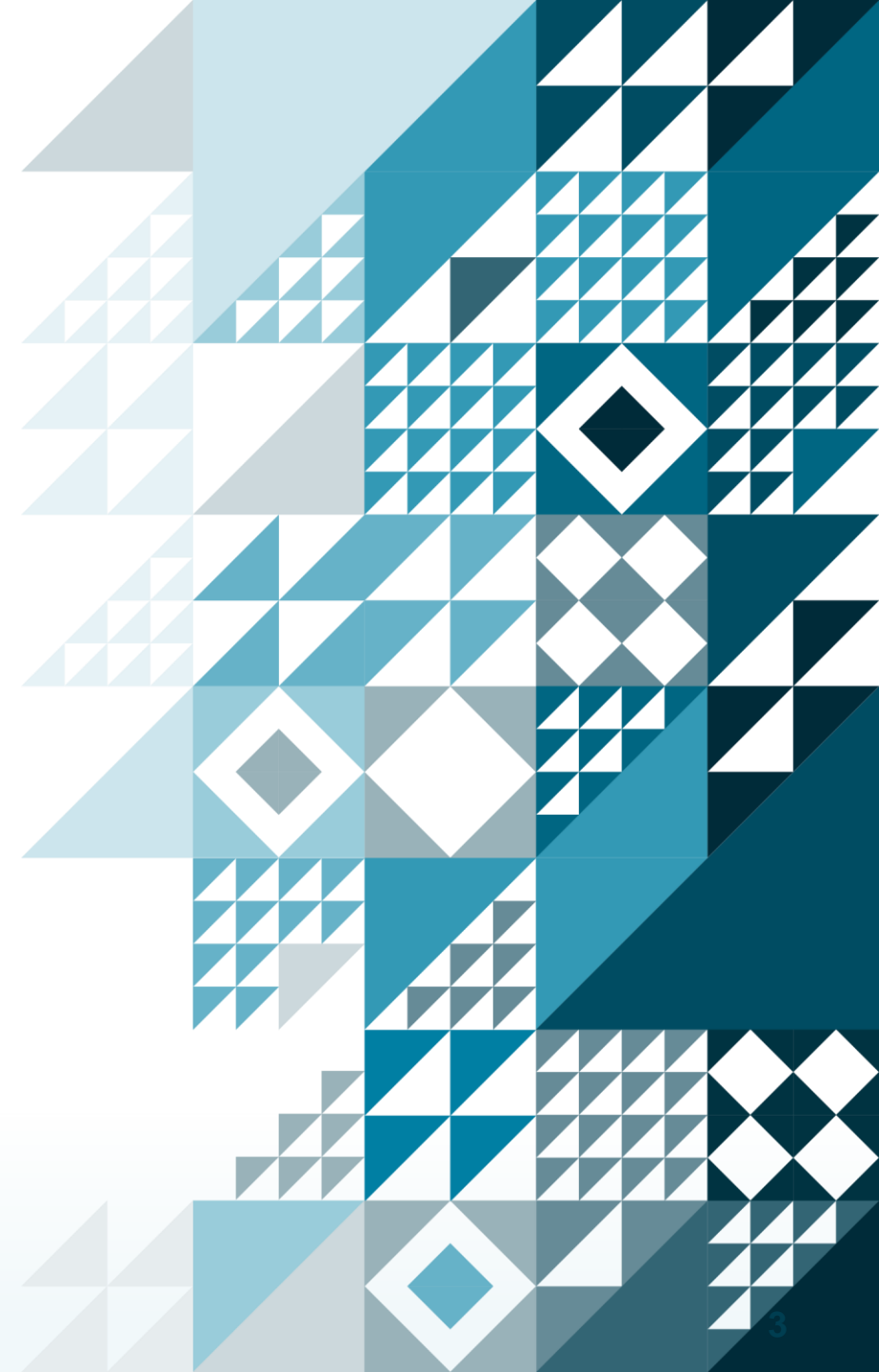
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Retirement  
System

# An Introduction to Private Debt

*Endurance (Endy) Aku, CAIA, FDP*

*Matthew Hernandez*

*Private Equity*





# Agenda

- Private Debt
- Public vs Private Debt
- Strategies across the Capital Stack
- Strategy focus and target allocation
- Growth of the Private Debt Market
- Themes in Private Debt
- Closing remarks

# Private Debt

- **Private Debt is capital provided by non-bank lenders to companies through directly negotiated loans, offering flexible financing outside of traditional banking channels.**

## Corporate

Loans to businesses, based on EBITDA or asset coverage

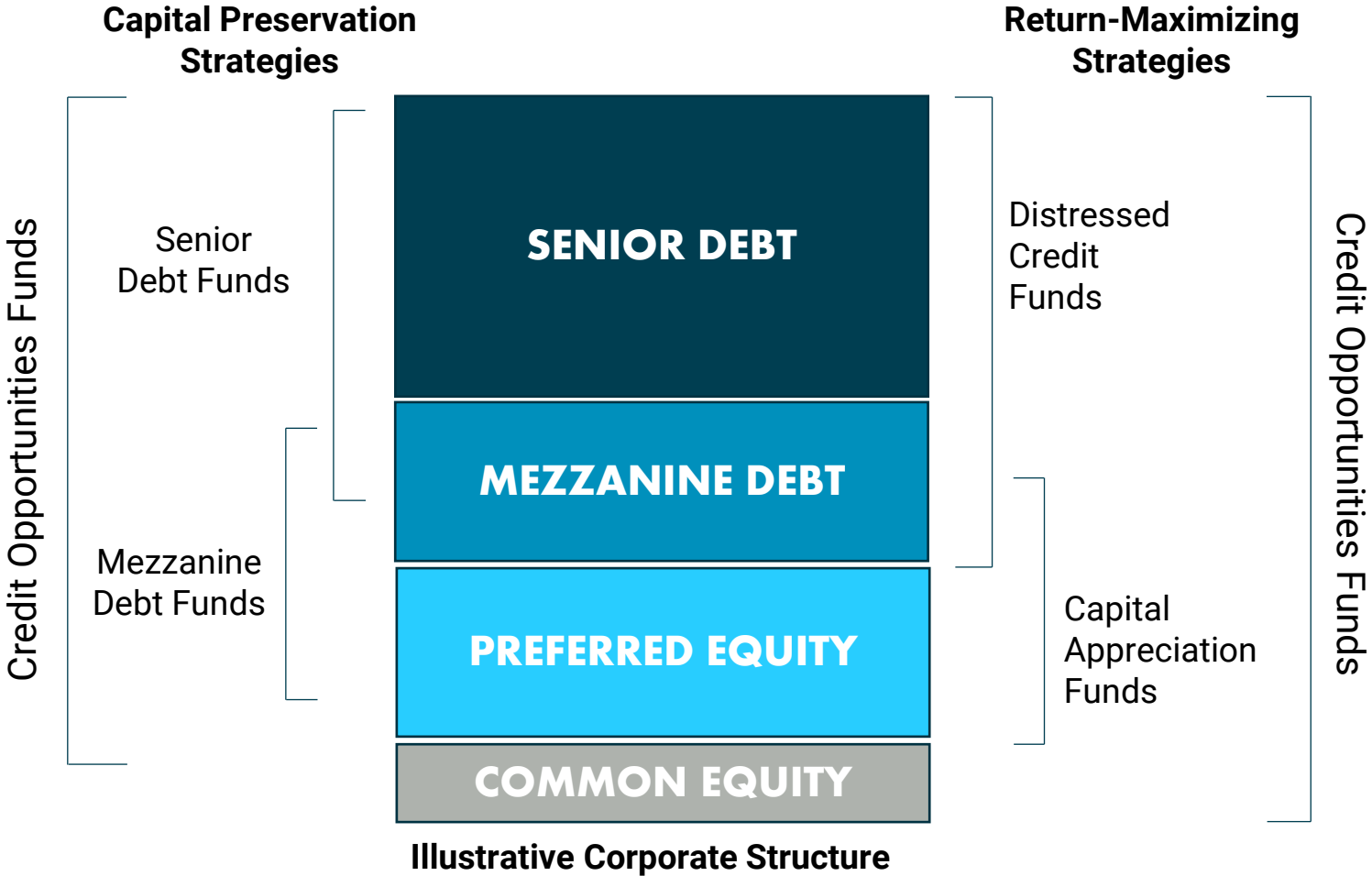
## Asset-Backed

Loans backed by assets/cash flows  
(Underwritten on both credit and LTV)

# Public vs Private Debt

	Public Debt	Private Debt
Liquidity	Traded - typically more liquid relative to private debt	Less liquid than public debt – illiquidity premium to compensate investors for long lockups
Duration	Typically tied to Fixed rates – more duration risk involved	Typically tied to Floating rate structures reduces duration yield without sacrificing yield
Credit Risk	Less credit risk involved	Typically below investment grade equivalent credit risk
Valuation	Transparent, easy to price and value	Harder to value due to limited tradability – internal pricing, low volatility

# Private Debt Across the Capital Stack

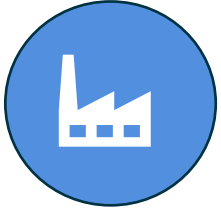


Source: Cambridge Associates LLC.

## NYSTRS



# What type of Private Debt Managers does NYSTRS Target?



**Lower Middle  
Market  
Companies**

**Experienced  
Management  
Teams**



**Teams With  
Workout Experience**

**Focus on Capital  
Preservation & Lender  
Favorable Covenants**



**Limited  
sponsor or  
Non-sponsor  
situations**

**Capital  
solutions-  
based lending**



**Limited-  
syndication or  
non-syndicated  
debt**

**Specialist  
Lenders**

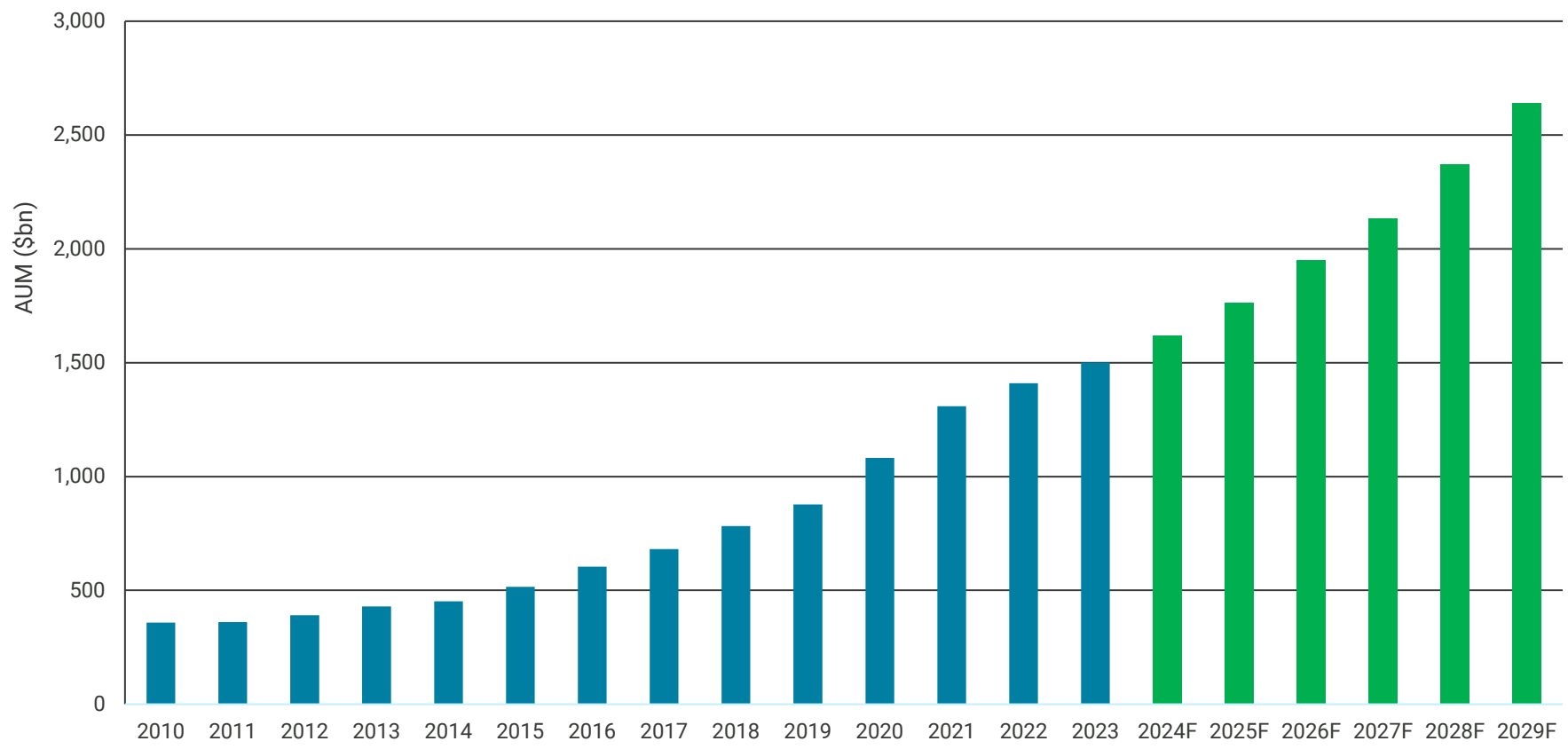


**Strong Credit  
Underwriting**

**Successful  
track record of  
investing  
across market  
cycles**

# Growth of Private Debt Market

## Global Private Debt AUM



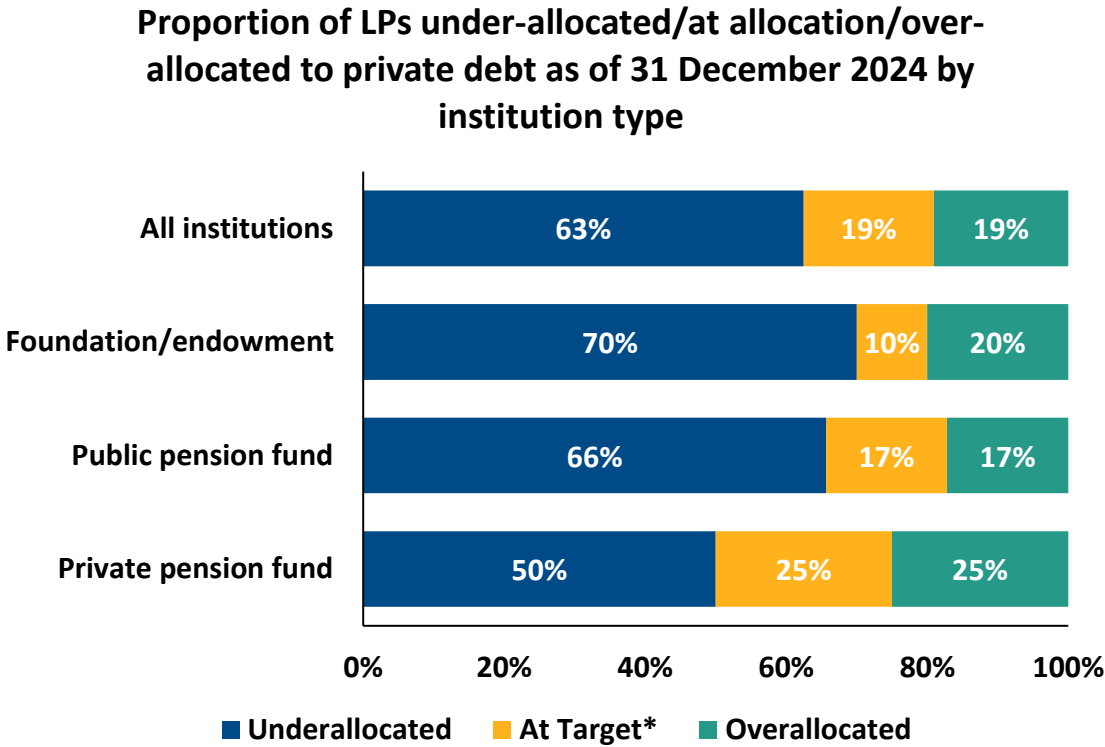
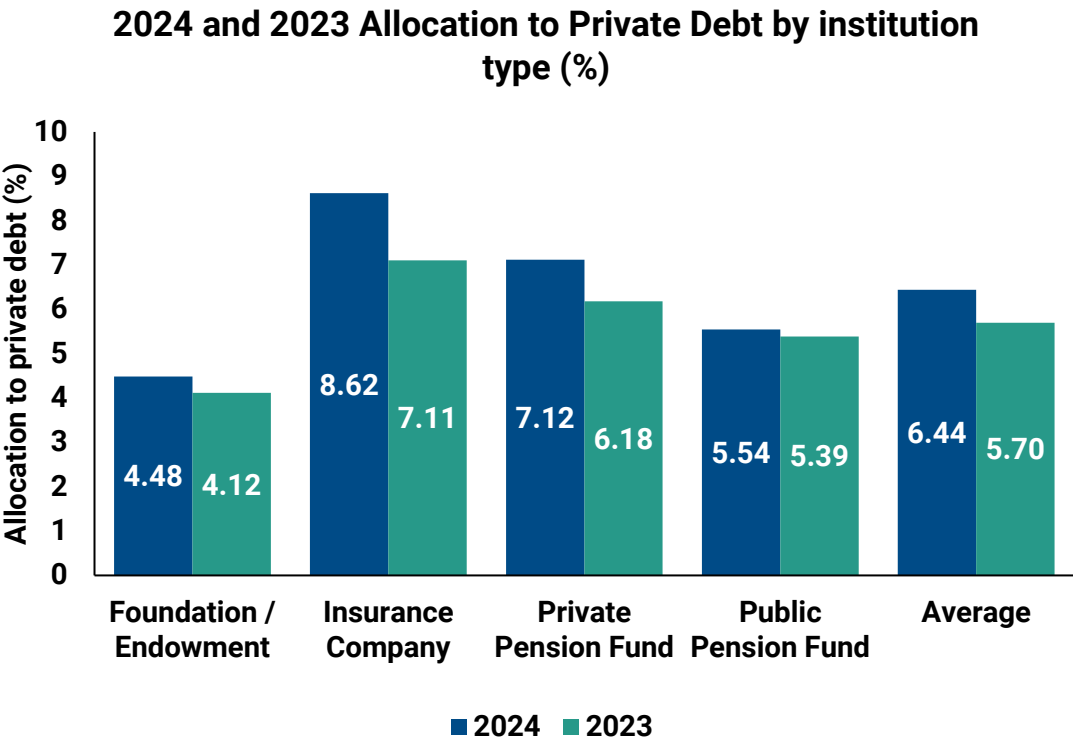
Source: Preqin 2025 Global Private Debt Report. AUM figures exclude funds denominated in yuan renminbi.

### Growth Drivers:

- Post GFC tightened lending standards leads to alternative lenders.
- Emergence as core allocation given risk-adj. returns.

- Private Debt expected to grow in AUM to \$2.6T by 2029 driven by various factors.

# Continued Growth in Institutional Allocation to Private Debt



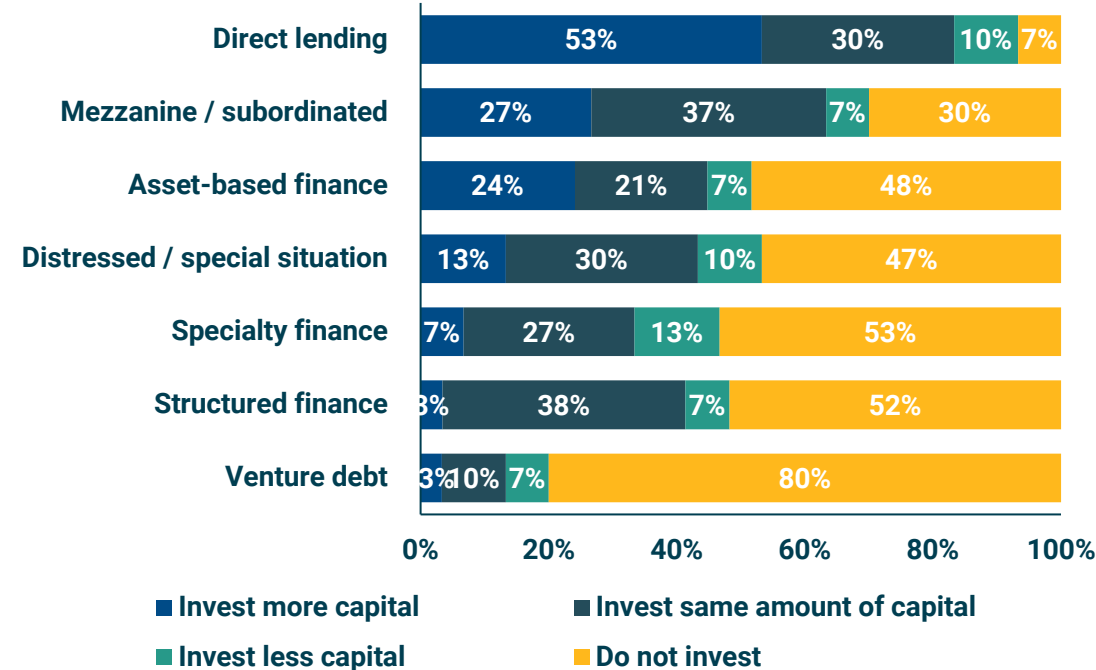
Source: Private Debt Investor, 2025

• \*= +/- 50 bps of target (figures have been rounded)



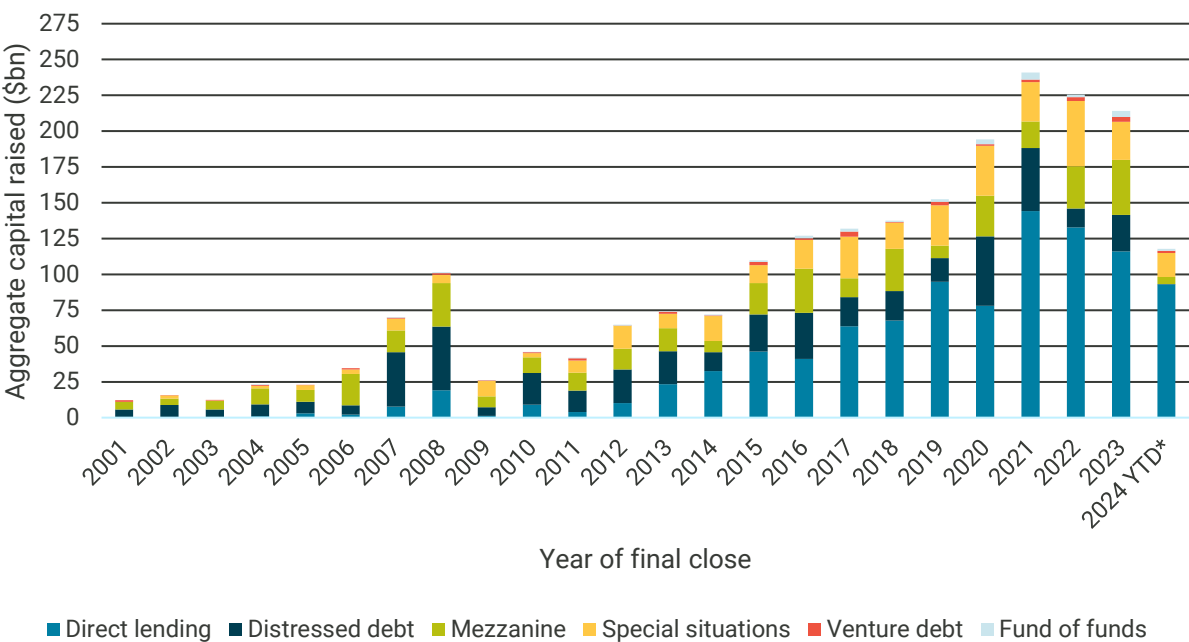
# Themes in Private Debt: Ongoing Emphasis on Direct Lending

LPs' private debt strategy appetite for 2025



Source: Private Debt Investor's LP Perspectives 2025

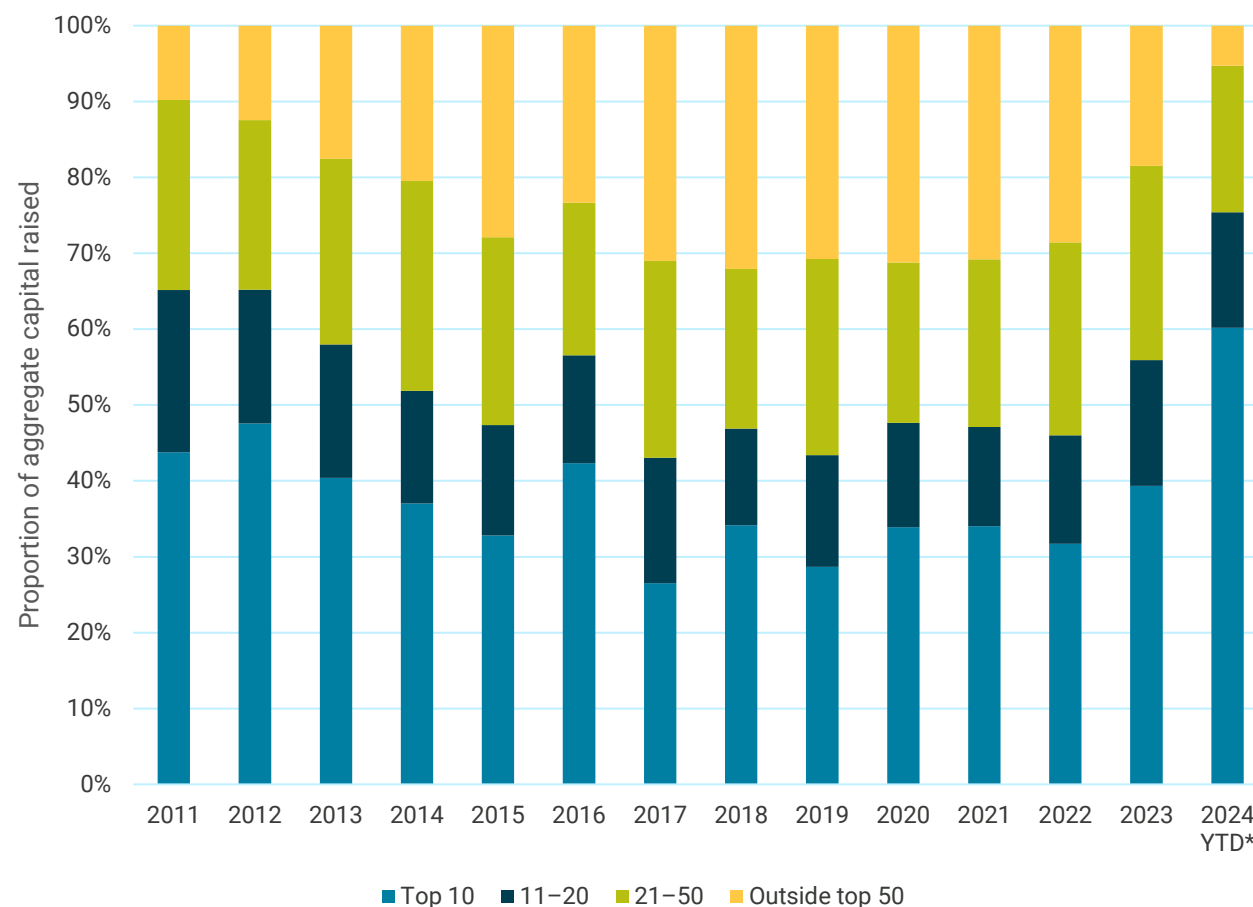
Aggregate Capital Raised by Strategy Type



Source: Preqin Pro, Preqin 2025 Global Private Debt Report  
\*2024 YTD to end-Q3 2024

# Themes in Private Debt: Industry Consolidation

**Top 10 Largest Funds Constituted Over Half of 2024  
Aggregate Capital Raised**



\* YTD 2024 includes data through September 30, 2024

# Q & A

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July 30, 2025



## **New York State Teachers' Retirement System**

2025 Asset Allocation Recap

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**Thomas Shingler**  
Fund Sponsor Consulting

**Jay Kloepper**  
Capital Market Research

**Kevin Machiz, CFA, FRM**  
Capital Market Research

**Carlo Stadlinger, CFA**  
Fund Sponsor Consulting

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# The Importance of Asset Allocation

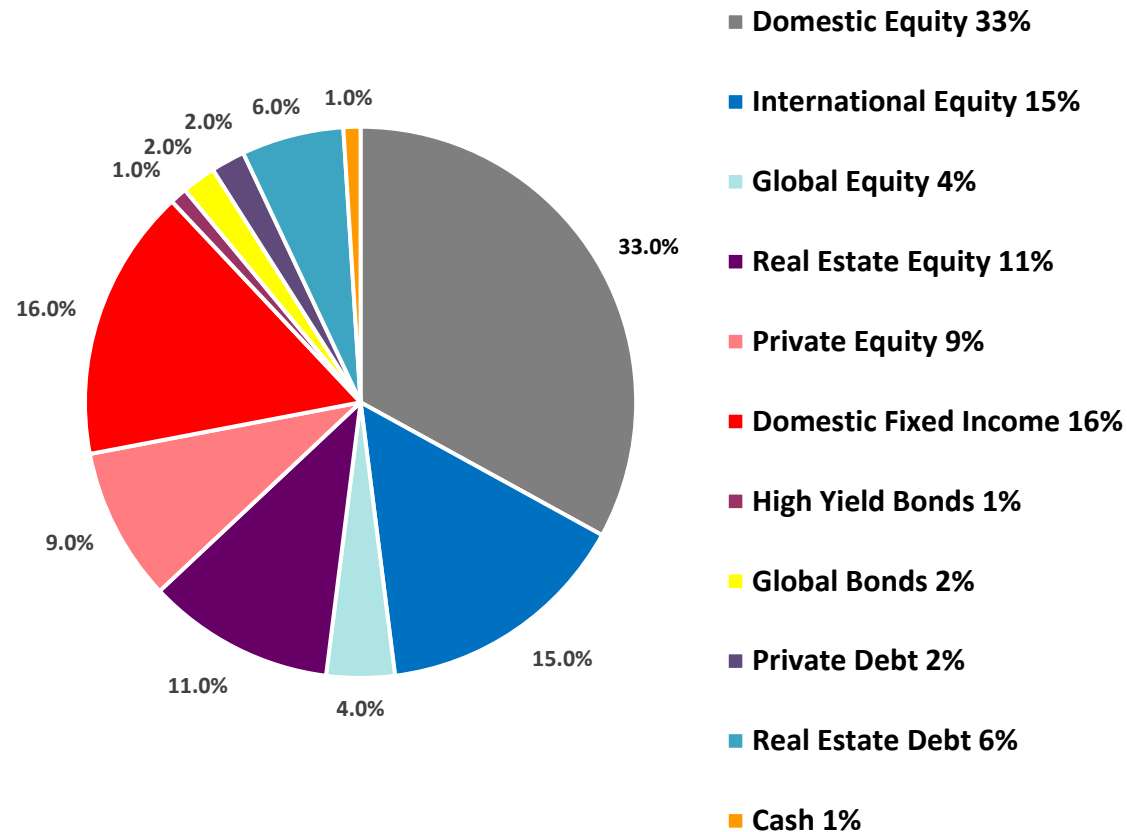
- Asset allocation is the primary determinant of investment return and portfolio volatility
- Asset allocation is the process of determining the optimal allocation of a portfolio among broad asset classes based upon, among other factors:
  - Investment goals
  - Time horizon
  - Liquidity needs
  - Capital market expectations
  - Liability characteristics
  - Risk tolerance
- Elements of an appropriate target asset allocation include:
  - Identifying asset classes for inclusion
  - Special considerations such as fees, size or capacity constraints, liquidity requirements

## **NYSTRS' IPM States:**

**NYSTRS' asset allocation and underlying asset class policy benchmarks are reviewed and recommended by the Executive Director and Chief Investment Officer to the Retirement Board for approval annually.**

## NYSTRS Current Target Asset Allocation

NYSTRS has a well-diversified target allocation, the goal of which is to achieve strong risk-adjusted returns in furtherance of the System's stated mission of providing members with a secure pension.

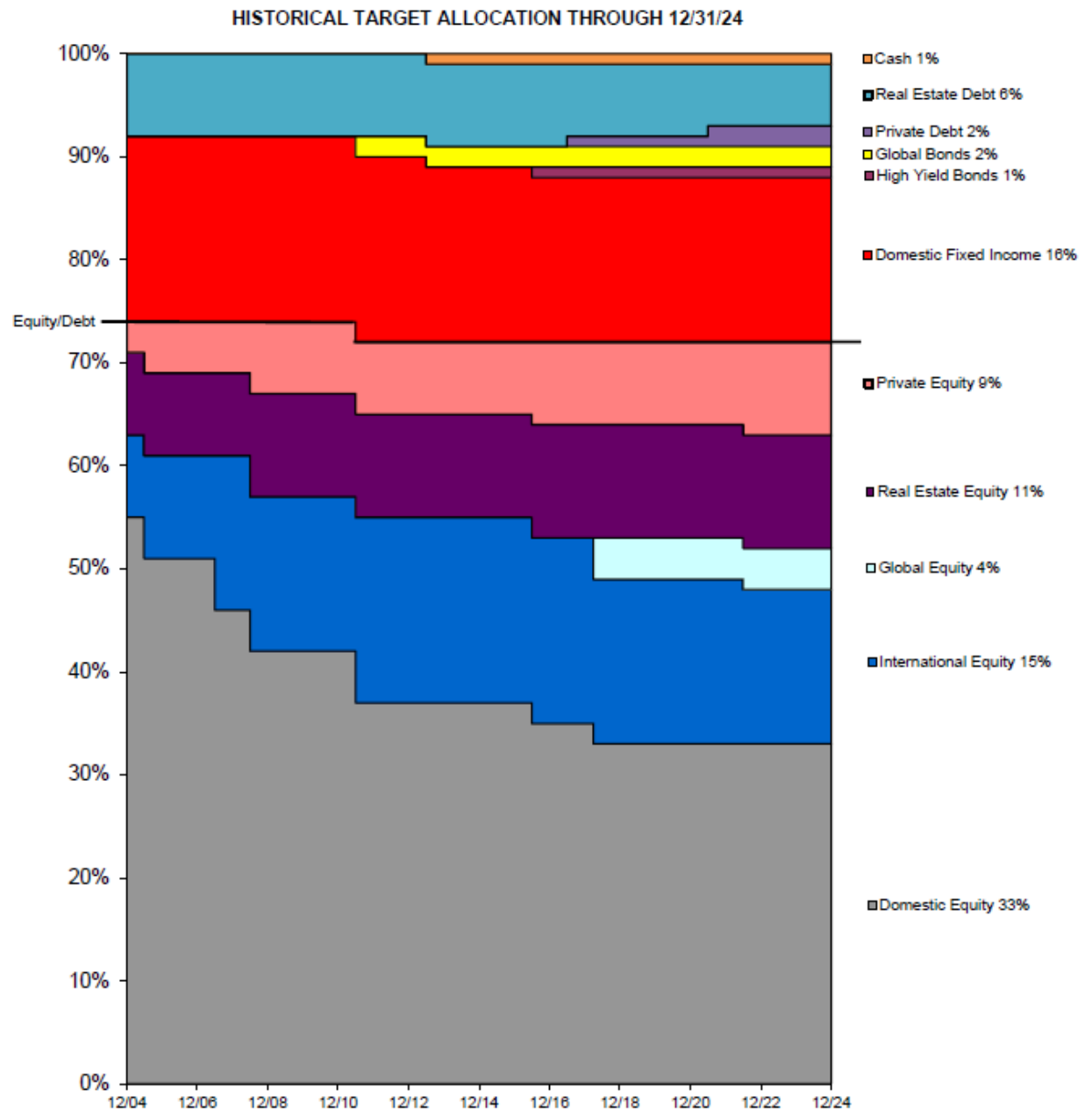


# NYSTRS Asset Allocation Target Over Time

NYSTRS' target asset allocation has evolved steadily over the past two decades

- Diversifying strategies have been added or increased, funded primarily from domestic equity
  - International equity
  - Private equity
  - Real estate equity
  - Global equity
  - Global fixed income
  - Private credit
  - High Yield bonds

NYSTRS has maintained a deliberate allocation to high-quality fixed income over time



Source: Office of the CFO/Investment Operations Department



## 2025-2034 Risk and Returns (Compared to Prior Year)

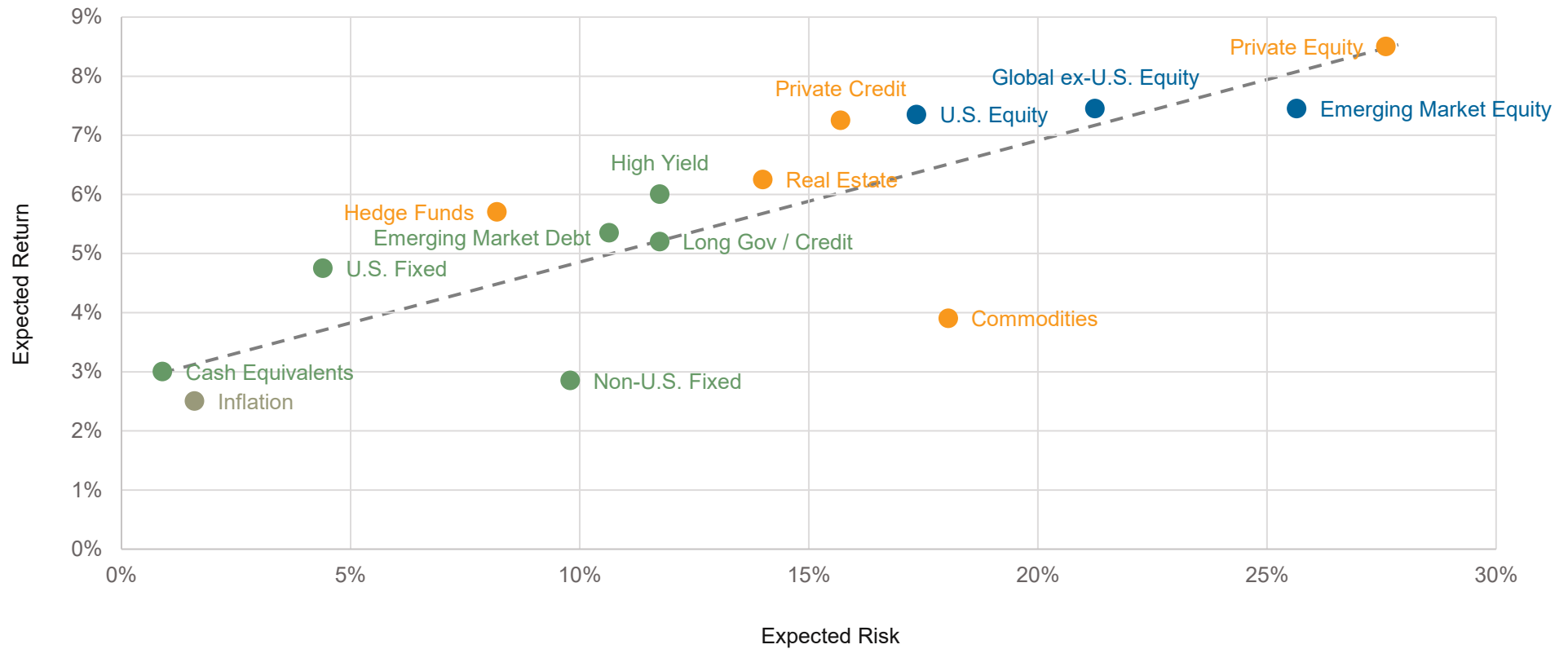
Asset Class	Index	PROJECTED RETURN			PROJECTED RISK		2024 - 2033			vs 2024	
		1-Year Arithmetic	10-Year Geometric*	Real	Standard Deviation	Projected Yield**	1-Year Arith	10-Year Geo*	Standard Deviation	Geometric* Delta	Std Dev Delta
Equities											
Broad U.S. Equity	Russell 3000	8.70%	7.35%	4.85%	17.35%	1.70%	8.85%	7.65%	17.40%	-0.30%	-0.05%
Large Cap U.S. Equity	S&P 500	8.50%	7.25%	4.75%	17.00%	1.75%	8.70%	7.50%	17.00%	-0.25%	0.00%
Small/Mid Cap U.S. Equity	Russell 2500	9.60%	7.45%	4.95%	22.00%	1.50%	9.80%	7.70%	22.00%	-0.25%	0.00%
Global ex-U.S. Equity	MSCI ACWI ex USA	9.45%	7.45%	4.95%	21.25%	3.45%	9.65%	7.65%	21.40%	-0.20%	-0.15%
Developed ex-U.S. Equity	MSCI World ex USA	9.05%	7.25%	4.75%	20.15%	3.50%	9.25%	7.50%	20.15%	-0.25%	0.00%
Emerging Market Equity	MSCI Emerging Markets	10.30%	7.45%	4.95%	25.65%	3.30%	10.65%	7.70%	25.60%	-0.25%	0.05%
Fixed Income											
Short Duration Gov't/Credit	Bloomberg 1-3 Yr G/C	4.05%	4.00%	1.50%	2.40%	3.65%	4.25%	4.25%	2.40%	-0.25%	0.00%
Core U.S. Fixed	Bloomberg Aggregate	4.85%	4.75%	2.25%	4.40%	4.60%	5.25%	5.25%	4.25%	-0.50%	0.15%
Long Government	Bloomberg Long Gov	5.65%	4.80%	2.30%	13.75%	4.60%	6.20%	5.40%	13.75%	-0.60%	0.00%
Long Credit	Bloomberg Long Cred	6.05%	5.40%	2.90%	11.90%	5.90%	6.85%	6.30%	11.90%	-0.90%	0.00%
Long Government/Credit	Bloomberg Long G/C	5.85%	5.20%	2.70%	11.75%	5.30%	6.55%	6.00%	11.70%	-0.80%	0.05%
TIPS	Bloomberg TIPS	4.70%	4.55%	2.05%	5.40%	4.30%	5.10%	5.05%	5.40%	-0.50%	0.00%
High Yield	Bloomberg High Yield	6.65%	6.00%	3.50%	11.75%	8.15%	7.30%	6.80%	11.75%	-0.80%	0.00%
Global ex-U.S. Fixed	Bloomberg Gl Agg xUSD	3.30%	2.85%	0.35%	9.80%	2.80%	3.60%	3.15%	9.80%	-0.30%	0.00%
Emerging Market Sovereign Debt	EMBI Global Diversified	5.85%	5.35%	2.85%	10.65%	7.40%	6.75%	6.35%	10.65%	-1.00%	0.00%
Alternatives											
Core Real Estate	NCREIF ODCE	7.15%	6.25%	3.75%	14.00%	4.00%	6.85%	6.00%	14.00%	0.25%	0.00%
Private Infrastructure	MSCI Glb Infra/FTSE Dev Core 50/50	7.40%	6.35%	3.85%	15.20%	4.90%	7.30%	6.35%	15.20%	0.00%	0.00%
Private Equity	Cambridge Private Equity	11.80%	8.50%	6.00%	27.60%	0.00%	12.15%	8.75%	27.60%	-0.25%	0.00%
Private Credit	Cambridge Senior Debt Index	8.35%	7.25%	4.75%	15.70%	7.25%	8.40%	7.40%	15.70%	-0.15%	0.00%
Hedge Funds	Callan Hedge FoF Database	6.00%	5.70%	3.20%	8.20%	0.00%	6.25%	6.05%	8.20%	-0.35%	0.00%
Commodities	Bloomberg Commodity	5.40%	3.90%	1.40%	18.05%	3.00%	5.45%	3.90%	18.05%	0.00%	0.00%
Cash Equivalents	90-Day T-Bill	3.00%	3.00%	0.50%	0.90%	3.00%	3.00%	3.00%	0.90%	0.00%	0.00%
Inflation	CPI-U		2.50%		1.60%			2.50%	1.60%	0.00%	0.00%

\* Geometric returns are derived from arithmetic returns and the associated risk (standard deviation).

\*\* Projected Yields represent the expected 10-year average yield

# Risk versus Return

## Visualizing Callan's 2025–2034 Capital Market Assumptions



Source: Callan 2025–2034 return-risk capital markets assumptions

# The Callan Periodic Table of Investment Returns

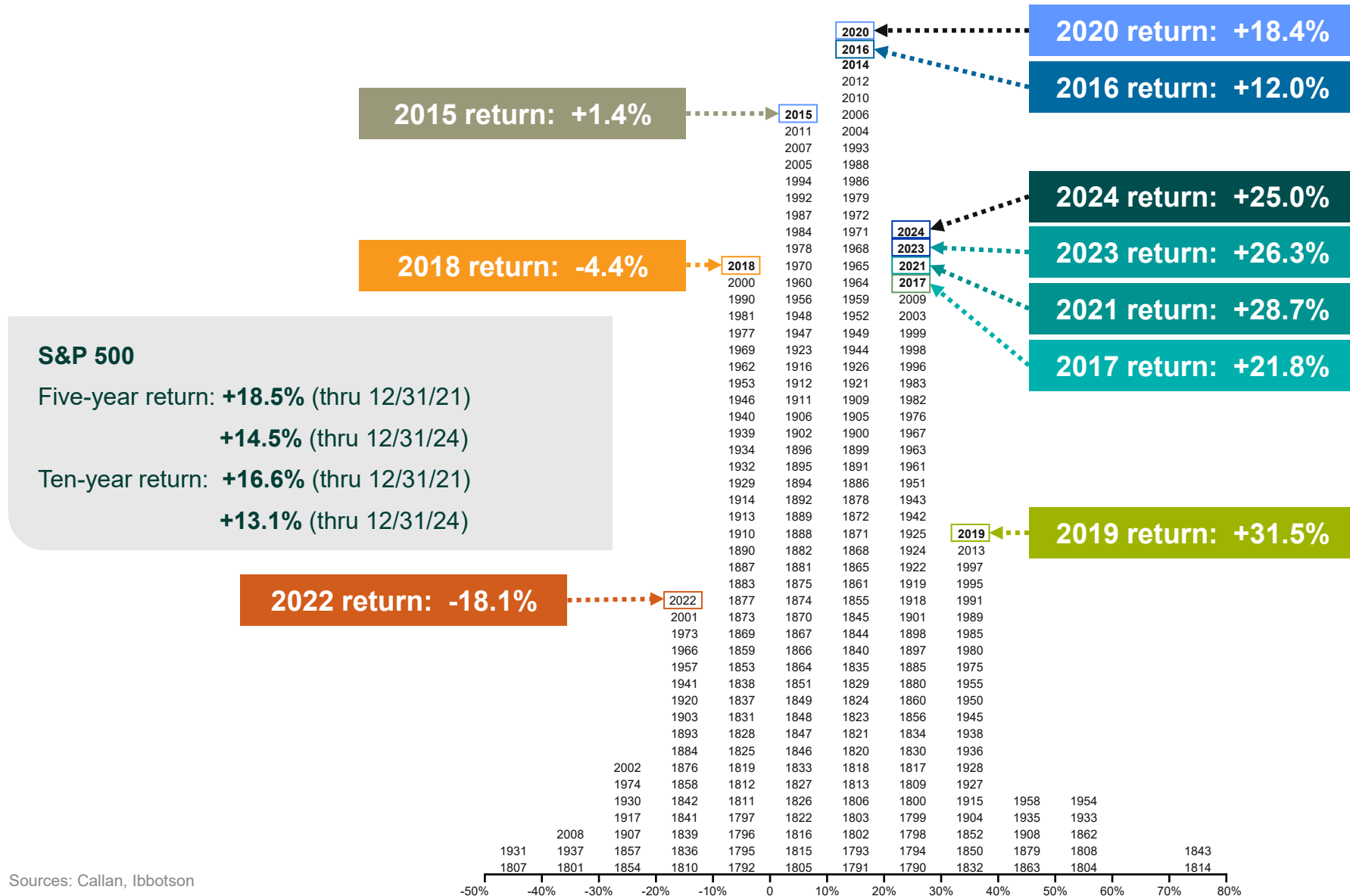
## Annual Returns for Key Indices Ranked in Order of Performance (2005–2024)

2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Emerging Market Equity	Real Estate	Emerging Market Equity	U.S. Fixed Income	Emerging Market Equity	Small Cap Equity	U.S. Fixed Income	Real Estate	Small Cap Equity	Real Estate	Large Cap Equity	Small Cap Equity	Emerging Market Equity	Cash Equivalent	Large Cap Equity	Small Cap Equity	Large Cap Equity	Cash Equivalent	Large Cap Equity	Large Cap Equity
34.00%	42.12%	39.38%	5.24%	78.51%	26.85%	7.84%	27.73%	38.82%	15.02%	1.38%	21.31%	37.28%	1.87%	31.49%	19.96%	28.71%	1.46%	26.29%	25.02%
Real Estate	Emerging Market Equity	Developed ex-U.S. Equity	Global ex-U.S. Fixed	High Yield	Real Estate	High Yield	Emerging Market Equity	Large Cap Equity	Large Cap Equity	U.S. Fixed Income	High Yield	Developed ex-U.S. Equity	U.S. Fixed Income	Small Cap Equity	Large Cap Equity	Real Estate	High Yield	Developed ex-U.S. Equity	Small Cap Equity
15.35%	32.17%	12.44%	4.39%	58.21%	19.63%	4.98%	18.23%	32.39%	13.69%	0.55%	17.13%	24.21%	0.01%	25.52%	18.40%	26.09%	-11.19%	17.94%	11.54%
Developed ex-U.S. Equity	Developed ex-U.S. Equity	Global ex-U.S. Fixed	Cash Equivalent	Real Estate	Emerging Market Equity	Global ex-U.S. Fixed	Developed ex-U.S. Equity	Developed ex-U.S. Equity	U.S. Fixed Income	Cash Equivalent	Large Cap Equity	Large Cap Equity	High Yield	Developed ex-U.S. Equity	Emerging Market Equity	Small Cap Equity	U.S. Fixed Income	Small Cap Equity	High Yield
14.47%	25.71%	11.03%	2.06%	37.13%	18.88%	4.36%	16.41%	21.02%	5.97%	0.05%	11.96%	21.83%	-2.08%	22.49%	18.31%	14.82%	-13.01%	16.93%	8.19%
Large Cap Equity	Small Cap Equity	U.S. Fixed Income	High Yield	Developed ex-U.S. Equity	High Yield	Large Cap Equity	Small Cap Equity	High Yield	Small Cap Equity	Real Estate	Emerging Market Equity	Small Cap Equity	Global ex-U.S. Fixed	Real Estate	Global ex-U.S. Fixed	Developed ex-U.S. Equity	Developed ex-U.S. Equity	High Yield	Emerging Market Equity
4.91%	18.37%	6.97%	-26.16%	33.67%	15.12%	2.11%	16.35%	7.44%	4.89%	-0.79%	11.19%	14.65%	-2.15%	21.91%	10.11%	12.62%	-14.29%	13.44%	7.50%
Small Cap Equity	Large Cap Equity	Large Cap Equity	Small Cap Equity	Small Cap Equity	Large Cap Equity	Cash Equivalent	Large Cap Equity	Real Estate	High Yield	Developed ex-U.S. Equity	Real Estate	Global ex-U.S. Fixed	Large Cap Equity	Emerging Market Equity	Developed ex-U.S. Equity	High Yield	Large Cap Equity	Emerging Market Equity	Cash Equivalent
4.55%	15.79%	5.49%	-33.79%	27.17%	15.06%	0.10%	16.00%	3.67%	2.45%	-3.04%	4.06%	10.51%	-4.38%	18.44%	7.59%	5.28%	-18.11%	9.83%	5.25%
Cash Equivalent	High Yield	Cash Equivalent	Large Cap Equity	Large Cap Equity	Developed ex-U.S. Equity	Small Cap Equity	High Yield	Cash Equivalent	Cash Equivalent	Small Cap Equity	Developed ex-U.S. Equity	Real Estate	Real Estate	High Yield	U.S. Fixed Income	Cash Equivalent	Global ex-U.S. Fixed	Real Estate	Developed ex-U.S. Equity
3.07%	11.85%	5.00%	-37.00%	26.47%	8.95%	-4.18%	15.81%	0.07%	0.03%	-4.41%	2.75%	10.36%	-5.63%	14.32%	7.51%	0.05%	-18.70%	9.67%	4.70%
High Yield	Global ex-U.S. Fixed	High Yield	Developed ex-U.S. Equity	Global ex-U.S. Fixed	U.S. Fixed Income	Real Estate	U.S. Fixed Income	U.S. Fixed Income	Emerging Market Equity	High Yield	U.S. Fixed Income	High Yield	Small Cap Equity	U.S. Fixed Income	High Yield	U.S. Fixed Income	Emerging Market Equity	Global ex-U.S. Fixed	U.S. Fixed Income
2.74%	8.16%	1.87%	-43.56%	7.53%	6.54%	-6.46%	4.21%	-2.02%	-2.19%	-4.47%	2.65%	7.50%	-11.01%	8.72%	7.11%	-1.54%	-20.09%	5.72%	1.25%
U.S. Fixed Income	Cash Equivalent	Small Cap Equity	Real Estate	U.S. Fixed Income	Global ex-U.S. Fixed	Developed ex-U.S. Equity	Global ex-U.S. Fixed	Emerging Market Equity	Global ex-U.S. Fixed	Global ex-U.S. Fixed	Global ex-U.S. Fixed	U.S. Fixed Income	Developed ex-U.S. Equity	Global ex-U.S. Fixed	Cash Equivalent	Emerging Market Equity	Small Cap Equity	U.S. Fixed Income	Real Estate
2.43%	4.85%	-1.57%	-48.21%	5.93%	4.95%	-12.21%	4.09%	-2.60%	-3.09%	-6.02%	1.49%	3.54%	-14.09%	5.09%	0.67%	-2.54%	-20.44%	5.53%	0.94%
Global ex-U.S. Fixed	U.S. Fixed Income	Real Estate	Emerging Market Equity	Cash Equivalent	Cash Equivalent	Emerging Market Equity	Cash Equivalent	Global ex-U.S. Fixed	Developed ex-U.S. Equity	Emerging Market Equity	Cash Equivalent	Cash Equivalent	Emerging Market Equity	Cash Equivalent	Real Estate	Global ex-U.S. Fixed	Real Estate	Cash Equivalent	Global ex-U.S. Fixed
-8.65%	4.33%	-7.39%	-53.33%	0.21%	0.13%	-18.42%	0.11%	-3.08%	-4.32%	-14.92%	0.33%	0.86%	-14.57%	2.28%	-9.04%	-7.05%	-25.10%	5.01%	-4.22%

The Callan Periodic Table of Investment Returns conveys the strong case for diversification across asset classes (stocks vs. bonds), capitalizations (large vs. small), and equity markets (U.S. vs. global ex-U.S.). The Table highlights the uncertainty inherent in all capital markets. Rankings change every year. Also noteworthy is the difference between absolute and relative performance, as returns for the top-performing asset class span a wide range over the past 20 years.

# Stock Market Returns by Calendar Year

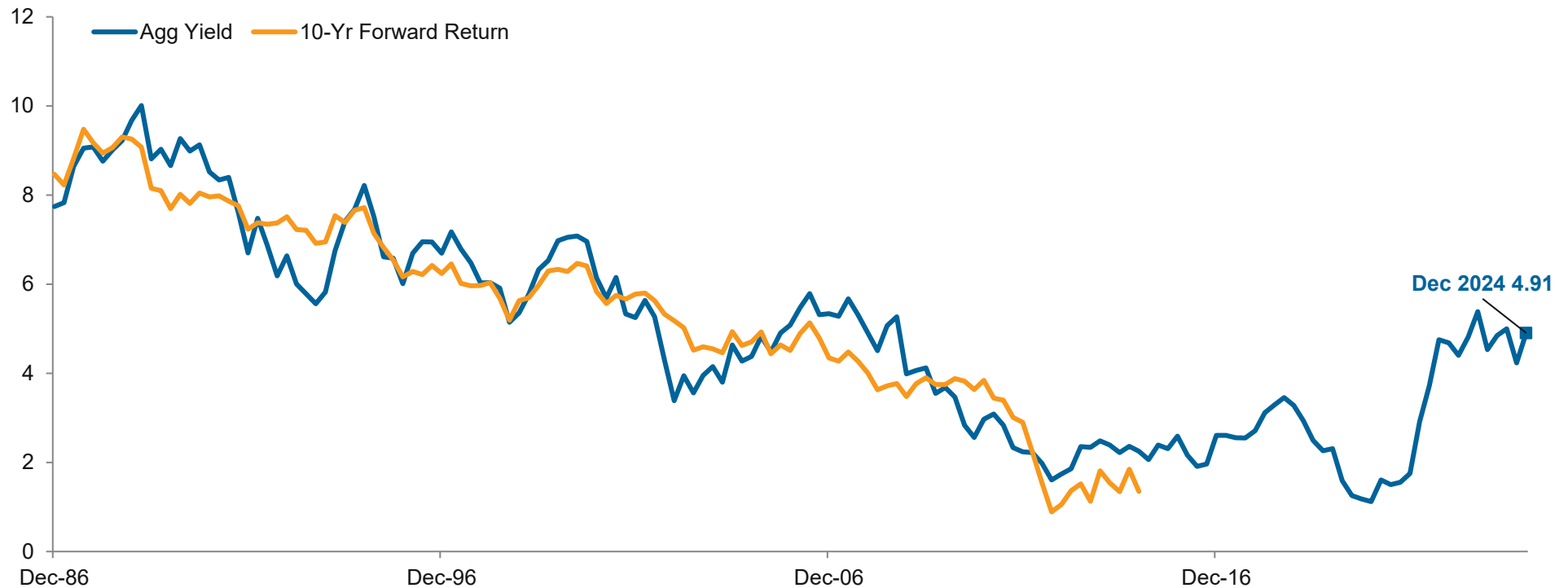
Performance in perspective: History of the U.S. stock market (234 years of returns)



Sources: Callan, Ibbotson

# Starting U.S. Aggregate Fixed Income Yield Strongly Predicts Forward Returns

## Bloomberg U.S. Aggregate Index Starting Yield vs. 10-Year Forward Return

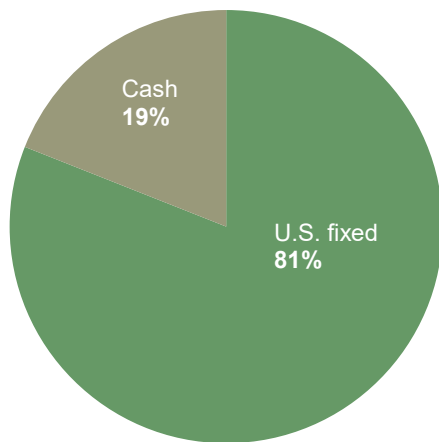


- There is a strong relationship between starting yields and subsequent 10-Year returns
- Yield on the Bloomberg U.S. Aggregate Index was 4.91% as of December 31, 2024

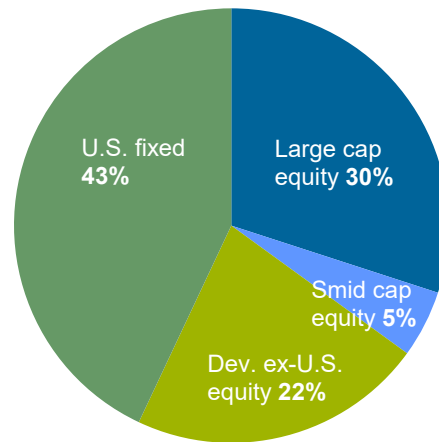
Source: Bloomberg

# 7% Expected Returns Over Past 30 Years

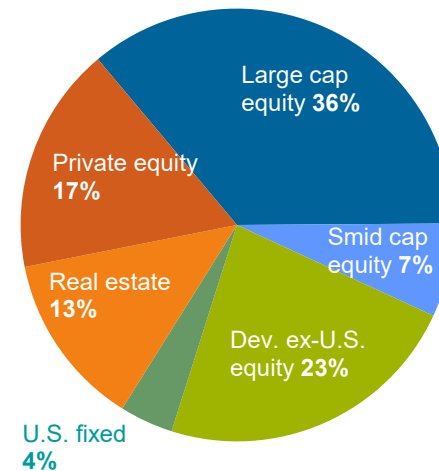
Increasing Complexity →



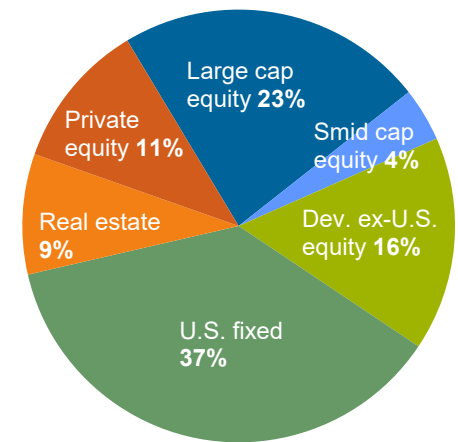
**1995**  
Return: 7.0%  
Risk: 4.9%



**2010**  
Return: 7.0%  
Risk: 9.9%



**2022**  
Return: 7.0%  
Risk: 16.8%



**2025**  
Return: 7.0%  
Risk: 10.9%

Increasing Risk →

In 1995, our expectations for cash and broad U.S. fixed income were 4.8% and 7.5%, respectively.

Return-seeking assets were not required to earn a 7% projected return.

15 years later, an investor would have needed over half of the portfolio in public equities to achieve a 7% projected return, with double the portfolio volatility of 1995.

In 2022 an investor was required to include 96% in return-seeking assets (including 30% in private markets investments) to earn a 7% projected return at over 3x the volatility compared to 1995.

Today's 7% expected return portfolio is much more reasonable than it was just three years ago. The allocation to fixed income jumps to 37%, while risk is just two-thirds what it was in 2022.

# NYSTRS Asset Allocation – 10-Year Time Horizon

Asset Class	Target Weight	Actual (12/31/24)	PROJECTED RETURN		PROJECTED RISK		
			Single-Period Arithmetic Return	10-Year Geometric Return	Annualized Standard Deviation	Projected Yield	Projected Real Rtn
<b>Public Equity</b>	<b>52.0%</b>	<b>52.0%</b>					
Broad US Equity (1)	33.0%	33.7%	8.68%	7.34%	17.36%	1.71%	4.85%
Global Ex-US Equity (2)	15.0%	14.2%	9.38%	7.43%	21.05%	3.45%	4.94%
Global Equity (3)	4.0%	4.2%	8.96%	7.57%	17.69%	2.41%	5.09%
<b>Private Market Equity</b>	<b>20.0%</b>	<b>21.0%</b>					
Real Estate Equity (4)	11.0%	11.2%	8.34%	7.21%	15.97%	2.87%	4.72%
Private Equity	9.0%	9.8%	11.79%	8.52%	27.60%	0.00%	6.03%
<b>Private Debt</b>	<b>2.0%</b>	<b>1.7%</b>					
Private Debt	2.0%	1.7%	8.35%	7.25%	15.70%	7.25%	4.76%
<b>Fixed Income</b>	<b>25.0%</b>	<b>23.9%</b>					
Core US Fixed Income	16.0%	15.1%	4.85%	4.76%	4.40%	4.60%	2.27%
Global Fixed Income (5)	2.0%	2.0%	4.27%	4.09%	6.25%	4.10%	1.60%
Real Estate Debt (6)	6.0%	5.8%	6.06%	5.93%	5.03%	3.89%	3.44%
High Yield	1.0%	1.1%	6.65%	6.02%	11.75%	8.15%	3.53%
<b>Cash Equivalents</b>	<b>1.0%</b>	<b>1.3%</b>					
Cash Equivalents	1.0%	1.3%	2.99%	2.99%	0.90%	3.00%	0.50%
<b>Inflation</b>				2.49%	1.60%		
<b>Total Equity (% of Portfolio)</b>	<b>72.0%</b>	<b>73.0%</b>					
<b>Total Debt (% of Portfolio)</b>	<b>28.0%</b>	<b>27.0%</b>					
<b>US Equity (% of Global Equity)</b>	<b>68.1%</b>	<b>69.6%</b>					
<b>Total Fund</b>	<b>100.0%</b>	<b>100.0%</b>					
<b>Single-Period Arithmetic Return</b>	8.10%	8.14%					
<b>10-Year Geometric Return</b>	<b>7.33%</b>	<b>7.35%</b>					
<b>Annualized Standard Deviation</b>	13.12%	13.29%					
<b>Projected Yield</b>	2.80%	2.74%					
<b>Sharpe Ratio</b>	0.33	0.33					

(1) Broad US equity = 85% large cap, 15% mid and small cap

(2) Global ex-US equity = 75% developed markets, 25% emerging markets

(3) Global Equity = 60% broad US, 40% global ex-US

(4) RE Equity = 55% core, 30% non-core, 15% REITs

(5) Global fixed income = 70% global, 10% global corporate, 20% emerging debt USD IG

(6) Real estate debt = 80% commercial mortgages/20% private mezzanine debt

Non-US dollar fixed income currency exposure hedged to US dollar in Callan assumption.

Source: Callan LLC

Callan

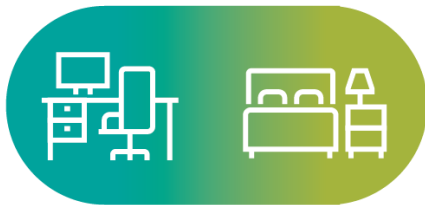
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**Callan Update**



## Published Research Highlights: 2Q25

### Office-to-Residential Conversions Update



### 2025 Cost of Doing Business Study



### Nuclear Power's Rebound and Institutional Investors



### Capital Markets Review



### Recent Blog Posts

#### Wait on Changing Market Cap Weights

Adam Lozinski

#### Navigating Volatility: An Expert Guide for Nonprofits

Tony Lissuzzo

#### Historic Market Volatility and Our 10-Year CMAs

Jay Kloepper

#### Additional Reading

Active vs. Passive quarterly charts  
Monthly Updates to the Periodic Table  
*Market Pulse Flipbook* quarterly markets update  
Market Intelligence (clients-only)  
*Real Estate Indicators* market outlook

# Callan On-Demand Education (CODE)

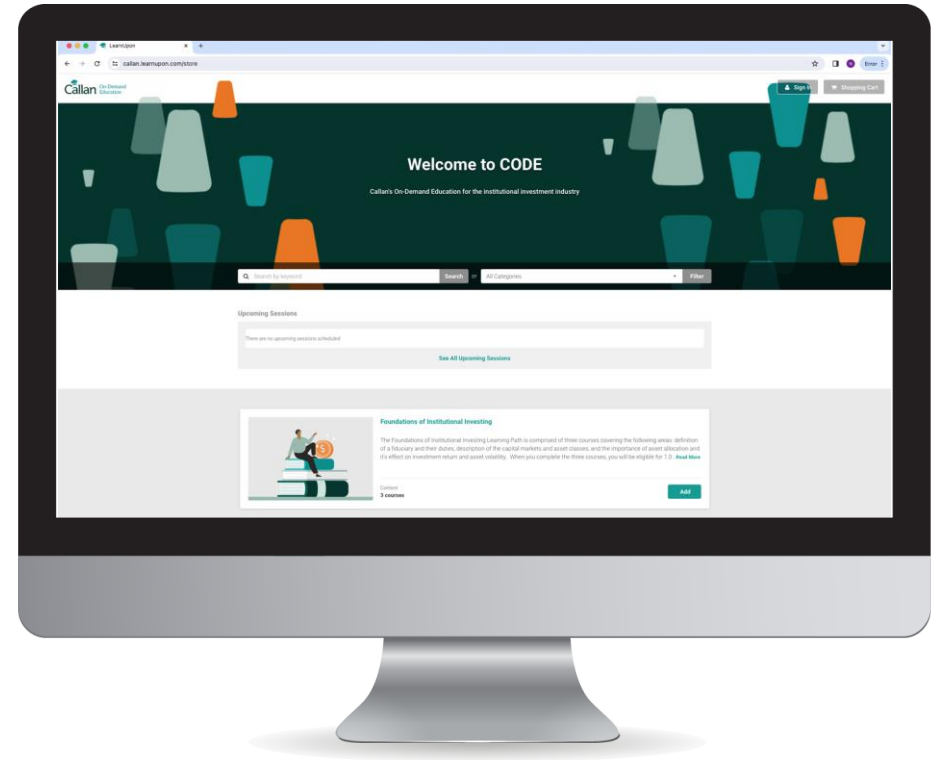


- ▶ Variety of educational courses
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**CODE** courses are designed for investment professionals of all levels—and they're self-guided. Access them anytime, from anywhere, and get continuing education credits for each completed course.

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[callan.com/code](https://callan.com/code)



## 3 Reasons to Take CODE Courses

- 1 Become a better fiduciary
- 2 Showcase your skills and knowledge
- 3 Learn from Callan's investment experts

Callan

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**Appendix**

## 2025-2034 Callan Capital Markets Assumptions Correlations

Large Cap U.S. Equity	1.00																					
Smid Cap U.S. Equity	0.86	1.00																				
Dev ex-U.S. Equity	0.70	0.81	1.00																			
Emerging Market Equity	0.74	0.81	0.90	1.00																		
Short Dur Gov/Credit	0.05	0.01	0.04	-0.01	1.00																	
Core U.S. Fixed	0.09	0.03	0.06	0.01	0.80	1.00																
Long Government	0.01	0.00	0.03	0.00	0.65	0.82	1.00															
Long Credit	0.40	0.35	0.35	0.35	0.62	0.80	0.71	1.00														
TIPS	-0.04	-0.05	-0.04	-0.07	0.55	0.75	0.54	0.52	1.00													
High Yield	0.74	0.74	0.71	0.74	0.13	0.15	0.02	0.45	0.06	1.00												
Global ex-U.S. Fixed	0.12	0.11	0.14	0.10	0.50	0.50	0.42	0.53	0.40	0.16	1.00											
EM Sovereign Debt	0.59	0.60	0.61	0.65	0.17	0.23	0.11	0.47	0.11	0.62	0.17	1.00										
Core Real Estate	0.38	0.32	0.33	0.30	0.17	0.20	0.08	0.31	0.12	0.30	0.14	0.22	1.00									
Private Infrastructure	0.47	0.45	0.45	0.43	0.14	0.18	0.10	0.33	0.08	0.34	0.18	0.32	0.65	1.00								
Private Equity	0.79	0.76	0.75	0.73	-0.04	-0.04	-0.08	0.27	-0.12	0.55	0.07	0.44	0.46	0.52	1.00							
Private Credit	0.65	0.64	0.62	0.63	0.04	0.00	-0.02	0.32	-0.05	0.55	0.11	0.47	0.26	0.27	0.65	1.00						
Hedge Funds	0.60	0.56	0.53	0.53	0.28	0.39	0.25	0.52	0.23	0.50	0.24	0.47	0.20	0.31	0.40	0.47	1.00					
Commodities	0.20	0.20	0.20	0.20	-0.04	-0.05	-0.10	0.04	0.00	0.18	0.05	0.15	0.16	0.15	0.16	0.14	0.17	1.00				
Cash Equivalents	-0.02	-0.07	-0.08	-0.08	0.27	0.16	0.12	0.04	0.14	-0.03	0.10	-0.02	0.02	-0.04	-0.04	-0.04	0.00	-0.02	1.00			
Inflation	0.00	0.02	0.00	0.02	-0.20	-0.22	-0.30	-0.20	0.25	-0.03	-0.12	-0.04	0.20	0.10	0.04	-0.04	-0.01	0.35	0.02	1.00		
	Large Cap	Smid Cap	Dev ex-US	EM Equity	Short Dur	Core Fix	Long Gov	Long Credit	TIPS	High Yield	Gl ex-US Fixed	EMD	Core RE	Pvt Infra	Pvt Equity	Pvt Credit	Hedge Fund	Comm	Cash Eq	Inflation		

Source: Callan

# NYSTRS Asset Allocation – 20-Year Time Horizon

Asset Class	Target Weight	Actual (12/31/24)	PROJECTED RETURN		PROJECTED RISK		
			Single-Period Arithmetic Return	20-Year Geometric Return	Annualized Standard Deviation	Projected Yield	Projected Real Rtn
<b>Public Equity</b>	<b>52.0%</b>	<b>52.0%</b>					
Broad US Equity (1)	33.0%	33.7%	8.91%	7.55%	17.36%	1.71%	5.12%
Global Ex-US Equity (2)	15.0%	14.2%	9.59%	7.61%	21.05%	3.45%	5.18%
Global Equity (3)	4.0%	4.2%	9.18%	7.78%	17.69%	2.41%	5.35%
<b>Private Market Equity</b>	<b>20.0%</b>	<b>21.0%</b>					
Real Estate Equity (4)	11.0%	11.2%	8.62%	7.47%	15.97%	2.87%	5.05%
Private Equity	9.0%	9.8%	11.98%	8.67%	27.60%	0.00%	6.24%
<b>Private Debt</b>	<b>2.0%</b>	<b>1.7%</b>					
Private Debt	2.0%	1.7%	8.39%	7.27%	15.70%	7.25%	4.84%
<b>Fixed Income</b>	<b>25.0%</b>	<b>23.9%</b>					
Core US Fixed Income	16.0%	15.1%	4.92%	4.83%	4.40%	4.60%	2.40%
Global Fixed Income (5)	2.0%	2.0%	4.53%	4.34%	6.25%	4.10%	1.92%
Real Estate Debt (6)	6.0%	5.8%	6.14%	6.01%	5.03%	3.89%	3.58%
High Yield	1.0%	1.1%	6.86%	6.22%	11.75%	8.15%	3.80%
<b>Cash Equivalents</b>	<b>1.0%</b>	<b>1.3%</b>					
Cash Equivalents	1.0%	1.3%	2.99%	2.99%	0.90%	3.00%	0.56%
<b>Inflation</b>				2.43%	1.60%		
<b>Total Equity (% of Portfolio)</b>	<b>72.0%</b>	<b>73.0%</b>					
<b>Total Debt (% of Portfolio)</b>	<b>28.0%</b>	<b>27.0%</b>					
<b>US Equity (% of Global Equity)</b>	<b>68.1%</b>	<b>69.6%</b>					
<b>Total Fund</b>	<b>100.0%</b>	<b>100.0%</b>					
<b>Single-Period Arithmetic Return</b>	8.28%	8.33%					
<b>20-Year Geometric Return</b>	<b>7.51%</b>	<b>7.53%</b>					
<b>Annualized Standard Deviation</b>	13.12%	13.29%					
<b>Projected Yield</b>	2.80%	2.74%					
<b>Sharpe Ratio</b>	0.34	0.34					

(1) Broad US equity = 85% large cap, 15% mid and small cap

(2) Global ex-US equity = 75% developed markets, 25% emerging markets

(3) Global Equity = 60% broad US, 40% global ex-US

(4) RE Equity = 55% core, 30% non-core, 15% REITs

(5) Global fixed income = 70% global, 10% global corporate, 20% emerging debt USD IG

(6) Real estate debt = 80% commercial mortgages/20% private mezzanine debt

Non-US dollar fixed income currency exposure hedged to US dollar in Callan assumption.

Source: Callan LLC

# NYSTRS Asset Allocation – 30-Year Time Horizon

Asset Class	Target Weight	Actual (12/31/24)	PROJECTED RETURN		PROJECTED RISK		
			Single-Period Arithmetic Return	30-Year Geometric Return	Annualized Standard Deviation	Projected Yield	Projected Real Rtn
<b>Public Equity</b>	<b>52.0%</b>	<b>52.0%</b>					
Broad US Equity (1)	33.0%	33.7%	9.09%	7.73%	17.36%	1.71%	5.36%
Global Ex-US Equity (2)	15.0%	14.2%	9.76%	7.78%	21.05%	3.45%	5.41%
Global Equity (3)	4.0%	4.2%	9.36%	7.95%	17.69%	2.41%	5.58%
<b>Private Market Equity</b>	<b>20.0%</b>	<b>21.0%</b>					
Real Estate Equity (4)	11.0%	11.2%	8.84%	7.68%	15.97%	2.87%	5.32%
Private Equity	9.0%	9.8%	12.15%	8.83%	27.60%	0.00%	6.46%
<b>Private Debt</b>	<b>2.0%</b>	<b>1.7%</b>					
Private Debt	2.0%	1.7%	8.42%	7.30%	15.70%	7.25%	4.93%
<b>Fixed Income</b>	<b>25.0%</b>	<b>23.9%</b>					
Core US Fixed Income	16.0%	15.1%	4.97%	4.88%	4.40%	4.60%	2.51%
Global Fixed Income (5)	2.0%	2.0%	4.75%	4.57%	6.25%	4.10%	2.20%
Real Estate Debt (6)	6.0%	5.8%	6.21%	6.08%	5.03%	3.89%	3.72%
High Yield	1.0%	1.1%	7.04%	6.40%	11.75%	8.15%	4.03%
<b>Cash Equivalents</b>	<b>1.0%</b>	<b>1.3%</b>					
Cash Equivalents	1.0%	1.3%	3.00%	3.00%	0.90%	3.00%	0.63%
<b>Inflation</b>				2.37%	1.60%		
<b>Total Equity (% of Portfolio)</b>	<b>72.0%</b>	<b>73.0%</b>					
<b>Total Debt (% of Portfolio)</b>	<b>28.0%</b>	<b>27.0%</b>					
<b>US Equity (% of Global Equity)</b>	<b>68.1%</b>	<b>69.6%</b>					
<b>Total Fund</b>	<b>100.0%</b>	<b>100.0%</b>					
<b>Single-Period Arithmetic Return</b>	8.43%	8.48%					
<b>30-Year Geometric Return</b>	<b>7.65%</b>	<b>7.68%</b>					
<b>Annualized Standard Deviation</b>	13.12%	13.29%					
<b>Projected Yield</b>	2.80%	2.74%					
<b>Sharpe Ratio</b>	0.35	0.35					

(1) Broad US equity = 85% large cap, 15% mid and small cap

(2) Global ex-US equity = 75% developed markets, 25% emerging markets

(3) Global Equity = 60% broad US, 40% global ex-US

(4) RE Equity = 55% core, 30% non-core, 15% REITs

(5) Global fixed income = 70% global, 10% global corporate, 20% emerging debt USD IG

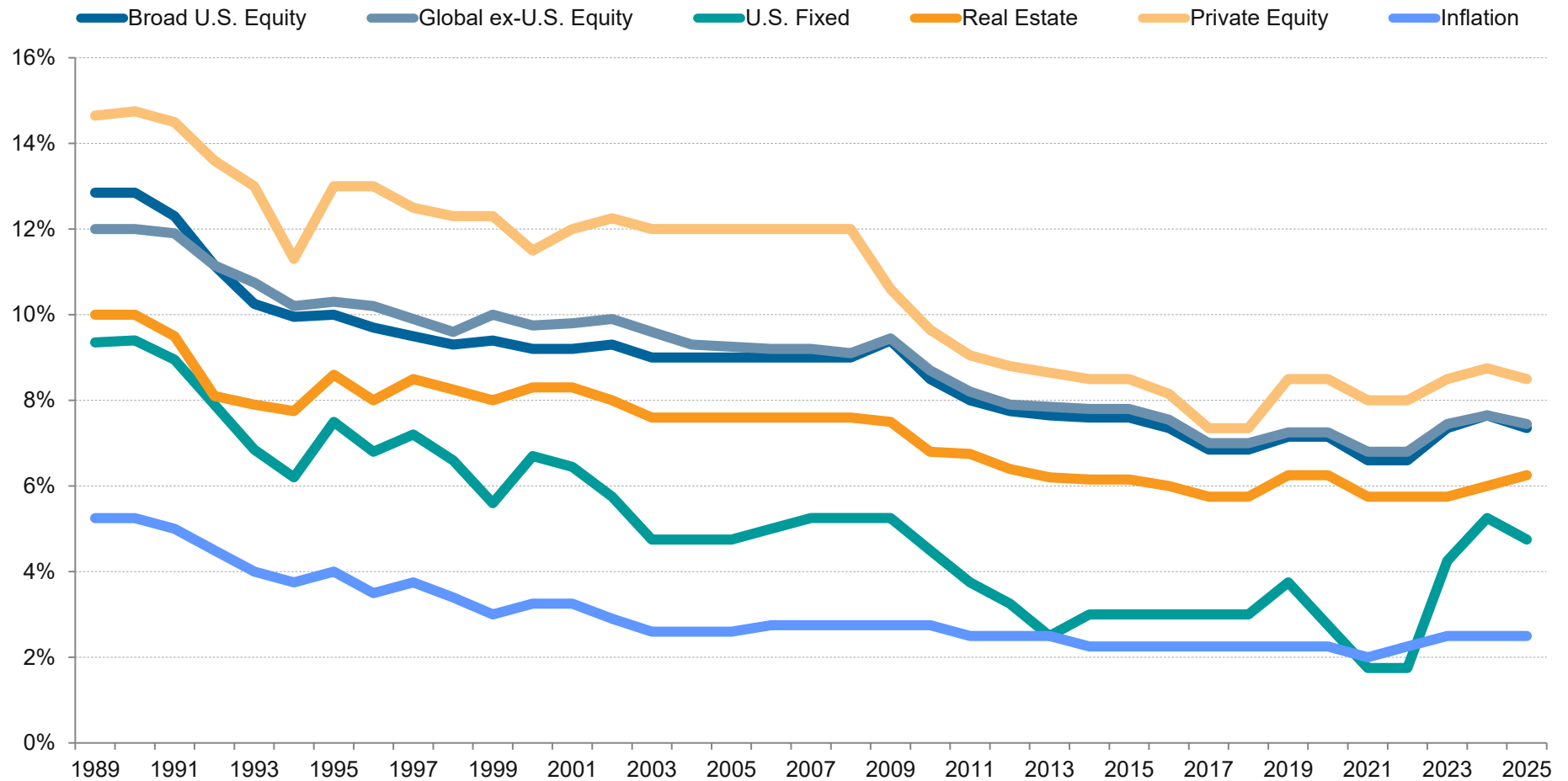
(6) Real estate debt = 80% commercial mortgages/20% private mezzanine debt

Non-US dollar fixed income currency exposure hedged to US dollar in Callan assumption.

Source: Callan LLC

# Return Projections: Major Asset Classes

1989–2025



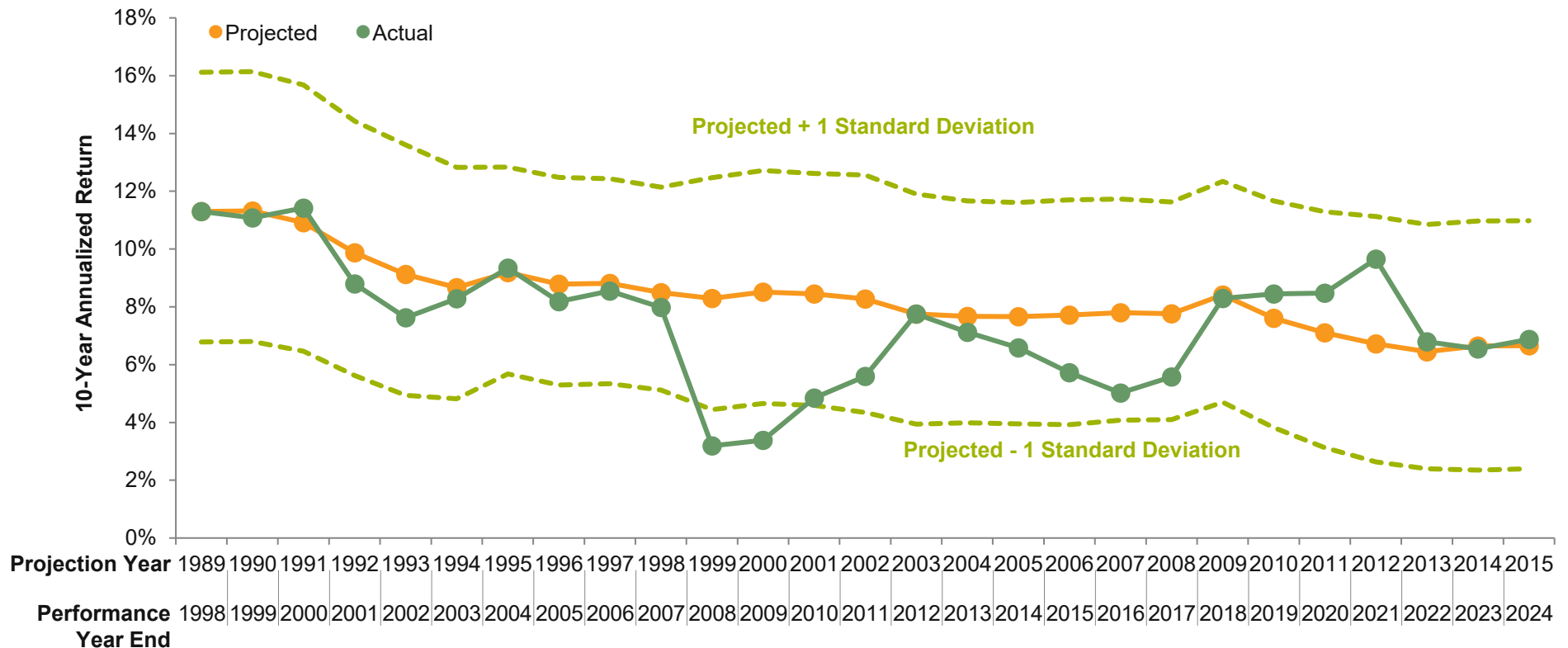
Source: Callan

# Actual Returns vs. Callan Projections

Projection Years 1989–2015

## Historical Comparison: Actual Returns vs. Callan Capital Markets Projections

Portfolio (60% Equity, 30% Fixed, 10% Real Estate)



- Our projections are generally within one standard deviation of the actual return experienced
- The glaring exceptions are the 10-year periods ended in 2008 and 2009 which contained not one but two major collapses in the equity market: the Dot-Com Bubble in 2001-02 and the Global Financial Crisis in 2008

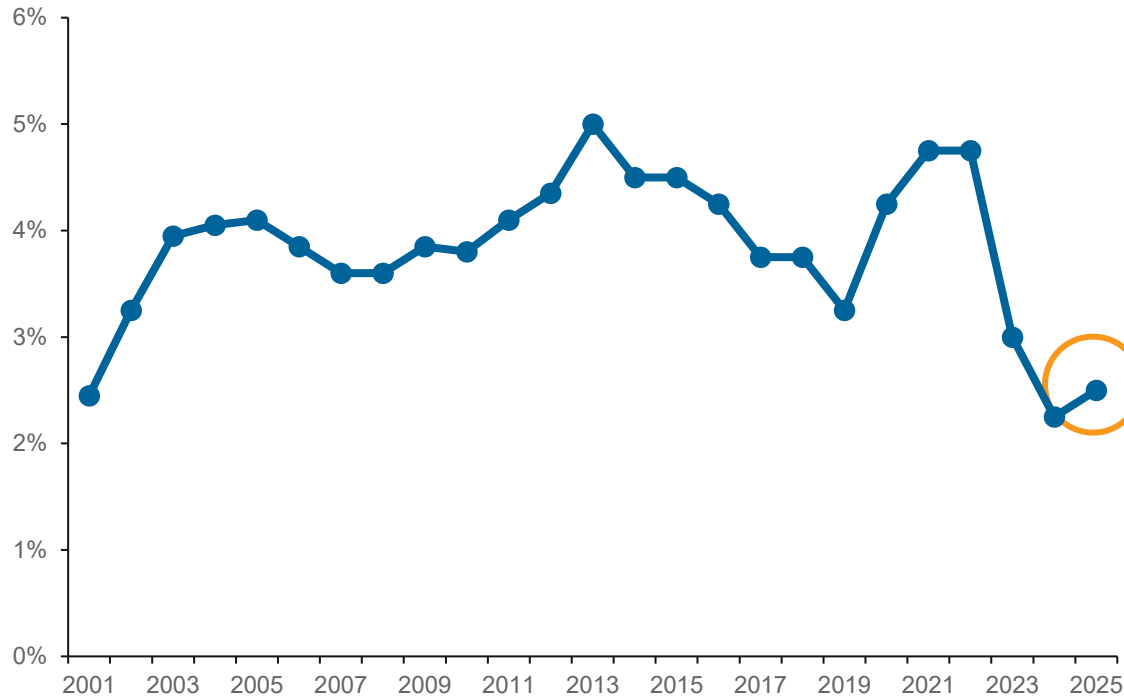
Source: Callan LLC



# Callan's Equity Risk Premia Forecasts Over Time

S&P 500 forecast minus U.S. Bloomberg Aggregate forecast

Forecasted Equity Risk Premium vs. Bonds



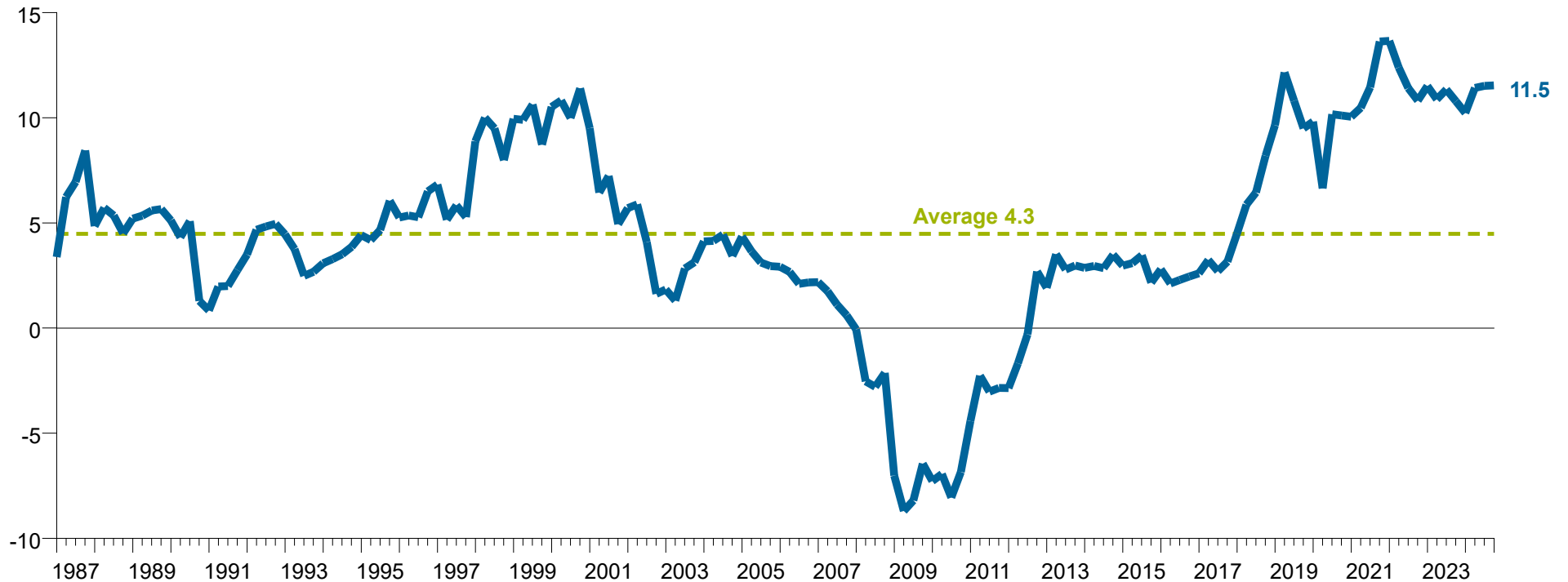
Callan's forecasted return spread between the S&P 500 and the Bloomberg Aggregate (2.50%) remains narrow.

Forecasts are annualized over 10 years.

# Historical Equity Risk Premium Over Bonds

## S&P 500 versus the U.S. Bloomberg Aggregate

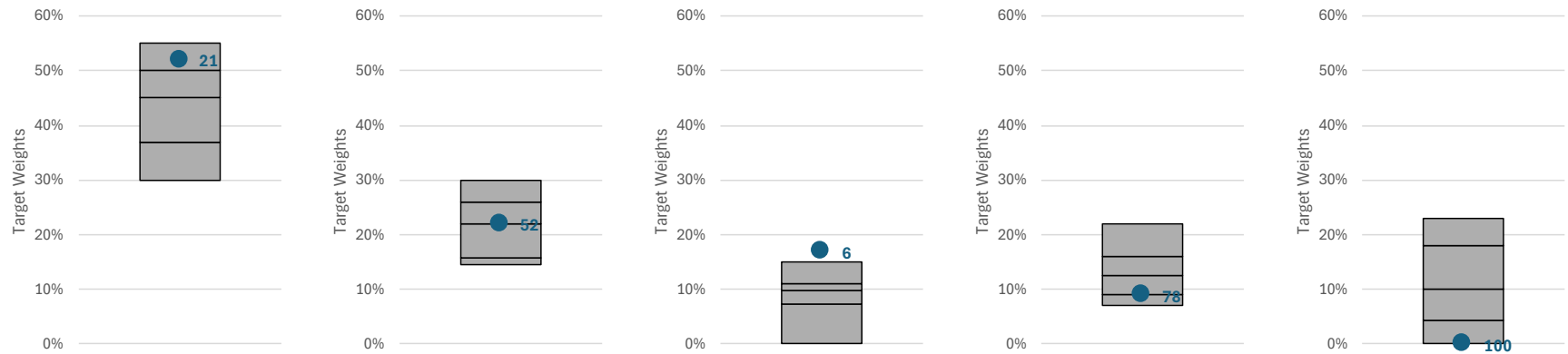
S&P 500 Rolling 40 Quarter Excess Return Relative to Bloomberg Aggregate



- Our 2.5% equity risk premium over core bonds is low relative to the historical average of 4.3%, but the premium has been volatile and 2.5% is within the historical range

Sources: Bloomberg, S&P Dow Jones Indices

# Peer Group Target Asset Allocations



Percentile	Equity Target	FI Target	RE Target	PE Target	Other Targets
10%	55.0%	30.0%	15.0%	22.1%	23.0%
25%	50.0%	25.9%	11.0%	16.0%	18.0%
50%	45.0%	22.0%	9.9%	12.5%	10.0%
75%	37.0%	15.8%	7.4%	9.0%	4.4%
90%	30.0%	14.6%	0.0%	7.0%	0.0%
<b>NYSTRS Target</b>	52%	22%	17%	9%	0%
<b>Percent Rank</b>	21%	52%	6%	78%	100%

- The above floating bar charts indicate target asset allocations for large public pension plans in 2023
- NYSTRS targets are represented by blue dots on the charts

Note Real Estate Debt was categorized as Real Estate. Private Debt is categorized as "Fixed Income" for NYSTRS, though this may not be the case for all peers.

Source: Center for Retirement Research at Boston College, Public Plans Data, as of 2023. 148 plans that reported Private Equity (plans not reporting PE and instead reporting a Miscellaneous Alternatives category were excluded)

## Leeway Clause Estimate

Current Policy Target	Allocation	Estimated Leeway
Domestic Equity	33%	0.00%
International Equity	15%	6.00%
Global Equity (1)	4%	0.67%
Real Estate Equity (2)	11%	0.85%
Private Equity	9%	9.00%
	72%	16.52%
Domestic Fixed Income	16%	0.00%
High Yield Bonds (3)	1%	1.00%
Global Bonds (4)	2%	1.50%
Real Estate Debt (2)	6%	0.20%
Private Debt	2%	2.00%
Cash Equivalents	1%	0.00%
	28%	4.70%
	100%	21.22%
Other (5)		2.41%
Leeway Assets (6)		23.63%
Available Leeway		11.37%
Leeway at 12/31/24		23.32%

Notes:

(1) Assumes Global Equity is split 58% domestic 42% international.

(2) Only a portion of the Real Estate Equity and Debt asset classes --- Directly Owned Properties and Real Estate Funds --- contribute to the 10% limit for Real Estate. Estimated Leeway was calculated with 81% of the Real Estate Equity asset class and 35% of the Real Estate Debt asset class contributing to the 10% limit based on actual amounts as of 12/31/2024.

(3) Assumes 100% of High Yield Bonds are below investment grade.

(4) Assumes 75% of Global Bonds are foreign or below investment grade.

(5) Includes securities with a market capitalization less than \$1B, foreign securities held in domestic portfolios, equity holdings more than 2% of fund assets, domestic fixed income securities below investment grade, and applicable securities lending collateral as of 12/31/2024.

(6) Estimated Leeway percentages are based on assumptions and historical data, and are not intended to precisely predict future percentages.

# Customized NYSTRS Capital Market Projections

## NYSTRS Correlation Matrix

Correlation Matrix	Broad US	US Glb ex US	Glb Eq	RE Eq	Priv Eq	Priv Cred	Core Fix	Glb Fix	RE Debt	HY	Cash
Broad US Equity	<b>1.00</b>										
Global ex-US Equity (NYSTRS)	0.76	<b>1.00</b>									
Global Equity	0.95	0.92	<b>1.00</b>								
Real Estate Equity	0.58	0.57	0.62	<b>1.00</b>							
Private Equity	0.80	0.76	0.83	0.69	<b>1.00</b>						
Private Credit	0.66	0.64	0.69	0.46	0.65	<b>1.00</b>					
Core US Fixed	0.08	0.04	0.07	0.08	-0.04	0.00	<b>1.00</b>				
Global FI	0.27	0.26	0.28	0.19	0.15	0.20	0.71	<b>1.00</b>			
Real Estate Debt	0.76	0.73	0.79	0.69	0.86	0.60	0.39	0.48	<b>1.00</b>		
High Yield	0.76	0.74	0.79	0.49	0.55	0.55	0.15	0.32	0.63	<b>1.00</b>	
Cash Equivalents	-0.03	-0.08	-0.06	-0.03	-0.04	-0.04	0.16	0.11	0.04	-0.03	<b>1.00</b>

Projection set customized to reflect specific NYSTRS strategies:

- Real estate equity, real estate debt, global fixed income

Global fixed income = 70% global, 10% global corporate, 20% emerging debt USD IG

Source: Callan LLC

# Important Disclosures

[REDACTED]. Neither this document nor any specific information contained herein is to be used other than by the intended recipient for its intended purpose.

The content of this document is particular to the client and should not be relied upon by any other individual or entity. There can be no assurance that the performance of any account or investment will be comparable to the performance information presented in this document.

Certain information herein has been compiled by Callan from a variety of sources believed to be reliable but for which Callan has not necessarily verified for accuracy or completeness. Information contained herein may not be current. Callan has no obligation to bring current the information contained herein.

Callan's performance measurement service reports returns for a portfolio and compares them against relevant benchmarks and peer groups, as appropriate; such service may also report on historical portfolio holdings, comparing them to holdings of relevant benchmarks and peer groups, as appropriate ("portfolio holdings analysis"). To the extent that Callan's performance measurement service includes portfolio holdings analysis, Callan relies entirely on holdings data provided by third parties including custodian banks, record keepers and investment managers. Callan reports the performance and holdings data as received and does not attempt to audit or verify the holdings data. Callan is not responsible for the accuracy or completeness of the performance or holdings data received from third parties and such data may not have been verified for accuracy or completeness. Callan does not perform forward-looking risk analysis or guideline compliance analysis based on the performance or portfolio holdings data.

In no event should performance measurement service provided by Callan be used in the calculation, deliberation, policy determination, or any other action of the client as it pertains to determining contribution or funding amounts, timing or activity, benefit payments or distribution amounts, timing or activity, or performance-based fee amounts, timing or activity.

The content of this document may consist of statements of opinion, which are made as of the date they are expressed and are not statements of fact. The opinions expressed herein may change based upon changes in economic, market, financial and political conditions and other factors. Callan has no obligation to bring current the opinions expressed herein.

The information contained herein may include forward-looking statements regarding future results. The forward-looking statements herein: (i) are best estimations consistent with the information available as of the date hereof and (ii) involve known and unknown risks and uncertainties. Actual results may vary, perhaps materially, from the future results projected in this document. Undue reliance should not be placed on forward-looking statements.

Callan is not responsible for reviewing the risks of individual securities or the compliance/non-compliance of individual security holdings with a client's investment policy guidelines.

This document should not be construed as legal or tax advice on any matter. You should consult with legal and tax advisers before applying any of this information to your particular situation.

Reference to, or inclusion in this document of, any product, service or entity should not necessarily be construed as recommendation, approval, or endorsement of such product, service or entity by Callan. This document is provided in connection with Callan's consulting services and should not be viewed as an advertisement of Callan, or of the strategies or products discussed or referenced herein.

The issues considered and risks highlighted herein are not comprehensive and other risks may exist that the user of this document may deem material regarding the enclosed information. Please see any applicable full performance report or annual communication for other important disclosures.

Unless Callan has been specifically engaged to do so, Callan does not conduct background checks or in-depth due diligence of the operations of any investment manager search candidate or investment vehicle, as may be typically performed in an operational due diligence evaluation assignment and in no event does Callan conduct due diligence beyond what is described in its report to the client.

Any decision made on the basis of this document is sole responsibility of the client, as the intended recipient, and it is incumbent upon the client to make an independent determination of the suitability and consequences of such a decision.

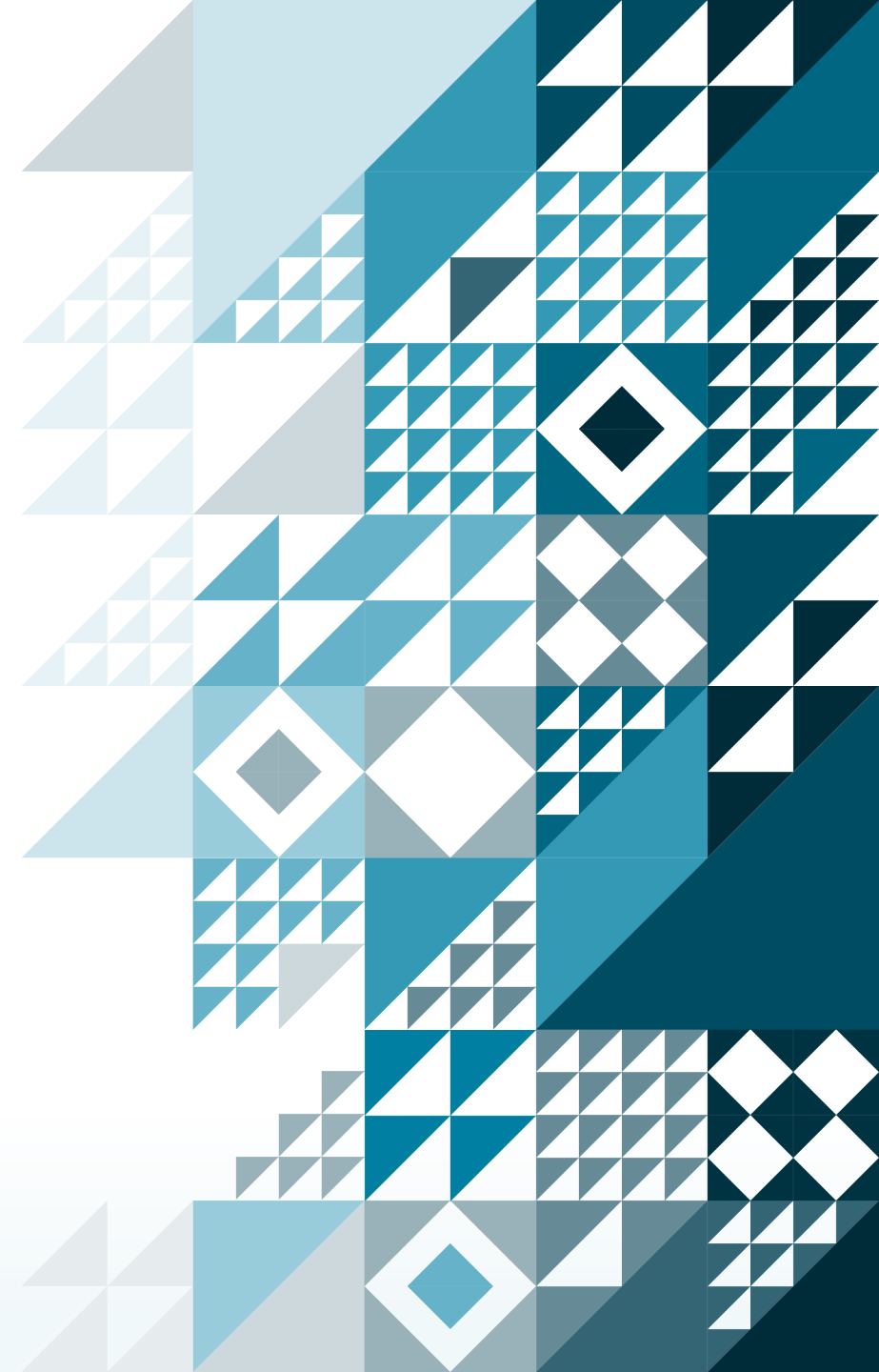
Callan undertakes no obligation to update the information contained herein except as specifically requested by the client.

Past performance is no guarantee of future results.



New York State  
Teachers'  
Retirement  
System

# Cashflow Management Process



# Cash Uses

**Benefit payments:** The pension payments we pay for our members and beneficiaries. These are projected and provided by our **Actuary** department to our **Investment Operations Department (IOD)**. We typically target 2x this number for cash.

**Investment commitments:** Private market investments rely on committed capital, but that amount is typically not given (“called”) all at once. Rather, the capital is called over a period of time. These amounts are projected by the investment staff within the asset classes and provided to **IOD**.

These amounts are projected in monthly amounts for the next 12 months.



# Cashflow Management Process

- The investment staff meets on a regular basis to look at where each asset class is compared to the target allocation. Being off the target does not *necessarily* mean that rebalancing will occur but rather that it will be monitored.
- However, liquid asset classes that are overweight (relative to the target allocation) will typically be targeted to raise cash.

# Cash Sources

## Recurring

- Dividends
- Interest payments
- Mortgage paydowns
- Real Estate net cashflow
- Contributions

## Non-recurring

- Sale of public equity holdings (stock)
- Sale of bonds
- Bond maturity (return of principal)
- Sale of real estate holdings
- Private equity distributions
- Private equity sales (secondaries)



New York State  
Teachers'  
Retirement  
System

Investment Committee Meeting July 30, 2025

## RESOLUTION RENEWING

### Advent Capital Management, LLC

RESOLVED, That the Executive Director and Chief Investment Officer, or designee, is authorized to renew the following external investment manager mandate for one year:

<b>Investment Manager:</b>	<b>Advent Capital Management, LLC</b>
NYSTRS Department:	Fixed Income
Original Contract Date:	September 10 <sup>th</sup> , 2024
<b>Approved Renewal Period:</b>	<b>09/10/2025-09/09/2026</b>

<b>Mandate</b>	
• Asset Class:	Fixed Income – High Yield
• Account Benchmark:	ICE B of A US High Yield Constrained Index (HUC0)
• Active or Passive:	Active
• Account Inception Date:	10/15/2024

## RESOLUTION ON BAILLIE GIFFORD OVERSEAS LIMITED

RESOLVED, That the Executive Director and Chief Investment Officer, or designee, is authorized to renew the following external investment manager mandate for one year:

<b>Investment Manager:</b>	<b>Baillie Gifford Overseas Limited</b>
NYSTRS Department:	Public Equities
Original Contract Date:	9/15/2011
Approved Renewal Period:	9/15/2025 – 9/14/2026

<b>Mandate</b>	
• Asset Class:	International Equities
• Account Benchmark:	MSCI ACWI exUS Index
• Active or Passive:	Active
• Account Inception Date:	9/22/2011

## RESOLUTION RENEWING

### BlackRock Financial Management, Inc.

RESOLVED, That the Executive Director and Chief Investment Officer, or designee, is authorized to renew the following external investment manager mandate for one year:

<b>Investment Manager:</b>	<b>BlackRock Financial Management, Inc.</b>
NYSTRS Department:	Fixed Income
Original Contract Date:	October 6 <sup>th</sup> , 2023
<b>Approved Renewal Period:</b>	<b>10/06/2025-10/05/2026</b>

<b>Mandate</b>	
• Asset Class:	Fixed Income – Global Bonds – Carbon Transition
• Account Benchmark:	Bloomberg Global Aggregate Corporate Bond Index (in USD hedged to USD)(H03435US)
• Active or Passive:	Active
• Account Inception Date:	12/01/2023

Investment Committee July 30, 2025

**RESOLUTION ON BLUE OWL REAL ESTATE DEBT ADVISORS, LLC  
(AS SUCCESSOR-IN-INTEREST TO PRIMA CAPITAL ADVISORS LLC)**

RESOLVED, That the Executive Director and Chief Investment Officer is authorized to renew the System's contract with Blue Owl Real Estate Debt Advisors, LLC to manage a portion of the System's real estate portfolio, as a manager of US CMBS and private real estate debt, for a period of one year, commencing on August 13, 2025.

**RESOLUTION ON GLOBAL REIT MANAGERS  
(Heitman, L.L.C.; Dimensional Fund Advisors, L.P.)**

RESOLVED, That the Executive Director and Chief Investment Officer, or his designees, is authorized to renew the agreements with the entities below to manage a portion of the System's assets as Global Real Estate Public Securities managers benchmarked to the FTSE EPRA/NAREIT Developed unhedged index for a period of one year:

Entity:	Renew for a period of one year effective as of:
Heitman, L.L.C.	August 7, 2025
Dimensional Fund Advisors, L.P.	September 22, 2025



## RESOLUTION ON LEADING EDGE INVESTMENT ADVISORS

RESOLVED, That the Executive Director and Chief Investment Officer, or designee, is authorized to renew the following external investment manager mandate for one year:

<b>Investment Manager:</b>	<b>Leading Edge Investment Advisors</b>
NYSTRS Department:	Public Equities
Original Contract Date:	11/22/2010 (IMA reissued 7/1/2013; re-mandated 4/1/2020)
Approved Renewal Period:	11/22/2025 – 11/21/2026

<b>Mandate</b>	
• Asset Class:	Global Equities
• Account Benchmark:	MSCI ACWI Index
• Active or Passive:	Active
• Account Inception Date:	6/23/2020

## RESOLUTION RENEWING

### Pacific Investment Management Company LLC

RESOLVED, That the Executive Director and Chief Investment Officer, or designee, is authorized to renew the following external investment manager mandate for one year:

<b>Investment Manager:</b>	<b>Pacific Investment Management Company LLC (PIMCO)</b>
NYSTRS Department:	Fixed Income
Original Contract Date:	October 6 <sup>th</sup> , 2023
<b>Approved Renewal Period:</b>	<b>10/6/2025-10/5/2026</b>

<b>Mandate</b>	
• Asset Class:	Fixed Income – Global Bonds – Carbon Transition
• Account Benchmark:	Bloomberg Global Aggregate Corporate Bond Index (in USD hedged to USD)(H03435US)
• Active or Passive:	Active
• Account Inception Date:	11/15/2023

**RESOLUTION ON T. ROWE PRICE ASSOCIATES, INC.**

RESOLVED, That the Executive Director and Chief Investment Officer, or designee, is authorized to renew the following external investment manager mandate for one year:

<b>Investment Manager:</b>	<b>T. Rowe Price Associates, Inc.</b>
NYSTRS Department:	Public Equities
Original Contract Date:	10/30/2008 (IMA reissued 7/1/2013)
Approved Renewal Period:	10/30/2025 – 10/29/2026

<b>Mandate</b>	
• Asset Class:	Domestic Equities
• Account Benchmark:	S&P 500 Index
• Active or Passive:	Active
• Account Inception Date:	1/15/2009

**RESOLUTION ON WILLIAM BLAIR INVESTMENT MANAGEMENT, LLC**

RESOLVED, That the Executive Director and Chief Investment Officer, or designee, is authorized to renew the following external investment manager mandate for one year:

<b>Investment Manager:</b>	<b>William Blair Investment Management, LLC</b>
NYSTRS Department:	Public Equities
Original Contract Date:	9/22/2010
Approved Renewal Period:	9/22/2025 – 9/21/2026

<b>Mandate</b>	
• Asset Class:	International Equities
• Account Benchmark:	MSCI ACWI exUS Index
• Active or Passive:	Active
• Account Inception Date:	10/6/2010



NEW YORK STATE TEACHERS' RETIREMENT SYSTEM  
INVESTMENT POLICY MANUAL

Delegation of Investment Authority

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**Delegation of Investment Authority**

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**I. Introduction**

This section of the NYSTRS Investment Policy Manual sets forth the investment discretion duly delegated by the Retirement Board to the Investment Committee of the Retirement Board and to the Executive Director and Chief Investment Officer, and his designees, as applicable.

Pursuant to § 136-1.6(c) of Title 11 of the New York Codes, Rules and Regulations of the New York State Department of Financial Services, the Retirement Board, may, consistent with its fiduciary duties, delegate its powers of investment to a committee, System staff or agents within well-defined guidelines, subject to review by the Retirement Board.

The Retirement Board shall review and renew the investment discretion delegated to the Executive Director and Chief Investment Officer annually, at the regular meeting of the Retirement Board in July of each calendar year.

**II. Investment Discretion Delegated to the Investment Committee of the Retirement Board**

The Investment Committee of the Retirement Board, by unanimous vote, is authorized, between meetings of the Retirement Board, to invest in or otherwise sell or dispose of any System investment, without regard to amount, when (a) the subject transaction is recommended by the Executive Director and Chief Investment Officer, (b) the subject transaction exceeds the limits on investment discretion delegated to the Executive Director and Chief Investment Officer described in Section III below, and (c) the closing of such transaction, in the judgment of the Executive Director and Chief Investment Officer, does not allow for the consideration of such investment at a regular meeting of the Board.

**III. Investment Discretion Delegated to the Executive Director and Chief Investment Officer**

Under the System's Bylaws, the Executive Director and Chief Investment Officer is authorized to "invest the funds of the System committed to the management of System staff in accordance with the directions, policies and procedures established by the Board..." The Executive Director and Chief Investment Officer, as well as such System staff as he may authorize, is responsible to exercise the delegated investment discretion powers to administer the System consistent with the policies and decisions adopted by the Retirement Board, the applicable laws of New York and the policies contained in the Investment Policy Manual, as follows:



**Delegation of Investment Authority**

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**A. Cash Management**

The Executive Director and Chief Investment Officer, in consultation with the Internal Investment Committee, is authorized to: manage the assets of the System so as to assure sufficient cash is available at all times to pay the System's benefit and other obligations as they come due; assure that the System's asset allocation as approved by the Retirement Board is achieved and maintained; and assure sufficient funds are available for the funding of such investments as have duly been authorized by the Retirement Board, the Investment Committee of the Retirement Board and the Executive Director and Chief Investment Officer, as applicable, and to take all such actions as he may deem necessary or required in his discretion to achieve the foregoing objectives.

**B. Selection of Brokers and Dealers**

The Executive Director and Chief Investment Officer, or his designees managing internal fixed income and public equity portfolios, has discretion to select among brokers and dealers to execute a transaction to the best advantage of the System in accordance with the applicable policies in the Investment Policy Manual.

**C. Cash Investments**

The Executive Director and Chief Investment Officer, or his designees, has full investment discretion to invest the System's cash in short-term fixed income securities in accordance with the short-term investment (cash equivalents) and asset allocation policies, so as to provide liquidity, enhance System income and provide for temporary investment of System funds.

**D. Public Markets Portfolios**

For purposes of this section of the policy, "public markets" portfolios of the System include any Public Equities, Fixed Income or Real Estate public markets portfolios, including but not limited to Domestic Equity, International Equity, Global Equity, Domestic Fixed Income, Global Fixed Income, High Yield Fixed Income, REIT and CMBS.

Provided that sufficient cash is available to meet obligations, and asset classes remain within the asset allocation ranges as approved annually by the Retirement Board, the Executive Director and Chief Investment Officer, or his designees, is authorized to exercise the investment discretion delegated below with respect to public markets portfolios:

Existing Managers. The Executive Director and Chief Investment Officer, or his designees, is authorized to reallocate among existing public markets portfolios,



**Delegation of Investment Authority**

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whether internally or externally managed, and whether actively or passively managed, and reallocate to and from cash, without regard to amount.

New Managers. (a) Up to \$1 Billion. The Executive Director and Chief Investment Officer, upon recommendation of the Internal Investment Committee, has the authority to engage any new investment manager for any public markets portfolio for an initial investment of up to \$1 billion in accordance with the following procedure.

Prior to any such engagement, the Executive Director and Chief Investment Officer shall notify the Investment Committee of the Retirement Board that an engagement is being authorized. Upon notification by the Executive Director and Chief Investment Officer, the Investment Committee of the Retirement Board may require that a meeting of the Retirement Board be held to authorize the engagement of the new investment manager. The following language shall be included in the Executive Director and Chief Investment Officer's transmittal to the Investment Committee of the Retirement Board:

Place engagement on the Investment Committee of the Retirement Board meeting agenda: Yes \_\_\_ No \_\_\_

The Executive Director and Chief Investment Officer shall exercise his/her authority to engage the new investment manager if all members of the Investment Committee of the Retirement Board vote "No".

(b) Over \$1 Billion. No new investment manager for which initial investment exceeds \$1 billion shall be engaged without Retirement Board authorization.

Termination of Managers.

(a) Termination under Non-Exigent Circumstances. In the absence of exigent circumstances (as described in paragraph (b) below), the Executive Director and Chief Investment Officer has the authority to terminate any existing investment manager in accordance with the following procedure.

Prior to any such termination, the Executive Director and Chief Investment Officer shall notify the Investment Committee of the Retirement Board that a termination is being authorized. Upon notification by the Executive Director and Chief





NEW YORK STATE TEACHERS' RETIREMENT SYSTEM  
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**Delegation of Investment Authority**

Investment Officer, the Investment Committee of the Retirement Board may require that a meeting of the Retirement Board be held to authorize the termination of the existing investment manager. The following language shall be included in the Executive Director and Chief Investment Officer's transmittal to the Investment Committee of the Retirement Board:

Place termination on the Investment Committee of the Retirement Board meeting agenda: Yes\_\_\_ No\_\_\_

The Executive Director and Chief Investment Officer shall exercise his/her authority to terminate the existing investment manager if all members of the Investment Committee of the Retirement Board vote "No".

(b) Termination under Exigent Circumstances. The Executive Director and Chief Investment Officer has the authority to terminate any existing investment manager under exigent circumstances that include, without limitation, departure of key persons, regulatory events, bankruptcy or insolvency, fraud or other bad acts, in each case, as determined by the Executive Director and Chief Investment Officer exercising reasonable judgment. Such termination under exigent circumstances is authorized without the need to follow the procedure set forth in paragraph (a) above.

**E. Private Markets Portfolios**

The Executive Director and Chief Investment Officer, upon recommendation of the Internal Investment Committee, or his designees, is authorized to invest in or sell or dispose of any of the following types of investment, subject to the following limitations:

Type	Investment Discretion	Disposition Discretion
Private Equity funds, Private Debt funds, and Real Estate Debt or Equity funds	Up to \$300 million <sup>(1)</sup>	Without regard to amount
Real Estate Direct Debt transactions	Up to \$300 million <sup>(2)</sup> (with REAC approval)	Up to \$300 million <sup>(3)</sup> (with REAC approval)
Real Estate Direct Equity transactions	Up to \$300 million <sup>(4)</sup> (with REAC approval)	Up to \$300 million <sup>(4)</sup> (with REAC approval)



**Delegation of Investment Authority**

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(1) Investments in “funds” include, without limitation, commingled funds, funds-of-one, funds-of-funds, closed-end funds or open-end funds. Such investments may be made through, without limitation, new funds, successor funds, additions to existing funds or secondary purchases. Multiple, contemporaneous investments into the same fund intended as part of a single overall investment shall, in the aggregate, be subject to the \$300 million limitation without duplication.

(2) Investments in Real Estate Direct Debt include, without limitation, new loans, refinancings or additional financings. Multiple, contemporaneous loans that are intended as part of a single overall investment (for example, where multiple assets are involved) shall, in the aggregate, be subject to the \$300 million limitation without duplication.

(3) For dispositions of Real Estate Direct Debt, the \$300 million limitation refers to the aggregate outstanding principal balance and accrued interest, without regard to sale price. The disposition of a package of loans that are intended as part of a single overall disposition (for example, where multiple assets are involved) shall, in the aggregate, be subject to the \$300 million limitation without duplication.

(4) For investments in Real Estate Direct Equity, the \$300 million limitation refers to the amount allocable to NYSTRS' share of the equity investment (not the overall transaction value). For dispositions of Real Estate Direct Equity, the \$300 million limitation refers to the portion of the sale price or consideration allocable to NYSTRS' share of the equity investment (not the overall transaction value).

**F. Derivatives**

The Executive Director and Chief Investment Officer or designees, is authorized to:

1. Internally Managed Public Equities Portfolios:
  - a. sell covered calls
  - b. use futures with a notional value of up to \$2 billion, for the purposes of minimizing asset allocation risk and reducing trading costs.
2. Internally Managed Fixed Income Portfolios:
  - a. use interest rate futures to manage portfolio duration
  - b. trade forward-settling securities in the To-Be-Announced (TBA) market
  - c. use currency forwards for the purposes of trade settlement or managing currency risk



**Delegation of Investment Authority**

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**G. Securities Lending**

The Executive Director and Chief Investment Officer is authorized to implement a securities lending program in accordance with the securities lending policy, provided the market value of securities loaned shall not exceed 20% of the market value of System invested assets.

**H. Limited Waiver of Credit Ratings Requirements for U.S. Government Obligations**

The Executive Director and Chief Investment Officer, upon recommendation of the Internal Investment Committee, or his designees, is authorized to waive the credit ratings requirements for U.S. Government Obligations (hereinafter defined) within the following IPM sections:

- Securities Lending—VI. Risk Management—B. Market Risk—2. The STIF—  
a.(1)
- Domestic Fixed Income Securities—VI. Risk Management—A. Market Risk—2.  
Credit Rating Restrictions
- Short-Term Investments (Cash Equivalents)—VI. Risk Management—A. Market  
Risk—2. Credit Rating Restrictions

In exigent circumstances which make it impractical to delay action, in the event of credit ratings downgrade or default status of U.S. Government Obligations resulting from the failure of the U.S. government to raise, suspend or otherwise address the federal debt ceiling (also known as the debt limit or statutory debt limit) in a timely manner.

As used above, "U.S. Government Obligations" means: (a) direct obligations of the United States; (b) direct obligations of any agency or instrumentality of the United States which obligations are expressly backed by the full faith and credit of the United States; (c) obligations the timely payment of principal and interest on which is fully and expressly guaranteed by the United States; or (d) obligations the timely payment of principal and interest on which is fully and expressly guaranteed by any agency or instrumentality of the United States the obligations of which are expressly backed by the full faith and credit of the United States.

**RESOLUTION ON INVESTMENT DISCRETION**

WHEREAS, The Retirement Board approved the delegations of investment authority set forth in the section of the Investment Policy Manual entitled “Delegation of Investment Authority” at its October 2024 meeting; and

WHEREAS, Said section shall be subject to annual review and renewal at the regular meeting of the Retirement Board in July of each calendar year; be it

RESOLVED, That the delegations of investment authority set forth in said section of the Investment Policy Manual are reauthorized and reconfirmed as the principal items of investment authority delegated to the Executive Director and Chief Investment Officer.

Investment Committee July 30, 2025

## **ASSET ALLOCATION RESOLUTION**

RESOLVED, That the System's asset allocation targets and rebalancing ranges in the System's Asset Allocation shall continue as follows, effective immediately:

<b><u>Asset Class</u></b>	<b><u>Range</u></b>	<b><u>Target</u></b>
Domestic Equity	29 - 37%	33%
International Equity	11 - 19%	15%
Global Equity	0 – 8%	4%
Domestic Fixed Income	12 - 20%	16%
Real Estate Equity	6 - 16%	11%
Real Estate Debt	2 - 10%	6%
Private Equity	4 - 14%	9%
Private Debt	0.5 - 5%	2%
Global Bonds	0 - 4%	2%
High Yield Bonds	0 - 3%	1%
Short Term Investments (Cash Equivalents)	0 - 4%	1%



**TO:** Retirement Board

**FROM:** T. Lee

**SUBJECT:** Quarterly Report of Executive Director and Chief Investment Officer Investment Discretion Exercised April - June 2025

**Fixed Income**

<b>Period</b>	<b>Action Taken</b>	<b>Amount</b>
Q/E 6/30/25	Net cash and securities reallocated <b>out of</b> internally managed Long-Term Bonds	\$375.6 M
Q/E 6/30/25	Net cash and securities reallocated <b>into</b> internally managed Emerging Market Debt	\$78.4 M
Q/E 6/30/25	Cash reallocated <b>out of</b> an externally managed Global Bond account	\$50.0 M



**TO:** Retirement Board

**FROM:** T. Lee

**SUBJECT:** Quarterly Report of Executive Director and Chief Investment Officer Investment Discretion Exercised April - June 2025

**Public Equities**

Period	Action Taken	Amount
Q/E 6/30/2025	Cash reallocated <b>out of</b> externally managed international equity portfolio	\$889.95 M
Q/E 6/30/2025	Cash reallocated <b>out of</b> internally managed international equity portfolio (Canada)	\$18.92 M



**TO:** Retirement Board

**FROM:** T. Lee

**SUBJECT:** Quarterly Report of Executive Director and Chief Investment Officer Investment Discretion Exercised April - June 2025

**Real Estate - New Commitments**

Date of Internal Inv. Comm. Approval	Investment Name	Amount	New or Existing Relationship
May 15 2025	Emerson Mill	\$56.4M	Mortgage

**Real Estate**

Period	Action Taken	Amount
Q/E 6/30/2025	Cash reallocated <b>out of</b> externally managed REIT portfolios	\$434.2M
Q/E 6/30/2025	Cash reallocated <b>to</b> externally managed CMBS portfolio	\$300M





**TO:** Retirement Board

**FROM:** T. Lee

**SUBJECT:** Quarterly Report of Executive Director and Chief Investment Officer Investment Discretion Exercised April – June 2025

**Private Equity/Debt – New Commitments**

<b>Date of Internal Inv. Comm. Approval</b>	<b>Investment Name</b>	<b>Amount</b>	<b>New or Existing Relationship</b>
04-01-2025	NMS Fund V LP	\$150M	Existing
05-13-2025	JFL Credit Opportunities Fund II	\$100M	Existing



**TO:** Retirement Board

**FROM:** T. Lee

**SUBJECT:** Quarterly Board Report of Mail Votes<sup>i</sup> for the period April – June 2025

<b>Date</b>	<b>Type</b> (Full Board Vote or Investment Committee Vote)	<b>Transaction</b>
06-27-2025	Investment Committee	525 Market Street

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<sup>i</sup> “...The Board may act by a unanimous vote of its members taken by mail and/or e-mail and other electronic means approved by the System, or by telephone confirmed by mail and/or other electronic means approved by the System, on occasional matters determined by the President to be non-controversial in nature so as not to require a special meeting of the Board but having circumstances which make it impractical to delay action until the next annual or stated meeting of the Board...” from NYSTRS’ Bylaws



**TO:** Retirement Board

**FROM:** T. Lee

**SUBJECT:** REAC Quarterly Transactions Board Report of for the period April – June 2025

Transaction	Approved by REAC	ED/CIO Discretion Exercised
Smith & Rio – Direct Mortgage	Yes – 3/18/25	\$55M
Emerson Mill – Direct Mortgage	Yes – 5/14/25	\$56.4M



**Disability Review Committee Meeting**

July 30, 2025

COMMITTEE MEMBERS

Eric Iberger, Chair

David Keefe, Scott Levy, Donald A. Little III, Jennifer Longtin, Ruth Mahoney, Nicholas Smirensky

AGENDA p. 144  
Call to Order by Chair

- A. Approval of Minutes from April 23, 2025 Disability Committee meetings p. 145
- B. Committee recommendations to the Board at the July 30, 2025 Board meeting:
  - A Disability Denial Resolution and a Disability Rescission Resolution will be brought before the Board

NEW YORK STATE  
TEACHERS' RETIREMENT SYSTEM  
10 CORPORATE WOODS DRIVE, ALBANY NY

Disability Review Committee Meeting

A meeting of the Disability Review Committee of the Retirement Board was held at the System on April 23, 2025. The meeting was called to order at 3:08 p.m. by Eric Iberger, Chair.

The following individuals were in attendance:

Committee Members: Juliet Benaquisto, Paul Farfaglia, Eric Iberger, David Keefe, Donald A. Little III, Oliver Robinson

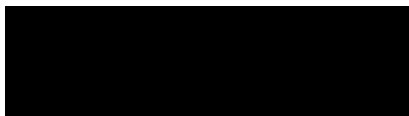
Board Members: Nicholas Smirensky

Upon motion of P. Farfaglia, seconded by J. Benaquisto and unanimously carried, the meeting minutes of January 29, 2025 were approved.

E. Iberger, Chair, reported that the System's Medical Board had met monthly over the prior three months and that a disability denial resolution and a disability rescission resolution would be brought before the Board at its meeting on April 24, 2025.

There being no further business, the Committee unanimously adjourned at 3:09 p.m.

Respectfully submitted,

A solid black rectangular box used to redact the signature of the official.

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Thomas K. Lee



Ethics Committee Meeting

July 30, 2025

COMMITTEE MEMBERS

Ruth Mahoney, Chair

Donald A. Little III, Nicholas Smirensky, Thomas K. Lee, Don Ampansiri

AGENDA p. 146

Call to Order by Chair

- A. Approval of minutes from April 23, 2025 Ethics Committee meetings p. 147
- B. Update on EDCIO Quarterly Disclosures (Motion to go into **Executive Session** pursuant to Open Meetings Law §105 (1)(f) as it relates to the discussion of the financial history of an individual)

NEW YORK STATE  
TEACHERS' RETIREMENT SYSTEM  
10 Corporate Woods Drive, Albany NY

Ethics Committee Meeting

A meeting of the Ethics Committee of the Retirement Board was held at the System on April 23, 2025. The meeting was called to order by Paul Farfaglia, Chair, at 3:09 p.m.

The following individuals were in attendance:

Committee Members: Juliet Benaquisto, Paul Farfaglia, Oliver Robinson  
Thomas K. Lee, Don Ampansiri

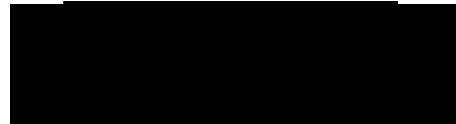
Board Members: Eric Iberger, David Keefe, Donald A. Little III, Nicholas Smirensky

Upon motion of O. Robinson, seconded by J. Benaquisto and unanimously carried, the minutes from the January 29, 2025 meeting were approved.

D. Ampansiri reported that the outstanding annual disclosure statement mentioned at the January 29 meeting had been received and there were no issues with same. There also were no issues with the quarterly EDCIO disclosures.

There being no further business, and with unanimous consent, the meeting adjourned at 3:10 p.m.

Respectfully submitted,

A large black rectangular redaction box covering the signature of Thomas K. Lee.

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Thomas K. Lee



**Executive Committee Meeting**

July 30, 2025

COMMITTEE MEMBERS

David Keefe, Chair  
Phyllis Harrington, Eric Iberger, Nicholas Smirensky

AGENDA p. 148

Call to Order by Chair

- A. Approval of minutes from April 23, 2025 pp. 149-150
- B. Legislative Update pp. 151-160
- C. Changes to Rules and Regulations Section 5021 pp. 161-164
  - 1. Resolution Amending System Rules and Regulations Part 5021 p. 165
- D. Signatory Materials
  - 1. Annual Signatory Board Report p. 166
  - 2. Legal and Financial Document Signatories List pp. 167-168
  - 3. Resolution Identifying Financial and Legal Document Signatories p. 169
  - 4. Warrant Delegation Resolution p. 170-172
  - 5. Disbursement Warrant Signatories List p. 173
  - 6. Resolution Identifying Warrant Signatories p. 174
- E. System Financials pp. 175-179



NEW YORK STATE  
TEACHERS' RETIREMENT SYSTEM  
10 CORPORATE WOODS DRIVE, ALBANY NY

Executive Committee Meeting

A meeting of the Executive Committee of the Retirement Board of the New York State Teachers' Retirement System was held at the System on April 23, 2025.

The following individuals were in attendance:

Committee Members: David Keefe, Oliver Robinson, Nicholas Smirensky

Board Members: Juliet Benaquisto, Paul Farfaglia, Eric Iberger, Donald A. Little III

NYSTRS Staff: Thomas K. Lee, Don Ampansiri, Kristin Vrbanac, Janet Graham, Rebecca Kannan, Vince Thompson

Visitor via WebEx: Donna Martin, Albany NY

With unanimous consent, the meeting was called to order at 3:11 p.m. by D. Keefe, Chair. The following items were discussed:

1. Approval of January 29, 2025 and March 21, 2025 meeting minutes

Upon motion of O. Robinson, seconded by N. Smirensky, and unanimously carried, the meeting minutes from January 29, 2025 and March 21, 2025 were approved.

2. System's Operating Budget

Upon motion of O. Robinson, seconded by N. Smirensky, and unanimously carried, the Committee voted to recommend the following resolution to the Board:

WHEREAS, System staff has presented to the Retirement Board a proposed Operating Budget for Fiscal Year 2025-26, a copy of which is annexed hereto and made a part hereof as Appendix A, pp. 3-19; be it

RESOLVED, That the Operating Budget for Fiscal Year 2025-26 is approved as presented.

### 3. Legislative Update

D. Ampansiri reviewed the legislative program for the current year and legislation of interest introduced for the current Legislative Session that may impact the System (Appendix B, pp. 20-30).

### 4. Rules and Regulations – Updates to Part 5021 Retired Board Member Election

D. Ampansiri reviewed the proposed changes to the System's Rules and Regulations relating to part 5021. The Board will be asked to take action on this at its July 2025 meeting (Appendix C, pp. 31-33).

### 5. Resolution on NYSTRS Business Continuity Plan

Upon motion of N. Smirensky, seconded by O. Robinson, and unanimously carried, the Committee voted to recommend the following resolution to the Board:

RESOLVED, That the Business Continuity Plan, as presented to the Retirement Board reflecting changes through January 2025 is approved and accepted.

### 6. Finance Reports

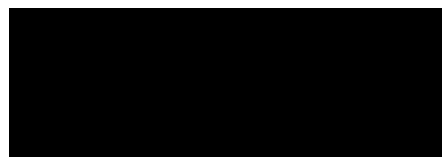
The Committee members reviewed the Statement of Fiduciary Net Position, Statement of Changes in Fiduciary Net Position and Schedule of Administrative Expenses (Appendix D, pp. 34-38).

### 7. Quarterly Signatory Additions and Deletions

The Committee reviewed the quarterly report (Appendix E, p. 37)

There being no further business and with unanimous consent, the Committee adjourned the meeting at 3:26 p.m.

Respectfully submitted,

A large black rectangular redaction box covering the signature of Thomas K. Lee.

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Thomas K. Lee



**New York State  
Teachers'  
Retirement  
System**

**To: Retirement Board**  
**From: D. Ampansiri, Jr./ K. Vrbnac**  
**CC: T. Lee**  
**Date: July 22, 2025**  
**Re: 2025 Legislative Update**

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Annually at the July meeting of the Retirement Board, staff provides a summary of legislation of significant interest for the Legislative Session ending in June of the current year and a first look at the System's Legislative Program for the following year. Together with this Memorandum is NYSTRS' 2025 Legislative Program grid, a first look at the 2026 Proposed Legislative Program and the 2025 Legislation of Interest to NYSTRS chart.

The 2025 Legislative Program grid provides the movement of program bill 25-1 (MWBE Report). The Senate passed it during the last week of the legislative session on June 10, 2025. Although it was referred to the Assembly Government Employees committee, it did not get assigned a sponsor for introduction.

### **Proposed 2026 Legislative Program**

The 2026 legislative session will be the second year of the two year legislative cycle. As such, staff recommends carrying forward program bill 25-1 (MWBE Report) that did not make it out of the Assembly in the 2025 legislative session as program bill 26-1.

- 26-1 To amend the date in which NYSTRS is required to submit the MWBE report to on or before December 31 of the current year.
  - Education Law Section 508-a subdivision 2(b) currently requires NYSTRS to submit the MWBE report to the Governor, Legislature and Chief Diversity Officer of NYS within 60 days of NYSTRS fiscal year end (on or before September 1).
  - The MWBE report information is not received or finalized until after September 1 and is published with NYSTRS' Annual Comprehensive Financial Report (ACFR) on or about November 10.
  - To meet the requirement under the current statute, NYSTRS submits a preliminary report by September 1 and then submit a follow up final report once the MWBE report information is complete and finalized, customarily after the ACFR is published in November.
  - This proposal would address and eliminate the redundancy of the current two-step process of submitting two reports and allow NYSTRS to submit one final report on or before December 31 of the current year.

- There is no cost to NYSTRS. Rather, there would be expected cost savings from the elimination of redundancy in preparing the two substantially similar and near identical reports.

## **2025 Legislation of Interest**

The 2025 Legislation of Interest to NYSTRS chart contains bills that were not proposed by NYSTRS that could have a potential impact on the System, that either passed one or both houses and/or was signed into law, as well as proposed Special Interest bills not acted on by the legislature that, although not proposed by NYSTRS, pertain to a specific NYSTRS' member.

We will provide an updated chart at the October Board meeting. Below please find some bills captured on the chart that have been signed into law by the Governor as a part of the New York State Budget:

**Chapter 55 of the Laws of 2025, Part VV** Amends Retirement and Social Security Law to waive the §211 and §212 income limitations allowing NYSTRS retirees to be employed in school districts and BOCES and earn compensation without suspension or diminution of their retirement allowance until June 30, 2027. Part VV is a two-year extension of Chapter 55 of the Laws of 2024 (Part GG) that expired on June 30, 2025.

**Chapter 59 of the Laws of 2025, Part F – Subpart A** Amends Real Property Law by adding a new Article 16 to enforce a ninety-day waiting period for an institutional real estate investor to purchase, acquire, or offer to purchase or acquire any interest in a single-family residence or two-family residence, effective July 1, 2025.

### NYSTRS 2025 LEGISLATIVE PROGRAM GRID

Subject	Com. Ref.	2025 Bill No.	Sponsor	Report 1 <sup>st</sup> /2 <sup>nd</sup>	3 <sup>RD</sup> Reading	Passed	To Gov.	Gov.'s Action
25-1 Amends Education Law Section 508-a subdivision 2 (b) to change the due date in which the New York State Teachers' Retirement System is required to submit the MWBE report to on or before December 31 after fiscal year end.	CS 5/27/25 Rules 6/10/25 ----- Referred GE 6/10/25	S8234   -----	Jackson   -----	Ordered to Third Reading   -----	6/10/25   -----	6/10/25   -----	-----	
No Cost								

July 22, 2025

Committees: GE = Assembly Governmental Employees Committee;  
CS = Senate Civil Service and Pensions Committee



nystrs.org

**New York State  
Teachers'  
Retirement  
System**

**Retirement Board**

David P. Keefe

*President, Hempstead*

Phyllis S. Harrington

*Oceanside*

Eric J. Iberger

*Bayport-Blue Point*

Scott R. Levy

*Byram Hills*

Jennifer J. Longtin

*Ballston Lake*

Donald A. Little III

*Syracuse*

Ruth Mahoney

*Albany*

Nicholas Smirensky

*Delmar*

Mark R. Stratton

*Corinth*

**PROPOSED 2026 LEGISLATIVE PROGRAM**

Bill No.	Bill Purpose
26-1	Amends Education Law Section 508-a subdivision 2(b) to change the due date in which the New York State Teachers' Retirement System is required to submit the MWBE report to on or before December 31 after NYSTRS fiscal year end.

## 2025 LEGISLATION OF INTEREST TO NYSTRS

Senate No. Assembly No.	Subject	Introduced By
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### I. BUDGET

S3005C A3005C (Part VV)	<p>Amends Part HH of Chapter 56 of the laws of 2022, most recently amended by Part GG of Chapter 55 of the laws of 2024, to extend the waiver of the earnings-after-retirement limitation for two more years to June 30, 2027 for retired members who return to work with a school district or a board of cooperative educational services (BOCES).</p> <p>Last Action:  05/07/25 Passed Senate  05/07/25 Passed Assembly  <b>05/08/25 Delivered to the Governor</b>  <b>05/09/25 Signed by the Governor</b>  <b>[Chapter 55 of the Laws of 2025]</b></p>	Article VII (PPGG)
S3009C A3009C (Part F) (Subpart A)	<p>Amends Real Property Law by adding a new Article 16 to enforce a ninety-day waiting period for an institutional real estate investor to purchase, acquire, or offer to purchase or acquire any interest in a single-family residence or two-family residence, commencing on July 1, 2025.</p> <p>05/08/25 Passed Senate  05/08/25 Passed Assembly  <b>05/08/25 Delivered to the Governor</b>  <b>05/09/25 Signed by the Governor</b>  <b>[Chapter 59 of the Laws of 2025]</b></p>	Article VII (REV)

### II. AMENDMENTS TO THE RETIREMENT AND SOCIAL SECURITY LAW

S6956B A8720A	<p>Amends Section 212 to increase the amount a public retiree may earn in the year 2025 and thereafter from \$35,000 to \$50,000 without diminishing the retiree's pension benefit.</p> <p>Last Action:  06/02/25 Referred to GE (Assembly)  06/10/25 Amend and Recommit to GE, Print#8720A (Assembly)  06/13/25 Passed Senate  06/13/25 Delivered to Assembly and referred to GE</p>	Ryan Stirpe
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**III. AMENDMENTS TO THE EDUCATION LAW**

S954 A1580	Creates the “Teachers’ Fossil Fuel Divestment Act” requiring the NYSTRS Board to create an exclusion list of coal producers and oil and gas producers and provides timeframes for divesting any investments in companies included on the exclusion list; requires reporting to the legislature.  Last Action 01/08/25 Referred to CS (Senate) 01/10/25 Referred to GE (Assembly)	Brisport Kelles
S1011 A3357	Requires individuals employed and participating in one of the New York state retirement systems to formally acknowledge termination of participation in the retirement system.  Last Action: 01/27/25 Referred to GE (Assembly) 06/10/25 Passed Senate 06/10/25 Delivered to Assembly and Referred to GE	Brouk Bronson
S6750 A5223	Permits a retired member of one of the retirement systems to change their option election or designate a new beneficiary where the beneficiary has been convicted of an act of domestic violence against the retiree.  Last Action 02/12/25 Referred to GE (Assembly) 05/29/25 Passed Senate 05/29/25 Delivered to Assembly and Referred to GE	Webb Reyes

**IV. AMENDMENTS TO THE CIVIL SERVICE LAW**

S1724 A1979	Requires public employers to notify the organization that advocates for managerial or confidential employees within 30 day from when an employee is hired or promoted as managerial or confidential with the employee’s personal data and job duties and title information.  Last Action: 02/25/25 Passed Senate 04/01/25 Passed Assembly 04/01/25 Returned to Senate	Jackson Pheffer Amato
S5760 A6624	Requires appointing authorities to provide appointment and promotion letters when extending an offer of appointment or promotion to a position in the classified service.  Last Action: 05/21/25 Passed Assembly 06/11/25 Passed Senate 06/11/25 Returned to Assembly	Jackson Pheffer Amato

July 22, 2025

Committees: GE = Governmental Employees;  
W&M = Ways and Means; CS = Civil Service and Pensions



S12 A779	Allows employers and unions to negotiate layoff rights in collective bargaining agreements that exceed the floor for layoff rights contained in Section 80.  Last Action: 02/25/25 Passed Assembly 06/11/25 Passed Senate 06/11/25 Returned to Assembly	Jackson Pheffer Amato
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## V. AMENDMENTS TO THE LABOR LAW

S1673 A639A	Requires every employer in New York state to provide new employees hired for a post-graduate internship or an entry-level position that an associate's degree or higher is required with a summary of the responsibilities and repayment options relating to the Public Loan Forgiveness Program.  Last Action: 01/08/25 Referred to Banks (Assembly) 02/26/25 Amend and Recommit to Banks, Print# 639A (Assembly) 03/20/25 Passed Senate 03/20/25 Delivered to Assembly & Referred to Banks (Assembly)	Gounardes Kim
S5254 A6612	Protects employees involved in an investigation of workplace violence from a reduction of wages.  Last Action: 03/26/25 Passed Senate 06/11/25 Passed Assembly 06/11/25 Returned to Senate	Ryan Bronson
S3460 A2107	Grants all employees access to personnel records and be notified when a negative report is filed against them.  Last Action: 01/15/25 Referred to Labor (Assembly) 06/11/25 Passed Senate 06/11/25 Delivered to Assembly and Referred to Labor	Gounardes Gonzalez-Rojas

## VI. STATE TECHNOLOGY LAW

S1139 A6347	Requires governmental entities to implement multifactor authentication for access to their servers, email or official applications used by employees or agents for local and remote network access.  Last Action: 03/04/25 Referred to science and Technology (Assembly) 05/06/25 Referred to W&M (Assembly) 05/27/25 Reported Rederred to Rules (Assembly) 06/11/25 Passed Senate 06/11/25 Delivered to Assembly and Referred to W&M	Gonzalez Otis
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July 22, 2025

Committees: GE = Governmental Employees;  
W&M = Ways and Means; CS = Civil Service and Pensions

**VII. OTHERS**

S4999 A7069	Amends Estates, Powers and Trusts Law Section 5-1.2 to permit the disqualification of a spouse in the event a final judgment or decree of annulment is issued after the death of the decedent.  Last Action: 03/04/25 Passed Senate 03/04/25 Delivered to Assembly 03/20/25 Referred to Assembly Judiciary	Hoylman-Signal Braunstein
S4816 A1038	Amends Workers' Compensation Law Section 201 to include lime diseases and other tick-borne diseases for the purpose of workers' compensation and disability claims.  Last Action: 01/08/25 Referred to Labor (Assembly) 04/09/25 Passed Senate 04/09/25 Delivered to Assembly and Referred to Labor	Ryan Barrett
S3413 A533	Amends Article 78 of CPLR Section 7806 to authorize a court to grant the petitioner the requested disability retirement allowance, where it is determined that the decision of the retirement system to deny the petitioner was not supported by sufficient evidence.  Last Action: 01/08/25 Referred to Judiciary (Assembly) 06/12/25 Passed Senate 06/12/25 Delivered to Assembly 06/13/25 Referred to Judiciary (Assembly)	Jackson Pheffer Amato
S4468 A5319	Amends Workers' Compensation Law Section 201 Subdivision 15 to provide family leave benefits for someone recovering from the unintended intrauterine death of a fetus that occurs after the clinical estimate of the twentieth week of gestation; effective immediately.  Last Action: 02/13/25 Referred to Labor (Assembly) 03/19/25 Amend and Recommit to Labor, Print#A5319A (Assembly) 06/12/25 Passed Senate 06/12/25 Delivered to Assembly 06/13/25 Referred to Labor (Assembly)	Mayer Pheffer Amato
S1261A A3392A	Amends Domestic Relations Law Sections 170 and 200 to allow for a no fault separation where the parties have documented irreconcilable differences for a period of 6 months.  Last Action: 03/05/25 Passed Senate 03/24/25 Passed Assembly 03/24/25 Return to Senate	Krueger Lavine

July 22, 2025

Committees: GE = Governmental Employees;  
W&M = Ways and Means; CS = Civil Service and Pensions

S6910 A7683	Limits recordkeeping and reporting duties of public notaries to electronic notarization acts.  Last Action: 03/26/25 Referred to Finance (Senate) 04/28/25 Passed Assembly 04/28/25 Delivered to Senate and Referred to Finance	Hoylman-Sigal Lavine
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### VIII. SPECIAL INTEREST MEMBER BILLS

S4485 A7838	Grants James Demarco retroactive membership in the NYSTRS from Tier 2 to Tier 1 based on time he was a non-member for seasonal employment in July 1969.  Last Action: 02/05/25 Referred to CS (Senate) 04/11/25 Referred to GE (Assembly)	Gallivan DiPietro
S4490 A7785	Allows Christine Hasseler, retired Tier 1 member of NYSTRS, to have her retirement benefit recalculated to include retirement incentive payments that her employer failed to pay her within the required timeframe, before the end of her retirement year.  Last Action: 02/05/25 Referred to CS (Senate) 04/10/25 Referred to GE (Assembly)	Helming Manktelow
S4491 A7780	Allows Jeffrey Alva Beall, who retired as a Tier 4 from NYSTRS before Chapter 41 of the Laws of 2016 was signed into law, to purchase 3 years of military service for the period of active duty service between April 17, 1984 to February 27, 1987, retroactive to his effective date of retirement.  Last Action: 02/05/25 Referred to CS (Senate) 04/10/25 Referred to GE (Assembly)	Helming Manktelow
A7073	Grants retroactive membership to Eileen Saumell in NYSTRS based on her employment for the period of August 8, 1994 to August 27, 2004 with the Nassau County Demonstration Project, a non-participating employer.  Last Action: 03/20/25 Referred to GE (Assembly)	Gandolfo
S7339 A7083	Authorizes retired member Carl Spatola to receive a refund of contributions from NYSTRS for the period of October 1, 2000 through June 30, 2004, the period of time prior to the transfer between retirement systems.  Last Action: 03/20/25 Referred to GE (Assembly) 04/10/25 Referred to CS (Senate)	Weik Gandolfo

July 22, 2025

Committees: GE = Governmental Employees;  
W&M = Ways and Means; CS = Civil Service and Pensions

S6856 A7541	<p>Allows Kyle Brower, retiree of NYSTRS to receive a performance of duty disability retirement benefit equal to three-quarters of FAS instead of ordinary disability benefit, retroactive to date of retirement, July 9, 2013.</p> <p>Last Action: 03/25/25 Referred to CS (Senate) 04/01/25 Referred to GE (Assembly)</p>	Palumbo Giglio
A8179	<p>Removes the exclusion of salary increases greater than 10% of the average of the prior two years' in calculating the final average salary of Joanne Halverson when she retires in June 2025.</p> <p>Last Action: 05/05/25 Referred to GE (Assembly)</p>	DeStefano
S8190 A8671	<p>Authorizes Thomas Collins to change his option election made at the time of retirement with the New York State Teachers' Retirement System from the Maximum to the 100% Survivor Option designating his wife as the beneficiary.</p> <p>Last Action: 05/20/25 Referred to CS (Senate) 05/27/25 Referred to GE (Assembly)</p>	Weber Wieder

July 22, 2025

Committees: GE = Governmental Employees;  
W&M = Ways and Means; CS = Civil Service and Pensions



**New York State  
Teachers'  
Retirement  
System**

**To: Executive Committee and Retirement Board**  
**From: D. Ampansiri, Jr./ J. Graham/ K. Starks**  
**CC: T. Lee**  
**Date: July 30, 2025**  
**Re: Proposed Amendment to the System's Rules and Regulations Part 5021**

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As discussed at the April 2025 meeting of the Executive Committee of the Retirement Board, staff proposed amendments to Part 5021 of the System's Rules and Regulations governing the election of a System retiree to the Retirement Board. The proposals are summarized below.

We are providing the proposed amendments in two formats (a mark-up and a clean version) and accompanying resolutions for your consideration.

Summary of proposal:

Part 5021 of the System's Rules and Regulations governs the election of a System retiree to the Retirement Board. The current election rules and procedures contemplate only written ballots and the System's first class mailing and subsequent receipt of a returned postmarked copy of same by a date certain for the ballots to be eligible to be counted. In recognition of improved and more modern means of secure communication, staff recommends the following amendment to Part 5021 of the System's Rules and Regulations. A mark-up and clean copy of the proposed amendment accompanies this memo for your consideration.

**Part 5021 – Election of System Retiree to the Retirement Board**

Staff specifically recommends amendment of Section 5021.5, paragraphs (b), (d) and (e) to permit and direct retired members to submit a ballot either electronically or by traditional postmarked mailing.

The purpose of this amendment is to provide retired members with an additional and secure method of voting for their preferred candidate, allowing them greater flexibility to cast a vote. Staff does not expect the addition of electronic voting to compromise the current election process. Rather, it may in fact help to bolster the security and accuracy

of same. Additionally, electronic voting may potentially increase voter participation, and the number of total votes cast.

The proposed amendment makes the necessary changes to the current Rules and Regulations to implement this additional method of voting.

Section 5021.5 ELECTION.

(a) All retired members of the New York State Teachers' Retirement System as of October 1 of the year in which the election is held shall be entitled to vote in the election.

(b) The election shall be by secret, ~~written~~ **paper and/or electronic** ballot in a form prescribed by the System.

(c) The names of candidates and alternate candidates on the ballot shall be listed in the order in which the petitions on their behalf have been filed with the System.

(d) **Paper** Bballots shall be mailed by first class mail on or after October 1 but no later than October 15. **The paper ballot will direct retired members to vote by the method of their choice: return paper ballot or electronically.**

(e) In order to be eligible to be counted in the election, ~~written~~ **paper** ballots must be delivered by October 31 or sent by mail postmarked no later than October 31 and received no later than the Saturday before the day on which the election is certified; **electronic ballots must be submitted no later than October 31.** All **Paper** ballots shall be delivered or mailed to a location within New York State designated by the System for the purposes of counting the ballots and certifying the election.

(f) If only one candidate is nominated, no election shall be held and the candidate shall be deemed to have been elected.

(g) Anything in the foregoing to the contrary notwithstanding, the Retirement Board may by resolution establish an alternative procedure for the conduct of an election by ~~electronic or~~ other means which provide comparable security and convenience for voting by retired teachers.

Section 5021.5 ELECTION.

(a) All retired members of the New York State Teachers' Retirement System as of October 1 of the year in which the election is held shall be entitled to vote in the election.

(b) The election shall be by secret, paper and/or electronic ballot in a form prescribed by the System.

(c) The names of candidates and alternate candidates on the ballot shall be listed in the order in which the petitions on their behalf have been filed with the System.

(d) Paper ballots shall be mailed by first class mail on or after October 1 but no later than October 15. The paper ballot will direct retired members to vote by the method of their choice: return paper ballot or electronically.

(e) In order to be eligible to be counted in the election, paper ballots must be delivered by October 31 or sent by mail postmarked no later than October 31 and received no later than the Saturday before the day on which the election is certified; electronic ballots must be submitted no later than October 31. Paper ballots shall be delivered or mailed to a location within New York State designated by the System for the purposes of counting the ballots and certifying the election.

(f) If only one candidate is nominated, no election shall be held and the candidate shall be deemed to have been elected.

(g) Anything in the foregoing to the contrary notwithstanding, the Retirement Board may by resolution establish an alternative procedure for the conduct of an election by other means which provide comparable security and convenience for voting by retired teachers.



**RESOLUTION AMENDING THE SYSTEM'S RULES AND REGULATIONS**

**Part 5021 – Election of System Retiree to the Retirement Board**

WHEREAS, Part 5021 of the System's Rules and Regulations governs the election of a System retiree to the Retirement Board;

WHEREAS, Staff recommends amendments to the System's Rules and Regulations Section 5021.5, paragraphs (b), (d), and (e) to permit and direct retired members to submit a ballot either electronically or by traditional postmarked mailing.

RESOLVED, That, effective July 30, 2025, the above amendments to Section 5021.5, paragraphs (b), (d), and (e) of the Rules and Regulations of the New York State Teachers' Retirement System be adopted and implemented, a copy of which is annexed hereto and made a part thereof of Appendix \_\_\_\_, page \_\_\_\_.

# Annual Signatory Additions & Deletions

For Fiscal Year Ended June 30, 2025

Division	Name	Position	Warrant Signatory	Document Signatory
Administration	Miriam Dixon	Executive	Deleted	Deleted
Administration	Rebecca Kannan	Deputy Executive	Deleted	Deleted
Information Technology	Lewis Makinson	Manager/Director	Not Applicable	Added
Member Relations	Alexander Audino	Assistant Manager/Assistant Director	Not Applicable	Added
Member Relations	Susan Rossetti	Assistant Manager/Assistant Director	Not Applicable	Added
Member Relations	Heidi Travis	Manager/Director	Not Applicable	Deleted
Office of the Actuary	Thomas King	Manager/Director	Added	Added
Office of the Actuary	Heather Marks	Manager/Director	Added	Added
Private Equity	Nicholas Chladek	Manager/Director	Deleted	Deleted
Public Equities	Binoop Unni	Deputy Executive	Added	Added
Public Equities	Paul Cummins	Executive	Deleted	Deleted
Real Estate	Amy Cramer	Assistant Manager/Assistant Director	Added	Added

# Legal & Financial Document Signatories

As of June 30, 2025

Name	Position	Division
Danny Malavé	Executive	Diversity, Equity, & Inclusion
Emily Ekland	Executive	Executive
Jason Freeman	Manager/Director	Executive
Heidi Brennan	Manager/Director	Executive
Timothy Mack	Assistant Manager/Assistant Director	Executive
Joseph Wood	Manager/Director	Fixed Income
Michael Federici	Executive	Fixed Income
Aaron VanDerwiel	Deputy Executive	Fixed Income
Lewis Makinson	Manager/Director	Information Technology
Vijay Madala	Executive	Information Technology
Sarah Garrand	Deputy Executive	Information Technology
Kathy Ebert	Executive	Internal Audit
Bruce Woolley	Deputy Executive	Internal Audit
Lei Zhang	Assistant Manager/Assistant Director	Internal Audit
Alexander Audino	Assistant Manager/Assistant Director	Member Relations
Susan Rossetti	Assistant Manager/Assistant Director	Member Relations
Beth Dellea	Executive	Member Relations
Michael Contento	Manager/Director	Member Relations
Erica Mortimore	Manager/Director	Member Relations
Shannon Bonesteel	Deputy Executive	Member Relations
Colleen Laven	Assistant Manager/Assistant Director	Member Relations
Andrew Whitney	Manager/Director	Member Relations
Cori Bicteman	Assistant Manager/Assistant Director	Member Relations
Thomas King	Manager/Director	Office of the Actuary
Heather Marks	Manager/Director	Office of the Actuary
Richard Young	Executive	Office of the Actuary
Melody Pranglely	Deputy Executive	Office of the Actuary
Gwendolyn Genovesi	Assistant Manager/Assistant Director	Office of the Chief Financial Officer
Margaret Andriola	Executive	Office of the Chief Financial Officer
Christopher O'Grady	Deputy Executive	Office of the Chief Financial Officer
Christopher Brown	Deputy Executive	Office of the Chief Financial Officer
Tedd Johnson	Assistant Manager/Assistant Director	Office of the Chief Financial Officer
David Robertson	Assistant Manager/Assistant Director	Office of the Chief Financial Officer
Don Ampansiri	Executive	Office of the General Counsel
Benjamin Lee	Deputy Executive	Office of the General Counsel
Janet Graham	Deputy Executive	Office of the General Counsel
Adam Kinney	Managing Counsel	Office of the General Counsel
Morgan Anderson	Assistant/Associate Counsel	Office of the General Counsel
Gerald Yahoudy	Executive	Private Equity
Brad Woolworth	Deputy Executive	Private Equity
Binoop Unni	Deputy Executive	Public Equities
David Tessitore	Manager/Director	Public Equities
Jennifer Wilcox	Manager/Director	Public Equities
Nathan Lee	Manager/Director	Public Equities
Amy Cramer	Assistant Manager/Assistant Director	Real Estate

Name	Position	Division
David Maye	Assistant Manager/Assistant Director	Real Estate
David Gillan	Executive	Real Estate
Kevin Maloney	Deputy Executive	Real Estate
Michael Morrell	Deputy Executive	Real Estate
Adrean Kreig	Manager/Director	Real Estate
Jason Kearney	Manager/Director	Real Estate
Andrew Bartell	Assistant Manager/Assistant Director	Real Estate
Matthew Albano	Executive	Risk Management
Matthew Tice	Manager/Director	Risk Management

**RESOLUTION IDENTIFYING FINANCIAL AND LEGAL  
DOCUMENT SIGNATORIES**

WHEREAS, The Retirement Board has by resolution amended and restated the resolution of January 27, 2022 entitled Delegation Resolution - Financial and Legal Document Execution, providing for the delegation by the Executive Director and Chief Investment Officer of the authority to approve and execute financial and legal documents to other employees of the Retirement System; and

WHEREAS, The Retirement Board has by resolution adopted at its regular meeting on October 26, 1995, amended and restated periodically thereafter, and most recently on July 31, 2024, identifying those employees of the Retirement System that have been delegated such authority; and

WHEREAS, It is necessary to periodically update said resolution by identifying those employees of the Retirement System to whom such authority may be delegated; now therefore be it

RESOLVED, That the employees authorized to approve and execute financial and legal documents of said resolution are identified by department, management level within the organization and by name in the attachment entitled Signatory Authorization Grid- Financial and Legal Documents; and be it

RESOLVED, the attachment entitled Signatory Authorization Grid- Financial and Legal Documents sets forth the approvals and signatures needed to approve and execute financial and legal documents; and be it

RESOLVED, That this authorization shall remain in effect for individuals who are promoted within their department; and be it

RESOLVED, That the Executive Director and Chief Investment Officer shall have the authority to designate in writing any such additional employees as may be required by business necessity to serve on an interim basis until the regular meeting of the Retirement Board following the quarter ending June 30; and be it

RESOLVED, That this delegation shall be reviewed by the Retirement Board no less than annually; and be it further

RESOLVED, That this resolution shall take effect July 30, 2025 and, upon taking effect, shall supersede the identifying resolution previously adopted by the Retirement Board on July 31, 2024.

**DELEGATION RESOLUTION-WARRANT EXECUTION**

WHEREAS, Pursuant to Subdivision 3 of Section 507 of the Education Law, the Retirement Board may designate officials of the Retirement System authorized to sign warrants providing for disbursements from the funds of the Retirement System; and

WHEREAS, Pursuant to 11 CRR-NY 136-1.4 (e) no authorization for disbursement of Retirement System funds shall be valid unless signed by two signatories designated by the Retirement Board; and

WHEREAS, In order to assure the proper and efficient operation of the Retirement System, it is necessary and desirable to provide for the delegation by the Executive Director and Chief Investment Officer of the authority to execute warrants to other employees of the Retirement System; and

WHEREAS, the Retirement Board believes it is desirable to amend and restate the delegation resolution and, among other things, identify the employees of the Retirement System to whom the authority to execute warrants has been delegated by a separate resolution which may hereafter be amended as required; now therefore be it

I

Identification of Signatories

RESOLVED, That, for the purposes of implementing Subdivision 3 of Section 507 of the Education Law, the Executive Director and Chief Investment Officer is hereby authorized to execute warrants and, for the purposes of Section 5 of Article II of the Retirement System's Bylaws, the Retirement Board shall identify by separate resolution, the employees of the

System to whom authority has been delegated to execute warrants, which resolution shall be reauthorized by the Retirement Board as necessary; and be it

## II

### Administrative Warrants

RESOLVED, That the Executive Director and Chief Investment Officer and any employee of the Retirement System identified as a Group A signatory is authorized to execute and deliver any and all warrants related to the non-investment administration of the Retirement System or may delegate such authority to employees of the Retirement System identified as Group F signatories by such resolution; and be it

## III

### Real Estate Equity and Debt Investment Warrants

RESOLVED, That the Executive Director and Chief Investment Officer and any employee of the Retirement System identified as a Group A signatory is authorized to execute and deliver any and all warrants relating to real estate investments or may delegate such authority to employees of the Retirement System identified as Group B signatories by such resolution; and be it further

## IV

### Fixed Income Warrants

RESOLVED, That the Executive Director and Chief Investment Officer and any employee of the Retirement System identified as a Group A signatory is authorized to execute and deliver any and all warrants related to fixed income investment or may delegate such authority to employees of the Retirement System identified as Group C signatories by such resolution; and be it

V

Public Equity Securities Warrants

RESOLVED, That the Executive Director and Chief Investment Officer and any employee of the Retirement System identified as a Group A signatory is authorized to execute and deliver any and all warrants related to public equity investments or may delegate such authority to employees of the Retirement System identified as Group D signatories by such resolution; and be it

VI

Private Equity and Private Debt Warrants

RESOLVED, That the Executive Director and Chief Investment Officer and any employee of the Retirement System identified as a Group A signatory is authorized to execute and deliver any and all warrants related to private equity and private debt investments or may delegate such authority to employees of the Retirement System identified as Group E signatories by such resolution; and be it further

VII

Rescission of All Prior Inconsistent Resolutions

RESOLVED, That all prior resolutions of the Retirement Board inconsistent with this resolution are hereby rescinded effective MONTH 1, 2024, provided, however, that nothing herein shall affect the validity of any action previously authorized, approved or ratified by the Retirement Board.



# Disbursement Warrant Signatories

As of June 30, 2025

Division	Name	Position	Warrant Group
Office of the Actuary	Thomas King	Manager/Director	A
Office of the Actuary	Heather Marks	Manager/Director	A
Office of the Actuary	Richard Young	Executive	A
Office of the General Counsel	Don Ampansiri	Executive	A
Office of the General Counsel	Benjamin Lee	Deputy Executive	A
Office of the General Counsel	Janet Graham	Deputy Executive	A
Office of the General Counsel	Adam Kinney	Managing Counsel	A
Office of the General Counsel	Morgan Anderson	Assistant/Associate Counsel	A
Risk Management	Matthew Albano	Executive	A
Office of the Actuary	Melody Pranglely	Deputy Executive	A
Risk Management	Matthew Tice	Manager/Director	A
Real Estate	Amy Cramer	Assistant Manager/Assistant Director	B
Real Estate	David Maye	Assistant Manager/Assistant Director	B
Real Estate	David Gillan	Executive	B
Real Estate	Kevin Maloney	Deputy Executive	B
Real Estate	Michael Morrell	Deputy Executive	B
Real Estate	Adrean Kreig	Manager/Director	B
Real Estate	Jason Kearney	Manager/Director	B
Real Estate	Andrew Bartell	Assistant Manager/Assistant Director	B
Fixed Income	Joseph Wood	Manager/Director	C
Fixed Income	Michael Federici	Executive	C
Fixed Income	Aaron VanDerwiel	Deputy Executive	C
Fixed Income	Dawn Sherman	Professional Staff	C
Fixed Income	Mark Wood	Professional Staff	C
Fixed Income	Michael Wollner	Professional Staff	C
Fixed Income	Christina Vasto	Professional Staff	C
Public Equities	Binoop Unni	Deputy Executive	D
Public Equities	David Tessitore	Manager/Director	D
Public Equities	Jennifer Wilcox	Manager/Director	D
Public Equities	Nathan Lee	Manager/Director	D
Private Equity	Hope Bailey-Reed	Professional Staff	E
Private Equity	Gerald Yahoudy	Executive	E
Private Equity	Brad Woolworth	Deputy Executive	E
Office of the Chief Financial Officer	Gwendolyn Genovesi	Assistant Manager/Assistant Director	F
Office of the Chief Financial Officer	Margaret Andriola	Executive	F
Office of the Chief Financial Officer	Christopher O'Grady	Deputy Executive	F
Office of the Chief Financial Officer	Christopher Brown	Deputy Executive	F
Office of the Chief Financial Officer	Tedd Johnson	Assistant Manager/Assistant Director	F
Office of the Chief Financial Officer	David Robertson	Assistant Manager/Assistant Director	F

### **RESOLUTION IDENTIFYING WARRANT SIGNATORIES**

WHEREAS, The Retirement Board has by resolution adopted at its regular meeting on October 26, 1995, amended and restated periodically thereafter, and most recently on July 30, 2025, and as further amended concurrent with this resolution, provided for the delegation by the Executive Director and Chief Investment Officer of the authority to execute warrants to other employees of the Retirement System; and

WHEREAS, It is necessary to implement said resolution by identifying those employees of the Retirement System to whom such authority may be delegated; be it

RESOLVED, That the signatories authorized to execute administrative, real estate investment, and fixed income, equity security and alternative investment warrants as provided in Parts II, III, IV, V and VI respectively of said resolution are identified by signatory group, organizational level within the organization and by name in the attached Signatory Authorization Grid; and be it further

RESOLVED, That this authorization shall remain in effect for individuals that are promoted within or move among the designated signatory groups, and be it further

RESOLVED, That the Executive Director and Chief Investment Officer shall have the authority to designate any such additional "A", "B", "C", "D", "E", and "F" signatories as may be required by business necessity to serve on an interim basis until the regular meeting of the Retirement Board following the quarter ending June 30; and be it further

RESOLVED, That this delegation shall be reviewed by the Retirement Board no less than annually; and be it further

RESOLVED, That this resolution shall take effect July 30, 2025 and, upon taking effect, shall supersede the identifying resolution previously adopted on July 31, 2023.

NEW YORK STATE  
TEACHERS' RETIREMENT SYSTEM

MEMORANDUM

TO: T. Lee

FROM: Office of the CFO / Finance Department

DATE: July 30, 2025

SUBJECT: Retirement Board Package

Attached are the System's annual financial statements and related schedules for the years ended June 30, 2025 and 2024.

The following is a list of the documents included:

1. Statements of Fiduciary Net Position (Unaudited)<sup>1,2</sup>
2. Statements of Changes in Fiduciary Net Position (Unaudited)<sup>1,2</sup>
3. Schedules of Income, Expenses and Changes in Fund Balance-Administrative Fund (Unaudited)

<sup>1</sup>Based on estimated 6/30/25 final quarter Real Estate and Private Equity values.

<sup>2</sup>Excludes current year amounts to be determined under GASB 68 for Net Pension Liability, Deferred In-flows of Resources, Deferred Out-flows of Resources, and Pension Expense.



# NEW YORK STATE TEACHERS' RETIREMENT SYSTEM

## Statements of Fiduciary Net Position (Unaudited)

June 30, 2025 and 2024

<b>Assets</b>	<b>2025</b>	<b>2024</b>
Investments at fair value:		
Domestic equity	\$ 49,754,578,892	\$ 49,233,791,607
International equity	23,609,432,154	20,560,969,690
Global equity	6,805,717,477	5,905,053,666
Real estate equity <sup>1</sup>	15,959,131,745	15,647,293,430
Private equity <sup>1</sup>	14,302,928,090	14,199,543,360
Domestic fixed income	22,378,089,768	21,263,250,233
High-yield bonds	1,310,560,532	1,500,237,509
Global bonds	3,025,854,845	2,819,074,693
Real estate debt <sup>1</sup>	8,891,761,384	7,781,926,012
Private debt <sup>1</sup>	2,837,228,296	2,380,786,553
Cash equivalents	2,161,227,945	2,065,003,738
Total investments <sup>1</sup>	151,036,511,128	143,356,930,491
Receivables:		
Employer	1,933,800,146	1,866,574,370
Member	232,086,077	232,086,077
Investment income	435,976,879	396,308,023
Investment sales	423,251,961	262,529,885
Total receivables	3,025,115,063	2,757,498,355
Other assets:		
Securities lending collateral, invested	217,164,113	324,026,183
Member loans	288,665,009	275,962,812
Net investment in capital assets	27,102,224	23,975,763
Miscellaneous assets	24,819,207	14,544,435
Total other assets	557,750,553	638,509,193
Total assets <sup>1</sup>	154,619,376,744	146,752,938,039
Deferred outflows of resources:		
Changes in net OPEB liability	14,785,531	15,718,775
Changes in net pension liability <sup>2</sup>	12,201,645	12,201,645
Total deferred outflows of resources	26,987,176	27,920,420
<b>Liabilities</b>		
Securities lending collateral, due to borrowers	215,856,341	322,506,575
Investment purchases payable	537,863,447	364,702,234
Mortgage escrows and deposits, net of investments	35,000	1,500
Net OPEB liability	48,195,049	50,667,926
Other liabilities <sup>2</sup>	227,969,241	211,184,870
Total liabilities <sup>2</sup>	1,029,919,078	949,063,105
Deferred inflows of resources:		
Changes in net OPEB liability	4,037,200	1,280,285
Changes in net pension liability <sup>2</sup>	9,080,289	9,080,289
Total deferred inflows of resources	13,117,489	10,360,574
<b>Net position restricted for pensions</b>	<b>\$ 153,603,327,353</b>	<b>\$ 145,821,434,780</b>

<sup>1</sup> Based on estimated 6/30/25 final quarter Real Estate and Private Equity values

<sup>2</sup> Excludes current year amounts under GASB 68 for Net Pension Liability, Deferred In-Flows of Resources and Deferred Out-Flows of Resources.



NEW YORK STATE TEACHERS' RETIREMENT SYSTEM  
Statements of Changes in Fiduciary Net Position (Unaudited)  
For the Years Ended June 30, 2025 and 2024

<b>Additions:</b>	<b><u>2025</u></b>	<b><u>2024</u></b>
Investment income:		
Net appreciation in fair value of investments <sup>1</sup>	\$ 11,625,103,486	\$ 12,517,142,508
Interest	1,292,502,522	1,085,544,000
Dividends	1,364,134,888	1,336,633,815
Real estate, net operating income	552,888,405	504,559,268
Securities lending, gross earnings	14,999,375	22,692,492
Other (net)	592,075	9,078,204
	<u>14,850,220,751</u>	<u>15,475,650,287</u>
Less: Investment expenses	444,127,870	472,046,180
Securities lending:		
Broker rebates	12,104,871	17,789,968
Management fees	415,920	709,365
Depreciation on collateral	211,836	281,799
Net investment income <sup>1</sup>	<u>14,393,360,254</u>	<u>14,984,822,975</u>
Contributions:		
Employer	1,942,661,714	1,874,458,916
Member	256,945,797	258,471,825
Transfers	(3,729,793)	16,342,668
Total contributions	<u>2,195,877,718</u>	<u>2,149,273,409</u>
Net additions <sup>1</sup>	<u>16,589,237,972</u>	<u>17,134,096,384</u>
<b>Deductions:</b>		
Retirement benefit payments, periodic	8,603,412,703	8,352,451,995
Beneficiary payments	86,886,635	73,260,710
Return of contributions	19,793,256	20,444,241
Administrative expenses <sup>2</sup>	<u>97,252,805</u>	<u>88,041,600</u>
Total deductions	<u>8,807,345,399</u>	<u>8,534,198,546</u>
<b>Net increase in net position <sup>1</sup></b>	<b>7,781,892,573</b>	<b>8,599,897,838</b>
<b>Net position restricted for pensions, beginning of year</b>	<b><u>145,821,434,780</u></b>	<b><u>137,221,536,942</u></b>
<b>Net position restricted for pensions, end of year</b>	<b><u>\$ 153,603,327,353</u></b>	<b><u>\$ 145,821,434,780</u></b>

<sup>1</sup> Based on estimated 6/30/25 final quarter Real Estate and Private Equity values

<sup>2</sup> Excludes current year amounts to be determined under GASB 68 for Pension Expense



NEW YORK STATE TEACHERS' RETIREMENT SYSTEM  
Administrative Fund  
Schedules of Income, Expenses and Changes in Fund Balance (Unaudited)  
Years Ended June 30, 2025 and 2024

	2025	2024	Increase (Decrease)
<b>Administrative Income:</b>			
Contributions from employers	\$ 76,500,024	\$ 59,278,546	\$ 17,221,478
Allocation of investment income	36,418,290	29,286,602	7,131,688
Loan delinquency charges	27,300	25,160	2,140
Loan service charges	332,640	333,455	(815)
Loan Insurance Expense	22,735	131,823	(109,088)
Other (net)	25,857	399,876	(374,019)
Total income	113,326,846	89,455,462	23,871,384
<b>Administrative Expenses:</b>			
Salaries and benefits:			
Salaries	50,540,416	42,492,481	8,047,935
Civil service	116,690	59,413	57,277
Employees' retirement	7,566,417	6,116,090	1,450,327
Health and dental insurance	8,554,819	8,145,599	409,220
OPEB contribution	6,804,000	6,910,000	(106,000)
Overtime salaries	143,327	85,002	58,325
Social Security	3,477,213	3,004,025	473,188
Total salaries and benefits	77,202,882	66,812,610	10,390,272
Building occupancy expenses:			
Building, grounds and equipment	2,008,267	1,683,004	325,263
Depreciation - building and improvement	1,729,010	1,991,281	(262,271)
Depreciation - equipment	308,986	108,760	200,226
Office supplies and expenses	197,755	176,181	21,574
Utilities and municipal assessments	1,109,265	983,154	126,111
Total building occupancy expenses	5,353,283	4,942,380	410,903
Computer expenses:			
Depreciation - computer micro	985,093	1,051,875	(66,782)
Computer hardware and software	5,363,781	6,291,641	(927,860)
Computer maintenance and supplies	—	—	—
Total computer expenses	6,348,874	7,343,516	(994,642)
Personnel and meeting expenses:			
Board - meetings, travel and education	61,628	70,555	(8,927)
Delegates' meeting	121,910	101,033	20,877
Pre-retirement seminars	87,637	57,712	29,925
Professional development	1,248,898	1,119,435	129,463
Meeting Expense	16,881	—	16,881
Travel	384,945	304,269	80,676
Other personnel expenses	249,984	198,289	51,695
Total personnel and meeting expenses	2,171,883	1,851,293	320,590



NEW YORK STATE TEACHERS' RETIREMENT SYSTEM  
Administrative Fund  
Schedules of Income, Expenses and Changes in Fund Balance (Unaudited) (Continued)  
Years Ended June 30, 2025 and 2024

	<b>2025</b>	<b>2024</b>	<b>Increase (Decrease)</b>
<b>Professional and governmental services:</b>			
Auditors - financial	\$ 397,700	259,410	\$ 138,290
Auditors - insurance department	—	—	—
Medical examinations	84,849	80,204	4,645
Postage	1,022,947	1,034,899	(11,952)
Professional fees and services	1,399,459	1,218,763	180,696
Publications	280,673	214,629	66,044
Statutory custodian charges	151,250	146,341	4,909
Project Costs - Professional Fees	1,621,723	978,142	643,581
Total professional and governmental services	<u>4,958,601</u>	<u>3,932,388</u>	<u>1,026,213</u>
 Total administrative expenses <sup>1</sup>	<u>96,035,523</u>	<u>84,882,187</u>	<u>11,153,336</u>
 <b>Net increase</b>	<b>17,291,323</b>	<b>4,573,275</b>	<b>12,718,048</b>
 <b>Administrative fund balance, beginning of year</b>	<u>63,496,190</u>	<u>58,922,915</u>	<u>4,573,275</u>
 <b>Administrative fund balance, end of year</b>	<u><u>\$ 80,787,513</u></u>	<u><u>\$ 63,496,190</u></u>	<u><u>\$ 17,291,323</u></u>

<sup>1</sup> Administrative expenses on the Statements of Changes in Fiduciary Net Position for the years ended June 30, 2025 and 2024 include a reconciliation of other postemployment contribution expense to OPEB expense and employees retirement contribution expense to pension expense for (\$1,217,282) and (\$3,159,413), respectively.





**Audit Committee Meeting**

July 30, 2025

COMMITTEE MEMBERS

Jennifer Longtin, Chair

Phyllis Harrington, Eric Iberger, David Keefe, Donald A. Little III

AGENDA p. 180

Call to Order by Chair

- A. Approve Minutes of April 23, 2025 Meeting pp. 181-182
- B. Actuary Training: Preparing for the Replication Audit pp. 183-193
- C. Quality Assurance and Improvement Program & 2025 External Quality Assessment pp. 194-204
- D. Internal Audit Update pp. 205-225
- E. Executive Session (motion for **Executive Session** pursuant to Section 105(1) (f) of the Open Meetings Law to discuss personnel matters) p. 226



NEW YORK STATE  
TEACHERS' RETIREMENT SYSTEM  
Audit Committee Meeting

A meeting of the Audit Committee of the New York State Teachers' Retirement System was held at the System on April 23, 2025.

Committee Members: Juliet Benaquisto, Eric Iberger, Oliver Robinson

Board Members: Paul Farfaglia, David Keefe, Donald A. Little III, Nicholas Smirensky

NYSTRS Staff: Thomas K. Lee, Don Ampansiri, Kathy Ebert, Bruce Woolley, Lei Zhang, Teddi Kaczmarek, Nick Jansen, Darlene Dempsey, Matthew Horton

Audit Committee Advisor: Sue Landauer

Plante Moran (via WebEx): Jean Young, Jake Talarek

Cohn Reznick: Courtney Klinga (via WebEx), Anthony LaMalfa

Visitor (via WebEx): Donna Martin, Albany NY

O. Robinson, Chair, called the meeting to order at 3:36 p.m.

1. Approval of Minutes from January 29, 2025

Upon motion of J. Benaquisto seconded by E. Iberger and unanimously carried, the Committee approved the minutes of the January 29, 2025 meeting.

2. Audit Plan for Fiscal Year Ending June 30, 2025

J. Young and J. Talarek from Plante Moran discussed the responsibilities and timeline involved in performing the upcoming audit (Appendix A, pp. 3-18).

3. Status Report on Audits of NYSTRS Wholly Owned Real Estate Investment Accounts

C. Klinga and A. LaMalfa from CohnReznick provided a report on the results of their audit findings for the years ended June 30, 2024 and December 31, 2024 and discussed plans to perform audits for the year ended June 30, 2025 (Appendix B pp. 19-40).

#### 4. Internal Audit Update

K. Ebert and staff provided updates on recently completed internal audits performed (Appendix C, pp. 41-46)

#### 5. Executive Session

Upon motion of J. Benaquisto, seconded by E. Iberger and unanimously carried, the Committee went into Executive Session at 4:10 p.m. to discuss personnel matters. With unanimous consent, the Committee came out of Executive Session at 4:25 p.m.

There being no further business, and with unanimous consent, the meeting adjourned at 4:25 p.m.

Respectfully submitted,

A large black rectangular box redacting the signature of Thomas K. Lee.

---

Thomas K. Lee



New York State  
Teachers'  
Retirement  
System

# Preparing for the Actuarial Valuation Audit

Heather Marks, FSA, EA, MAAA  
Director of Actuary - Valuation

Darlene Dempsey, CIA, CGAP, CCSA  
Assistant Director of Internal Audit

# What do Actuaries do?

## Actuaries Cost Obligations

Obligations = service retirement, disability retirement, death and withdrawal **benefits** as set forth in law

Cost = present value of all **benefits** (PVBs) that are currently being paid or are expected to be paid to the members of NYSTRS

# How do actuaries calculate the cost?

To ensure retirement benefits are properly funded each year, NYSTRS' actuaries perform an annual **Valuation** and determine the annual **Employer Contribution Rate (ECR)**



# Elements of the Valuation

## Benefit Structure

Defined in RSSL and Ed Law  
Examples: Service crediting,  
pensionable salary, benefit  
accrual rates, early age  
reductions

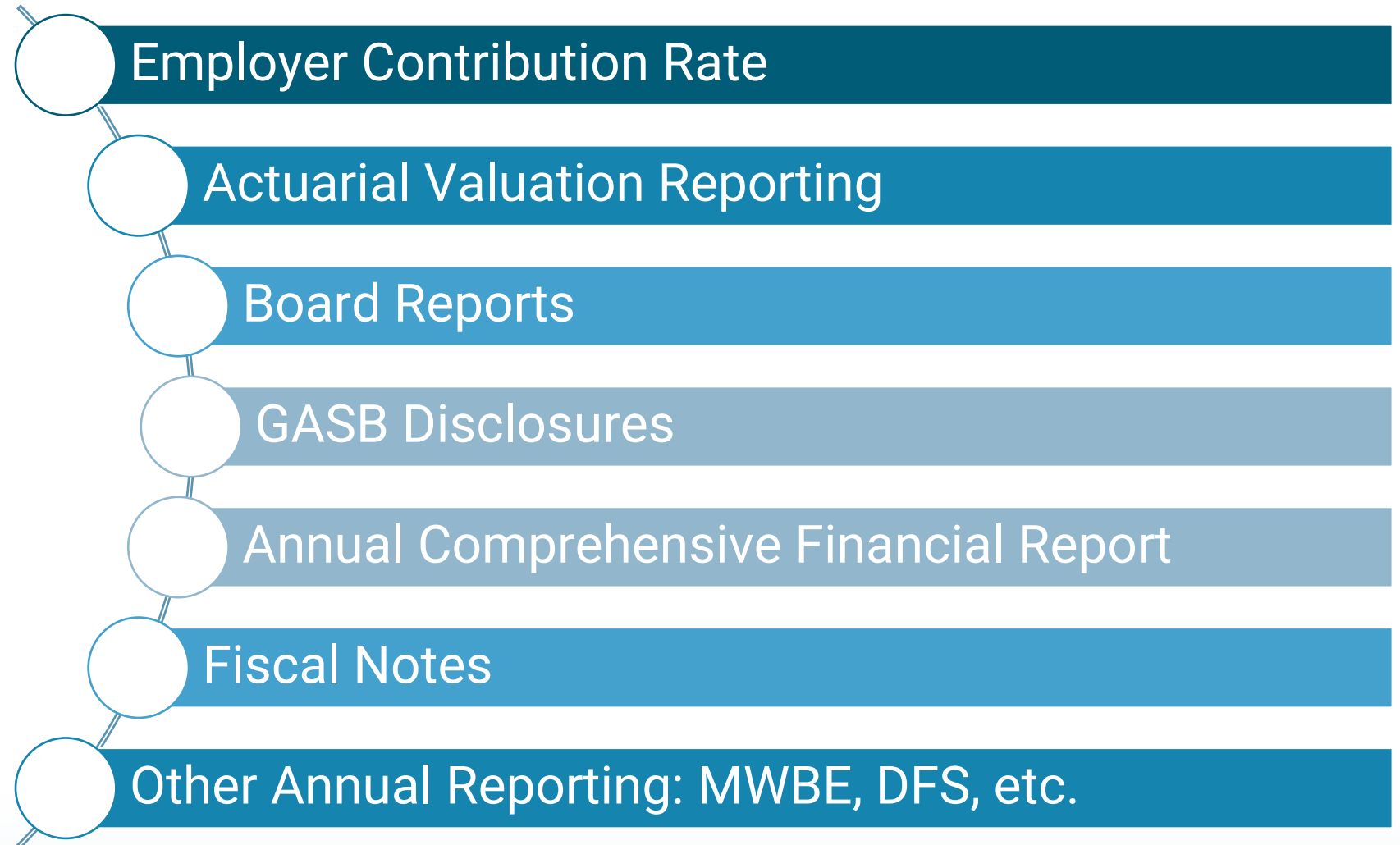
## Member Data

6/30 fiscal year end snapshot  
Examples: Age, tier, gender,  
service credit, salary, pension  
benefit, optional form,  
beneficiary info

## Actuarial Assumptions

To project benefits  
Demographic – rates of  
mortality, retirement, disability,  
withdrawal  
Economic – rate of return,  
inflation, salary scale

# The Valuation impacts...



# How is the Valuation validated?

## Through a Replication Audit

- Completed every 5 years
- Led by Internal Audit
- Performed by an external firm selected through an RFP process



Segal was selected – a public sector benefits consulting firm. Segal was founded in 1939 and is a leading firm in performing independent actuarial audits of large public retirements plans. Segal's professional staff includes more than 170 credentialed actuaries.



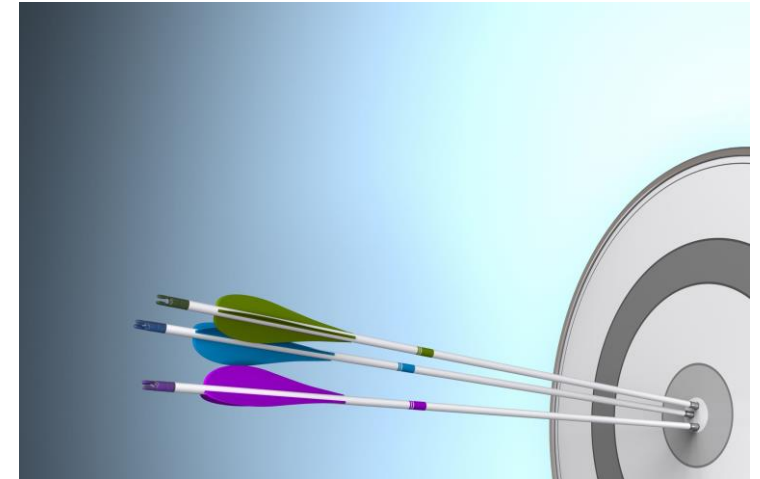
# Scope of the Engagement

- I. Review validity of valuation data for reasonableness and appropriateness
- II. Review the actuarial methods and assumptions
- III. Perform a parallel 6/30/2024 valuation to determine if the liabilities of the plan have been valued accurately, including the present value of benefits and the ECR
- IV. Review the actuarial valuation report

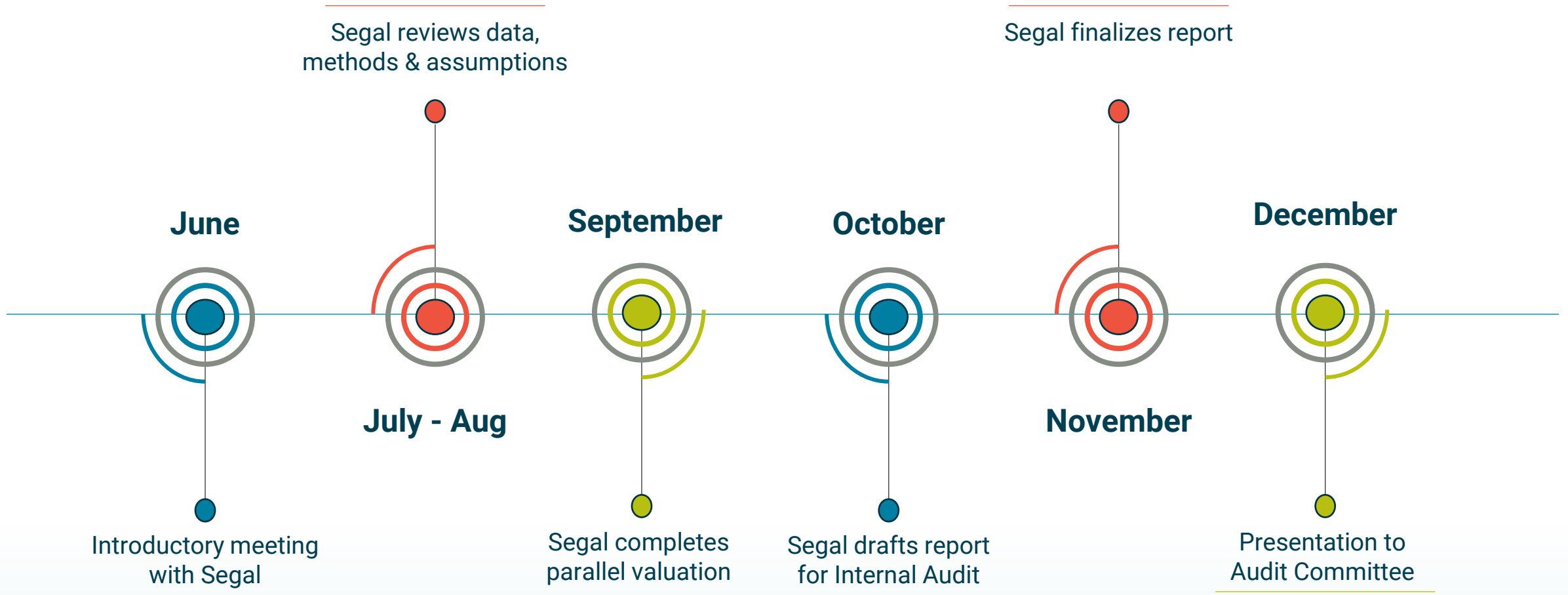
*All steps will review the application of the Actuarial Standards of Practice (ASOPs)*

# How do we measure success?

- ✓ Replicated liabilities are within KRI tolerance
- ✓ Unmodified opinion that assumptions and methods used in the valuation were reasonable



# 2025 Work Timeline



# What is the Audit Committee's role?

- Review final report
- Consider the action plan for any recommendations
- Ask questions and provide feedback

# Questions



# Quality Assurance and Improvement Program (QAIP) & 2025 External Quality Assessment

Audit Committee July 30, 2025

Lei Zhang, CIA, CIDA, CISA, CPA  
Assistant Director of Internal Audit

# QAIP – IIA Standards

## Standard 8.3 – Quality

- Chief Audit Executive (CAE) develops, implements, and maintains a QAIP covering all internal audit aspects, both external and internal assessments.

## Standard 8.4 External Quality Assessment (EQA)

- Audit Committee reviews and approves CAE's EQA plan to be conducted by an independent, qualified assessor or assessment team.
- Audit Committee receives EQA results directly from the assessor.

## Standard 12.1 Internal Quality Assessment

- CAE establishes a methodology for internal assessments, as described in Standard 8.3 Quality
  - Ongoing monitoring of the internal audit function's
  - Periodic self-assessments or
  - Communication with the board and senior management about the results of internal assessments.

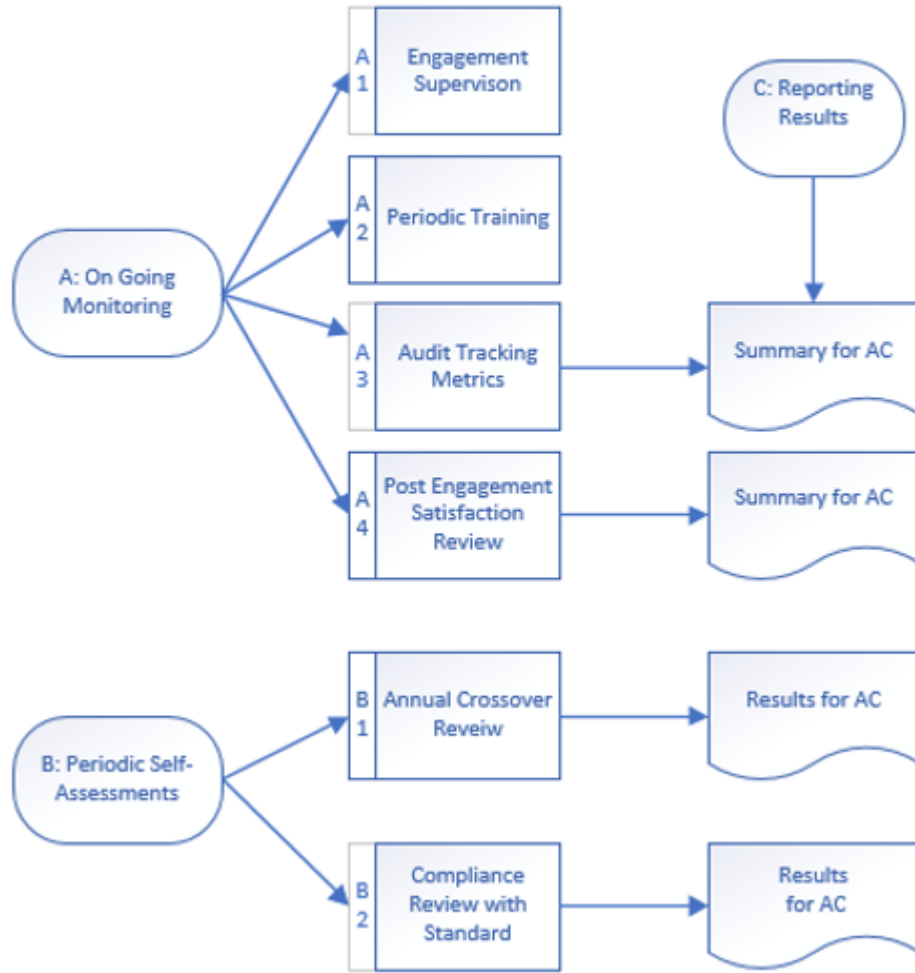
# QAIP Performance Objectives

1. All engagements are properly supervised
2. Trainings are provided to align quality expectations and conformance with Standards
3. Audits are managed efficiently by tracking progress and resource utilization to ensure annual audit plan can be completed
4. Action plan implementation are monitored
5. Actively seek feedback at the conclusion of each engagement and use results to identify areas for improvement

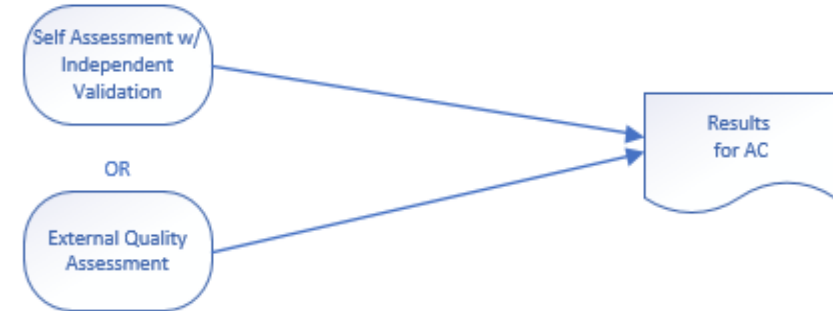


# NYSTRS QAIP Framework

## Internal Assessment- Annually

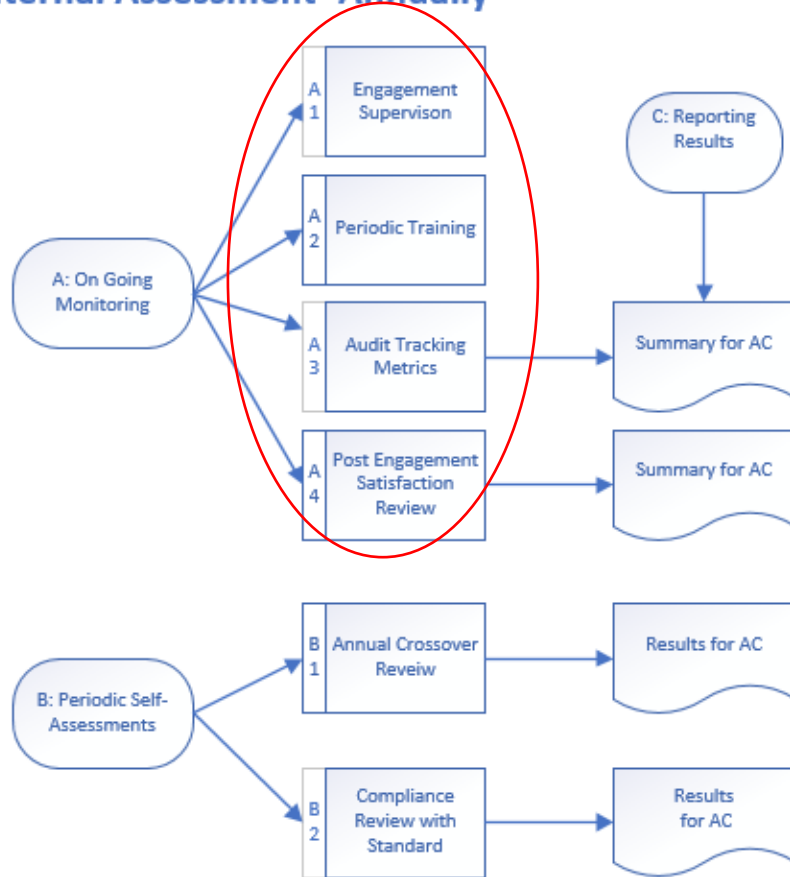


## External Assessment (Every Five Years)



# Internal Quality Assessment - On going Monitoring

## Internal Assessment- Annually



**Timeline:**  
In place and on going

## Engagement Supervision

- All engagements are properly supervised
- Engagement reports are not issued unless all supporting documents and workpapers have been reviewed and signed off

## Periodic Auditor Training Sessions

- Training sessions are conducted to align quality expectations and conformance with Standards

## Audit Tracking Metrics

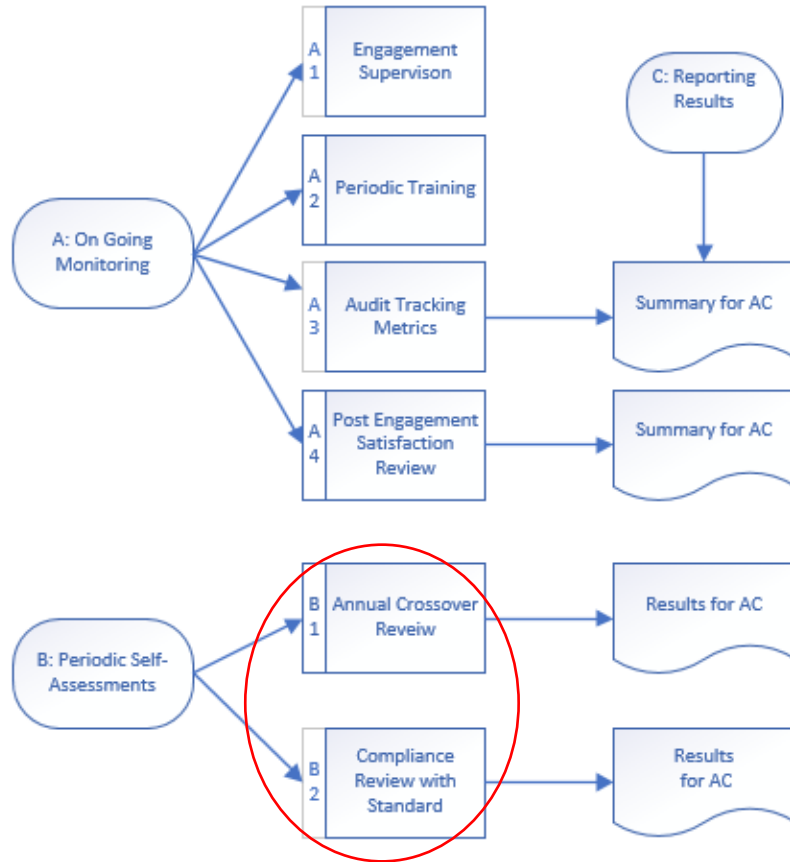
- Audit status tracking
- Audit plan completion tracking
- Actions plan overdue

## Post Engagement Satisfaction Evaluation

- Post Audit Satisfaction Survey, or
- Post-Audit Debrief Meetings

# Internal Quality Assessment - Periodic Self Assessment

## Internal Assessment- Annually



**Timeline:**  
Annually by December 31

## Performed by Qualified Individuals Who Are

- Knowledgeable about internal auditing practices
- Familiar with the IIA Standards and the NYSTRS Code of Ethics
- Independent of the activity being assessed

## Crossover Review

- Two, or 10% of total projects completed during the audit plan year

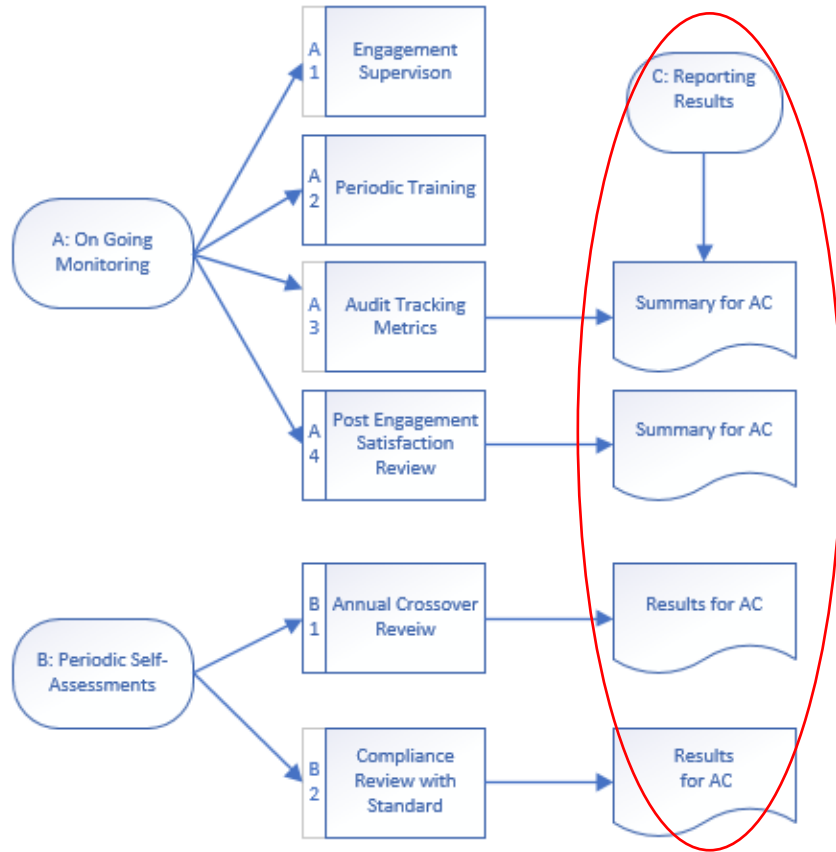
## Compliance Review: Practices vs. Standards

- Self-assessments review internal audit activities
- Considering the option of conducting a review of one of the five Domains of the 2024 Global Internal Audit Standards each year\*
  - Year 1: Domain II - Ethics and Professionalism
  - Year 2: Domain III - Governing the Internal Audit Function
  - Year 3: Domain IV - Managing the Internal Audit Function
  - Year 4: Domain V - Performing Internal Audit Services
  - Year 5: Internal Assessment with External Validation (EQA)

\*Domain I - Purpose of Internal Auditing will be reviewed every year

# Internal Quality Assessment - Reporting Results

## Internal Assessment- Annually



## Summary for Audit Committee

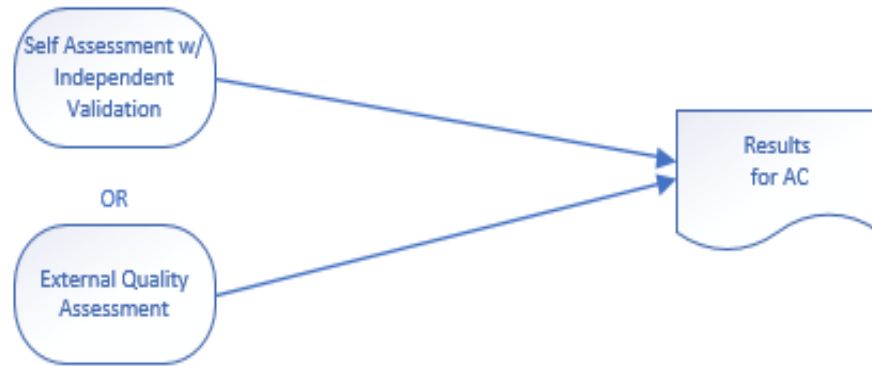
- Audit tracking metrics
- Post engagement satisfaction survey and briefing meeting
- Annual crossover review
- Compliance with Standards

## Timeline:

Annual January AC Meeting

# External Quality Assessment

## External Assessment (Every Five Years)



### Must be performed

- At least once every five years
- By a qualified, independent assessor or assessment team - at least one person be active Certified Internal Auditor

### Type of External Assessments

- Self-Assessment with Independent Validation
- External Quality Assessment (EQA)

### EQA Deliverables

- Improvement Plans
- Reporting Results

### **Timeline:**

2025, 2030, 2035

# External Quality Assessment 2025 Team



**Ms. Cheryl Cervantes Dietz**  
**CPA, CIA**

**Chief Auditor, CalSTRS**

- Team Lead
- Extensive audit and compliance experience including over 25 years at a public pension fund
- Led both employer and internal audits at two of the nation's largest pension systems
- At CalSTRS, Served as Enterprise Compliance Services Director prior to her current role of Chief Auditor
- Served on various committees and boards for the Association of Public Pension Fund Auditors
- Served on the board of Sacramento Chapter of the Institute of Internal Auditors



**Mr. Tony Chavez**  
**CIA, CGAP, CRMA**

**Internal Audit Director, TxERS**

- Team member
- 12 years with ERS
- 25 years of governmental auditing experience within Texas state government (Texas State Auditor's Office/TxDOT)
- A member of the Association of Public Pension Fund Auditors



**Ms. Elizabeth McGuire**  
**CFA, CPA, CIA, CIDA**

**Director of Internal Audit – Investments and Data Analytics, SBA of Florida**

- Team member
- 15 years of experience in internal audit and pension fund management
- Leads the data analytics program of the Office of Internal Audit and Inspector General (OIA&IG) at the State Board of Administration (SBA)
- Led several quality assurance self-assessments review teams
- Chairs the Audit Committee and serves on the Best Practices Committee for the Association of Public Pension Fund Auditors

# 2025 External Quality Assessment Timeline

Process Steps	Due Date
Internal assessment	Completed
Select and orient the external EQA Team	Completed
Obtain AC approval on EQA Team	July 2025
Fieldwork by EQA Team	Aug - Oct 2025
Survey and interviews with the Board & Management	September 2025
Issue final report	November 2025
EQA Team report to AC	December 2025

# Questions?





New York State  
Teachers'  
Retirement  
System

# Internal Audit Update

Audit Committee July 30, 2025

*Kathy Ebert, CPA, CIA*  
*Managing Director of Internal Audit*

# REPORT HIGHLIGHTS

## Accounts Receivable

### Engagement Objectives

The objective of this engagement was to provide reasonable assurance that processes and controls exist, are effective, and in compliance with existing policy and procedures to ensure accounts receivable balances are collected and recorded in the financial system accurately, completely, and in a timely manner.

### Risk

There is a risk that amounts to be collected by the System as accounts receivable may not be recorded accurately and timely. This risk is assessed as medium.

### Background

#### Responsible Department & Unit

Finance Department

- General Accounting Team
- Cash Control

The General Accounting Team is responsible for operational accounting related to the general and administrative funds, which includes accounts receivable, as well as preparing financial entries and producing accurate and useful financial reports.

Cash Control is responsible for processing receipts and designating the general ledger accounting codes.

Accounts Receivables are amounts due to NYSTRS from members, retirees, participating employers, and others.

### Project Facts

#### Audit Period

November 1, 2023 to October 31, 2024

### Numbers at a Glance

General ledger balance for member related activities as of October 31, 2024:

School District Receivables	\$1.2 B
Member Receivables	\$5.4 MM
Allowance for Doubtful Accounts	\$716 K

# REPORT HIGHLIGHTS

## Procurement Card Administration

### Engagement Objectives

The objective of this engagement was to provide reasonable assurance that controls used in the procurement card (P-Card) administration process were properly designed and operating effectively.

### Risk

There is a risk of improper purchases or wasteful spending on the P-Card, in part due to transaction approval occurring after purchase. This risk is assessed as medium.

### Background

#### Responsible Department & Unit

Finance Department

- Financial Reporting & Control Unit
- General Accounting Team
- Procurement & Contracts Unit

All Divisions

- P-Cardholder
- P-Card Approver

The Financial Reporting & Control Unit is responsible for the administration of the P-Card program.

The General Accounting Team is responsible for processing monthly payments to the credit card company and recording entries to the general ledger.

The Procurement & Contracts Unit is responsible for assisting departments to obtain goods and services that meet the System's business goals at the best price.

P-Cardholder is responsible for making authorized purchases for their department and complying with purchasing policies, which includes attaching supporting documents and reconciling transactions.

P-Card Approver is responsible for providing oversight by approving transactions made by the P-Cardholder to ensure all purchases are allowable, appropriate and in accordance with purchasing policies.

### Project Facts

#### Audit Period

July 1, 2023, to January 31, 2025

# REPORT HIGHLIGHTS

## Procurement Card Administration

### Numbers at a Glance

Standard single transaction limit increased from \$2,500 to \$5,000 in August 2023.

	Count	Amount
Population	4,086	\$ 2.1 MM
Sample	149	\$ 427 K

46 Department P-Cards

3 Procurement & Contracts Unit P-Cards

# REPORT HIGHLIGHTS

## Procurement

### Engagement Objectives

The objective of the engagement is to provide reasonable assurance that controls used in the procurement of goods and services are properly designed and operating effectively.

### Risk

There is a risk that internal control weaknesses in vendor selection, purchasing, receiving, and accounts payable could result in commodities, services, or technology that do not meet the business needs of the System at the best price, are inappropriate, or fraudulent. This risk is assessed at medium.

### Background

#### Responsible Department & Unit

Finance Department

- Procurement & Contracts Unit
- General Accounting Team

Facility Services Department

- Mailroom

All Divisions

- Executives
- Management

The Procurement & Contracts Unit determines the appropriate procurement method, ensures all required approvals are present in the contract workflow, when applicable, and creates purchase orders.

Mailroom employees receive and inspect goods, match against a purchase order (PO), and deliver goods to the requesting department or to the appropriate storage area.

The General Accounting Team oversees the Accounts Payable (AP) process, which verifies invoice accuracy and department approval, processes payments, and creates the warrant for signatory approval. Staff not involved in the AP process, reconciles the AP general ledger accounts monthly.

Executives and department management are responsible for understanding and ensuring compliance with the purchasing policy and guidelines. This includes determining the necessity and reasonableness of cost and ensuring budget authorization exists and expenses are incurred.

### Project Facts

#### Audit Period

July 01, 2023, to April 30, 2025

# REPORT HIGHLIGHTS

## Procurement

### Numbers at a Glance

Payments made during the 22-month audit period.

	Count	Amount
Population	1,648	\$ 34.0 MM
Sample	149	\$ 6.6 MM

# REPORT HIGHLIGHTS

## Travel

### Engagement Objectives

The objective of this engagement was to provide reasonable assurance that controls used in processing employee and Board travel were properly designed and operated effectively.

### Risk

There is a risk that internal control weaknesses may lead to unnecessary or inaccurate travel expenses and negatively impact the System’s reputation. This risk is assessed at medium.

### Background

#### Responsible Department & Unit

Finance Department

- General Accounting Team

All Divisions

- Executives
- Management

The Finance Department is responsible for establishing and updating the travel policy and guidelines, determining the most reasonable and economical mode of transportation based on the traveler’s business itinerary, and reviewing travel expense documentation prior to making payment.

System employees are responsible for understanding and complying with the travel policy and guidelines.

Executives and department management are responsible for understanding and ensuring compliance with the travel policy and guidelines. This includes determining the necessity and duration of travel before it is approved, expenses are incurred and reviewed against supporting documentation before it is submitted to Finance.

### Project Facts

#### Audit Period

January 1 to December 31, 2024

# REPORT HIGHLIGHTS

## Travel

### Numbers at a Glance

Travel reimbursement payments made during the 12-month audit period.

	Count	Amount
Population	534	\$ 328.9 K
Sample	85	\$ 49.7 K





New York State  
Teachers'  
Retirement  
System

# Executive Session

Audit Committee July 30, 2025



Quarterly Retirement Board Meeting

July 30, 2025

Call to Order by President

**Agenda** pp. 227-228

- A. Election of Vice President
- B. Introduction of Visitors
- C. Correspondence – July 11 2025 Note from D. Hennessy and System Response pp. 229-230
- D. Approval of Minutes of April 24, 2025 pp. 231-239
- E. Resolution of Recognition – Oliver Robinson (R1, p. 240)
- F. Resolution of Recognition – Paul Farfaglia (R2, p. 241)
- G. Resolution of Recognition – Juliet Benaquisto (R3, p. 242)

**Committee Reports & Action Items**

- A. Audit Committee
  - 1. Chair's report
- B. Disability Review Committee
  - 1. Disability Denial Resolution (R4, p. 243)
  - 2. Disability Rescission Resolution (R5, p. 244)
- C. Ethics Committee
  - 1. Chair's report
- D. Executive Committee
  - 1. Resolution Amending System Rules and Regulations Part 5021 (R6, p. 245)
  - 2. Resolution Identifying Financial & Legal Document Signatories (R7, p. 246)
  - 3. Warrant Delegation Resolution (R8, pp. 247-249)
  - 4. Resolution Identifying Warrant Signatories (R9, p. 250)
  - 5. Short Term Succession Plan EDCIO July 1, 2025 – June 30, 2026 pp. 251-253
- E. Investment Committee
  - 1. **Consent Agenda Item 1A 1-9** pp. 254-262
    - A. Renew Agreements:
      - 1. Advent Capital Management LLC (R10, p. 254)
      - 2. Baillie Gifford Overseas Limited (R11, p. 255)
      - 3. BlackRock Carbon Transition (R12, p. 256)
      - 4. Blue Owl Real Estate Debt Advisors (Successor-in-Interest to Prima Capital Advisors) (R13, p. 257)
      - 5. Global REIT Managers (DFA, Heitman) (R14, p. 258)
      - 6. Leading Edge (R15, p. 259)
      - 7. PIMCO (R16, p. 260)
      - 8. T. Rowe Associates, Inc. (R17, p. 261)
      - 9. William Blair and Company (R18, p. 262)
    - 2. Resolution on Investment Discretion (R19, p. 263)
    - 3. Resolution on Asset Allocation (R20, p. 264)
- F. Risk Committee
  - 1. Chair's report

### **Staff Reports**

- A. Old Business
- B. New Business
  - 1. Litigation Report – D. Ampansiri pp. 265-266
  - 2. Member Relations Update – B. Dellea
    - a. Loan Board Report pp. 267-270
    - b. Process Overview – A. Audino, C. Furman, S. Rossetti, and T. Kaczmarek pp. 271-273
  - 3. Actuarial Valuation Report – M. Prangley pp. 274-362
  - 4. Employer Contribution Rate Presentation – M. Prangley pp. 363-389
    - a. Resolution on Employer Contribution Rate (R21, p. 390)
- C. Motion for Executive Session pursuant to Open Meetings Law §105(1)(f) to discuss matters of personnel management

NEW YORK STATE TEACHERS' RETIREMENT SYSTEM

10 CORPORATE WOODS DRIVE  
ALBANY, NEW YORK 12211-2395

THOMAS K. LEE

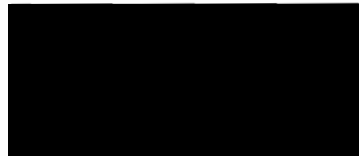
July 17, 2025

Dear Mr. Hennessy,

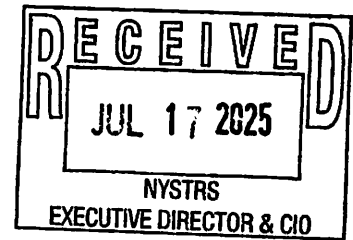
Thank you for your note  
and donation. I am thrilled that  
you think highly of NYS TRS. Your  
note made my day!

I am copying your check. Your  
thoughts and appreciation of NYS TRS  
is priceless!

Take care,



**Daniel J. Hennessy**  
[REDACTED]  
[REDACTED]  
[REDACTED]



**July 11, 2025**

**Thomas Lee, Executive Director  
NYSTRS  
10 Corporate Woods Drive  
Albany , NY 12211**

**Dear Sir,**

**I am a big fan of NYSTRS. I would like to donate \$100 to your operations.**

**Sincerely,**

A handwritten signature in cursive script, appearing to read "Daniel J. Hennessy".

**NEW YORK STATE  
TEACHERS' RETIREMENT SYSTEM**

**BOARD MEETING**  
**April 24, 2025**

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NEW YORK STATE TEACHERS' RETIREMENT SYSTEM  
10 CORPORATE WOODS DRIVE ALBANY, NEW YORK

A MEETING OF THE NEW YORK STATE TEACHERS' RETIREMENT SYSTEM BOARD was held at the System on April 24, 2025. The meeting was called to order by President David Keefe at 9:05 a.m. President Keefe asked Paul Farfaglia to lead the group in the Pledge of Allegiance.

ATTENDANCE:

BOARD MEMBERS

Juliet Benaquisto, Paul Farfaglia, Phyllis Harrington (via WebEx), Eric Iberger, David Keefe, Donald A. Little III, Ruth Mahoney, Oliver Robinson, Nicholas Smirensky

NYSTRS STAFF

Thomas K. Lee, Beth Dellea, Don Ampansiri, Michael Federici, Gerald Yahoudy, Vijay Madala, Richard Young, Kathy Ebert, Danny Malavé, Matt Albano, Emily Ekland, Han Yik, Binoop Unni, Rebecca Kannan, Fred Herrmann, Mike Morrell, Kevin Maloney, Bruce Woolley, Sarah Garrand, Chris Brown, Melody Prangle

A. Introduction of Visitors

Visitors via WebEx: Donna Martin, Albany NY; John Daley, NYSSBA; Robert Steyer, Pensions & Investments

B. Correspondence

None.

C. Approval of January 30, 2025 Meeting Minutes

There being no additions or corrections to the January 30, 2025 Board meeting minutes, the minutes were approved with a motion made by P. Farfaglia, seconded by R. Mahoney and unanimously carried.

Committee Reports/Action Items

A. Audit Committee

1. Chairman's report

O. Robinson, Chair, reported that the Committee met on April 23, 2025 and reviewed consultant presentations and Internal Audit reports.



B. Compensation Committee

P. Harrington, Chair, reported that the Committee had met on April 24, 2025 in Executive Session to discuss personnel matters.

1. Resolution on Executive Compensation (R1)

O. Robinson offered the following resolution, seconded by R. Mahoney and unanimously carried by the Board:

RESOLVED, That the report of the Compensation Committee regarding recommended action on Executive Compensation, a copy of which is annexed hereto as Appendix A, p. 8-9, is authorized and approved.

C. Disability Committee

1. Disability Denial Resolution (R2)

J. Benaquisto offered the following resolution, seconded by D. Little III and unanimously carried by the Board:

WHEREAS, After reviewing the medical information submitted in connection with the following member, the Medical Board has determined the member is not incapacitated for the performance of gainful employment and has recommended the member's application be denied, be it

RESOLVED, That the application for retirement on account of disability submitted by the following member be denied as recommended by the Medical Board:

[REDACTED]

2. Disability Rescission Resolution (R3)

P. Farfaglia offered the following resolution, seconded by D. Little III and unanimously carried by the Board:

WHEREAS, After reviewing the physician's report of the following annuitant who has retired for disability, the Medical Board believes they are improved and no longer incapacitated for the performance of all gainful employment, and recommended they be restored to active membership, therefore, be it

RESOLVED, That upon recommendation of the Medical Board, the action taken in retiring the following member for disability be rescinded and they be restored to active membership on the date indicated:

<u>EmplID</u>	<u>Date Retired</u>	<u>Date Restored</u>
[REDACTED]	11/01/2023	04/24/2025

D. Ethics Committee

P. Farfaglia, Chair, reported that the Committee had met on April 23, 2025 to hear a report on the ED&CIO quarterly disclosures and a follow-up report on an outstanding annual disclosure statement which has been received and reviewed.

E. Executive Committee

1. Resolution Approving Operating Budget Fiscal year 2025-2026 (R4)

P. Harrington offered the following resolution, seconded by P. Farfaglia and unanimously carried by the Board:

WHEREAS, System staff has presented to the Retirement Board a proposed Operating Budget for Fiscal Year 2025-2026, a copy of which is annexed hereto and made a part hereof as Appendix B, pp. 10-26, be it

RESOLVED, That the Operating Budget for Fiscal Year 2025-2026 is approved as presented.

2. Resolution Accepting Changes to Business Continuity Plan 2025 (R5)

N. Smirensky offered the following resolution, seconded by O. Robinson and unanimously carried by the Board:

RESOLVED, That the Business Continuity Plan, as presented to the Retirement Board reflecting changes through January 2025 is approved and accepted.

F. Investment Committee

1. Consent Agenda Items – item A (Appendix C, pp. 27-28)

N. Smirensky, Chair, asked the Board members if any of the consent agenda items should be moved to regular discussion items. Hearing no objections, the Board proceeded to move the Consent Agenda items (item A) with one motion.

Upon motion O. Robinson, seconded by R. Mahoney and unanimously carried, the following resolutions were moved and approved together as consent agenda items:

A. Renew Agreements

- Adelante Capital Management LLC (R6)

RESOLVED, That the System's Executive Director and Chief Investment Officer is authorized to renew the agreement with Adelante Capital Management LLC to manage a portion of the System's portfolio, to be actively invested in the securities of real estate investment trusts ("REITs") and real estate operating companies ("REOCs"), for a period of one year, effective July 1, 2025.

- Goldman Sachs Asset Mgt India Equity Strategy (R7)

RESOLVED, That, the Executive Director and Chief Investment Officer, or designee, is authorized to renew the agreement with Goldman Sachs Asset Management, L.P. to manage a portion of the System's assets as an active India equity manager benchmarked to the MSCI India IMI Index for a period of one year commencing July 5, 2025.

- JP Morgan Chase Bank NA (Securities Lending) (R8)

RESOLVED, the Executive Director and Chief Investment Officer is authorized to renew the agreement with JPMorgan Chase Bank, N.A., to act as an agency securities lender for a portion of the System's public securities assets for a period of one year, effective July 1, 2025.

- LSV Asset Management (R9)

WHEREAS, LSV Asset Management was hired as an international equity manager on July 25, 2011 and as a global equity manager on February 15, 2018; now be it therefore

RESOLVED, That, the Executive Director and Chief Investment Officer is authorized to renew the agreement with LSV Asset Management for a period of one year, effective July 25, 2025, to manage (i) a portion of the System's assets as an international equity manager benchmarked to the MSCI ACWI ex-US index, and (ii) a portion of the System's assets as a global equity manager benchmarked to the MSCI ACWI index.

- Wellington Management Company (R10)

RESOLVED, That the Executive Director and Chief Investment Officer is authorized to renew the agreement with Wellington Management Company, LLP to manage a portion of the System's fixed income portfolio in a Global Aggregate fixed income mandate benchmarked to the Bloomberg Barclays Global Aggregate Float Adjusted ex CNY Bond Index in U.S. Dollars hedged to the U.S. Dollar for a period of one year, effective June 20, 2025.

2. Resolution on Comvest Credit Partners Domestic Co-Invest Fund LP (R11)

P. Farfaglia offered the following resolution, seconded by R. Mahoney

and unanimously carried by the Board:

WHEREAS, the System previously made a \$300 million commitment to Comvest Credit Partners VII ("CCP VII") in September 2023 pursuant to the investment authority granted by the Retirement Board to the Executive Director and Chief Investment Officer in the "Delegation of Investment Authority" section of the System's Investment Policy Manual; and

WHEREAS, the System currently proposes to make a \$200 million commitment to Comvest Credit Partners Domestic Co-Invest Fund, L.P. (the "Co-Invest Fund"), which is expected to make certain co-investments alongside CCP VII and Comvest Credit Opportunities Fund I ("CCO I"); and

WHEREAS, the System's proposed \$200 million commitment to the Co-Invest Fund, when added to the System's existing \$300 million commitment to CCP VII, will cause the System's aggregate commitment to CCP VII's portfolio investments to exceed \$300 million, potentially exceeding the scope of investment authority granted by the Retirement Board to the Executive Director and Chief Investment Officer and thereby necessitating the approval of the Retirement Board; and

NOW, THEREFORE, BE IT RESOLVED, That, subject to the satisfactory completion of due diligence, the Executive Director and Chief Investment Officer, or designee, is authorized to make a \$200 million commitment to the Co-Invest Fund; and be it further

RESOLVED That the Executive Director and Chief Investment Officer, or designee, is authorized to execute such documents and to take such actions as may be necessary or required to implement the foregoing resolution.

3. Resolution on DigitaBridge Partners III LP (R12)

O. Robinson offered the following resolution, seconded by R. Mahoney and unanimously carried by the Board:

RESOLVED, That, subject to the satisfactory completion of due diligence, the Executive Director and Chief Investment Officer is authorized to make a commitment of up to \$100 million to DigitalBridge Partners III, L.P., and up to \$50 million to the associated side car co-investment fund, and to execute such documents and take such actions as may be necessary or required to implement the foregoing.

G. Risk Committee

R. Mahoney, Chair, reported that the Committee had met April 23, 2025 and had heard an information security update, results of penetration testing and a personnel update in Executive Session. In open session, the Committee heard compliance and investment risk updates.

Staff Reports

A. Old Business

None.

B. New Business

1. Transfer of Unclaimed Accounts

A copy of the memo which details unclaimed and abandoned accounts and a report of unclaimed accounts is attached as Appendix D, pp. 29-44.

2. Litigation Report

D. Ampansiri discussed the Litigation report, a copy of which is annexed hereto and made a part hereof as Appendix E, p. 45.

3. Member Relations Update

B. Dellea reported that staff were busy processing retirement applications.

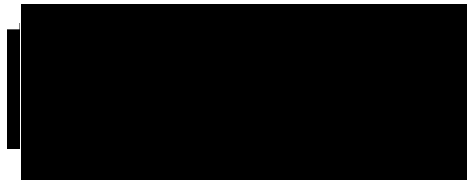
4. DEI Update

Danny Malave and Pinchinat gave an update on DEI activities during the last quarter.

Board President Dave Keefe thanked Board Members Oliver Robinson, Juliet Benaquisto and Paul Farfaglia for their service to the NYSTRS' Board. All three Board Members are leaving the Board at the conclusion of their terms on June 30, 2025.

There being no further business and with unanimous consent, the meeting adjourned at 10:11 a.m.

Respectfully submitted,

A large black rectangular redaction box covering the signature of the official.

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Thomas K. Lee

Board Meeting July 30, 2025

**Resolution Honoring Dr. L. Oliver Robinson  
For His Service as a NYSTRS Trustee**

Whereas Dr. L. Oliver Robinson was a devoted school administrator member of the New York State Teachers' Retirement System Board of Trustees since he was first appointed to his position in 2010;

Whereas Dr. Robinson has the distinction of being one of the longest-serving members of the Board and has further served as vice president of the Board since first being elected to that role in 2019;

Whereas he chaired the Board's Audit Committee for six years and served on every other committee of the Board, ensuring NYSTRS remains among the best-funded and most secure retirement systems in the nation;

Whereas Dr. Robinson is well regarded as a long-tenured superintendent in the Capital Region, having led Shenendehowa Central School District for 20 years where he was lauded as a leader committed to excellence in academics, the arts and athletics;

Whereas he was passionately dedicated to serving NYSTRS members and employers, and was known for his commitment to the prudent stewardship of assets to ensure the System was well-positioned to meet its mission of providing retirement security to its members;

Whereas during Dr. Robinson's tenure, NYSTRS membership grew from 427,500 to nearly 455,000, its net assets nearly doubled from \$76.8 billion to \$145.8 billion, and his contributions and leadership guided the System through significant events and milestones, including its 100th anniversary; be it

Resolved that the New York State Teachers' Retirement System Board and staff extend sincere appreciation to Dr. Robinson for his 15 years of distinguished service on the Retirement Board and his deep commitment to the financial security of NYSTRS members; be it further

Resolved the Retirement Board extend him best wishes for health, happiness and future endeavors; and be it further

Resolved a copy of this resolution be presented to Dr. Robinson and be included in the proceedings of the NYSTRS Board meeting held July 30, 2025.

Board Meeting July 30, 2025

**Resolution Honoring Paul J. Farfaglia  
For His Service as a NYSTRS Trustee**

Whereas Paul J. Farfaglia has been a dedicated member of the New York State Teachers' Retirement System Board of Trustees since he was elected to his current position in 2023;

Whereas Mr. Farfaglia previously served as an active teacher member on the Board for a decade until his retirement from teaching in 2019, later returning to the Board as a school boards association member elected by the New York State Board of Regents;

Whereas in his most recent Board role, he chaired the Retirement Board's Ethics Committee and served on the Disability Review and Risk committees;

Whereas he was committed to his fiduciary duty as a NYSTRS Trustee to provide a secure pension to the Retirement System's current and future members;

Whereas Mr. Farfaglia has been a member of the North Syracuse Central School District Board of Education since 2015 and has served as president of that Board since 2019;

Whereas he serves as an associate member of the Board of the Teachers' Federal Credit Union, chairs its Pension Board and serves on its Financial Management Review Committee;

Whereas his vast experience as a school board member and his commitment to the needs of public schools contributed to the System meeting its vision to be the model for pension fund excellence and exceptional customer service for all stakeholders; now, therefore be it

Resolved that the New York State Teachers' Retirement System Board and staff extend sincere appreciation to Mr. Farfaglia for his service on the Retirement Board and his commitment to NYSTRS members; be it further

Resolved the Retirement Board wishes Mr. Farfaglia all the best in his future endeavors; and be it further

Resolved a copy of this resolution be presented to Mr. Farfaglia and be included in the proceedings of the NYSTRS Board meeting held July 30, 2025.



Board Meeting July 30, 2025

**Resolution Honoring Juliet C. Benaquisto  
For Her Service as a NYSTRS Trustee**

Whereas Juliet C. Benaquisto has been a valued teacher member of the New York State Teachers' Retirement System Board of Trustees since she was first elected to her position in 2021;

Whereas Ms. Benaquisto served on several Retirement Board committees, including most recently the Audit, Disability Review, Ethics and Investment committees;

Whereas prior to joining the Board, she was a longtime NYSTRS delegate committed to serving her colleagues and educating members about their NYSTRS benefits and the peace of mind of having retirement security they cannot outlive;

Whereas Ms. Benaquisto was dedicated to her fiscal duty to provide a secure pension to the System's nearly 455,000 members, always ensuring the System was well positioned to meet the needs of current and future members;

Whereas she was a valued special education teacher in the Schenectady City School District since 1988, where she served for 16 years as president of the Schenectady Federation of Teachers and as a member of its Executive committee;

Whereas Ms. Benaquisto further served her fellow public educators in several capacities with New York State United Teachers, including serving as a director of Election District 12 on the NYSUT Board of Directors; now, therefore be it

Resolved that the New York State Teachers' Retirement System Board and staff extend sincere appreciation to Ms. Benaquisto for her four years of service on the Retirement Board and her commitment to the retirement security of New York's educators; be it further

Resolved the Retirement Board wishes Ms. Benaquisto a happy and healthy retirement; and be it further

Resolved a copy of this resolution be presented to Ms. Benaquisto and be included in the proceedings of the NYSTRS Board meeting held July 30, 2025.

Board Meeting July 30, 2025

**DISABILITY DENIAL RESOLUTION**  
**TIER 4**

WHEREAS, after reviewing the medical information submitted in connection with the following member, the Medical Board has determined the member is not incapacitated for the performance of gainful employment and has recommended the member's application be denied, be it

RESOLVED, That the application for retirement on account of disability submitted by the following member be denied as recommended by the Medical Board:

[REDACTED]

Board Meeting July 30, 2025

**DISABILITY RESCISSION RESOLUTION**  
**TIER 4**

WHEREAS, After reviewing the physician's report of the following annuitant who has retired for disability, the Medical Board believes they are improved and no longer incapacitated for the performance of all gainful employment and recommended they be restored to active membership, therefore, be it

RESOLVED, That upon recommendation of the Medical Board, the action taken in retiring the following member for disability be rescinded and they be restored to active membership on the date indicated:

EmplID

[REDACTED]

Date Retired

04/17/2024

Date Restored

06/10/2025

Board Meeting July 30, 2025

**RESOLUTION AMENDING THE SYSTEM'S RULES AND REGULATIONS**

**Part 5021 – Election of System Retiree to the Retirement Board**

WHEREAS, Part 5021 of the System's Rules and Regulations governs the election of a System retiree to the Retirement Board;

WHEREAS, Staff recommends amendments to the System's Rules and Regulations Section 5021.5, paragraphs (b), (d), and (e) to permit and direct retired members to submit a ballot either electronically or by traditional postmarked mailing.

RESOLVED, That, effective July 30, 2025, the above amendments to Section 5021.5, paragraphs (b), (d), and (e) of the Rules and Regulations of the New York State Teachers' Retirement System be adopted and implemented, a copy of which is annexed hereto and made a part thereof of Appendix \_\_\_\_, page \_\_\_\_.

Board Meeting July 30, 2025

**RESOLUTION IDENTIFYING FINANCIAL AND LEGAL  
DOCUMENT SIGNATORIES**

WHEREAS, The Retirement Board has by resolution amended and restated the resolution of January 27, 2022 entitled Delegation Resolution - Financial and Legal Document Execution, providing for the delegation by the Executive Director and Chief Investment Officer of the authority to approve and execute financial and legal documents to other employees of the Retirement System; and

WHEREAS, The Retirement Board has by resolution adopted at its regular meeting on October 26, 1995, amended and restated periodically thereafter, and most recently on July 31, 2024, identifying those employees of the Retirement System that have been delegated such authority; and

WHEREAS, It is necessary to periodically update said resolution by identifying those employees of the Retirement System to whom such authority may be delegated; now therefore be it

RESOLVED, That the employees authorized to approve and execute financial and legal documents of said resolution are identified by department, management level within the organization and by name in the attachment entitled Signatory Authorization Grid- Financial and Legal Documents; and be it

RESOLVED, the attachment entitled Signatory Authorization Grid- Financial and Legal Documents sets forth the approvals and signatures needed to approve and execute financial and legal documents; and be it

RESOLVED, That this authorization shall remain in effect for individuals who are promoted within their department; and be it

RESOLVED, That the Executive Director and Chief Investment Officer shall have the authority to designate in writing any such additional employees as may be required by business necessity to serve on an interim basis until the regular meeting of the Retirement Board following the quarter ending June 30; and be it

RESOLVED, That this delegation shall be reviewed by the Retirement Board no less than annually; and be it further

RESOLVED, That this resolution shall take effect July 30, 2025 and, upon taking effect, shall supersede the identifying resolution previously adopted by the Retirement Board on July 31, 2024.

Board Meeting July 30, 2025

### **DELEGATION RESOLUTION-WARRANT EXECUTION**

WHEREAS, Pursuant to Subdivision 3 of Section 507 of the Education Law, the Retirement Board may designate officials of the Retirement System authorized to sign warrants providing for disbursements from the funds of the Retirement System; and

WHEREAS, Pursuant to 11 CRR-NY 136-1.4 (e) no authorization for disbursement of Retirement System funds shall be valid unless signed by two signatories designated by the Retirement Board; and

WHEREAS, In order to assure the proper and efficient operation of the Retirement System, it is necessary and desirable to provide for the delegation by the Executive Director and Chief Investment Officer of the authority to execute warrants to other employees of the Retirement System; and

WHEREAS, the Retirement Board believes it is desirable to amend and restate the delegation resolution and, among other things, identify the employees of the Retirement System to whom the authority to execute warrants has been delegated by a separate resolution which may hereafter be amended as required; now therefore be it

I

#### Identification of Signatories

RESOLVED, That, for the purposes of implementing Subdivision 3 of Section 507 of the Education Law, the Executive Director and Chief Investment Officer is hereby authorized to execute warrants and, for the purposes of Section 5 of Article II of the Retirement System's Bylaws, the Retirement Board shall identify by separate resolution, the employees of the

System to whom authority has been delegated to execute warrants, which resolution shall be reauthorized by the Retirement Board as necessary; and be it

## II

### Administrative Warrants

RESOLVED, That the Executive Director and Chief Investment Officer and any employee of the Retirement System identified as a Group A signatory is authorized to execute and deliver any and all warrants related to the non-investment administration of the Retirement System or may delegate such authority to employees of the Retirement System identified as Group F signatories by such resolution; and be it

## III

### Real Estate Equity and Debt Investment Warrants

RESOLVED, That the Executive Director and Chief Investment Officer and any employee of the Retirement System identified as a Group A signatory is authorized to execute and deliver any and all warrants relating to real estate investments or may delegate such authority to employees of the Retirement System identified as Group B signatories by such resolution; and be it further

## IV

### Fixed Income Warrants

RESOLVED, That the Executive Director and Chief Investment Officer and any employee of the Retirement System identified as a Group A signatory is authorized to execute and deliver any and all warrants related to fixed income investment or may delegate such authority to employees of the Retirement System identified as Group C signatories by such resolution; and be it

V

Public Equity Securities Warrants

RESOLVED, That the Executive Director and Chief Investment Officer and any employee of the Retirement System identified as a Group A signatory is authorized to execute and deliver any and all warrants related to public equity investments or may delegate such authority to employees of the Retirement System identified as Group D signatories by such resolution; and be it

VI

Private Equity and Private Debt Warrants

RESOLVED, That the Executive Director and Chief Investment Officer and any employee of the Retirement System identified as a Group A signatory is authorized to execute and deliver any and all warrants related to private equity and private debt investments or may delegate such authority to employees of the Retirement System identified as Group E signatories by such resolution; and be it further

VII

Rescission of All Prior Inconsistent Resolutions

RESOLVED, That all prior resolutions of the Retirement Board inconsistent with this resolution are hereby rescinded effective MONTH 1, 2024, provided, however, that nothing herein shall affect the validity of any action previously authorized, approved or ratified by the Retirement Board.



Board Meeting July 30, 2025

### **RESOLUTION IDENTIFYING WARRANT SIGNATORIES**

WHEREAS, The Retirement Board has by resolution adopted at its regular meeting on October 26, 1995, amended and restated periodically thereafter, and most recently on July 30, 2025, and as further amended concurrent with this resolution, provided for the delegation by the Executive Director and Chief Investment Officer of the authority to execute warrants to other employees of the Retirement System; and

WHEREAS, It is necessary to implement said resolution by identifying those employees of the Retirement System to whom such authority may be delegated; be it

RESOLVED, That the signatories authorized to execute administrative, real estate investment, and fixed income, equity security and alternative investment warrants as provided in Parts II, III, IV, V and VI respectively of said resolution are identified by signatory group, organizational level within the organization and by name in the attached Signatory Authorization Grid; and be it further

RESOLVED, That this authorization shall remain in effect for individuals that are promoted within or move among the designated signatory groups, and be it further

RESOLVED, That the Executive Director and Chief Investment Officer shall have the authority to designate any such additional "A", "B", "C", "D", "E", and "F" signatories as may be required by business necessity to serve on an interim basis until the regular meeting of the Retirement Board following the quarter ending June 30; and be it further

RESOLVED, That this delegation shall be reviewed by the Retirement Board no less than annually; and be it further

RESOLVED, That this resolution shall take effect July 30, 2025 and, upon taking effect, shall supersede the identifying resolution previously adopted on July 31, 2023.



nysstrs.org

## New York State Teachers' Retirement System

### Retirement Board

David P. Keefe <i>President, Hempstead</i>	
Phyllis S. Harrington <i>Oceanside</i>	Donald A. Little III <i>Syracuse</i>
Eric J. Iberger <i>Bayport-Blue Point</i>	Ruth Mahoney <i>Albany</i>
Scott R. Levy <i>Byram Hills</i>	Nicholas Smirensky <i>Delmar</i>
Jennifer J. Longtin <i>Ballston Lake</i>	Mark R. Stratton <i>Corinth</i>

### Annual Executive Director & Chief Investment Officer Short Term Succession Plan

Pursuant to Section 13 of the ED&CIO Charter, and as further set forth in the Short Term ED&CIO Succession Plan, I, Thomas K Lee, hereby name the following members of the executive staff to assume my duties in the event of an emergency where I cannot be reached, or in the event of a temporary incapacitation preventing me from fulfilling my responsibilities. The individuals designated below will assume respective ED and CIO responsibilities as indicated on the attached schedule A.

#### ED Responsibilities

Primary: Beth Dellea  
Backup: Margaret Andriola

#### CIO Responsibilities

Primary: Dave Gillan  
Backup: Gerald Yahoudy

These designations will remain in effect from July 1, 2025 - June 30, 2026, unless alternative names are submitted to the Board prior to the end of this period.

Thomas K. Lee

7/22/25  
Date

## **Charter for the Executive Director/Chief Investment Officer**

Purpose and Responsibilities: The Executive Director/Chief Investment Officer is the chief executive officer of the System. The Executive Director/Chief Investment Officer has the following primary responsibilities:

1. Oversee the orderly and efficient operation of the System and ensure the System's business is conducted in accordance with applicable law and the System's Bylaws, Rules and Regulations, and established policies and procedures. **[ED]**
2. Oversee the preparation of the System's budget and presentation to the Retirement Board. **[ED]**
3. Oversee the Actuary's calculation of the employer contribution rate and recommendations for any changes in actuarial factors submitted to the Retirement Board for its approval. **[ED]**
4. Develop and recommend to the Retirement Board necessary investment policies and procedures and assure timely and proper implementation of policies and procedures approved by the Retirement Board. **[CIO]**
5. Oversee the investment of System assets in accordance with the directions and policies established by the Retirement Board, and monitor and report to the Retirement Board on the activities and performance of the System's internally managed investment portfolios and third-party investment managers. **[CIO]**
6. Oversee the administration and payment of System benefits and report to the Retirement Board on the significant activities of benefits staff. **[ED]**
7. Ensure an effective system of internal control is in place for financial reporting and risk management and oversee the work of the System's internal audit staff and external independent auditor. **[ED/CIO]**
8. Serve as the System's primary representative to constituent groups, industry organizations and all other interested parties and stakeholders. **[ED/CIO]**
9. Oversee the preparation and submission of the System's legislative program, the preparation of any necessary changes to the System's Rules and Regulations recommended for approval by the Retirement Board, and reporting on any litigation to which the System is a party. **[ED/CIO]**
10. Serve on the Ethics Committee of the Retirement Board. **[ED]**
11. Be available to discuss matters of importance with the Retirement Board and its Committees, and ensure the Board is informed regarding any matter of importance to the System. **[ED/CIO]**
12. Provide reports for the Retirement Board regarding succession planning, actual or impending vacancies among executive staff positions, evaluations of the executive staff, and status of the employee contract negotiations. **[ED/CIO]**

13. Ensure continuity of services by naming one or more executives to temporarily assume the Executive Director's duties in the event the Executive Director cannot be reached during an emergency or becomes temporarily incapacitated. If more than one executive is named, the specific responsibilities assigned to each executive will be clearly defined. **[ED]**

14. Coordinate the scheduling of meetings of the Retirement Board and Retirement Board Committees; coordinate the preparation of meeting agendas and the assembly of all documentation and presentations for such meetings; and cause minutes to be taken of all such meetings. **[ED]**

15. Perform such other duties as may be assigned by the Retirement Board. **[ED/CIO]**

The Board may, by resolution, authorize the Executive Director/Chief Investment Officer to delegate any or all of his/her duties.

*(Source: NYSTRS Bylaws)*

Board Meeting July 30, 2025

## RESOLUTION RENEWING

### Advent Capital Management, LLC

RESOLVED, That the Executive Director and Chief Investment Officer, or designee, is authorized to renew the following external investment manager mandate for one year:

<b>Investment Manager:</b>	<b>Advent Capital Management, LLC</b>
NYSTRS Department:	Fixed Income
Original Contract Date:	September 10 <sup>th</sup> , 2024
<b>Approved Renewal Period:</b>	<b>09/10/2025-09/09/2026</b>

<b>Mandate</b>	
• Asset Class:	Fixed Income – High Yield
• Account Benchmark:	ICE B of A US High Yield Constrained Index (HUC0)
• Active or Passive:	Active
• Account Inception Date:	10/15/2024

Board Meeting July 30, 2025

## RESOLUTION ON BAILLIE GIFFORD OVERSEAS LIMITED

RESOLVED, That the Executive Director and Chief Investment Officer, or designee, is authorized to renew the following external investment manager mandate for one year:

<b>Investment Manager:</b>	<b>Baillie Gifford Overseas Limited</b>
NYSTRS Department:	Public Equities
Original Contract Date:	9/15/2011
Approved Renewal Period:	9/15/2025 – 9/14/2026

<b>Mandate</b>	
• Asset Class:	International Equities
• Account Benchmark:	MSCI ACWI exUS Index
• Active or Passive:	Active
• Account Inception Date:	9/22/2011

Board Meeting July 30, 2025

## RESOLUTION RENEWING

### BlackRock Financial Management, Inc.

RESOLVED, That the Executive Director and Chief Investment Officer, or designee, is authorized to renew the following external investment manager mandate for one year:

<b>Investment Manager:</b>	<b>BlackRock Financial Management, Inc.</b>
NYSTRS Department:	Fixed Income
Original Contract Date:	October 6 <sup>th</sup> , 2023
<b>Approved Renewal Period:</b>	<b>10/06/2025-10/05/2026</b>

<b>Mandate</b>	
• Asset Class:	Fixed Income – Global Bonds – Carbon Transition
• Account Benchmark:	Bloomberg Global Aggregate Corporate Bond Index (in USD hedged to USD)(H03435US)
• Active or Passive:	Active
• Account Inception Date:	12/01/2023

Board Meeting July 30, 2025

**RESOLUTION ON BLUE OWL REAL ESTATE DEBT ADVISORS LLC  
(AS SUCCESSOR-IN-INTEREST TO PRIMA CAPITAL ADVISORS LLC)**

RESOLVED, That the Executive Director and Chief Investment Officer is authorized to renew the System's contract with Blue Owl Real Estate Debt Advisors LLC to manage a portion of the System's real estate portfolio, as a manager of US CMBS and private real estate debt, for a period of one year, commencing on August 13, 2025.



Board Meeting July 30, 2025

**RESOLUTION ON GLOBAL REIT MANAGERS  
(Heitman, L.L.C.; Dimensional Fund Advisors, L.P.)**

RESOLVED, That the Executive Director and Chief Investment Officer, or his designees, is authorized to renew the agreements with the entities below to manage a portion of the System's assets as Global Real Estate Public Securities managers benchmarked to the FTSE EPRA/NAREIT Developed unhedged index for a period of one year:

Entity:	Renew for a period of one year effective as of:
Heitman, L.L.C.	August 7, 2025
Dimensional Fund Advisors, L.P.	September 22, 2025

Board Meeting July 30, 2025

## RESOLUTION ON LEADING EDGE INVESTMENT ADVISORS

RESOLVED, That the Executive Director and Chief Investment Officer, or designee, is authorized to renew the following external investment manager mandate for one year:

<b>Investment Manager:</b>	<b>Leading Edge Investment Advisors</b>
NYSTRS Department:	Public Equities
Original Contract Date:	11/22/2010 (IMA reissued 7/1/2013; re-mandated 4/1/2020)
Approved Renewal Period:	11/22/2025 – 11/21/2026

<b>Mandate</b>	
• Asset Class:	Global Equities
• Account Benchmark:	MSCI ACWI Index
• Active or Passive:	Active
• Account Inception Date:	6/23/2020

Board Meeting July 30, 2025

## RESOLUTION RENEWING

### Pacific Investment Management Company LLC

RESOLVED, That the Executive Director and Chief Investment Officer, or designee, is authorized to renew the following external investment manager mandate for one year:

<b>Investment Manager:</b>	<b>Pacific Investment Management Company LLC (PIMCO)</b>
NYSTRS Department:	Fixed Income
Original Contract Date:	October 6 <sup>th</sup> , 2023
<b>Approved Renewal Period:</b>	<b>10/6/2025-10/5/2026</b>

<b>Mandate</b>	
• Asset Class:	Fixed Income – Global Bonds – Carbon Transition
• Account Benchmark:	Bloomberg Global Aggregate Corporate Bond Index (in USD hedged to USD)(H03435US)
• Active or Passive:	Active
• Account Inception Date:	11/15/2023

Board Meeting July 30, 2025

## RESOLUTION ON T. ROWE PRICE ASSOCIATES, INC.

RESOLVED, That the Executive Director and Chief Investment Officer, or designee, is authorized to renew the following external investment manager mandate for one year:

<b>Investment Manager:</b>	<b>T. Rowe Price Associates, Inc.</b>
NYSTRS Department:	Public Equities
Original Contract Date:	10/30/2008 (IMA reissued 7/1/2013)
Approved Renewal Period:	10/30/2025 – 10/29/2026

<b>Mandate</b>	
• Asset Class:	Domestic Equities
• Account Benchmark:	S&P 500 Index
• Active or Passive:	Active
• Account Inception Date:	1/15/2009

Board Meeting July 30, 2025

## RESOLUTION ON WILLIAM BLAIR INVESTMENT MANAGEMENT, LLC

RESOLVED, That the Executive Director and Chief Investment Officer, or designee, is authorized to renew the following external investment manager mandate for one year:

<b>Investment Manager:</b>	<b>William Blair Investment Management,</b>
NYSTRS Department:	Public Equities
Original Contract Date:	9/22/2010
Approved Renewal Period:	9/22/2025 – 9/21/2026

<b>Mandate</b>	
• Asset Class:	International Equities
• Account Benchmark:	MSCI ACWI exUS Index
• Active or Passive:	Active
• Account Inception Date:	10/6/2010

Board Meeting July 30, 2025

**RESOLUTION ON INVESTMENT DISCRETION**

WHEREAS, The Retirement Board approved the delegations of investment authority set forth in the section of the Investment Policy Manual entitled “Delegation of Investment Authority” at its October 2024 meeting; and

WHEREAS, Said section shall be subject to annual review and renewal at the regular meeting of the Retirement Board in July of each calendar year; be it

RESOLVED, That the delegations of investment authority set forth in said section of the Investment Policy Manual are reauthorized and reconfirmed as the principal items of investment authority delegated to the Executive Director and Chief Investment Officer.

Board Meeting July 30, 2025

### **ASSET ALLOCATION RESOLUTION**

RESOLVED, That the System's asset allocation targets and rebalancing ranges in the System's Asset Allocation shall continue as follows, effective immediately:

<b><u>Asset Class</u></b>	<b><u>Range</u></b>	<b><u>Target</u></b>
Domestic Equity	29 - 37%	33%
International Equity	11 - 19%	15%
Global Equity	0 – 8%	4%
Domestic Fixed Income	12 - 20%	16%
Real Estate Equity	6 - 16%	11%
Real Estate Debt	2 - 10%	6%
Private Equity	4 - 14%	9%
Private Debt	0.5 - 5%	2%
Global Bonds	0 - 4%	2%
High Yield Bonds	0 - 3%	1%
Short Term Investments (Cash Equivalents)	0 - 4%	1%



**New York State  
Teachers'  
Retirement  
System**

**To: Retirement Board**  
**From: D. Ampansiri, Jr./ J. Graham**  
**CC: T. Lee**  
**Date: July 22, 2025**  
**Re: Status of System Litigation as of July 22, 2025**

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### **LAWSUITS COMMENCED SINCE THE LAST REPORT**

#### **Christopher Moll v. New York State Teachers' Retirement System**

Action commenced: 5/5/2025

**CURRENT STATUS: NYSTRS secured representation from the NYS Attorney General's office and responded to the petition. We are awaiting the Court's decision in the matter.**

*Summary of the case/background information:*

Petitioner, a Tier 4 member, challenged the System's denial of his application for disability retirement. Petitioner contends the final determination was irrational because Petitioner's medical documentation supports a finding that he is totally and permanently disabled from all gainful employment. The System and the Medical Board, however, chose to rely more on an independent medical examination (IME) and the opinion of a board certified specialist. The IME doctor concluded that Petitioner is capable of sedentary work and that Petitioner was not totally and permanently disabled from all gainful employment. It is well-settled in case law that where there is conflict of medical opinion between a member's treating physician and the System's appointed IME/board certified physician, that the Medical Board may choose to rely on the opinion of one over another. In this instance, the Medical Board relied upon the IME and the System rendered its final determination.

#### **Steven Minard v. New York State Teachers' Retirement System**

Action commenced: 6/30/2025

*Summary of the case/background information:*



Petitioner, a Tier 4 member, is challenging the System's determination excluding for pension purposes certain payments he received while a member of the NYS Police and Fire Retirement System (PFRS). Wages that are generally eligible for final average salary calculation are defined by Retirement and Social Security Law (RSSL) Article 15, §601 as "...regular compensation earned by and paid to a member..." NYSTRS' Rules and Regulations under 21 CRR-NY §5003.1 further defines and unequivocally states that "regular" salary "shall exclude ...payments which are not part of the salary base."

Petitioner transferred his PFRS membership to NYSTRS. NYSTRS reviewed his transfer file and determined that payments received for comp cashout, sick incentive, uniform allowance, vacation cashout, holiday cash out, chart day cash out and payment in exchange for any type of unused leave time are, by definition, NOT part of the base salary, and are ineligible for inclusion in his NYSTRS pension calculations. Petitioner argues that NYSTRS' rules and regulations regarding pension eligible compensation should not apply to the compensation paid to him while a member of PFRS. Irrespective of the fact that he has transferred to NYSTRS he insists that in this regard PFRS rules & regulations survive the transfer and continue to apply at NYSTRS. Yet, in all other regards he freely discards those same PFRS rules and regulations particularly those applicable to his pension factor and gladly accepts NYSTRS' rules and regulations as the latter provides him with a higher pension factor (and accordingly a higher pension) than he would have received had he retired with PFRS.

But, simply put, one cannot have both. NYSTRS' Rules & Regulations §5008.2(c)(2) states, "A transferee to this System shall be deemed to have been a member of this System during the entire period of the transferee's membership in the system from which he or she transferred." In short, all NYSTRS rules and regulations that apply to its membership, including the eligibility of compensation for inclusion in pension calculation shall equally apply to all transferees. The Petitioner does not have the right or discretion to pick and choose nor does NYSTRS wield the authority to permit him to do so. NYSTRS legal staff will work with the NYS Attorney General to respond to the petition.

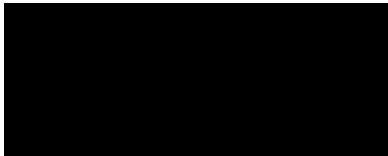


**To:** T. Lee  
**From:** C. Laven  
**CC:** B. Dellea  
**Date:** July 30, 2025  
**Re:** Member & Employer Services  
Materials for the July 30, 2025, Retirement Board Meeting

---

I have attached the summary of Member loan information for the July 30, 2025, Retirement Board meeting.

If you need any further information, please let me know.



Colleen Laven, Manager

Member & Employer Services

New York State Teachers' Retirement System

**MEMORANDUM**

TO: Retirement Board

FROM: Thomas K. Lee

SUBJECT: Member Loans

DATE: July 30, 2025

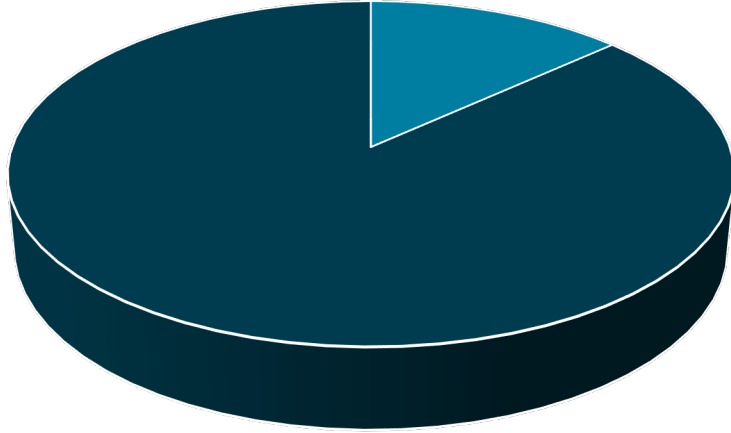
<u>Total Loans Outstanding</u>	<u>June 30, 2025</u>	<u>June 30, 2024</u>	<u>Increase(Decrease)</u>
Direct Payments	3,001	2,824	177
Payroll Deductions	<u>19,534</u>	<u>19,322</u>	<u>212</u>
<b>Total</b>	<b>22,535</b>	<b>22,146</b>	<b>389</b>
Direct Payments	\$ 38,563,425	\$ 35,127,270	\$ 3,436,155
Payroll Deductions	<u>250,661,977</u>	<u>241,428,901</u>	<u>9,233,076</u>
<b>Total</b>	<b>\$289,225,402</b>	<b>\$276,556,171</b>	<b>\$12,669,231</b>

<u>Delinquent Loans</u>	<u>No.</u>	<u>%</u>	<u>No.</u>	<u>%</u>
One Month	64	0.3	74	0.3
Two Months	58	0.3	40	0.2
Three Months	41	0.2	33	0.1
Default to Payroll	174	0.8	195	0.9
Nonperforming Loan	<u>2,806</u>	<u>12.5</u>	<u>2,716</u>	<u>12.3</u>
<b>Total</b>	<b>3,143</b>	<b>14.1</b>	<b>3,058</b>	<b>13.8</b>

<u>Loans Issued Annually</u>	<u>June 30, 2025</u>	<u>June 30, 2024</u>	<u>Increase(Decrease)</u>
Direct Payments	279	242	37
Payroll Deductions	<u>10,891</u>	<u>11,032</u>	( <u>141</u> )
<b>Total</b>	<b>11,170</b>	<b>11,274</b>	<b>(104)</b>
Direct Payments	\$ 2,666,471	\$ 2,323,536	\$ 342,935
Payroll Deductions	<u>100,853,132</u>	<u>104,351,990</u>	( <u>3,498,858</u> )
<b>Total</b>	<b>\$103,519,603</b>	<b>\$106,675,526</b>	<b>(\$3,155,923)</b>

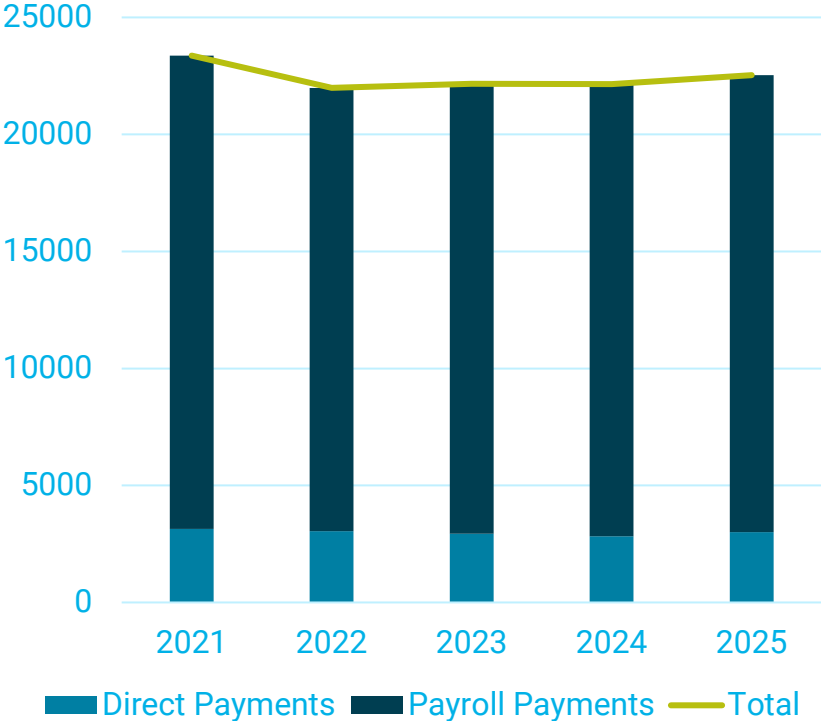
Member Loans June 30, 2025

Member Loans Outstanding  
as of 6/30/2025  
(\$289,225,402)

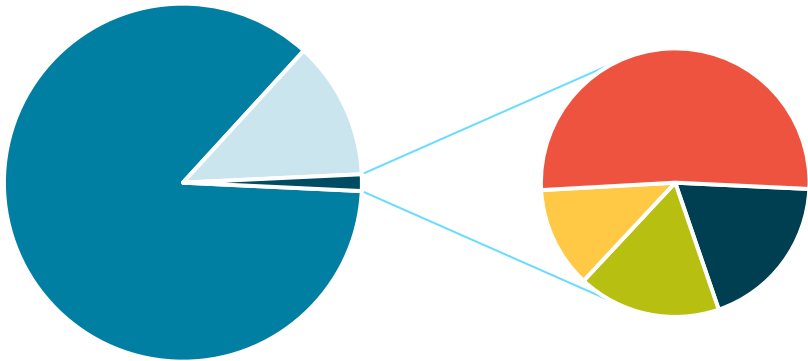


- Direct Payments (\$38,563,425)
- Payroll Deduction (\$241,428,901)

Member Loans Outstanding  
2021-2025

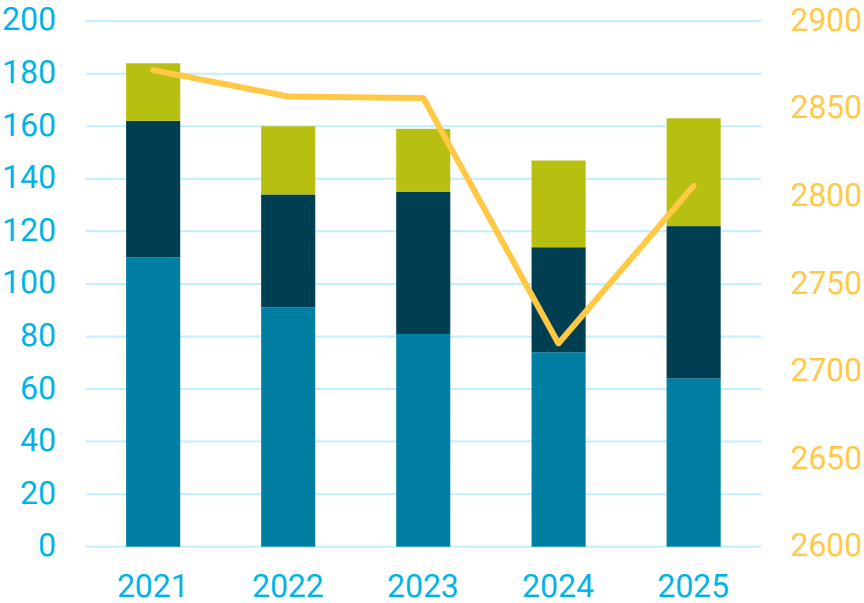


# Member Loan Repayment Status as of 6/30/2025



- Current (19,392)
- One Month Delinquent (64)
- Two Months Delinquent (58)
- Three Months Delinquent (41)
- Defaulted to Payroll (174)
- Nonperforming (2,806)

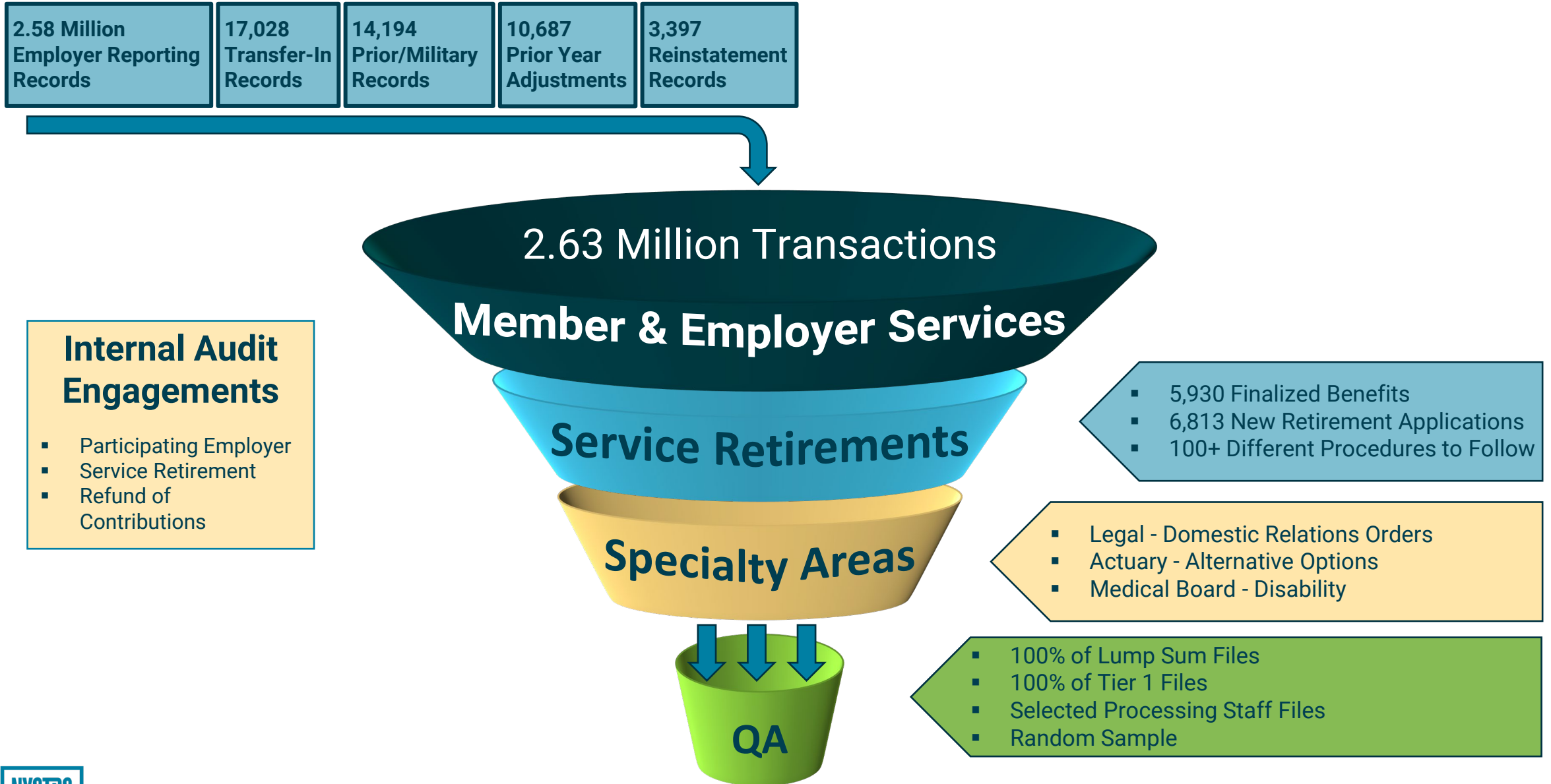
# Delinquent Member Loans 2021-2025



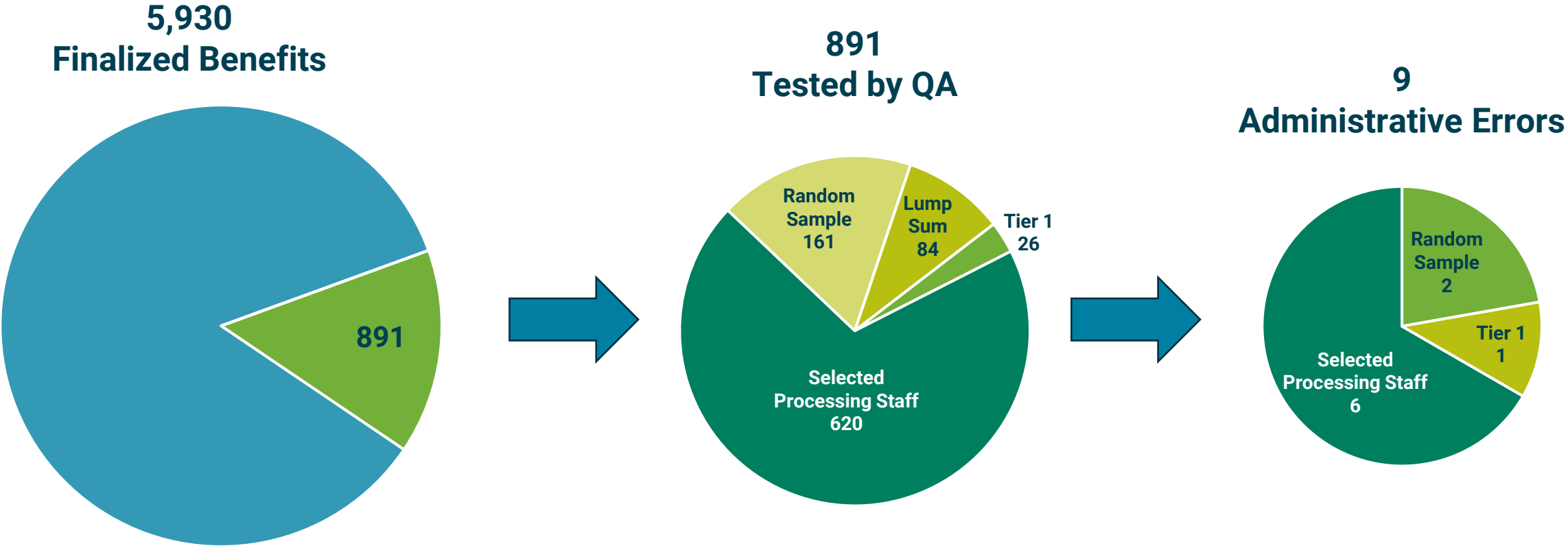
- Three Months Delinquent
- Two Months Delinquent
- One Month Delinquent
- Nonperforming

# Our Processing Formula

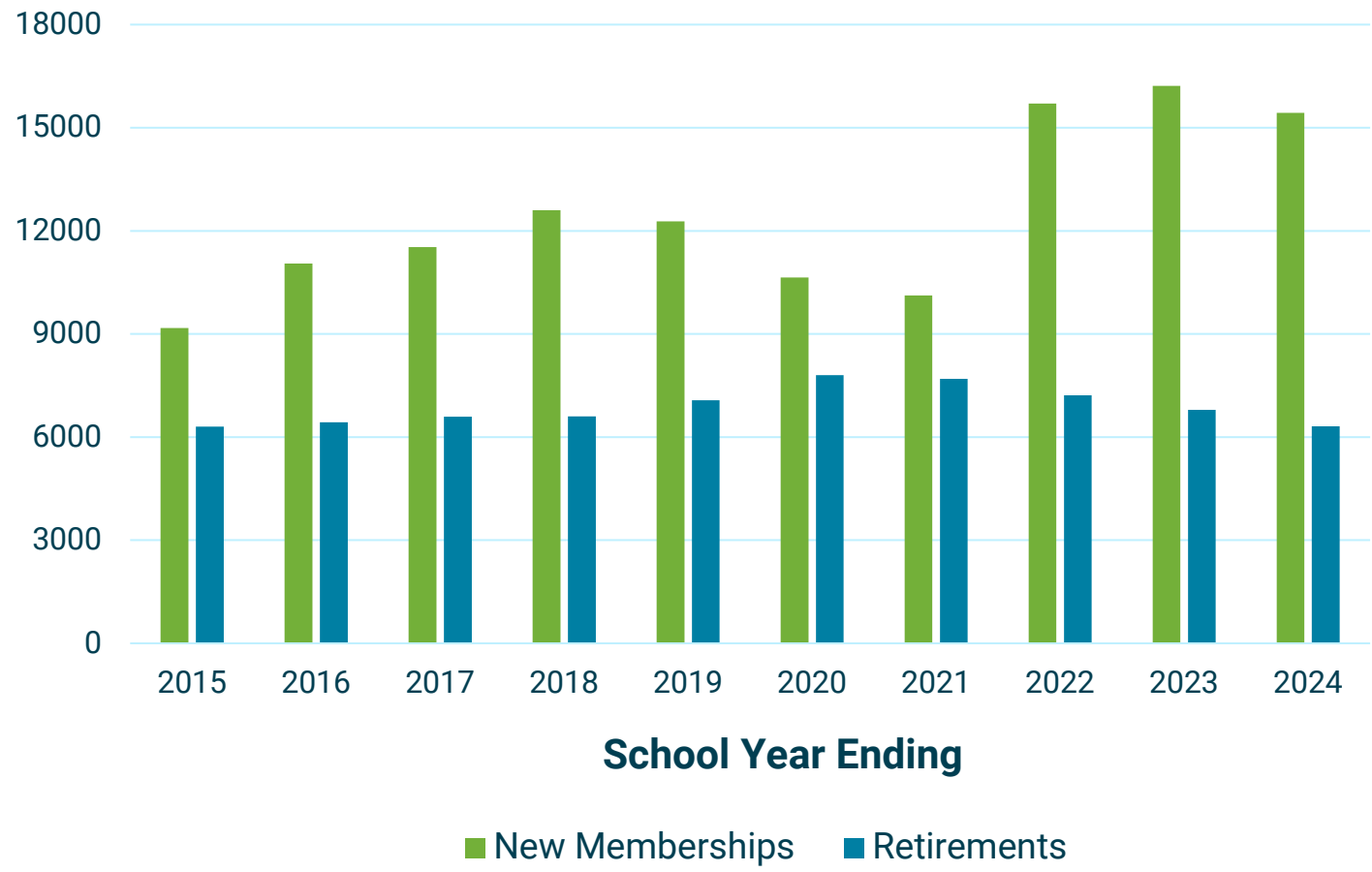
*FY 2023-24*



# QA Review Process



# Historical Memberships and Retirements by School Year





# ACTUARIAL VALUATION REPORT

*as of*

*JUNE 30, 2024*



New York State  
Teachers'  
Retirement  
System

Office of the Actuary  
July 22, 2025

# NEW YORK STATE TEACHERS' RETIREMENT SYSTEM

## Actuarial Valuation Report as of June 30, 2024

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# NEW YORK STATE TEACHERS' RETIREMENT SYSTEM

## **Actuarial Valuation Report as of June 30, 2024**

### **A. INTRODUCTION**

The purpose of this report is to present to the New York State Teachers' Retirement System ("NYSTRS" or "the Retirement System") Retirement Board the results of the annual actuarial valuation of assets and liabilities of the Retirement System as of June 30, 2024. In accordance with the Education Law, the Retirement Board has the authority to adopt the Employer Contribution Rate recommended by the Office of the Actuary.

Employer contributions are made by participating employers in accordance with an actuarially determined employer contribution rate. The rate is determined by an actuarial valuation made each June 30. Members contribute in accordance with a fixed-rate schedule, as required by statute. NYSTRS' funding objective is to ensure that sufficient assets are being accumulated to pay all current and future benefits as they become due.

This report summarizes the determination of the Employer Contribution Rate which will be applied to member salaries earned during the July 1, 2025 to June 30, 2026 fiscal year and to review the funded status of the Retirement System. Use of the valuation results contained herein for purposes other than those stated above may not be appropriate.

### **B. EMPLOYER CONTRIBUTION RATE**

The Employer Contribution Rate to be applied to member salaries for the July 1, 2025 to June 30, 2026 fiscal year and collected in the fiscal year ending June 30, 2027 consists of four components. These components may be described as follows:

The **Normal Rate** represents the annual cost of accruing active member benefits as well as actuarial gains and losses. The active member component includes the cost of benefits accruing on account of retirement, withdrawal, disability, death (except for the first \$50,000 of death benefits which are funded by the group life insurance rate) and the cost-of-living benefit provided during retirement. The Normal Rate is calculated in accordance with the Aggregate Actuarial Cost Method. The Aggregate Method is a reasonable and appropriate actuarial funding method for an ongoing plan and is designed to provide that sufficient assets are accumulated to pay current benefits as well as accrue assets that will be needed to pay future benefits.

The **Expense Rate** is a pay-as-you-go rate representing the administrative cost of the Retirement System for the fiscal year July 1, 2025 to June 30, 2026 and is set during the budget process.

The **Group Life Insurance Rate** is a pay-as-you-go rate representing the expected benefit payments on account of the first \$50,000 of member death benefits for the fiscal year July 1, 2025 to June 30, 2026. Contributions collected have been more than sufficient to cover payments over the past several years, resulting in an accumulated Group Life Insurance Fund balance of approximately \$497 million as of June 30, 2024.

The **Excess Benefit Plan Rate** is a pay-as-you-go rate representing the Excess Benefit Fund's need for contributions to cover expected benefit payments in excess of the Internal Revenue Code Section 415 limits for the fiscal year July 1, 2025 to June 30, 2026. These payments are made exclusively from the Excess Benefit Plan. This fund was established in accordance with the Excess Benefit Plan which received final IRS approval in August 2001. The fund has accumulated assets of approximately \$4.1 million as of June 30, 2024.

The actuarially computed Employer Contribution Rate to be applied to the member salaries for the fiscal year ending June 30, 2026 is **9.59%**. The Employer Contribution Rates determined by the actuarial valuations as of June 30, 2024 and June 30, 2023 and the changes between the two are summarized below:

	<u>As of 6/30/2024</u>	<u>As of 6/30/2023</u>	<u>Change</u>
Normal Rate	9.11%	9.63%	-0.52%
Expense Rate	0.35	0.35	0.00
Group Life Insurance Rate	0.13	0.13	0.00
Excess Benefit Plan Rate	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>
Employer Contribution Rate	<b>9.59%</b>	<b>10.11%</b>	<b>-0.52%</b>

The actuarial assumptions in use for the June 30, 2024 actuarial valuation were developed based upon Retirement System experience and established tables. New demographic and economic assumptions were adopted by the Retirement Board on October 28, 2021 and were first used in the actuarial valuation as of June 30, 2021. In addition, the mortality improvement scale was updated

from the MP-2020 table to MP-2021 starting with the June 30, 2022 valuation and was adopted on October 27, 2022. The Society of Actuaries has not developed a new mortality improvement scale since MP-2021 and its continued use is appropriate for the System's population.

In accordance with Sections 501, 508 and 517 of the Education Law, the Retirement Board has the authority to adopt the actuarial assumptions as recommended by the Actuary.

The actual employer contributions made by participating employers during the fiscal year ending June 30, 2024 were equal to the employer contributions determined in accordance with the applicable annual actuarial valuation.

### C. EMPLOYER CONTRIBUTION RATE HISTORY

The following chart summarizes the Employer Contribution Rate for the last 20 years. The complete Employer Contribution Rate history is presented in Appendix 15.

Salary Year	Employer Contribution Rate	Salary Year	Employer Contribution Rate
2006-2007	8.60 %	2016-2017	11.72 %
2007-2008	8.73	2017-2018	9.80
2008-2009	7.63	2018-2019	10.62
2009-2010	6.19	2019-2020	8.86
2010-2011	8.62	2020-2021	9.53
2011-2012	11.11	2021-2022	9.80
2012-2013	11.84	2022-2023	10.29
2013-2014	16.25	2023-2024	9.76
2014-2015	17.53	2024-2025	10.11
2015-2016	13.26	2025-2026	9.59 *

\* Pending adoption by the Retirement Board at its July 2025 Board Meeting.

### D. EMPLOYER CONTRIBUTION RATE CHANGE

The Employer Contribution Rate has decreased this year from 10.11% to 9.59%, representing a decrease of 5.1%, solely attributable to the decrease in the Normal Rate component which decreased from 9.63% to 9.11%. The rate of return on the System's market value of assets for the fiscal year ending June 30, 2024 was 11.4%. The System's current five-year market value rate of return increased to 8.5%, from last year's 7.6%. The June 30, 2024 actuarial valuation resulted in a decrease in the normal rate primarily due to higher than expected investment returns.

## **E. FUNDED STATUS**

As of June 30, 2024, the actuarial value of plan assets, including GLIF assets, was equal to \$142.5 billion. The accrued pension benefit liability calculated in accordance with the Entry Age Cost Method with level percentage of pay, including GLIF liabilities, was equal to \$143.7 billion. These two values produced a funded ratio of 99.1% as of June 30, 2024. If the market value of plan assets is used instead of the actuarial value of plan assets, the funded ratio as of June 30, 2024 would be equal to 101.5%.

The Retirement System is funded in accordance with the Aggregate Cost Method. Government Accounting Standards Board (GASB) Statement No. 67 requires that the Entry Age Normal Cost Method be used to calculate the accrued liability for purposes of presenting the funded ratio calculation for all plans, regardless of the cost method being used for funding purposes.

The funded ratios provided here are an appropriate measurement of the System's funded status. 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 the Retirement System has collected the full actuarially required contribution annually from employers. This is the primary feature that separates well-funded Systems from poorly funded ones. A funded ratio of 100% does not, however, imply that future contributions will not be required. It indicates that the System currently has assets equal to the present value of its liabilities accrued to date.

The funded status measurement provided here is not appropriate for assessing the sufficiency of plan assets to cover the estimated cost of settling the System's benefit obligations such as in a plan termination situation.

A history of the Retirement System's funded status is provided in Appendix 4 of this report.

## **F. GAIN/LOSS IN THE EMPLOYER CONTRIBUTION RATE AND FUNDED STATUS**

The Employer Contribution Rate of 9.59% represents a 52-basis point decrease from the prior year's rate of 10.11%.

### **NORMAL RATE**

The Normal Rate component of the Employer Contribution Rate (ECR) of 9.11% represents a 52-basis point decrease over the prior year's rate of 9.63%. This change can be broken down as follows in the chart below. Note that a positive entry represents an actuarial loss, which is an increase in the ECR. A negative entry represents an actuarial gain, which is a decrease in the ECR.

<b>Salary:</b>	Salary increases higher than expected.	+0.30
<b>Investment Experience</b>	The recognition of prior investment gains and losses over a five-year period in accordance with the asset valuation method resulted in a net investment gain on the <u>actuarial</u> value of assets.	-1.31
<b>New Entrants:</b>	New entrants join the Retirement System as Tier 6 members with a long-term expected normal rate of approximately 5.2% which results in downward pressure on the Normal Rate.	-0.11
<b>Withdrawal:</b>	Withdrawal experience produced a gain.	-0.01
<b>Mortality:</b>	Members are living slightly longer than expected and receiving benefits for a slightly longer period.	+0.04
<b>Retirement:</b>	Retirement experience produced a gain.	-0.02
<b>Cost of Living Adjustment:</b>	The actual COLA increase of 1.8% was higher than the expected increase of 1.3%.	+0.08
<b>Plan and Assumption Changes:</b>	Plan Changes: Chapter 56 of the Laws of 2024 which amended the definition of final average salary (FAS) for Tier 6 members to be based on the wages earned during any three consecutive years which provide the highest average wages, instead of five years. It also reduced the lookback to two years so the FAS calculation will exclude any yearly increases in salary that exceed 10% of the average of the previous two years' salary. Assumption Changes: None	+0.12
<b>Miscellaneous:</b>	Net increase due to miscellaneous sources (e.g. data updates, tier reinstatements, return to active service, transfers in/out, finalized contribution)	+0.39
<b>TOTAL CHANGE IN THE NORMAL RATE</b>		<b>-0.52%</b>

### **OTHER COMPONENTS**

The **Expense Rate** is set during the budget process. As of June 30, 2024, the expense rate remains at 0.35%.

The **Group Life Insurance Fund Rate** is unchanged from the previous year in anticipation of rising payouts in the future due to the growth in the number of retirees eligible for the post-retirement



death benefit (Tiers 2 through 6) and the inactive member death benefit (Tiers 2 through 6).

The **Excess Benefit Plan Rate** remains at 0.00% as additional contributions are not needed currently.

### **FUNDED STATUS**

The Funded Status using a Market Value of Assets improved from 98.2% as of June 30, 2023 to 101.5% as of June 30, 2024. This change can be broken down as follows in the chart below.

<b>(in \$ millions)</b>	<b>Market Value of Assets</b>	<b>Accrued Liability</b>	<b>Funded Status</b>
<b>Actual June 30, 2023</b>	<b>\$137,221.5</b>	<b>\$139,800.8</b>	<b>98.2%</b>
Expected Increase/(Decrease) due to Normal Progression*	\$2,961.0	\$2,978.3	
Increase/(Decrease) due to Assumption Changes		\$0.0	
Increase/(Decrease) due to Plan Changes		\$54.9	
Increase/(Decrease) due to Investment Experience Greater Than Expected	\$5,638.9		
Increase/(Decrease) due to Demographic Experience Different Than Expected		\$900.6	
<b>Actual June 30, 2024</b>	<b>\$145,821.4</b>	<b>\$143,734.6</b>	<b>101.5%</b>

\* Normal Progression of liabilities and assets reflect the Normal Cost, actual benefit payments, expenses, employee and employer contributions, interest on liabilities, and expected investment returns

*Note: Totals may not sum due to rounding*

### **G. MEMBER DATA**

The member data for the annual actuarial valuation was determined as of June 30, 2024.

	<b>June 30, 2024</b>	<b>June 30, 2023</b>
Active Members and Members not yet receiving benefits	272,363	268,058
Retired Members receiving monthly benefits	175,045	173,567
Beneficiaries receiving monthly benefits	7,396	7,160
Total	454,804	448,785

The number of retirements over each of the last ten years is as follows:

<i><b>Fiscal Year</b></i>	<i><b>Number of Retirements</b></i>	<i><b>Fiscal Year</b></i>	<i><b>Number of Retirements</b></i>
2014-2015	6,161	2019-2020	7,642
2015-2016	6,245	2020-2021	7,617
2016-2017	6,396	2021-2022	7,135
2017-2018	6,416	2022-2023	6,680
2018-2019	6,890	2023-2024	6,227

Historical member statistics, including statistics specific to retired members, appear in the appendices to this report. Additional member statistics may also be found in the Retirement System's most recent Annual Report.

#### **H. ACTUARIAL EXPERIENCE**

Each year the Office of the Actuary completes an experience study to regularly monitor the reasonableness and appropriateness of the actuarial assumptions used in the actuarial valuation. Changes are recommended when warranted. Assumptions are typically revised every five years. These assumptions are used to estimate the probability a member will cease teaching due to retirement, withdrawal, disability, or death. In addition, the assumptions are used to estimate future salary increases, future investment earnings, future projected COLA's, and the probability of death for retired members and beneficiaries. A listing of the actuarial assumptions is provided in Appendix 18.

A summary of the results of the most recent five-year experience study is contained in Appendix 11. The actuarial assumptions used for this valuation were adopted by the Retirement Board on October 28, 2021 and were effective with the actuarial valuation of the Retirement System's assets and liabilities as of June 30, 2021. The mortality improvement scale was updated as of the June 30, 2022 valuation to MP-2021 and was adopted on October 27, 2022. Specific details regarding the development of these actuarial assumptions can be found in the report entitled "*Recommended Actuarial Assumptions 2021 Report*".

#### **I. ASSET INFORMATION & ALLOCATION**

This report relies on asset information provided by the Retirement System's finance department. The investment and actuarial staff review the asset information for completeness. Asset information is reviewed by the Retirement System's independent auditors as part of the annual audit. We believe the asset information to be reasonable and appropriate for purposes of this study.

The Retirement Board, in consultation with Retirement System staff and the System's external investment consultant Callan, annually reviews the asset allocation to determine if any changes are warranted. The target asset allocation has remained unchanged between June 30, 2024 and the time of this report and therefore the asset allocation target equity-fixed income split remains at 72/28. System asset values are frequently reviewed, and assets are periodically rebalanced in line with the asset allocation targets and ranges. Projected cash flow needs are regularly monitored so that sufficient cash is available to pay benefits.

The Callan first quarter 2025 long-term capital market projections analysis estimates that the system's target asset allocation will produce long-term expected annual geometric rates of return of:

- 7.65% on a 30-year time horizon,
- 7.51% on a 20-year time horizon, and
- 7.33% on a 10-year time horizon.

The Retirement System's asset allocation, including targets and ranges, can be found in Appendix 13. Historical rate of return information can be found in Appendix 12. Detailed investment information is available in the System's Annual Report.

## **J. NEW LEGISLATION**

The following legislation affecting the Retirement System was signed into law during the first half of 2025.

### Extension of the Temporary Waiver of the Earnings-After-Retirement Limit:

Chapter 56 of the Laws of 2025 extended the temporary waiver of the earnings-after-retirement limit of \$35,000 to June 30, 2027. A retiree may be employed and earn compensation in a position at a school district or a board of cooperative educational services (BOCES) without suspension or diminution of their retirement benefit. Earnings received through June 30, 2027 will not be applied to the standard Section 212 earnings-after-retirement limit of \$35,000 for New York State public employment per calendar year. Post-retirement employment with a charter school, community college, SUNY, or any other NYS public employment is not covered by this law and is still subject to the \$35,000 calendar year earnings limitation. Retirees who are age 65 or greater are not subject to any earnings-after-retirement limit.

## **K. ASSESSMENT OF RISK**

Included in Appendix 14 is an Assessment of Risk. The purpose of this exhibit is to provide various plan maturity measures, as well as to illustrate the hypothetical Employer Contribution Rate based on varying the actuarial assumptions. The charts also illustrate the significance of the assumptions on the valuation results, and the potential impact of modifying them. The Low-Default-Risk Obligation Measure (LDRM) required by Actuarial Standard of Practice (ASOP) No. 4 is provided in Appendix 14.

## **L. FUTURE EXPECTATIONS**

The next employer contribution rate will be based upon the actuarial valuation as of June 30, 2025. The equity markets performed well for the fiscal year ending June 30, 2025. The System's domestic equity index, the S&P1500, returned 14.48% for the fiscal year. The System's international equity index, the ACWI ex-US, returned 17.72% for the fiscal year. The System's fixed income index, the Barclay's US Aggregate Float Adjusted Bond index, returned 6.07% for the fiscal year. The System's finalized investment rate of return for the fiscal year ending June 30, 2025 will not be available until October of 2025. Based on the performance of these benchmarks, however, the System will have a positive rate of return on investments for the fiscal year.

## **M. CERTIFICATION**

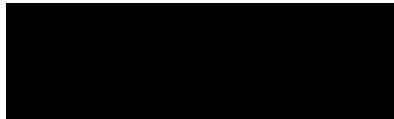
This actuarial valuation relies on member data provided by the participating employers to the Retirement System's administrative staff. The administrative and actuarial staff review this data for reasonability and completeness as well as reconcile it against prior data. In addition, the valuation relies on financial data provided by the Retirement System's Finance Department. Data is reviewed by the Retirement System's independent auditors as part of the annual audit. We believe the data to be reasonable and appropriate for purposes of this valuation.

The benefits recognized in this actuarial valuation are prescribed by New York State statute (Article 11 of the Education Law and Articles 11, 14, 15, 18, 19, and 20 of the Retirement and Social Security Law) and are summarized in Appendix 19. All benefits are included in the actuarial valuation.

Future actuarial measurements such as the funded ratio and employer contribution rate may differ significantly from the current measurements presented in this report due to such factors as: future experience that differs significantly from that predicted by the actuarial assumptions; changes in the actuarial assumptions or methods; and changes in plan provisions or applicable law. The potential range of future measurements was not assessed as it was outside the scope of this report.

The measurements in this report may not be applicable for other purposes. This report should not be relied upon for any other purpose.

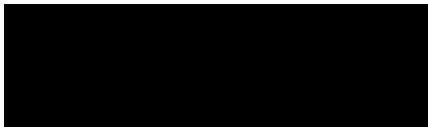
The actuarial methods, calculations, and actuarial assumptions are in accordance with standards of practice prescribed by the Actuarial Standards Board and generally accepted actuarial principles and procedures. The actuarial assumptions, as adopted by the Retirement Board and used in determining the liabilities and costs, are internally consistent and reasonably related to actual and anticipated future experience of the Retirement System. The undersigned are members of the American Academy of Actuaries and the Society of Actuaries and meet the qualification standards of the American Academy of Actuaries to render the actuarial opinion contained in this report. We are currently compliant with the Continuing Professional Development Requirement of the Society of Actuaries.



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



Melody Prangle, FSA, EA, MAAA, FCA  
Deputy Chief Actuary



Thomas M. King, FSA, EA, MAAA, CERA  
Director – Actuarial Risk



**New York State  
Teachers'  
Retirement  
System**

Office of the Actuary  
July 22, 2025

# APPENDIX 1

## RECONCILIATION OF THE MARKET VALUE OF ASSETS

From June 30, 2023 to June 30, 2024

	Market Value (in thousands)
1 Market Value of Assets as of June 30, 2023	\$137,221,536
2 Contributions and Transfers	
Employer Contributions	1,874,459
Member Contributions	258,472
Net Transfers in/(out)	16,343
	<hr/> 2,149,274
3 Net Investment Income/(Loss)	14,984,823
4 Distributions	
Benefit Payments	(8,446,157)
Administrative Expenses	(88,042)
	<hr/> (8,534,199)
5 Market Value of Assets as of June 30, 2024	<hr/> \$145,821,435
<i>Note: Totals may not sum due to rounding</i>	

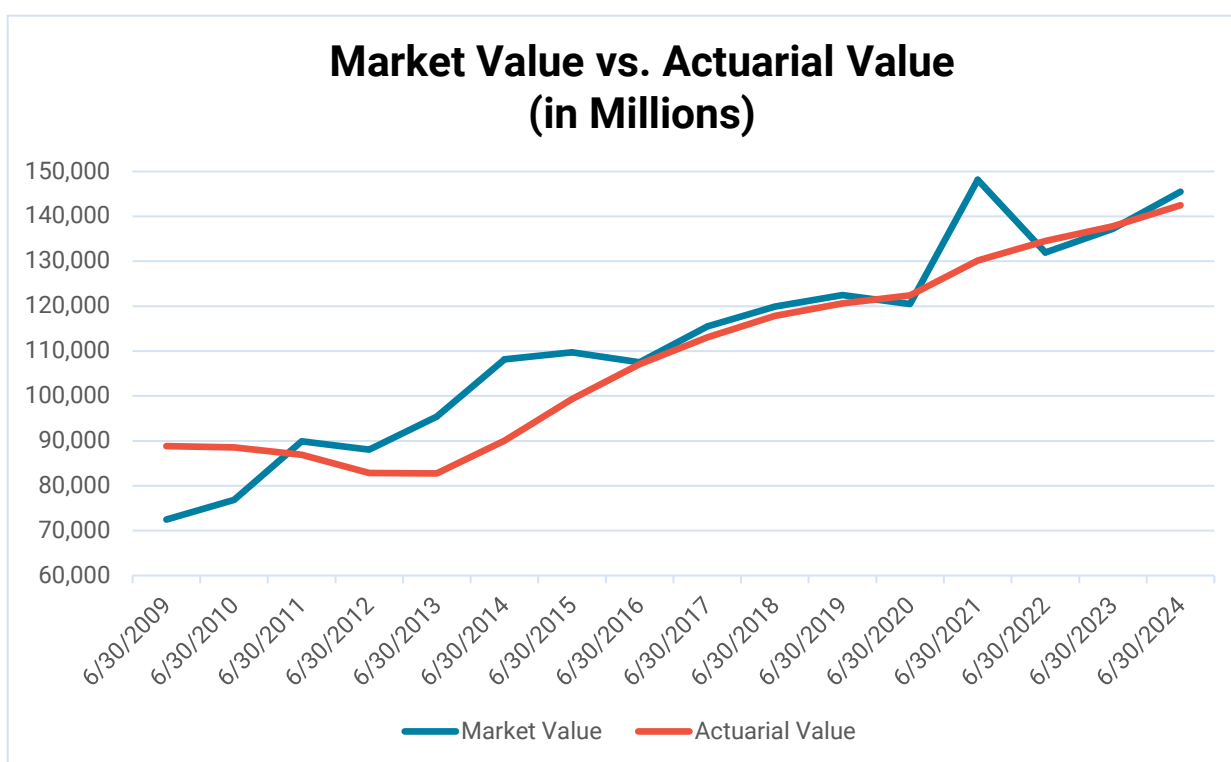
## APPENDIX 2

### COMPARISON OF MARKET VALUE TO ACTUARIAL VALUE OF ASSETS

(In Millions)

Assets include GLIF assets. The Retirement System's actuarial asset valuation method was changed effective with the June 30, 2015 actuarial valuation.

Fiscal Year Ending	Market Value	Actuarial Value	Fiscal Year Ending	Market Value	Actuarial Value
6/30/2009	72,471.8	88,805.5	6/30/2017	115,468.4	113,059.7
6/30/2010	76,844.9	88,544.4	6/30/2018	119,915.5	117,859.5
6/30/2011	89,889.7	86,892.2	6/30/2019	122,477.5	120,586.9
6/30/2012	88,056.3	82,871.4	6/30/2020	120,479.5	122,400.5
6/30/2013	95,367.0	82,742.5	6/30/2021	148,148.5	130,173.8
6/30/2014	108,155.1	90,007.1	6/30/2022	131,964.6	134,527.0
6/30/2015	109,718.9	99,301.8	6/30/2023	137,221.5	137,814.2
6/30/2016	107,506.1	107,039.2	6/30/2024	145,821.4	142,478.8



# APPENDIX 3

## ACTUARIAL PRESENT VALUE OF FUTURE BENEFITS

(In Thousands)

The actuarial present value of future benefits (PVB) is the present value of retirement and ancillary benefit payments, excluding group life insurance benefits. The PVB is the present value of the benefit payments that the Retirement System is expected to pay in the future to current retirees and active and inactive (vested) members. The PVB is based upon both service and salary projected to retirement.

	June 30, 2024	June 30, 2023
Present Value of Benefits Currently Being Paid:		
Service Retirement Benefits	\$72,501,209	\$71,434,025
Disability Retirement Benefits	436,284	434,201
Death Benefits	3,483	2,865
Survivor Benefits	1,385,392	1,318,359
Cost-of-Living Allowance	<u>5,930,452</u>	<u>5,773,246</u>
Total Present Value of Benefits Presently Being Paid	80,256,820	78,962,695
Present Value of Benefits Payable in the Future to Current Active Members:		
Service Retirement Benefits	73,546,508	70,917,847
Disability Retirement Benefits	703,639	676,630
Termination Benefits	1,946,028	1,868,165
Death and Survivor Benefits	559,764	535,261
Cost-of-Living Allowance	<u>1,544,240</u>	<u>1,551,476</u>
Total Active Member Liabilities	78,300,179	75,549,379
Present Value of Benefits Payable in the Future to Current Inactive (Vested) Members:		
Retirement Benefits	1,324,588	583,067
Death Benefits	1,192	297
Cost-of-Living Allowance	<u>98,491</u>	<u>48,818</u>
Total Vested Liabilities	1,424,271	632,183
Unclaimed Funds	29,046	27,587
<b>Total Actuarial Present Value of Future Benefits</b>	<b>\$160,010,316</b>	<b>\$155,171,844</b>

*Note: Totals may not sum due to rounding*

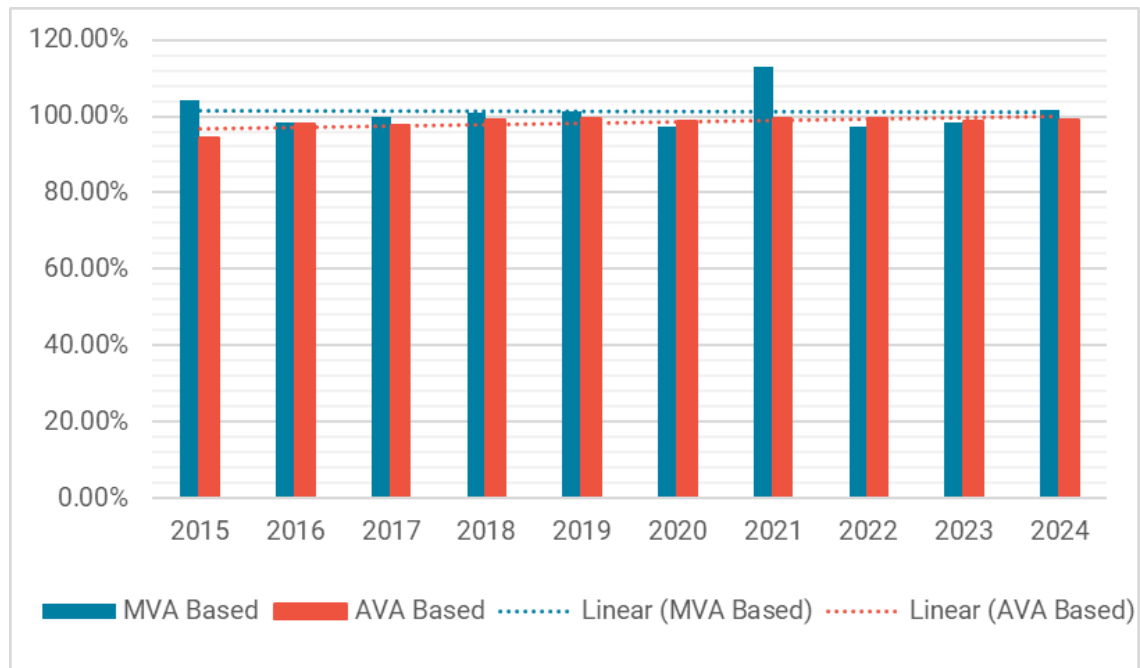


**FUNDING PROGRESS**

The actuarial accrued liability is the portion of the actuarial present value of future benefits that is attributable to service rendered as of the valuation date. To assess the funding progress of a retirement system, a comparison between the actuarial value of assets and the actuarial accrued liabilities is made over time.

**Funding Progress (In Millions)**

Fiscal Year Ended	Market Value of Assets (MVA)	Actuarial Value of Assets (AVA) <sup>1</sup>	Actuarial Accrued Liability	Percent Funded Based on:	
				MVA	AVA
2015	\$109,718.9	\$99,301.8	\$105,401.8	104.1%	94.2%
2016	107,506.1	107,039.2	109,305.1	98.4	97.9
2017	115,468.4	113,059.7	115,672.5	99.8	97.7
2018	119,915.5	117,859.5	118,861.1	100.9	99.2
2019	122,477.5	120,586.9	121,049.3	101.2	99.6
2020	120,479.5	122,400.4	123,801.7	97.3	98.9
2021	148,148.5	130,173.8	131,077.4	113.0	99.3
2022	131,964.6	134,527.0	135,530.9	97.4	99.3
2023	137,221.5	137,814.2	139,800.8	98.2	98.6
2024	145,821.4	142,478.8	143,734.6	101.5	99.1



<sup>1</sup> The Retirement System's asset valuation method was changed effective with the June 30, 2015 actuarial valuation.

APPENDIX 5

**EMPLOYER CONTRIBUTION RATE**

2024 Valuation

6.95% Interest

<b>Normal Rate</b>	9.11%
--------------------	-------

<b>Group Life Insurance Rate</b>	0.13
----------------------------------	------

<b>Excess Benefit Plan Rate</b>	0.00
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<b>Expense Rate</b>	0.35
---------------------	------

<b>Computed Contribution Rate as of June 30, 2024</b>	9.59%
---	-------

## APPENDIX 5 (Cont'd)

**NORMAL RATE CALCULATION**

2024 Valuation

6.95% Interest

**Liabilities****Active Tier 1**

Service Pension	\$40,776,898
Disability Pension	1,379
Vested Pension	155,243
Active Death over \$50,000	626,231
Annuity Savings Fund	1,087,142
COLA	207,898
Total	<u>\$42,854,791</u>

**Active Tier 2**

Service Pension	\$38,959,345
Post Retired Death over \$50,000	63,716
Disability Pension	6,772
Post Disabled Death over \$50,000	23
Vested Pension	239,525
Active Death over \$50,000	268,023
COLA	362,429
Total	<u>\$39,899,833</u>

**Active Tier 3**

Service Pension	\$224,645,843
Post Retired Death over \$50,000	173,775
Disability Pension	121,249
Post Disabled Death over \$50,000	531
Refund on Active Death	344,382
Active Death over \$50,000	809,468
Refund on Quit	11,451
Vested Pension	1,485,944
COLA	3,269,852
Total	<u>\$230,862,495</u>

APPENDIX 5 (Cont'd)

**NORMAL RATE CALCULATION (Cont'd)**

2024 Valuation

6.95% Interest

**Liabilities (Cont'd)**

**Active Tier 4**

Service Pension	\$64,279,328,696
Post Retired Death over \$50,000	45,343,229
Disability Pension	513,261,490
Post Disabled Death over \$50,000	2,563,885
Refund on Active Death	38,717,810
Active Death over \$50,000	281,867,080
Refund on Quit	4,201,307
Vested Pension	1,152,232,019
Death Benefit After 10-Yr Withdrawal over \$50,000	973,931
Refund on Death after Vested Withdrawal	258,872
COLA	1,249,304,533
<b>Total</b>	<b>\$67,568,052,852</b>

**Active Tier 5**

Service Pension	\$1,919,582,100
Post Retired Death over \$50,000	1,899,681
Disability Pension	33,432,227
Post Disabled Death over \$50,000	153,257
Refund on Active Death	6,335,756
Active Death over \$50,000	17,616,991
Refund on Quit	2,871,472
Vested Pension	86,947,970
Death Benefit After 10-Yr Withdrawal over \$50,000	232,393
Refund on Death after Vested Withdrawal	137,044
COLA	49,065,950
<b>Total</b>	<b>\$2,118,274,841</b>

**Active Tier 6**

Service Pension	\$7,041,027,401
Post Retired Death over \$50,000	9,881,961
Disability Pension	156,805,095
Post Disabled Death over \$50,000	703,709
Refund on Active Death	42,106,460
Active Death over \$50,000	99,077,959
Refund on Quit	161,299,019
Vested Pension	528,880,395
Death Benefit After 10-Yr Withdrawal over \$50,000	3,140,382
Refund on Death after Vested Withdrawal	2,912,818
COLA	241,966,338
<b>Total</b>	<b>\$8,287,801,537</b>

APPENDIX 5 (Cont'd)

**NORMAL RATE CALCULATION (Cont'd)**

2024 Valuation

6.95% Interest

**Liabilities (Cont'd)**

**Retirees**

Retired Pension	\$72,443,675,165
Retired Annuity	57,533,806
Disability Pension	436,020,548
Disability Annuity	263,029
Beneficiary Pension	1,369,368,512
Beneficiary Annuity	5,535,750
DBA Pension	10,322,081
DBA Annuity	166,125
Post Retired Death over \$50,000	2,631,781
COLA	5,833,955,256
Catch-Up, Prior §532 Supp & Escalation	96,496,566
Total	<u>\$80,255,968,619</u>

**Vesteds**

Terminated Vested	\$1,324,588,162
Death Benefit After 10-Yr Withdrawal over \$50,000	1,191,878
COLA	98,491,202
Total	<u>\$1,424,271,242</u>

**TIAA**

Service Pension	\$1,100,575
Disability Pension	10,528
Vested Pension	20,126
Active Death over \$50,000	13,750
COLA	62,596
Total	<u>\$1,207,575</u>

**Miscellaneous**

Incurred Death but not Paid	\$12,076,383
Unclaimed Non-Member Funds	29,045,724
Total	<u>\$41,122,107</u>

**Total Liabilities**

\$160,010,315,892

APPENDIX 5 (Cont'd)  
**NORMAL RATE CALCULATION (Cont'd)**  
 2024 Valuation  
 6.95% Interest

**Assets for Valuation**

Current Total Assets (excluding contributions receivable)	\$143,722,774,333
Less: Expense Fund	63,364,367
Less: Group Life Insurance Fund	497,103,421
Plus: (Employer Contributions Receivable as of June 30, 2024 <sup>1</sup> ) x (1.0695) <sup>-7/24</sup> = (1,866,574,370) x (1.0695) <sup>-7/24</sup>	1,830,350,384
Plus: (Member Contributions Receivable as of June 30, 2024 <sup>1</sup> ) x (1.0695) <sup>-7/24</sup> = (232,086,077) x (1.0695) <sup>-7/24</sup>	227,582,060
<b>Adjusted Market Value of Assets for Normal Rate</b>	<b>\$145,220,238,989</b>
Less: 5 Year Smoothing Adjustment	3,238,566,703
<b>Actuarial Value of Assets for Normal Rate Valuation Purposes</b>	<b>\$141,981,672,286</b>

**Receivables**

Employer Contributions Receivable from Normal Rate in 2025-2026 Fiscal Year <sup>2</sup> (2024-2025 Salaries) x (2023 Valuation Normal Rate) x (1.0695) <sup>-(1+7/24)</sup> = (18,579,561,746) x (0.0963) x (1.0695) <sup>-(1+7/24)</sup>	\$1,640,476,073
Present Value of Future Member Contributions <sup>3</sup> (Tier 5 Present Value of Future Employee Contributions) x (1.0695) <sup>-7/24</sup> = (309,500,482) x (1.0695) <sup>-7/24</sup>	303,494,109
(Tier 6 Present Value of Future Employee Contributions) x (1.0695) <sup>-7/24</sup> = (3,304,471,881) x (1.0695) <sup>-7/24</sup>	3,240,343,099
(Adjustment due to Section 613 of RSS Law amendment for Tier 6 member contribution rates) x (1.0695) <sup>-7/24</sup> = (-13,200,000) x (1.0695) <sup>-7/24</sup>	(12,943,832)
<b>Total Receivables</b>	<b>\$5,171,369,449</b>

<sup>1</sup> Employer and Member Contributions Receivables are based on the 2023-2024 Member Paybase and are collected in 3 installments on September 15, October 15, and November 15 of 2024. The discount represents the time value of money to the measurement date.

<sup>2</sup> Employer Contributions Receivable is estimated based on projected 2024-2025 Member Salaries for the closed group population used to value the plan's liabilities and is collected in 3 installments on September 15, October 15, and November 15 of 2025. The discount represents the time value of money to the measurement date.

<sup>3</sup> The Present Values of Future Member Contributions are estimated for the closed group population used to value the plan's liabilities. These member contributions are collected in the years 2025-2026 and beyond and have an additional discount factor applied to adjust for the timing of the actual payments on September 15, October 15, and November 15 of each prospective year.

APPENDIX 5 (Cont'd)  
**NORMAL RATE CALCULATION (Cont'd)**  
 2024 Valuation  
 6.95% Interest

**Present Value of Future Salaries (PVFS)**

	Total PVFS <sup>1</sup>	
Tier 1	\$9,709,586	
Tier 2	16,707,172	
Tier 3	76,893,211	
Tier 4	90,952,272,815	
Tier 5	8,842,870,908	
Tier 6	61,396,871,933	
	<u>\$161,295,325,625</u>	
2024-2025 Discounted Salary	17,372,194,246	
Net PVFS	<u>\$143,923,131,379</u>	$\times (1.0695)^{-7/24} = \$141,130,063,222$

**Normal Rate**

$$\begin{aligned}
 & \frac{\text{Total Liabilities} - (\text{Assets} + \text{Receivables})}{\text{Present Value of Future Salaries}} \\
 &= \frac{\$12,857,274,157}{\$141,130,063,222} \\
 &= 9.110231\% \\
 &= 9.11\% \quad (\text{rounded})
 \end{aligned}$$

<sup>1</sup> The Present Value of Future Salaries includes billable salaries starting with the 2025-2026 salary year. The billable salaries for the years 2023-2024 and 2024-2025 are excluded from the PVFS because a Normal Rate applicable to the 2023-2024 and 2024-2025 billable salary years has already been determined. The expected contributions thereon are included in the assets as receivables. Contributions are expected to be received on September 15, October 15, and November 15 of 2024 and 2025, respectively. Therefore, the total PVFS is discounted 3.5 months to the measurement date.

# APPENDIX 5 (Cont'd)

## GROUP LIFE INSURANCE FUND (GLIF)

2024 Valuation

6.95% Interest

<b>GLIF Balance as of June 30, 2023</b>	<b>\$448,276,604</b>
---	----------------------

Benefit Payments During 2023-2024	26,713,075
-----------------------------------	------------

Contributions During 2023-2024	24,009,869
--------------------------------	------------

GLIF Net Investment Income During 2023-2024	51,530,023
---	------------

(Based on 2023-2024 Market Value of Assets Rate of Return of 11.4%)

<b>GLIF Balance as of June 30, 2024</b>	<b>\$497,103,421</b>
---	----------------------

Benefit Payments During 2024-2025	27,000,000
-----------------------------------	------------

Contributions During 2024-2025	24,821,600
--------------------------------	------------

GLIF Net Investment Income During 2024-2025	34,836,115
---	------------

(Based on estimated Market Value of Assets Rate of Return of 6.95%)

<b>Estimated GLIF Balance as of June 30, 2025</b>	<b>\$529,761,136</b>
---	----------------------

### Calculation of the GLIF Rate for the June 30, 2024 Actuarial Valuation:

Expected Salaries for the 2024-2025 Fiscal Year	\$19,591,306,744
---	------------------

GLIF Rate	0.13%
-----------	-------

Expected Contributions for the 2025-2026 Fiscal Year	\$25,468,699
--	--------------

Note that the GLIF Rate is currently maintained at 0.13%. This contribution rate, along with investment income, is expected to cover the expected GLIF benefit payment for the current year. In future years, when the expected GLIF benefit payments are larger than the GLIF Rate of 0.13%, the GLIF Balance will begin to be used.



## APPENDIX 5 (Cont'd)

### EXCESS BENEFIT PLAN FUND

#### 2024 Valuation

<b>Excess Benefit Plan Balance as of June 30, 2023</b>	<b>\$2,521,983</b>
Final Adjustment for the Fiscal Year Ending June 30, 2023	53,372
Benefit Payments During 2023-2024	300,000
Contributions During 2023-2024	1,846,913
Net Investment Income During 2023-2024 <sup>1</sup> (Including miscellaneous adjustments)	0
<b>Excess Benefit Plan Balance as of June 30, 2024</b>	<b>\$4,122,268</b>
Final Adjustment for the Fiscal Year Ending June 30, 2024	140,996
Benefit Payments During 2024-2025	300,000
Contributions During 2024-2025	0
Net Investment Income During 2024-2025 <sup>1</sup> (Including miscellaneous adjustments)	0
<b>Estimated Excess Benefit Plan Balance as of June 30, 2025</b>	<b>\$3,963,264</b>

#### **Calculation of the Excess Benefit Plan Rate for the June 30, 2024 Actuarial Valuation:**

Set the Excess Benefit Plan Rate at 0.00% to use up the balance that has built up in the fund.

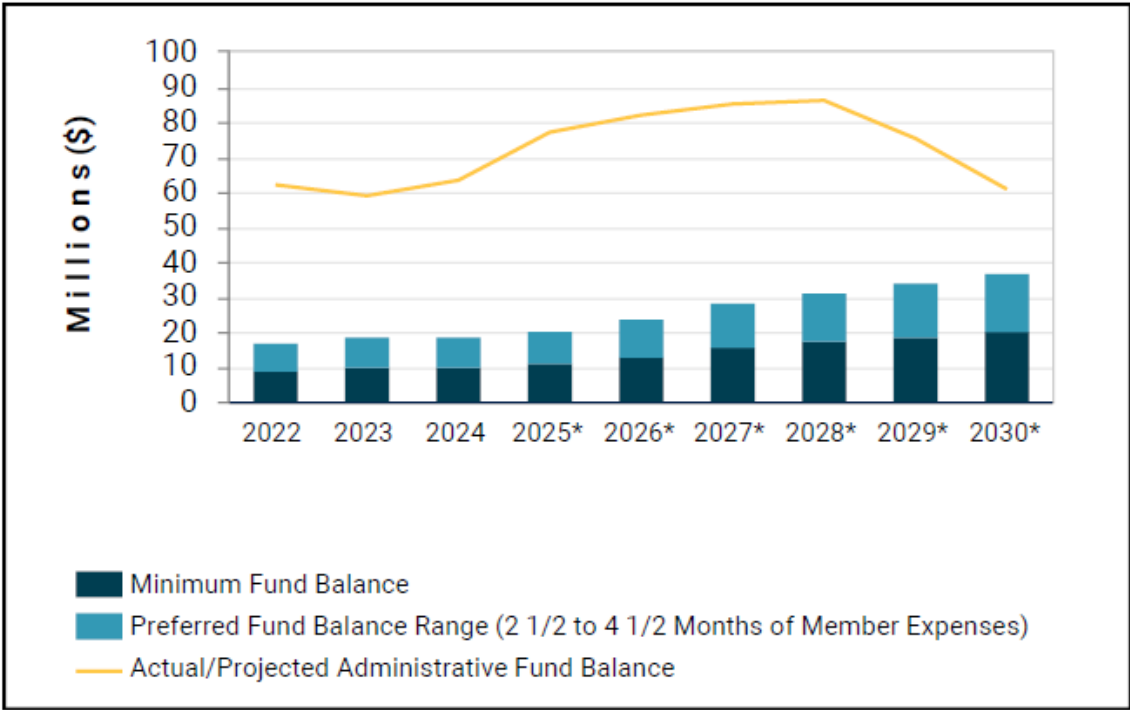
<sup>1</sup> Fund is in a zero-interest checking account.

**Administrative Rate and Fund Balance<sup>1</sup>**

Beginning with the 2018-2019 fiscal year, the System set the administrative rate at 0.26% and held it there for the subsequent six years with the goal of bringing the fund balance gradually back down. For fiscal years 2024-2025 and forward, the administrative rate was increased to 0.35% to reflect increases in salary expense and upcoming significant projects.

A forecast analysis of expenses was performed. This forecast projects maintaining the Administrative Rate at 0.35% through 2030. The administrative fund balance projection includes long-term projections and therefore is likely to change over time. The Board will be kept informed as balances and rates become more accurate. The forecast also reflects the change in accounting for contribution revenue from cash to accrual discussed in the Retirement Administration Operating Budget section of the Budget book (page 22).

**Administrative Fund Balance Six-Year Projection**



*\*Projected fund balance.*

**Collections Based on Member Payroll: Fiscal Years 2020 - 2027**

The presentation in the tables below reflects NYSTRS transition to the accrual basis of accounting for contribution revenue in fiscal year 2023-2024. Historically, NYSTRS recognized contribution revenue when the amounts were collected. Beginning with fiscal year 2023-2024, the System recognized contribution revenue when it is earned (realized). The transition period includes the amortization of contribution revenue from the 2023-2024 member payroll, over five years, beginning with the June 30, 2024 fiscal year.

<sup>1</sup> This section comes from the NYSTRS 2025-2026 Operating Budget Report

APPENDIX 5 (Cont'd)

Employer Contributions				
Annual Member Payroll		Administrative Rate (%)	Amount	Fiscal Year Recognized
Salary Year	Base Salary			
2026-27	\$ 20,626,000	0.35%	\$ 72,191	2026-27
2025-26	20,102,000	0.35	70,357	2025-26
2024-25	19,591,000	0.35	68,569	2024-25
2023-24	19,093,500	0.26	49,643	2023-24
2022-23	18,469,100	0.26	48,020	2024-2028*
2021-22	17,715,273	0.26	46,093	2022-23
2020-21	16,973,207	0.26	44,155	2021-22
2019-20	16,973,171	0.26	44,146	2020-21

Contribution Revenue Recognized				
<i>(dollars in thousands)</i>				
Fiscal Year	Amount	Transition Period Amortization*	Total Contribution Revenue	% Increase (Decrease) in Contributions
2026-27	\$ 72,191	\$ 9,604	\$ 81,795	2.29 %
2025-26	70,357	9,604	79,961	2.29
2024-25	68,569	9,604	78,173	31.94
2023-24	49,643	9,604	59,247	28.54
2022-23	46,093	—	46,093	4.39
2021-22	44,155	—	44,155	0.02
2020-21	44,146	—	44,146	1.67

**Note:** All amounts presented in italics reflect estimates.

\*2023-24 Contribution revenue of \$48,020 amortized over 5 years (fiscal years 2024 through 2028; fiscal year 2028 is not displayed).

**ASSET VALUATION METHOD****Development of Smoothing Adjustment**

FYE	Market Value	Contributions	Benefit Payments	Average Market Value <sup>1</sup>
6/30/2019	120,617,512,667	1,738,012,513	7,381,558,565	
6/30/2020	118,887,889,173	1,920,343,091	7,575,286,123	118,190,112,628
6/30/2021	146,431,272,296	1,653,676,471	7,787,392,208	116,165,557,236
6/30/2022	130,102,288,446	1,788,335,695	8,039,853,405	143,678,083,377
6/30/2023	135,168,430,281	1,934,792,667	8,314,209,434	127,315,661,868
6/30/2024	143,722,774,333	2,131,878,210	8,534,198,546	132,411,411,407

FYE	Actual Gain/(Loss) <sup>2</sup>	Expected Gain/(Loss) <sup>3</sup>	Unexpected Gain/(Loss) <sup>4</sup>	Smoothing Adjustment <sup>5</sup>
6/30/2019	8,023,178,506			
6/30/2020	3,923,634,378	8,391,497,997	(4,467,863,619)	
6/30/2021	33,668,008,496	8,247,754,564	25,420,253,932	
6/30/2022	(10,078,814,518)	9,985,626,795	(20,064,441,313)	
6/30/2023	11,439,286,059	8,848,438,500	2,590,847,559	
6/30/2024	14,984,822,975	9,202,593,093	5,782,229,882	<b>3,238,566,703</b>

<sup>1</sup> Average Market Value = Market Value <sub>(previous yr.)</sub> – (.5 x Benefit Payments) + ((8.5/12) x Contributions)

<sup>2</sup> Actual Gain/(Loss) = Net Investment Income

<sup>3</sup> Expected Gain/(Loss) = 7.10% x Average Market Value for fiscal year ending 6/30/2020 and 6/30/2021  
Expected Gain/(Loss) = 6.95% x Average Market Value for fiscal years ending on or after 6/30/2022

<sup>4</sup> Unexpected Gain/(Loss) = Actual Gain/(Loss) – Expected Gain/(Loss)

<sup>5</sup> Smoothing Adjustment = (.20 x Unexpected Gain/(Loss) 6/30/2021)  
+ (.40 x Unexpected Gain/(Loss) 6/30/2022)  
+ (.60 x Unexpected Gain/(Loss) 6/30/2023)  
+ (.80 x Unexpected Gain/(Loss) 6/30/2024)

## APPENDIX 6

### HYPOTHETICAL LONG-TERM NORMAL RATE CALCULATION BASED ON NEW ENTRANT NORMAL RATE AS OF JUNE 30, 2024

The long-term expected normal rate is based on the new entrant population for the year ending June 30, 2024. The new entrant population of **14,455 Tier 6 members** is defined to be members with the following characteristics:

1. date of membership between 7/1/2023 and 6/30/2024,
2. active as of 6/30/2024, and
3. no more than 1 year of NYS service as of 6/30/2024.

#### **New Entrant Normal Rate as of June 30, 2024**

The New Entrant Normal Rates determined under the benefit structures of Tiers 4, 5 and 6 using the member data for the current class of new entrants and the actuarial assumptions in the **June 30, 2024** actuarial valuation are as follows:

Valuation Rate of Interest: <b>6.95%</b>	Valued as Tier 4 Benefit Structure	Valued as Tier 5 Benefit Structure	Valued as Tier 6 Benefit Structure
(1) Present Value of Future Benefits (PVB)	\$ 649,354,608	\$ 582,702,610	\$ 504,740,261
(2) Present Value of Future Member Contributions (PVFC)	85,163,345	177,842,116	242,443,665
(3) Present Value of Future Salaries (PVFS)	5,081,203,310	5,081,203,310	5,081,203,310
(4) Long Term Normal Cost of Benefit Structure as a Percent of Salary: (1) / (3)	12.8%	11.5%	9.9%
(5) Member's Share of the Normal Cost: (2) / (3)	1.7%	3.5%	4.8%
<b>(6) Employer's Share of the Normal Cost: (4) - (5)</b>	<b>11.1%</b>	<b>8.0%</b>	<b>5.2%</b>
Sensitivity Analysis <sup>1</sup> Valuation Rate of Interest: <b>5.95%</b>	Valued as Tier 4 Benefit Structure	Valued as Tier 5 Benefit Structure	Valued as Tier 6 Benefit Structure
(1) Present Value of Future Benefits (PVB)	\$ 815,226,902	\$ 729,470,487	\$ 630,705,150
(2) Present Value of Future Member Contributions (PVFC)	86,949,690	186,857,497	253,076,470
(3) Present Value of Future Salaries (PVFS)	5,338,785,619	5,338,785,619	5,338,785,619
(4) Long Term Normal Cost of Benefit Structure as a Percent of Salary: (1) / (3)	15.3%	13.7%	11.8%
(5) Member's Share of the Normal Cost: (2) / (3)	1.6%	3.5%	4.7%
<b>(6) Employer's Share of the Normal Cost: (4) - (5)</b>	<b>13.6%</b>	<b>10.2%</b>	<b>7.1%</b>

*Note: Totals may not sum due to rounding*

#### **History**

As of June 30, 2024, and the 4 prior years, the long-term expected normal rates for new entrants determined under the benefit structures for Tiers 4, 5 and 6 are as follows:

Valuation Year	Employer Normal Rate from the Valuation	New Entrant Employer Normal Rate			Sensitivity Analysis <sup>2</sup>			Number of New Entrants <sup>3</sup>
		Tier 4	Tier 5	Tier 6	Tier 4	Tier 5	Tier 6	
2020	9.41%	9.7%	7.1%	4.4%	11.9%	9.1%	6.2%	9,797
2021 <sup>4</sup>	9.89%	10.9%	7.4%	4.3%	13.3%	9.5%	6.1%	9,582
2022	9.37%	11.0%	7.9%	4.7%	13.6%	10.1%	6.7%	14,971
2023	9.63%	11.1%	8.0%	4.9%	13.6%	10.2%	6.9%	15,254
2024	9.11%	11.1%	8.0%	5.2%	13.6%	10.2%	7.1%	14,455

These rates represent the employers' costs only, not the total cost of the benefit structure which is in part funded by member contributions and excludes the Expense, GLIF and Excess Benefit Fund rates.

<sup>1,2</sup> New Entrant Normal Rate determined using an interest rate that is 1.0% below the actuarial assumed rate of return and the valuation salary scale arithmetically reduced by 0.50%.

<sup>3</sup> Number of new entrants processed through the valuation.

<sup>4</sup> Actuarial assumed rate of return revised from 7.10% to 6.95%.

## APPENDIX 7

### MEMBER RECONCILIATION

#### ACTIVE MEMBERS:

	Male	Female	X*	Total
June 30, 2023	62,256	205,802	N/A	268,058
Changes During Year:				
Added	3,459	11,944	39	15,442
Withdrawn	1,190	3,568	9	4,767
Retired	1,466	4,761	0	6,227
Died	47	96	0	143
June 30, 2024	63,012	209,321	30	272,363

\*As of January 1, 2023, Section 79-Q of the New York Civil Rights Law requires the collection of gender or sex data provide a separate field with the option of marking gender or sex as "X." NYSTRS updated its physical and online forms to provide an additional write-in option.

#### MEMBERS RETIRED FOR:

	Service**			Disability***			Total		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
June 30, 2023	48,263	123,253	171,516	399	1,652	2,051	48,662	124,905	173,567
Changes During Year:									
Retired	1,444	4,689	6,133	22	72	94	1,466	4,761	6,227
Died	1,783	2,768	4,551	26	86	112	1,809	2,854	4,663
Lump Sum	13	71	84	0	0	0	13	71	84
Restored to Active Membership	0	0	0	2	0	2	2	0	2
June 30, 2024	47,911	125,103	173,014	393	1,638	2,031	48,304	126,741	175,045

\*\*Also includes vested retirees.

\*\*\*Includes 12 males and 29 females retired for disability who receive a service benefit.

#### BENEFICIARIES OF DECEASED:

	Service Annuitants			Disability Annuitants			Active Members			Total		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
June 30, 2023	1,719	5,080	6,799	109	155	264	23	74	97	1,851	5,309	7,160
Changes During Year:												
Added	223	451	674	6	2	8	2	0	2	231	453	684
Died	121	308	429	5	10	15	1	3	4	127	321	448
June 30, 2024	1,821	5,223	7,044	110	147	257	24	71	95	1,955	5,441	7,396

#### SUMMARY:

	Male	Female	X*	Total
Active Members	63,012	209,321	30	272,363
Retired Members	48,304	126,741	0	175,045
Beneficiaries	1,955	5,441	0	7,396
Total	113,271	341,503	30	454,804

# APPENDIX 8

## DISTRIBUTION OF ACTIVE MEMBERS

Distribution by Age as of June 30, 2024

Age as of Last Birthday	Male	Female	X	Total
15-19	80	274	2	356
20-24	2,551	8,479	6	11,036
25-29	5,827	18,718	11	24,556
30-34	6,339	21,659	4	28,002
35-39	6,864	24,466	1	31,331
40-44	8,781	30,416	5	39,202
45-49	10,362	32,089	1	42,452
50-54	10,358	32,335	0	42,693
55-59	7,054	23,103	0	30,157
60-64	3,187	12,387	0	15,574
65-69	1,079	3,918	0	4,997
70-74	361	1,131	0	1,492
75-79	120	268	0	388
80-84	38	59	0	97
85 or older	11	19	0	30
Total	63,012	209,321	30	272,363
Average Age (Years – Months)	44-1	44-1	29-7	44-1

Distribution by Age and Tier of Membership as of June 30, 2024

Age as of Last Birthday	Tier 1	Tier 2	Tier 3	Tier 4	Tier 5	Tier 6	Total
15-19	0	0	0	0	0	356	356
20-24	0	0	0	0	0	11,036	11,036
25-29	0	0	0	1	20	24,535	24,556
30-34	0	0	0	449	728	26,825	28,002
35-39	0	0	0	8,764	5,233	17,334	31,331
40-44	0	0	0	25,497	1,841	11,864	39,202
45-49	0	0	0	32,688	898	8,866	42,452
50-54	0	0	0	34,667	800	7,226	42,693
55-59	0	0	1	24,595	594	4,967	30,157
60-64	0	0	89	12,193	376	2,916	15,574
65-69	0	9	241	3,440	143	1,164	4,997
70-74	10	67	77	903	68	367	1,492
75-79	43	17	11	211	15	91	388
80-84	12	4	6	43	5	27	97
85 or older	9	1	0	14	0	6	30
Total	74	98	425	143,465	10,721	117,580	272,363
Average Age (Years – Months)	78-8	73-0	67-4	50-4	42-0	36-5	44-1

# APPENDIX 8 (Cont'd)

## Distribution of Active Members by Age and New York State Service as of June 30, 2024

<b>Male</b>			
Age as of Last Birthday	< 10 Years NYS	10+ Years NYS	Total
15-19	80	0	80
20-24	2,551	0	2,551
25-29	5,827	0	5,827
30-34	5,898	441	6,339
35-39	3,985	2,879	6,864
40-44	2,783	5,998	8,781
45-49	2,235	8,127	10,362
50-54	1,684	8,674	10,358
55-59	1,249	5,805	7,054
60-64	813	2,374	3,187
65-69	458	621	1,079
70-74	192	169	361
75-79	61	59	120
80-84	25	13	38
85 or older	8	3	11
Total	27,849	35,163	63,012

<b>Female</b>			
Age as of Last Birthday	< 10 Years NYS	10+ Years NYS	Total
15-19	274	0	274
20-24	8,479	0	8,479
25-29	18,717	1	18,718
30-34	19,966	1,693	21,659
35-39	14,335	10,131	24,466
40-44	11,817	18,599	30,416
45-49	9,397	22,692	32,089
50-54	8,329	24,006	32,335
55-59	5,871	17,232	23,103
60-64	3,226	9,161	12,387
65-69	1,161	2,757	3,918
70-74	414	717	1,131
75-79	93	175	268
80-84	23	36	59
85 or older	7	12	19
Total	102,109	107,212	209,321

<b>X</b>			
Age as of Last Birthday	< 10 Years NYS	10+ Years NYS	Total
15-19	2	0	2
20-24	6	0	6
25-29	11	0	11
30-34	4	0	4
35-39	1	0	1
40-44	5	0	5
45 or older	1	0	1
Total	30	0	30



APPENDIX 8 (Cont'd)

**Distribution of Active Members by Total Service as of June 30, 2024**

Years of Service	Male	Female	X	Total
0-5	20,185	70,082	30	90,297
6-10	8,645	35,729	0	44,374
11-15	6,167	23,257	0	29,424
16-20	8,495	28,299	0	36,794
21-25	10,064	29,134	0	39,198
26-30	7,153	17,192	0	24,345
31-35	1,892	4,607	0	6,499
36-40	319	859	0	1,178
41-45	62	113	0	175
46-50	18	31	0	49
51+	12	18	0	30
Total	63,012	209,321	30	272,363

Average Service  
(Years – Months)

13-5

12-3

0-9

12-6

**Distribution of Active Members by Total Service and Tier of Membership as of June 30, 2024**

Years of Service	Tier 1	Tier 2	Tier 3	Tier 4	Tier 5	Tier 6	Total
0-5	16	14	17	4,164	1,145	84,941	90,297
6-10	3	11	28	13,306	2,838	28,188	44,374
11-15	0	12	47	18,359	6,634	4,372	29,424
16-20	3	9	34	36,595	90	63	36,794
21-25	5	3	48	39,118	12	12	39,198
26-30	2	3	61	24,275	1	3	24,345
31-35	6	6	28	6,457	1	1	6,499
36-40	5	6	36	1,131	0	0	1,178
41-45	4	7	104	60	0	0	175
46-50	8	19	22	0	0	0	49
51+	22	8	0	0	0	0	30
Total	74	98	425	143,465	10,721	117,580	272,363

Average Service  
(Years – Months)

32-6

27-1

28-6

19-11

10-7

3-8

12-6

**Total and Average Earnings by Tier of Membership for Active Members as of June 30, 2024**

	Total Earnings	Average Earnings*	Average Earnings* of Full-Time Members
Tier 1	\$7,419,196	\$125,749	\$137,810
Tier 2	\$7,256,770	\$103,668	\$122,629
Tier 3	\$36,248,830	\$105,375	\$111,398
Tier 4	\$13,335,917,946	\$105,788	\$108,598
Tier 5	\$737,793,440	\$79,512	\$84,838
Tier 6	\$4,830,057,006	\$53,038	\$65,744
Total	\$18,954,693,188	\$83,544	\$92,883

\*Average earnings calculated using only those active members with earnings during the 2023– 24 school year.

**HISTORICAL MEMBER STATISTICS****Active Members and Annuitants 1922-2024**

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	2024	272,363	182,441

**Number of Active Members by Tier**

As of June 30	Tier 1	Tier 2	Tier 3	Tier 4	Tier 5	Tier 6	Total
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
2024	74	98	425	143,465	10,721	117,580	272,363

**RETIREMENT STATISTICS****Members Retired in 2023-2024 for:**

	<b>Service*</b>	<b>Disability</b>
<b>Number Retired</b>	<b>6,133</b>	<b>94</b>
Age at Retirement:		
Average	60 yrs. 11 mos.	49 yrs. 10 mos.
Median	60 yrs. 10 mos.	50 yrs. 7 mos.
Years of Service:		
Average	25 yrs. 8 mos.	20 yrs. 0 mos.
Median	28 yrs. 4 mos.	19 yrs. 5 mos.
Benefit**:		
Average	\$51,712	\$33,286
Median	\$53,550	\$32,585
Final Average Salary (FAS):		
Average	\$97,018	\$89,509
Median	\$97,022	\$82,897
Benefit as % of FAS***:		
Average	48.73%	36.67%
Median	54.38%	33.33%

**Members Retired in 2023-2024 for Service\* with:**

	<b>Less Than 10 Yrs. Svc.</b>	<b>10 or More Yrs. and Less Than 20 Yrs. Svc.</b>	<b>20 or More Yrs. and Less Than 30 Yrs. Svc.</b>	<b>30 or More Yrs. Svc.</b>
<b>Number Retired</b>	<b>395</b>	<b>742</b>	<b>2,124</b>	<b>2,872</b>
Age at Retirement:				
Average	62 yrs. 2 mos.	61 yrs. 11 mos.	62 yrs. 9 mos.	59 yrs. 2 mos.
Median	62 yrs. 0 mos.	62 yrs. 0 mos.	62 yrs. 6 mos.	58 yrs. 1 mo.
Years of Service:				
Average	7 yrs. 2 mos.	14 yrs. 6 mos.	24 yrs. 1 mo.	32 yrs. 6 mos.
Median	7 yrs. 1 mo.	14 yrs. 7 mos.	24 yrs. 0 mos.	31 yrs. 7 mos.
Benefit**:				
Average	\$4,212	\$12,863	\$42,232	\$75,294
Median	\$3,600	\$10,316	\$41,560	\$71,349
Final Average Salary (FAS):				
Average	\$40,079	\$57,951	\$92,373	\$118,377
Median	\$35,647	\$52,074	\$90,960	\$111,608
Benefit as % of FAS***:				
Average	10.55%	21.79%	45.31%	63.47%
Median	10.37%	21.30%	44.89%	62.50%

\*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.

APPENDIX 10 (Cont'd)

**All Retirees as of June 30, 2024 Retired for:**

	<b>Service*</b>	<b>Disability</b>
<b>Number Retired</b>	<b>173,055</b>	<b>1,990</b>
Age at Retirement:		
Average	59 yrs. 3 mos.	49 yrs. 7 mos.
Median	58 yrs. 4 mos.	50 yrs. 4 mos.
Age Attained as of June 30, 2023:		
Average	74 yrs. 2 mos.	66 yrs. 7 mos.
Median	74 yrs. 4 mos.	66 yrs. 11 mos.
Years of Service:		
Average	27 yrs. 6 mos.	18 yrs. 4 mos.
Median	30 yrs. 0 mos.	17 yrs. 7 mos.
Benefit**:		
Average	\$45,608	\$23,524
Median	\$46,091	\$21,435
Final Average Salary (FAS):		
Average	\$79,916	\$64,966
Median	\$77,541	\$61,264
Benefit as % of FAS***:		
Average	53.06%	35.42%
Median	60.00%	33.33%

**All Retirees as of June 30, 2024 Retired for Service\* with:**

	<b>Less Than 10 Yrs. Svc.</b>	<b>10 or More Yrs. and Less Than 20 Yrs. Svc.</b>	<b>20 or More Yrs. and Less Than 30 Yrs. Svc.</b>	<b>30 or More Yrs. Svc.</b>
<b>Number Retired</b>	<b>5,622</b>	<b>24,414</b>	<b>51,942</b>	<b>91,077</b>
Age at Retirement:				
Average	60 yrs. 7 mos.	59 yrs. 7 mos.	60 yrs. 9 mos.	58 yrs. 3 mos.
Median	59 yrs. 10 mos.	58 yrs. 5 mos.	61 yrs. 5 mos.	57 yrs. 2 mos.
Years of Service:				
Average	7 yrs. 4 mos.	14 yrs. 5 mos.	24 yrs. 5 mos.	34 yrs. 1 mo.
Median	7 yrs. 5 mos.	14 yrs. 5 mos.	24 yrs. 7 mos.	33 yrs. 6 mos.
Benefit**:				
Average	\$4,364	\$10,419	\$36,378	\$62,850
Median	\$3,769	\$8,128	\$33,938	\$58,858
Final Average Salary (FAS):				
Average	\$41,508	\$46,516	\$76,643	\$93,106
Median	\$37,878	\$39,483	\$72,368	\$87,545
Benefit as % of FAS***:				
Average	10.58%	21.73%	47.15%	67.45%
Median	10.25%	21.02%	47.39%	66.42%

\*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.

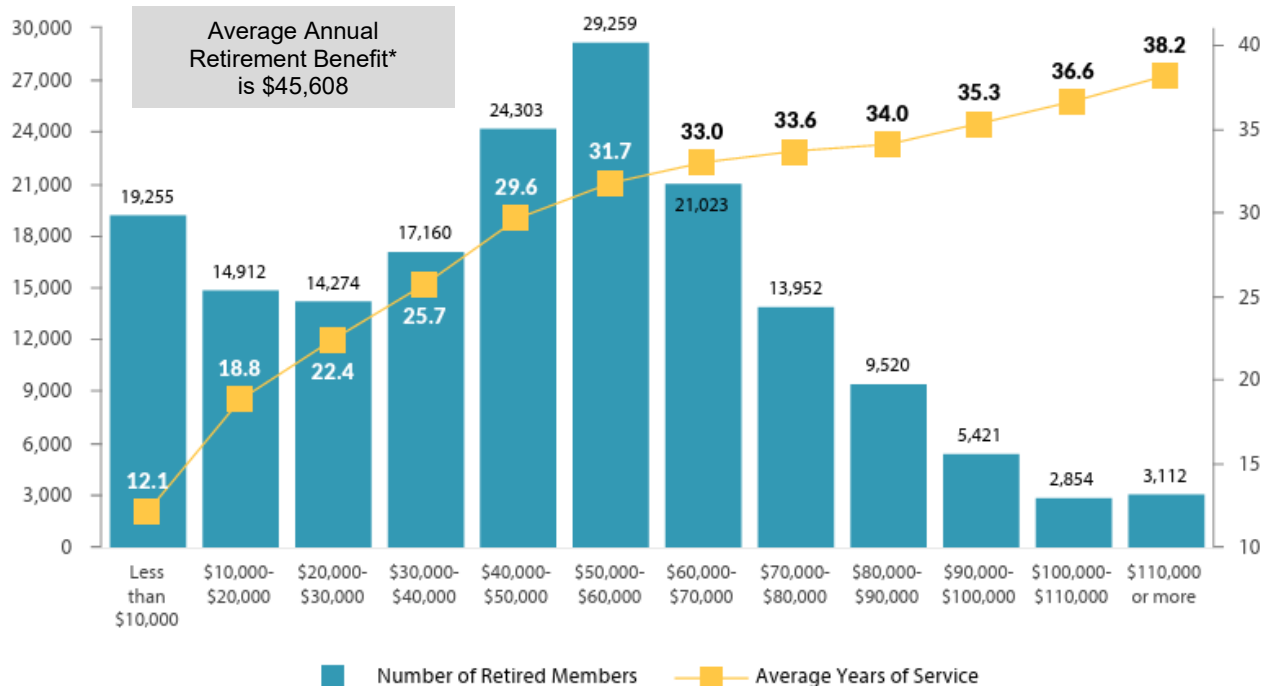
**Retired Members' Characteristics\* by Year of Retirement**

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
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
2024	6,227	60-11	25-8	97,018	51,712

\*Averages are for service and vested retirees

**DISTRIBUTION OF THE ANNUAL BENEFIT\* OF ALL RETIRED MEMBERS**

— as of June 30, 2024



\*Maximum annual retirement benefit including supplementation and COLA.

**2020 – 2024 Experience Study (Based on Appendix 18 Assumptions)****I. Active Member Mortality Rates**

Age	Male			Female		
	Actual	Expected	A/E	Actual	Expected	A/E
20 – 24	0	1.63	0.00	1	2.69	0.37
25 – 29	5	3.94	1.27	7	8.01	0.87
30 – 34	6	7.65	0.78	10	17.20	0.58
35 – 39	9	13.62	0.66	29	30.15	0.96
40 – 44	25	22.54	1.11	44	48.29	0.91
45 – 49	45	34.04	1.32	73	68.69	1.06
50 – 54	53	51.01	1.04	88	102.98	0.85
55 – 59	42	51.42	0.82	92	114.20	0.81
60 – 64	41	39.79	1.03	92	101.55	0.91
65 – 69	12	22.26	0.54	46	49.88	0.92
70 – 74	12	9.79	1.23	21	20.77	1.01
75 – 79	1	4.31	0.23	7	8.79	0.80
	251	262.00	0.958	510	573.20	0.890

**II. Disability Retirement Rates**

Age	Male			Female		
	Actual	Expected	A/E	Actual	Expected	A/E
30 – 34	0	0.30	0.00	0	1.63	0.00
35 – 39	0	4.47	0.00	5	13.14	0.38
40 – 44	11	13.86	0.79	22	47.90	0.46
45 – 49	18	28.89	0.62	54	94.37	0.57
50 – 54	27	50.52	0.53	117	162.33	0.72
55 – 59	10	23.19	0.43	50	93.07	0.54
60 – 64	1	6.41	0.16	7	33.60	0.21
65 – 69	0	1.21	0.00	1	4.28	0.23
70 – 74	0	0.12	0.00	0	0.32	0.00
75 – 79	0	0.00	0.00	0	0.01	0.00
	67	128.97	0.520	256	450.65	0.568

# APPENDIX 11 (Cont'd)

## III. Withdrawal Rates

Service	Male			Female		
	Actual	Expected	A/E	Actual	Expected	A/E
0 – 4	6,809	6,742.06	1.01	22,571	21,711.58	1.04
5 – 9	1,221	1,124.13	1.09	5,347	5,155.07	1.04
10 – 14	571	401.18	1.42	2,693	2,117.11	1.27
15 – 19	389	325.09	1.20	1,393	1,009.48	1.38
20 – 24	269	215.68	1.25	675	562.70	1.20
25 – 29	100	89.68	1.12	155	145.73	1.06
30+	11	22.61	0.49	56	28.93	1.94
	9,370	8,920.43	1.050	32,890	30,730.60	1.070

## IV. Retirement Rates

### With at Least 5 Years of Service and Less Than 20 Years of Service

Age	Male			Female		
	Actual	Expected	A/E	Actual	Expected	A/E
55 – 59	132	119.51	1.10	881	759.18	1.16
60 – 64	270	243.52	1.11	1,669	1,468.68	1.14
65 – 69	278	267.87	1.04	1,124	958.17	1.17
70 – 74	101	103.91	0.97	230	224.66	1.02
75 – 79	18	30.39	0.59	38	46.10	0.82
	799	765.20	1.044	3,942	3,456.79	1.140

### With at Least 20 Years of Service and Less Than 30 Years of Service

Age	Male			Female		
	Actual	Expected	A/E	Actual	Expected	A/E
55 – 59	676	535.32	1.26	2,245	1,905.62	1.18
60 – 64	985	976.19	1.01	5,143	4,801.84	1.07
65 – 69	428	405.89	1.05	2,381	2,234.86	1.07
70 – 74	75	77.91	0.96	417	354.60	1.18
75 – 79	20	17.29	1.16	53	54.09	0.98
	2,184	2,012.60	1.085	10,239	9,351.01	1.095

APPENDIX 11 (Cont'd)

With at Least 30 Years of Service

Age	Male			Female		
	Actual	Expected	A/E	Actual	Expected	A/E
55 - 59	2,160	1,992.86	1.08	5,751	5,311.32	1.08
60 - 64	1,068	934.28	1.14	2,890	2,718.60	1.06
65 - 69	339	296.64	1.14	976	847.34	1.15
70 - 74	77	67.19	1.15	260	203.38	1.28
75 - 79	13	18.69	0.70	56	51.21	1.09
	3,657	3,309.66	1.105	9,933	9,131.85	1.088

V. Healthy Annuitant Mortality Rates

Age	Male			Female		
	Actual	Expected	A/E	Actual	Expected	A/E
54 & Under	0	0.00	0.00	0	0.00	0.00
55 - 59	34	31.25	1.09	61	78.87	0.77
60 - 64	98	92.88	1.06	214	234.72	0.91
65 - 69	256	240.84	1.06	568	556.86	1.02
70 - 74	763	745.41	1.02	1,311	1,218.71	1.08
75 - 79	1,445	1,488.87	0.97	1,808	1,835.36	0.99
80 - 84	1,719	1,642.21	1.05	2,011	1,975.44	1.02
85 - 89	2,163	1,937.57	1.12	2,458	2,225.04	1.10
90 - 94	1,725	1,519.07	1.14	2,717	2,670.32	1.02
95 - 99	639	569.36	1.12	1,453	1,441.81	1.01
100 - 104	58	58.34	0.99	370	354.19	1.04
105 +	3	1.36	2.21	28	27.09	1.03
	8,903	8,327.16	1.069	12,999	12,618.41	1.030



APPENDIX 11 (Cont'd)

VI. Survivor and Beneficiary Mortality Rates

Age	Male			Female		
	Actual	Expected	A/E	Actual	Expected	A/E
54 & Under	1	0.33	3.03	1	0.22	4.55
55 – 59	3	0.89	3.37	1	1.27	0.79
60 – 64	2	3.34	0.60	4	3.67	1.09
65 – 69	18	10.27	1.75	13	14.31	0.91
70 – 74	43	34.25	1.26	41	51.52	0.80
75 – 79	62	64.12	0.97	111	127.15	0.87
80 – 84	80	85.54	0.94	225	240.14	0.94
85 – 89	145	123.90	1.17	366	357.16	1.02
90 – 94	140	119.21	1.17	383	382.29	1.00
95 - 99	68	66.26	1.03	297	273.42	1.09
100 - 104	18	13.91	1.29	70	69.06	1.01
105 +	1	0.46	2.17	7	7.05	0.99
	581	522.48	1.112	1,519	1,527.26	0.995

VII. Disability Mortality Rates

Age	Male			Female		
	Actual	Expected	A/E	Actual	Expected	A/E
44 & Under	5	0.33	15.15	6	1.51	3.97
45 – 49	5	1.27	3.94	15	5.47	2.74
50 - 54	5	4.20	1.19	25	13.92	1.80
55 – 59	10	5.55	1.80	30	23.86	1.26
60 – 64	1	5.90	0.17	31	27.83	1.11
65 – 69	6	8.05	0.75	27	32.20	0.84
70 – 74	19	16.74	1.14	36	46.57	0.77
75 – 79	27	19.38	1.39	45	39.33	1.14
80 – 84	18	12.78	1.41	35	25.70	1.36
85 – 89	13	9.56	1.36	19	16.89	1.12
90 – 94	8	6.18	1.29	17	12.33	1.38
95+	0	0.00	0.00	10	9.12	1.10
	117	89.94	1.301	296	254.73	1.162

# APPENDIX 11 (Cont'd)

## VIII. Salary Scale (Dollars in Thousands)<sup>1</sup> – Males and Females

Duration	Previous Year's Salaries	Actual Salaries	Expected Salaries	Actual/Expected
1	\$2,067,532	\$2,916,597	\$2,290,619	1.273
2	2,040,427	2,189,351	2,206,518	0.992
3	1,929,868	2,046,165	2,061,678	0.992
4	1,989,259	2,097,915	2,105,033	0.997
5	1,985,828	2,085,905	2,088,694	0.999
6	1,952,368	2,051,995	2,046,082	1.003
7	1,888,146	1,977,454	1,974,812	1.001
8	1,813,159	1,902,823	1,894,207	1.005
9	1,765,187	1,847,509	1,842,502	1.003
10	1,773,156	1,851,084	1,849,401	1.001
11	1,885,025	1,972,187	1,964,385	1.004
12	2,140,587	2,233,840	2,228,137	1.003
13	2,462,269	2,568,613	2,559,774	1.003
14	2,773,704	2,890,242	2,879,105	1.004
15	3,109,963	3,239,627	3,223,165	1.005
16	3,384,173	3,514,697	3,501,604	1.004
17	3,630,132	3,763,341	3,750,653	1.003
18	3,871,737	4,010,534	3,994,471	1.004
19	4,177,352	4,325,200	4,304,761	1.005
20	4,262,931	4,384,168	4,387,835	0.999
21	4,215,167	4,343,085	4,334,456	1.002
22	4,053,651	4,167,950	4,164,721	1.001
23	3,782,518	3,888,142	3,882,755	1.001
24	3,368,557	3,460,324	3,455,128	1.002
25	2,979,447	3,054,737	3,053,933	1.000
26	2,600,253	2,662,098	2,663,440	0.999
27	2,269,592	2,323,257	2,323,382	1.000
28	1,981,873	2,025,531	2,027,456	0.999
29	1,807,113	1,843,333	1,847,773	0.998
30	1,391,754	1,360,196	1,422,233	0.956
31	1,019,169	1,012,440	1,040,979	0.973
32	764,225	753,257	780,274	0.965
33	565,712	554,259	577,253	0.960
34	408,743	402,218	416,918	0.965
35	297,656	294,598	303,461	0.971
36	208,942	203,770	212,933	0.957
37	143,331	139,911	145,997	0.958
38	96,424	95,121	98,189	0.969
39	68,755	65,723	70,013	0.939
40	226,463	218,042	230,630	0.945
<b>Total</b>	<b>\$83,152,148</b>	<b>\$86,737,238</b>	<b>\$86,205,359</b>	<b>1.006</b>

<sup>1</sup> Totals may not sum due to rounding.

**RATES OF RETURN AND COLA**

Investment Rate of Return on  
Market and Actuarial Value of Assets as of June 30, 2024

Annualized Rates of Return over the Last	Based Upon Market Value of Assets	Based Upon Actuarial Value of Assets <sup>1</sup>
1 Year	11.4%	8.2%
3 Years	4.1%	8.0%
5 Years	8.5%	8.5%
10 Years	7.8%	9.3%
15 Years	9.8%	8.1%
20 Years	7.8%	8.5%
25 Years	6.7%	7.4%
30 Years	8.7%	8.9%

<sup>1</sup> The Retirement System's asset valuation method was changed effective with the June 30, 2007 and June 30, 2015 actuarial valuations.

## Inflation as of June 30, 2024

Annualized Inflation over the Last	Inflation Assumption		COLA Benefit	
	Actual	Expected <sup>2</sup>	Actual	Expected
1 Year	3.48%	2.4%	1.8%	1.3%
3 Years	5.65%	2.4%	2.4%	1.3%
5 Years	4.20%	2.4%	1.9%	1.3%
10 Years	2.83%	2.4%	1.5%	1.3%
15 Years	2.59%	2.4%	1.4%	1.3%
20 Years	2.59%	2.4%	1.4%	1.3%

<sup>2</sup> The annual assumption for estimating future COLA benefit payments was set at 1.3% effective with the June 30, 2019 actuarial valuation, updated from 1.5%. The COLA increase is one-half of the increase in the CPI rounded up to the nearest tenth of a percent, with a floor of 1.0% and a cap of 3.0%. Therefore, the estimate of inflation for the COLA benefit is the result of analyzing available CPI data for the last 25 years with percentages bounded between 2.0% and 6.0% and reduced by 50%. The COLA benefit began in 2001.

**RATES OF RETURN**

Annual Rates of Return through June 30, 2024

<u>Year Ending June 30th</u>	<u>Annual Rate of Return</u>	<u>Year Ending June 30th</u>	<u>Annual Rate of Return</u>
1983	37.1%	2006	11.8%
1984	-4.8%	2007	19.4%
1985	31.3%	2008	-6.3%
1986	28.4%	2009	-20.5%
1987	14.6%	2010	12.1%
1988	-1.5%	2011	23.2%
1989	16.8%	2012	2.8%
1990	11.4%	2013	13.7%
1991	8.3%	2014	18.2%
1992	13.0%	2015	5.2%
1993	13.6%	2016	2.3%
1994	1.8%	2017	12.5%
1995	19.3%	2018	9.0%
1996	18.8%	2019	7.1%
1997	22.0%	2020	3.5%
1998	21.5%	2021	29.0%
1999	14.0%	2022	-7.1%
2000	6.8%	2023	9.0%
2001	-5.7%	2024	11.4%
2002	-6.8%		
2003	4.0%		
2004	16.1%		
2005	10.6%		

**History of the Monthly COLA**

Commencing September	Year Ended March 31	
	Consumer Price Index Percentage Change	Applicable COLA Percentage
2001	2.92%	1.5%
2002	1.48%	1.0%
2003	3.02%	1.6%
2004	1.74%	1.0%
2005	3.15%	1.6%
2006	3.36%	1.7%
2007	2.78%	1.4%
2008	3.98%	2.0%
2009	-0.38%	1.0%
2010	2.31%	1.2%
2011	2.68%	1.4%
2012	2.65%	1.4%
2013	1.47%	1.0%
2014	1.51%	1.0%
2015	-0.07%	1.0%
2016	0.85%	1.0%
2017	2.38%	1.2%
2018	2.36%	1.2%
2019	1.86%	1.0%
2020	1.54%	1.0%
2021	2.62%	1.4%
2022	8.54%	3.0%
2023	4.98%	2.5%
2024	3.48%	1.8%

## APPENDIX 13

### ASSET ALLOCATION

The table below displays the Retirement System's asset allocation targets, ranges, and actual allocation percentages for the June 30, 2024 actuarial valuation. No changes have been made between June 30, 2024 and the time of this report. System asset values are frequently reviewed, and assets are periodically rebalanced in line with the asset allocation targets and ranges.

	Target	Range	Actual
<b>Equity</b>			
Domestic Equity	33%	29 – 37%	34.3%
International Equity	15%	11 – 19%	14.4%
Global Equity	4%	0 – 8%	4.1%
Real Estate Equity	11%	6 – 16%	10.9%
Private Equity	9%	4 – 14%	9.9%
<b>Total Equity</b>	<b>72%</b>		<b>73.6%</b>
<b>Debt</b>			
Domestic Fixed Income	16%	12 – 20%	14.9%
High-Yield Bonds	1%	0 – 3%	1.1%
Global Fixed Income	2%	0 – 4%	1.9%
Real Estate Debt	6%	2 – 10%	5.4%
Private Debt	2%	0.5 – 5%	1.7%
Cash Equivalents	1%	0 – 4%	1.4%
<b>Total Debt</b>	<b>28%</b>		<b>26.4%</b>

#### Changes to the Asset Allocation between June 30, 2023 and June 30, 2024

None.

**ASSESSMENT OF RISK****ACTUARIAL STANDARD OF PRACTICE (ASOP) NO. 51**

ASOP 51 as promulgated by the Actuarial Standards Board requires assessment and disclosure of the risk that actual future measurements may differ significantly from expected. NYSTRS is exposed to the following significant risks that can impact the plan's future financial condition, including the plan's funded status and employer contribution rates.

1. **Investment risk** – the potential that investment returns on System assets will be different than expected. If future returns are less than expected, employers will be required to contribute greater amounts. The System currently has 72% of its targeted asset allocation in equity investments, and 28% in fixed income instruments.
2. **Longevity and other demographic risks** – the potential that mortality or other demographic experience will be different than expected. Increases in longevity, for example, imply that retirees are living longer than expected. Retirees living longer than expected translates into more years of benefit payments and increasing costs to the plan. Actuarial assumption studies were used to develop the actuarial assumptions used in the valuation. The System's actuarial valuation uses base annuitant mortality rates which are developed from Society of Actuary (SOA) tables as well as our own member experience. Generationally applied mortality improvement developed by the SOA is then applied to these base rates to account for anticipated future mortality improvement. Another demographic risk concerns the ages at which members retire. Generally, the earlier members retire, the greater the expense for the plan, as more years of benefit payments will be required. Typically, these types of changes emerge slowly over time and assumptions are periodically revised to reflect them.
3. **Assumption Modification risk** – the potential that plan experience begins to deviate significantly from the actuarial assumptions, and the assumptions are modified to better reflect recent experience and better predict expected future experience. The most impactful of the actuarial assumptions is the assumed investment rate of return. Even a small change in the plan's assumed rate of return will have a large impact on the employer contribution rate.
4. **Contribution risk** – the potential that employers will fail to make the actuarially determined contribution. In accordance with statute and case law, employers are required to contribute at the actuarially determined employer contribution rate as adopted by the Retirement Board and have historically done so. If this rate were to quickly climb precipitously high, however, this would put a significant amount of stress on school district budgets.

5. **Interest rate risk** – the risk that interest rates in the economy, specifically inflation, will greatly increase. Only one part of the System's benefit structure is inflation-related; that is the System's COLA benefit. The COLA is greatly controlled, however, in that both the COLA percentage and the amount to which it is applied are both capped. The COLA percentage, defined as one-half of the increase in the CPI, cannot exceed 3%. Additionally, the COLA is only granted to the first \$18,000 of annual benefit. Because of these limitations the System is not at great risk of substantial increase in liability due to an increase in inflation.
6. **Benefit change risk** – the risk of the provisions of the plan being changed such that plan funding is materially changed. In addition to member contributions to and benefit payments from the plan being changed, future valuation measurements would also be impacted. Benefit and member contribution changes can only be enacted legislatively, requiring an act of the state legislature and approval of the governor.



## APPENDIX 14 (Cont'd)

### A. Plan Maturity Measurements

#### 1. Asset Volatility Ratio

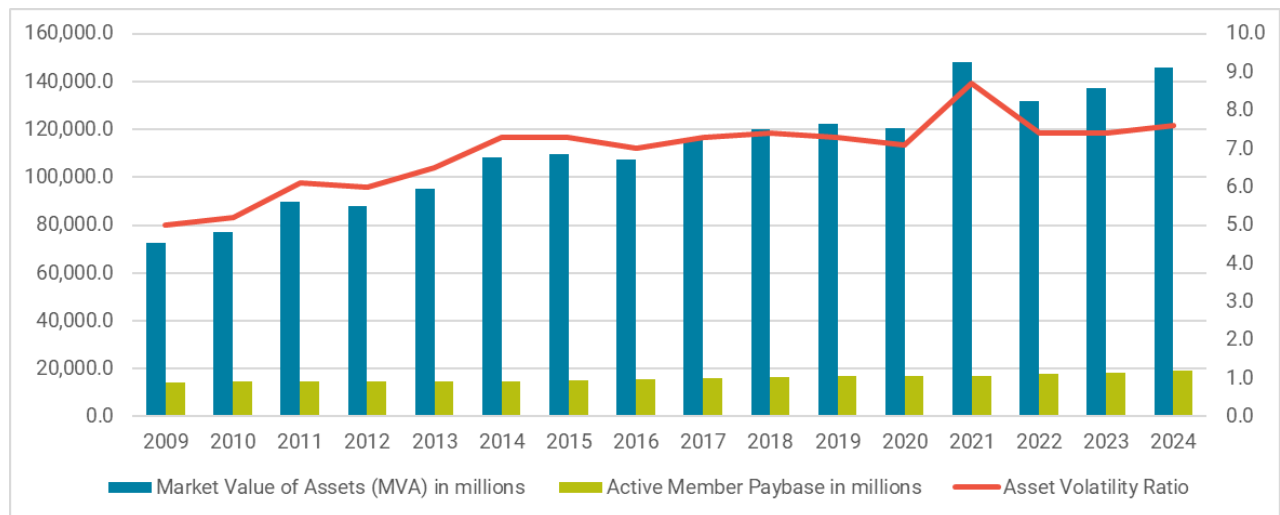
The asset volatility ratio is equal to the market value of assets of the plan divided by the active member payroll. As a plan matures, its assets typically increase. The greater a plan's assets are relative to payroll, the more vulnerable the plan is to investment volatility. NYSTRS' asset volatility ratio increased from 7.4 as of June 30, 2023 to 7.6 as of June 30, 2024 due to higher than expected investment returns during the 2024 fiscal year. An asset volatility ratio of 7.6 implies that if the assets return 10% less than expected, there would be an increase to the amount remaining to be funded equal to 76% of member pay base. This does NOT imply, however, that the employer contribution rate would increase by 76%. Asset gains and losses are smoothed in the valuation, and liabilities remaining to be funded are spread over the present value of future members' salaries, which have a mitigating effect.

Recent years of relatively good performance and experience have driven the ECR down to a relatively low point, leaving it susceptible to large increases following poor performance.

A higher asset volatility ratio is also indicative of a plan having a high level of assets, which is clearly a good result and preferable to having a low level of assets.

<b>Fiscal Year Ending June 30th</b>	<b>Market Value of Assets (in millions)</b>	<b>Active Member Paybase (in millions)</b>	<b>Asset Volatility Ratio</b>
2009	72,471.8	14,366.4	5.0
2010	76,844.9	14,792.1	5.2
2011	89,889.7	14,732.9	6.1
2012	88,056.3	14,640.8	6.0
2013	95,367.0	14,647.8	6.5
2014	108,155.1	14,771.3	7.3
2015	109,718.9	15,021.4	7.3
2016	107,506.1	15,431.0	7.0
2017	115,468.4	15,846.7	7.3
2018	119,915.5	16,288.9	7.4
2019	122,477.5	16,691.6	7.3
2020	120,479.5	16,973.2	7.1
2021	148,148.5	16,973.2	8.7
2022	131,964.6	17,715.3	7.4
2023	137,221.5	18,469.1	7.4
2024	145,821.4	19,093.5	7.6

## APPENDIX 14 (Cont'd)

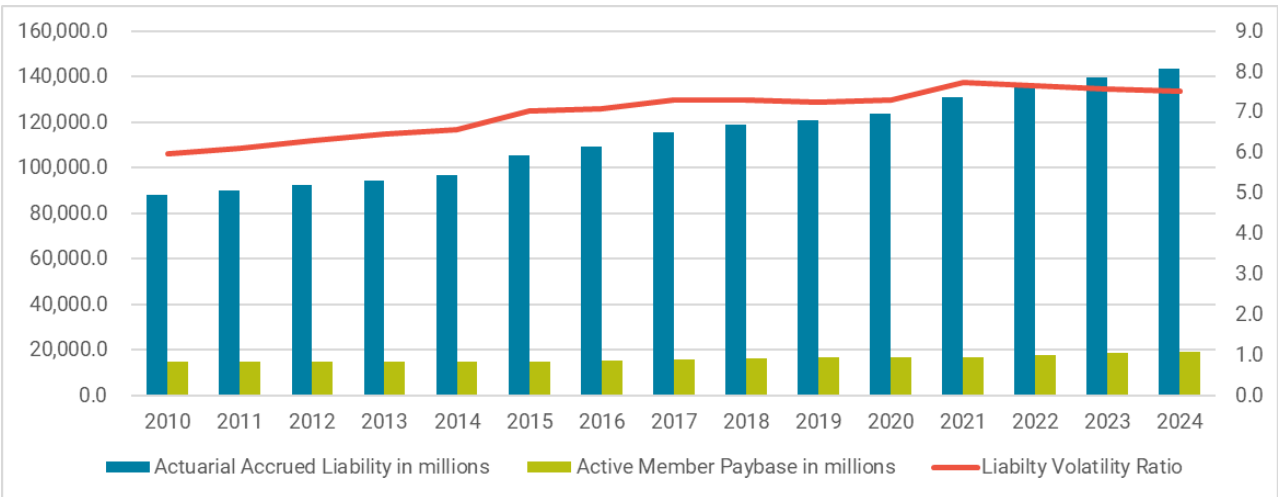


### 2. Liability Volatility Ratio

The liability volatility ratio is equal to the actuarial accrued liability using the Entry Age Normal Actuarial funding method divided by the active member payroll. Changes in assumptions such as reducing the assumed rate of return and improving mortality assumptions can have a significant impact on a plan's liability. For plans with a high liability volatility ratio, these changes are more significant than for plans with low ratios.

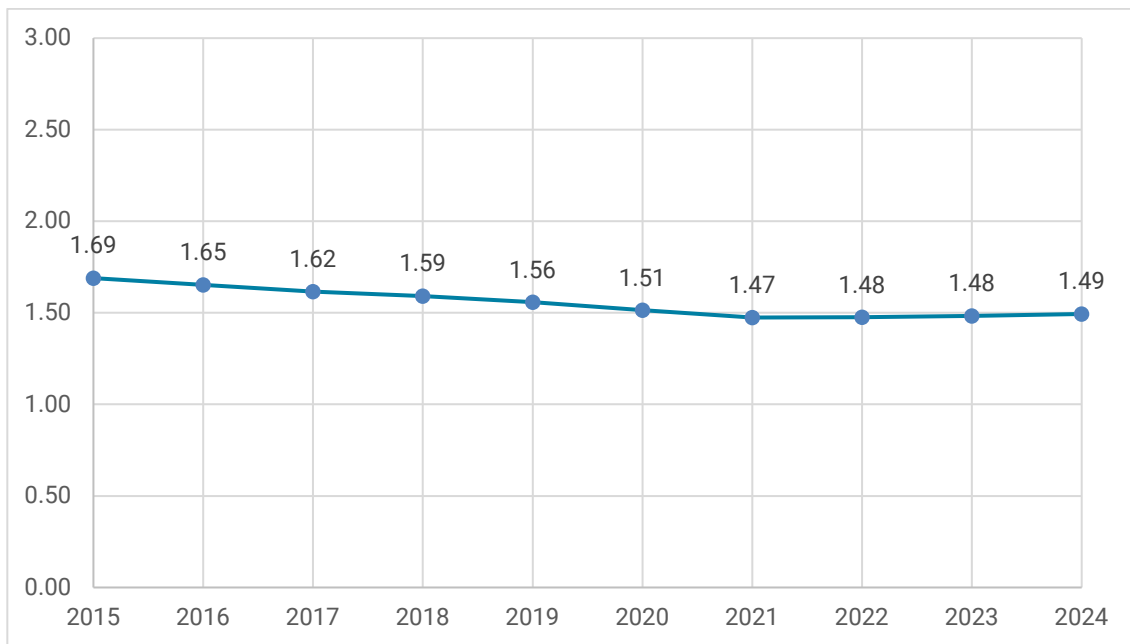
Fiscal Year Ending June 30th	Actuarial Accrued Liability (in millions)	Active Member Paybase (in millions)	Liability Volatility Ratio
2009	86,062.0	14,366.4	6.0
2010	88,318.8	14,792.1	6.0
2011	89,824.9	14,732.9	6.1
2012	92,250.9	14,640.8	6.3
2013	94,583.8	14,647.8	6.5
2014	96,904.5	14,771.3	6.6
2015	105,401.8	15,021.4	7.0
2016	109,305.1	15,431.0	7.1
2017	115,672.5	15,846.7	7.3
2018	118,861.1	16,288.9	7.3
2019	121,049.3	16,691.6	7.3
2020	123,801.7	16,973.2	7.3
2021	131,077.4	16,973.2	7.7
2022	135,530.9	17,715.3	7.7
2023	139,800.8	18,469.1	7.6
2024	143,743.6	19,093.5	7.5

## APPENDIX 14 (Cont'd)



### 3. Active-to-Retiree Counts Ratio

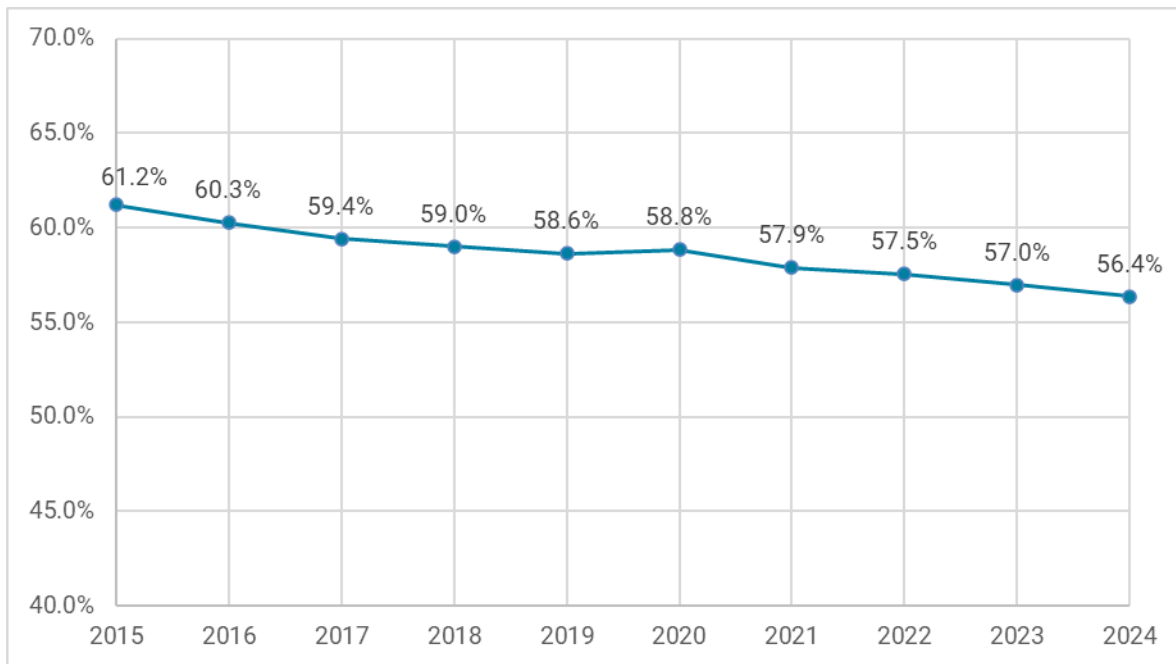
This is equal to the ratio of active members to retired and inactive members. This ratio is typically very high in a plan's early years and declines over time. As a plan matures, and life expectancies increase over time, the percentage of retirees increases, and this ratio decreases. However, in an actuarially advanced-funded System like ours, this decrease is much less of a concern than for a system like Social Security, in which active worker contributions are directly paid to retirees, with no designed pre-funding of future benefits.



We can also compare the ratio of the retiree accrued liability to the System's total accrued liability. A new pension plan begins with this ratio at zero and as the plan matures, this ratio would be expected to grow. The NYSTRS ratio has been between 57% and 62% over the last ten years.

# APPENDIX 14 (Cont'd)

<b>Fiscal Year Ending June 30th</b>	<b>Accrued Liability (AL) for Retired Members and Beneficiaries (in millions)</b>	<b>Total AL for All Members (in millions)</b>	<b>Ratio of Retired AL to Total AL</b>
2015	64,504.9	105,401.8	61.2%
2016	65,858.4	109,305.1	60.3%
2017	68,736.2	115,672.5	59.4%
2018	70,128.9	118,861.1	59.0%
2019	70,969.1	121,049.3	58.6%
2020	72,839.6	123,801.7	58.8%
2021	75,887.8	131,077.4	57.9%
2022	77,980.8	135,530.9	57.5%
2023	79,663.0	139,800.8	57.0%
2024	81,014.6	143,743.6	56.4%



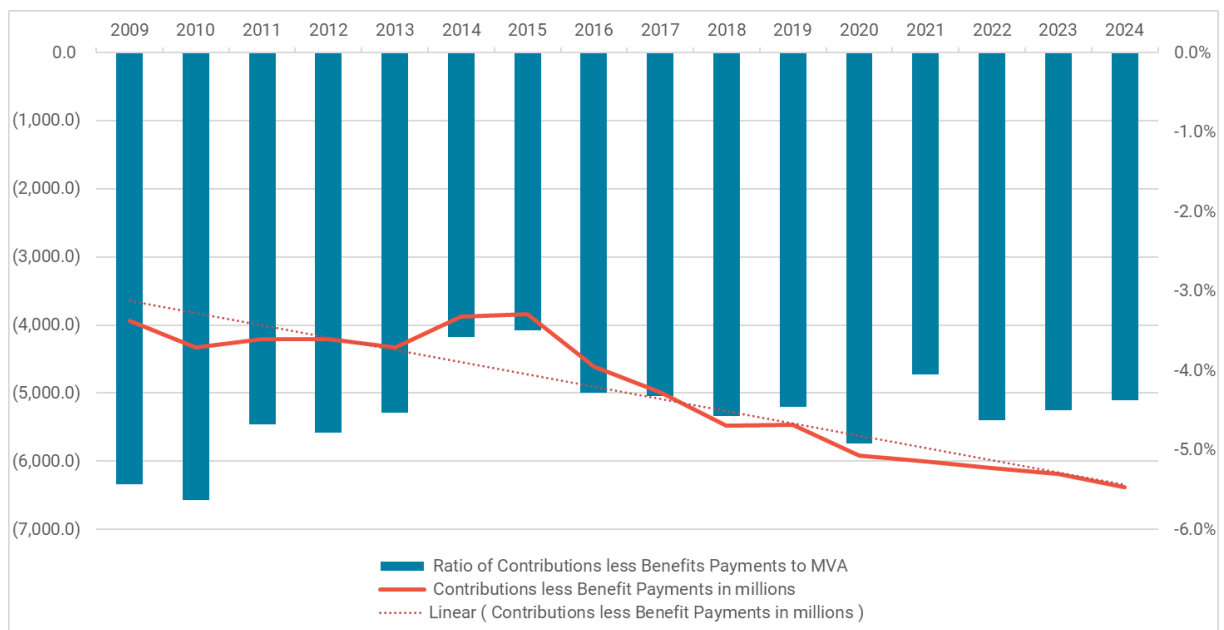
## 4. Cash Flow Ratio

The net cash flow ratio is equal to the ratio of the net cash flow in and out of the System divided by the market value of plan assets. Net cash flow for purposes of this ratio is defined as contributions in minus benefit payments and expenses out; it does not include investment income or appreciation. With this definition the System is in a negative cash flow position and has been for many years. Negative cash flow does not indicate a plan is in trouble or has been poorly managed. The objective of pre-funding is to create a negative cash flow and in fact it would be expected for a plan to mature into a negative cash flow. Additionally plans that are well-funded will have low contribution rates even as their benefit payroll is high. Many public sector plans have a negative cash flow.

# APPENDIX 14 (Cont'd)

Negative cash flow does make the plan more sensitive to near term investment returns, particularly negative returns. When investments lose money and net cash flow is negative, it is more difficult for plans to recover from a poor investment return, as the invested asset base is lower. Therefore, plans will need an even higher return to recover.

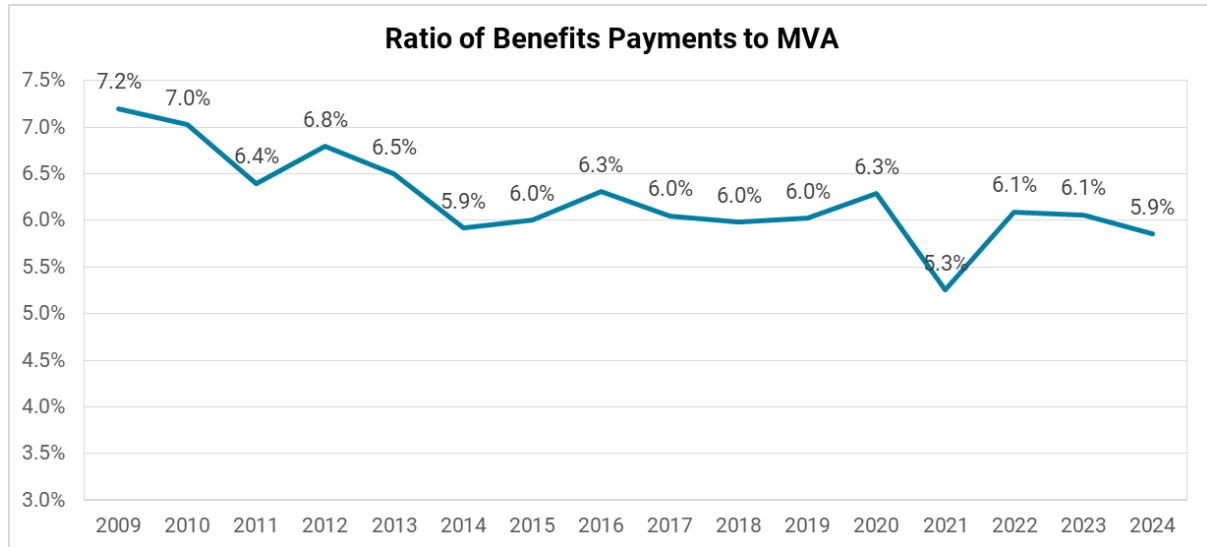
Fiscal Year Ending June 30th	Market Value of Assets (in millions)	Employer and Member Contributions (in millions)	Benefit Payments including Administrative Expenses (in millions)	Contributions less Benefit Payments (in millions)	Ratio of Contributions less Benefits Payments to MVA
2009	72,471.8	1,283.5	5,217.9	(3,934.4)	-5.4%
2010	76,844.9	1,070.9	5,399.9	(4,329.0)	-5.6%
2011	89,889.7	1,545.9	5,751.5	(4,205.6)	-4.7%
2012	88,056.3	1,771.3	5,980.0	(4,208.7)	-4.8%
2013	95,367.0	1,868.3	6,194.1	(4,325.7)	-4.5%
2014	108,155.1	2,522.5	6,399.2	(3,876.6)	-3.6%
2015	109,718.9	2,751.7	6,588.1	(3,836.4)	-3.5%
2016	107,506.1	2,175.2	6,780.3	(4,605.1)	-4.3%
2017	115,468.4	1,995.0	6,984.6	(4,989.7)	-4.3%
2018	119,915.5	1,688.8	7,169.6	(5,480.9)	-4.6%
2019	122,477.5	1,920.3	7,381.6	(5,461.2)	-4.5%
2020	120,479.5	1,653.7	7,575.3	(5,921.6)	-4.9%
2021	148,148.5	1,788.3	7,787.4	(5,999.1)	-4.0%
2022	131,964.6	1,934.8	8,039.9	(6,105.1)	-4.6%
2023	137,221.5	2,131.9	8,314.2	(6,182.3)	-4.5%
2024	145,821.4	2,149.3	8,534.2	(6,384.9)	-4.4%



## APPENDIX 14 (Cont'd)

### 5. Annual Benefit Payments to Market Value of Assets Ratio

The percentage of the System's assets that are represented by each year's benefit payments and expenses is presented below. This percentage has remained relatively stable over time.



## APPENDIX 14 (Cont'd)

### B. Risk Assessment Methods – Sensitivity Analysis

Valuation results are highly dependent on the actuarial assumptions used to project future events. If actual experience emerges differently from the assumptions used in the valuation process, actuarial gains or losses will result, and future Employer Contribution Rates will be higher or lower. In this section, results of a sensitivity analysis are presented to illustrate how deviations in specific assumptions would have changed the current Employer Contribution Rate of 9.59%.

The results displayed here, except for those for the investment return, are the impact of altering each assumption individually, without accounting for possible correlation between assumptions. Therefore, these results are presented to provide an illustration of the impact that a change in a key assumption may have on valuation results.

Assumption	Adjustment	Adjusted Employer Contribution Rate
Current		9.59%
Valuation Rate of Interest <sup>1</sup>	Decrease from 6.95% to 6.70%	12.64%
Valuation Rate of Interest <sup>1</sup>	Decrease from 6.95% to 6.45%	15.78%
Valuation Rate of Interest <sup>1</sup>	Decrease from 6.95% to 5.95%	22.35%
Salary Scale	Decrease of 10%	8.69%
Salary Scale	Increase of 10%	10.47%
Service Retirement Rates	Decrease of 10%	8.91%
Service Retirement Rates	Increase of 10%	10.15%
Healthy Annuitant Mortality	Decrease of 10%	11.30%
Healthy Annuitant Mortality	Increase of 10%	8.02%
Active Mortality	Decrease of 10%	9.61%
Active Mortality	Increase of 10%	9.57%

<sup>1</sup> The sensitivity analysis assumes that the salary scale assumption would be decreased by one-half of the reduction in the investment return assumption. In a scenario in which there was a significant reduction in the System's assumed rate of return it's likely that future projected salaries would be impacted as well. For example, the salary scale is reduced by 0.125% when the assumed rate of return is reduced by 0.25%

MEASURING PENSION OBLIGATIONS  
ACTUARIAL STANDARD OF PRACTICE (ASOP) NO. 4

Low-Default-Risk Obligation Measure (LDROM)

ASOP 4 as promulgated by the Actuarial Standards Board (ASB) requires disclosure of a Low-Default-Risk Obligation Measure (LDROM). The LDROM represents what the System's accrued liability would be if the plan invested its assets solely in a portfolio of high-quality bonds whose cash flows approximately matched future benefit payments. NYSTRS invests in a diversified portfolio of stocks, bonds, real estate, and private equity with the objective of maximizing investment returns at a reasonable level of risk.

Reducing the plan's investment risk by investing solely in bonds, however, would also very likely reduce the plan's long-term investment returns thereby increasing the amount of contributions needed. The ASB states that it is not intending to suggest that the LDROM represents the "right" liability measure for a pension plan, but rather that it provides additional information that may be useful in evaluating the funded status of a plan.

The difference between the plan's Actuarial Accrued Liability and the LDROM represents the expected taxpayer savings from investing in the plan's diversified portfolio compared to investing only in high-quality bonds. It can also be viewed as the cost of mitigating investment risk. Benefit security for members of the plan relies on a combination of the assets in the plan, the investment returns generated on those assets, and the promise of future contributions from plan members and sponsors.

Results as of June 30, 2024	
Low-Default-Risk Obligation Measure (LDROM)	172,256,175,078
Actuarial Accrued Liability	143,734,627,404
Expected taxpayer savings from the plan's investment in a diversified portfolio	28,521,547,674

Assumptions

The interest rate used in the LDROM calculation to represent an all-bond portfolio is the FTSE Pension Liability Index published by the Society of Actuaries. As of June 30, 2024 the rate was 5.35%. All other assumptions used for the LDROM are the same as those in use for the actuarial valuation. The Actuarial Accrued Liability is based on the long-term assumed rate of return on the System's portfolio of 6.95%.

The Actuarial Accrued Liability and LDROM are calculated in accordance with the Entry Age Cost Method with level percentage of pay as required by Governmental Accounting Standards Board (GASB) Statement No. 67. The Retirement System is funded in accordance with the Aggregate Cost Method as required by New York State Education Law §517.



# APPENDIX 15

## HISTORY OF THE EMPLOYER CONTRIBUTION RATE

<u>Salary Year</u>	<u>Employer Contribution Rate</u>	<u>Salary Year</u>	<u>Employer Contribution Rate</u>	<u>Salary Year</u>	<u>Employer Contribution Rate</u>
1921-22	5.10 %	1956-57	10.90 %	1991-92	6.64 %
1922-23	5.10	1957-58	11.20	1992-93	8.00
1923-24	5.20	1958-59	13.40	1993-94	8.41
1924-25	5.20	1959-60	14.00	1994-95	7.24
1925-26	5.20	1960-61	18.35	1995-96	6.37
1926-27	5.20	1961-62	18.55	1996-97	3.57
1927-28	5.20	1962-63	19.55	1997-98	1.25
1928-29	5.30	1963-64	21.13	1998-99	1.42
1929-30	5.50	1964-65	17.67	1999-00	1.43
1930-31	5.50	1965-66	17.70	2000-01	0.43
1931-32	5.50	1966-67	17.72	2001-02	0.36
1932-33	5.50	1967-68	18.50	2002-03	0.36
1933-34	5.50	1968-69	18.80	2003-04	2.52
1934-35	5.60	1969-70	18.60	2004-05	5.63
1935-36	5.70	1970-71	18.80	2005-06	7.97
1936-37	5.80	1971-72	18.80	2006-07	8.60
1937-38	5.93	1972-73	18.80	2007-08	8.73
1938-39	6.03	1973-74	18.80	2008-09	7.63
1939-40	6.13	1974-75	18.80	2009-10	6.19
1940-41	6.23	1975-76	19.40	2010-11	8.62
1941-42	6.33	1976-77	19.40	2011-12	11.11
1942-43	6.43	1977-78	20.40	2012-13	11.84
1943-44	6.53	1978-79	21.40	2013-14	16.25
1944-45	7.10	1979-80	22.49	2014-15	17.53
1945-46	7.20	1980-81	23.49	2015-16	13.26
1946-47	7.50	1981-82	23.49	2016-17	11.72
1947-48	7.80	1982-83	23.49	2017-18	9.80
1948-49	8.00	1983-84	22.90	2018-19	10.62
1949-50	8.40	1984-85	22.80	2019-20	8.86
1950-51	8.80	1985-86	21.40	2020-21	9.53
1951-52	9.60	1986-87	18.80	2021-22	9.80
1952-53	9.90	1987-88	16.83	2022-23	10.29
1953-54	9.90	1988-89	14.79	2023-24	9.76
1954-55	10.30	1989-90	6.87	2024-25	10.11
1955-56	10.40	1990-91	6.84	2025-26	9.59
				<b>Average</b>	<b>10.87%</b>

### HISTORY OF THE MEMBER CONTRIBUTION RATE

Membership Year	Required Contribution
1921	4%
1948	5% (new members - 1948 and after)
1948	Voluntary 4% <u>could</u> be contributed (all members eligible)
1951	If member elected special retirement allowance: 4% went to 6.5%, 5% went to 8% (all members eligible)
1957	If member elected 1/120th plan: 6.5% went to 9%, 8% went to 11% (all members eligible)
1968	0%
1976	3% (new members - 1976 and after)
2000	3% employee contribution ceases after ten years of service or membership
2010	3.5% throughout career for members joining 1/1/2010 – 3/31/2012
2012	Throughout career for members joining on or after 4/1/2012: <ul style="list-style-type: none"> <li>- 3.0% if salary less than or equal to \$45,000</li> <li>- 3.5% if salary greater than \$45,000 and less than or equal to \$55,000</li> <li>- 4.5% if salary greater than \$55,000 and less than or equal to \$75,000</li> <li>- 5.75% if salary greater than \$75,000 and less than or equal to \$100,000</li> <li>- 6.0% if salary greater than \$100,000</li> <li>- no member contributions are collected on salary in excess of the pensionable salary limit which is currently \$250,000 (history of limit: started at \$179,000, increased to \$200,000 in 2020, \$225,000 in 2021, and \$250,000 in 2022)</li> </ul>

As of August 1, 1921, when the Retirement System was established, members contributed 4% of salary. These contributions were used to fund a separate annuity, separate from the regular pension. New members on or after July 1, 1948 were required to contribute 5% of salary. Additional contributions, not in excess of 4% of salary, were permitted during the five-year period beginning July 1, 1948.

Under the provisions of a law passed in 1950, members could elect before July 1, 1951, or within one year of their date of membership, if later, to contribute towards a special service retirement allowance that would allow them to retire up to five years earlier. If their rate of contribution had been 4%, their new rate would be 6.5%. If their rate of contribution had been 5%, their new rate would be 8%. In 1956, an amendment was passed which provided additional benefits for service in excess of 25 years, but not in excess of 35 years, for those members who elected to contribute an additional 2.5% or 3% of their salaries. This increased the rate of contribution to 9% or 11% depending on whether the member's rate of contribution had been 6.5% or 8%.

**HISTORY OF THE MEMBER CONTRIBUTION RATE (Cont'd)**

Throughout the 1960's, the advent of the "take-home pay" program effectively reduced the required contribution rate to zero for many members. As of July 1, 1968, all members were no longer required to make contributions, nor permitted to make voluntary contributions unless they had been making them previously.

The law that created Tier 3 in 1976 reinstated member contributions and required members who joined the System after July 26, 1976 to contribute 3% of their annual salary. This money, however, helps fund the member's pension and does not fund a separate annuity as before. Effective October 1, 2000, however, in accordance with Chapter 126 of the Laws of 2000, the 3% required member contribution ceases upon the attainment of the earlier of 10 years of service credit or 10 years of membership.

In accordance with Tier 5, enacted in 2009, members joining on or after January 1, 2010 and prior to April 1, 2012 must contribute 3.5% of salary throughout their working career towards the funding of their pension.

Tier 6, enacted in 2012, requires members joining on or after April 1, 2012 to contribute between 3.0% and 6.0% of salary throughout their working career towards the funding of their pension. The contribution percentage for Tier 6 members can vary during their working career depending on the salary received two years prior to the year of contribution.

## ACTUARIAL VALUATION INFORMATION

### 1. Actuarial Cost Method

The cost method used to determine the liabilities and normal cost in this valuation is the Aggregate Cost Method. This funding method is required by statute, specifically §517 of the New York State Education Law.

Each year a normal rate percentage is developed as a level percentage of total member compensation. This percentage equals the portion of the actuarial present value of projected benefits which exceeds the actuarial value of assets divided by one percent of the present value of future compensation of the active members, as of the valuation date.

The cost of the first \$50,000 of member death benefits, Retirement System administrative expenses, and benefits in excess of the IRC §415 limits are each determined using the pay-as-you-go method, which is not considered to be an actuarial cost method.

Each year, actuarial gains and losses will occur because actual experience will vary from the actuarial assumptions. All gains and losses are automatically amortized as part of the normal rate calculation, over the expected future working lifetime of active members.

The June 30, 2024 single amortization period for the Entry Age Unfunded Actuarial Accrued Liability that, combined with the Entry Age Normal Cost, is equivalent to the Aggregate method Normal Cost is 6.62 years.

The average expected future working lifetime for the active population determined by the actuarial valuation as of June 30, 2024 is 12.39 years.

### 2. Asset Valuation Method

The actuarial value of assets for the normal rate is determined by recognizing each year's net investment income/loss more than (or less than) 6.95% at a rate of 20% per year, until fully recognized after five years.

The actuarial value of assets for the expense, group life insurance, and excess benefit plan rates is equal to the fair market value of assets, excluding contributions receivable.

### 3. Actuarial Assumptions

The current actuarial assumptions were adopted by the Retirement Board on October 28, 2021 and were effective for the June 30, 2021 actuarial valuation of the Retirement System's assets and liabilities. The mortality improvement scale was updated as of the June 30, 2022 valuation to MP-2021 and was adopted on October 27, 2022. Specific details regarding the development of the actuarial assumptions can be found in the "*Recommended Actuarial Assumptions 2021 Report*."

**ACTUARIAL VALUATION INFORMATION (Cont'd)**

The withdrawal rates are the assumed rates of termination of employment from all causes other than death, disability, or retirement. The withdrawal rates vary by gender and service.

The healthy annuitant mortality rates are the assumed rates of death for service and deferred retired members and beneficiaries. The healthy annuitant mortality rates vary by gender and age. Future mortality improvement was projected on a generational basis using the Society of Actuaries' Mortality Projection Scale MP-2021.

The salary scale is the assumed annual rate of increase in future compensation. The rates are based upon salary experience for members, vary by service, and are independent of the member's gender. Inflation, merit, and productivity increases are included in these rates. The assumed inflation component is 2.4%.

**PRESENT ACTUARIAL ASSUMPTIONS**

Actuarial assumptions have been developed based upon actual member experience. Various actuarial and graduation techniques are applied to experience data and tables are developed. Standard actuarial tables are also used as appropriate. An experience study is performed annually, and assumptions are revised when warranted. Assumptions have all been developed in conformity with the relevant Actuarial Standards of Practice (ASOPs). The current actuarial assumptions were adopted by the Retirement Board on October 28, 2021. The mortality improvement scale was updated as of the June 30, 2022 valuation to MP-2021 and was adopted on October 27, 2022. The Society of Actuaries has not developed a new mortality improvement scale since MP-2021 and its continued use is appropriate for the System's population. Specific details regarding the development of the present actuarial assumptions can be found in the *"Recommended Actuarial Assumptions 2021 Report"*.

As of January 1, 2023, Section 79-Q of the New York Civil Rights Law requires the collection of gender or sex data provide a separate field with the option of marking gender or sex as "X". NYSTRS updated its physical and online forms to provide an additional write-in option. When the data collected becomes statistically credible, NYSTRS will begin reporting gender or sex expansive data information and including the data in future experience studies. Currently those with a gender or sex selection of "X" are valued using the female rates.

The NYSTRS Office of the Actuary utilizes ProVal, a widely used actuarial valuation software program leased from Winklevoss Technologies (WinTech), to calculate liabilities and projected benefit payments. We have audited the results produced by this model to a limited degree consistent with Actuarial Standards of Practice (ASOP) No. 56 and believe the software to be appropriate for the purposes for which it has been used.

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# APPENDIX 18 (Cont'd)

## I. Active Member Mortality Rates

<u>Males</u>		<u>Females</u>	
<u>Age</u>	<u>Rate</u>	<u>Age</u>	<u>Rate</u>
20	0.000326	20	0.000132
21	0.000292	21	0.000124
22	0.000249	22	0.000105
23	0.000215	23	0.000096
24	0.000189	24	0.000099
25	0.000173	25	0.000101
26	0.000189	26	0.000114
27	0.000206	27	0.000116
28	0.000223	28	0.000131
29	0.000252	29	0.000145
30	0.000269	30	0.000171
31	0.000298	31	0.000185
32	0.000314	32	0.000197
33	0.000340	33	0.000209
34	0.000353	34	0.000232
35	0.000376	35	0.000240
36	0.000396	36	0.000259
37	0.000412	37	0.000277
38	0.000438	38	0.000291
39	0.000448	39	0.000316
40	0.000467	40	0.000326
41	0.000494	41	0.000347
42	0.000518	42	0.000366
43	0.000550	43	0.000395
44	0.000582	44	0.000413
45	0.000633	45	0.000442
46	0.000683	46	0.000482
47	0.000743	47	0.000523
48	0.000816	48	0.000568
49	0.000891	49	0.000616
50	0.000988	50	0.000668
51	0.001090	51	0.000733
52	0.001197	52	0.000811
53	0.001327	53	0.000884
54	0.001463	54	0.000968

# APPENDIX 18 (Cont'd)

## I. Active Member Mortality Rates (cont'd.)

<u>Males</u>		<u>Females</u>	
<u>Age</u>	<u>Rate</u>	<u>Age</u>	<u>Rate</u>
55	0.001605	55	0.001063
56	0.001769	56	0.001156
57	0.001948	57	0.001255
58	0.002146	58	0.001369
59	0.002363	59	0.001485
60	0.002605	60	0.001611
61	0.002875	61	0.001748
62	0.003162	62	0.001902
63	0.003461	63	0.002066
64	0.003789	64	0.002259
65	0.004146	65	0.002472
66	0.004515	66	0.002719
67	0.004918	67	0.003002
68	0.005349	68	0.003342
69	0.005822	69	0.003748
70	0.006313	70	0.004225
71	0.006838	71	0.004789
72	0.007406	72	0.005454
73	0.008017	73	0.006216
74	0.008674	74	0.007116
75	0.009408	75	0.008144
76	0.010787	76	0.009388
77	0.012380	77	0.010829
78	0.014221	78	0.012490
79	0.016338	79	0.014393

Society of Actuaries Mortality Improvement Scale MP-2021 is applied on a generational basis to base table rates. The base table rates use 2020 as the base year.



# APPENDIX 18 (Cont'd)

II. Disability Retirement Rates					
<u>Males</u>			<u>Females</u>		
<u>Age</u>	<u>Rate</u>		<u>Age</u>	<u>Rate</u>	
30	0.000007		30	0.000004	
31	0.000031		31	0.000018	
32	0.000060		32	0.000048	
33	0.000100		33	0.000140	
34	0.000131		34	0.000225	
35	0.000156		35	0.000242	
36	0.000183		36	0.000212	
37	0.000220		37	0.000191	
38	0.000261		38	0.000202	
39	0.000297		39	0.000252	
40	0.000324		40	0.000330	
41	0.000353		41	0.000415	
42	0.000378		42	0.000468	
43	0.000439		43	0.000566	
44	0.000519		44	0.000684	
45	0.000610		45	0.000758	
46	0.000680		46	0.000788	
47	0.000724		47	0.000841	
48	0.000772		48	0.000961	
49	0.000878		49	0.001145	
50	0.001035		50	0.001325	
51	0.001225		51	0.001528	
52	0.001395		52	0.001608	
53	0.001480		53	0.001611	
54	0.001435		54	0.001527	
55	0.001287		55	0.001454	
56	0.001060		56	0.001270	
57	0.000845		57	0.001121	
58	0.000721		58	0.001012	
59	0.000655		59	0.000956	
60	0.000642		60	0.000848	
61	0.000617		61	0.000749	
62	0.000581		62	0.000684	
63	0.000536		63	0.000591	
64	0.000485		64	0.000551	

APPENDIX 18 (Cont'd)

II. Disability Retirement Rates  
(cont'd.)

<u>Males</u>		<u>Females</u>	
<u>Age</u>	<u>Rate</u>	<u>Age</u>	<u>Rate</u>
65	0.000430	65	0.000476
66	0.000373	66	0.000258
67	0.000317	67	0.000178
68	0.000264	68	0.000169
69	0.000215	69	0.000152
70	0.000172	70	0.000131
71	0.000135	71	0.000107
72	0.000104	72	0.000083
73	0.000078	73	0.000060
74	0.000058	74	0.000042
75	0.000042	75	0.000028
76	0.000030	76	0.000018
77	0.000021	77	0.000011
78	0.000014	78	0.000006
79	0.000009	79	0.000004

## APPENDIX 18 (Cont'd)

## III. Withdrawal Rates

<u>Males</u>		<u>Females</u>	
<u>Duration</u>	<u>Rate</u>	<u>Duration</u>	<u>Rate</u>
0	0.281672	0	0.276603
1	0.139639	1	0.125667
2	0.103566	2	0.091900
3	0.082839	3	0.070395
4	0.061281	4	0.054609
5	0.046733	5	0.048608
6	0.040304	6	0.044007
7	0.033875	7	0.039406
8	0.027446	8	0.034805
9	0.021017	9	0.030204
10	0.017586	10	0.025604
11	0.015753	11	0.022445
12	0.012379	12	0.018454
13	0.009004	13	0.014464
14	0.008712	14	0.010474
15	0.008419	15	0.009808
16	0.007735	16	0.008100
17	0.007052	17	0.006392
18	0.006368	18	0.004683
19	0.005078	19	0.004300
20	0.005000	20	0.004251
21	0.004633	21	0.003896
22	0.004265	22	0.003883
23	0.003897	23	0.003869
24	0.003530	24	0.003856
25	0.003162	25	0.002475
26	0.003058	26	0.002156
27	0.002953	27	0.001836
28	0.002848	28	0.001516
29	0.002744	29	0.001230
30	0.002639	30	0.001223
31	0.002534	31	0.001217
32+	0.002430	32+	0.001210

# APPENDIX 18 (Cont'd)

## IV. Service Retirement Rates

### a) With at Least 5 Years of Service and Less Than 20 Years of Service

<u>Males</u>		<u>Females</u>	
<u>Age</u>	<u>Rate</u>	<u>Age</u>	<u>Rate</u>
55	0.016895	55	0.022034
56	0.018138	56	0.020920
57	0.018949	57	0.021583
58	0.020392	58	0.024243
59	0.023948	59	0.028714
60	0.032544	60	0.036747
61	0.053559	61	0.049865
62	0.076575	62	0.098737
63	0.086291	63	0.099499
64	0.101429	64	0.108244
65	0.135241	65	0.134619
66	0.165359	66	0.157206
67	0.171258	67	0.157651
68	0.162524	68	0.149321
69	0.168459	69	0.157048
70	0.178411	70	0.169309
71	0.168561	71	0.166236
72	0.175182	72	0.149874
73	0.204473	73	0.130584
74	0.205761	74	0.131818
75	0.201031	75	0.170940
76	0.223684	76	0.208633
77	0.250000	77	0.178744
78	0.259259	78	0.105960
79	0.243243	79	0.115385
80+	1.000000	80+	1.000000

# APPENDIX 18 (Cont'd)

## IV. Service Retirement Rates

### b) With at Least 20 Years of Service and Less Than 30 Years of Service

<u>Males</u>		<u>Females</u>	
<u>Age</u>	<u>Rate</u>	<u>Age</u>	<u>Rate</u>
55	0.036912	55	0.048946
56	0.038733	56	0.048932
57	0.042465	57	0.050278
58	0.045650	58	0.055984
59	0.053792	59	0.066847
60	0.074850	60	0.085816
61	0.137343	61	0.124821
62	0.317298	62	0.344649
63	0.291193	63	0.320354
64	0.264522	64	0.270180
65	0.284814	65	0.306632
66	0.326565	66	0.343562
67	0.323741	67	0.335230
68	0.287004	68	0.312155
69	0.316940	69	0.294658
70	0.345833	70	0.276159
71	0.274390	71	0.258438
72	0.244094	72	0.248951
73	0.316327	73	0.231388
74	0.314286	74	0.202817
75	0.222222	75	0.232824
76	0.200000	76	0.283422
77	0.206897	77	0.291667
78	0.214286	78	0.243590
79	0.148148	79	0.170732
80+	1.000000	80+	1.000000

# APPENDIX 18 (Cont'd)

## IV. Service Retirement Rates

### c) With at Least 30 Years of Service

<u>Males</u>		<u>Females</u>	
<u>Age</u>	<u>Rate</u>	<u>Age</u>	<u>Rate</u>
55	0.357369	55	0.360457
56	0.308100	56	0.328854
57	0.270702	57	0.285005
58	0.275266	58	0.281178
59	0.296323	59	0.303384
60	0.311082	60	0.329377
61	0.310642	61	0.358157
62	0.319459	62	0.383599
63	0.319013	63	0.361017
64	0.297225	64	0.336647
65	0.311052	65	0.345155
66	0.340284	66	0.361702
67	0.325405	67	0.339678
68	0.291372	68	0.289690
69	0.274286	69	0.270671
70	0.259067	70	0.268173
71	0.238434	71	0.269377
72	0.223404	72	0.255354
73	0.224806	73	0.220085
74	0.262136	74	0.204420
75	0.294872	75	0.182796
76	0.254902	76	0.157205
77	0.200000	77	0.175258
78	0.178571	78	0.222973
79	0.184615	79	0.253012
80+	1.000000	80+	1.000000

# APPENDIX 18 (Cont'd)

## V. Healthy Annuitant Mortality Rates

<u>Males</u>		<u>Females</u>	
<u>Age</u>	<u>Rate</u>	<u>Age</u>	<u>Rate</u>
55	0.002062	55	0.001763
56	0.002298	56	0.001932
57	0.002558	57	0.002104
58	0.002850	58	0.002284
59	0.003160	59	0.002461
60	0.003492	60	0.002642
61	0.003850	61	0.002833
62	0.004238	62	0.003026
63	0.004643	63	0.003239
64	0.005097	64	0.003476
65	0.005594	65	0.003756
66	0.006160	66	0.004075
67	0.006809	67	0.004460
68	0.007562	68	0.004926
69	0.008430	69	0.005489
70	0.009446	70	0.006169
71	0.010632	71	0.006976
72	0.012012	72	0.007929
73	0.013614	73	0.009050
74	0.015459	74	0.010362
75	0.020078	75	0.013227
76	0.022872	76	0.015184
77	0.026050	77	0.017425
78	0.029647	78	0.019982
79	0.033736	79	0.022903
80	0.038367	80	0.026219
81	0.043643	81	0.029999
82	0.049675	82	0.034278
83	0.056541	83	0.039141
84	0.064371	84	0.044654

Society of Actuaries Mortality Improvement Scale MP-2021 is applied on a generational basis to base table rates. The base table rates use 2020 as the base year.

# APPENDIX 18 (Cont'd)

## V. Healthy Annuitant Mortality Rates (Cont'd)

<u>Males</u>		<u>Females</u>	
<u>Age</u>	<u>Rate</u>	<u>Age</u>	<u>Rate</u>
85	0.073241	85	0.050874
86	0.083220	86	0.057876
87	0.094351	87	0.065733
88	0.106789	88	0.074568
89	0.120557	89	0.084462
90	0.135736	90	0.109847
91	0.152258	91	0.124150
92	0.169997	92	0.139945
93	0.188712	93	0.157256
94	0.208207	94	0.175838
95	0.228238	95	0.195482
96	0.256135	96	0.216617
97	0.278405	97	0.238632
98	0.300930	98	0.261262
99	0.323597	99	0.284370
100	0.346058	100	0.307717
101	0.368382	101	0.331284
102	0.390636	102	0.355062
103	0.412527	103	0.378941
104	0.433960	104	0.402553
105	0.454672	105	0.425814
106	0.474623	106	0.448404
107	0.493810	107	0.470342
108	0.511957	108	0.491432
109	0.529320	109	0.511431
110	0.530405	110	0.530405
111	0.548187	111	0.548187
112	0.557992	112	0.557992
113	0.558942	113	0.558942
114	0.559950	114	0.559950

Society of Actuaries Mortality Improvement Scale MP-2021 is applied on a generational basis to base table rates. The base table rates use 2020 as the base year.



# APPENDIX 18 (Cont'd)

## V. Healthy Annuitant Mortality Rates (Cont'd)

<u>Males</u>		<u>Females</u>	
<u>Age</u>	<u>Rate</u>	<u>Age</u>	<u>Rate</u>
115	0.560902	115	0.560902
116	0.560959	116	0.560959
117	0.561015	117	0.561015
118	0.561015	118	0.561015
119	0.561015	119	0.561015
120	1.000000	120	1.000000

Society of Actuaries Mortality Improvement Scale MP-2021 is applied on a generational basis to base table rates. The base table rates use 2020 as the base year.

# APPENDIX 18 (Cont'd)

## VI. Survivor and Beneficiary Mortality Rates

<u>Males</u>		<u>Females</u>	
<u>Age</u>	<u>Rate</u>	<u>Age</u>	<u>Rate</u>
1	0.000403	1	0.000145
2	0.000403	2	0.000145
3	0.000403	3	0.000145
4	0.000403	4	0.000145
5	0.000403	5	0.000145
6	0.000403	6	0.000145
7	0.000403	7	0.000145
8	0.000403	8	0.000145
9	0.000403	9	0.000145
10	0.000403	10	0.000145
11	0.000403	11	0.000145
12	0.000403	12	0.000145
13	0.000403	13	0.000145
14	0.000403	14	0.000145
15	0.000403	15	0.000145
16	0.000403	16	0.000145
17	0.000403	17	0.000145
18	0.000403	18	0.000145
19	0.000403	19	0.000145
20	0.000403	20	0.000134
21	0.000387	21	0.000125
22	0.000360	22	0.000116
23	0.000333	23	0.000106
24	0.000306	24	0.000097
25	0.000302	25	0.000099
26	0.000338	26	0.000114
27	0.000360	27	0.000128
28	0.000383	28	0.000144
29	0.000420	29	0.000160
30	0.000442	30	0.000175

Society of Actuaries Mortality Improvement Scale MP-2021 is applied on a generational basis to base table rates. The base table rates use 2020 as the base year.

# APPENDIX 18 (Cont'd)

## VI. Survivor and Beneficiary Mortality Rates (Cont'd)

<u>Males</u>		<u>Females</u>	
<u>Age</u>	<u>Rate</u>	<u>Age</u>	<u>Rate</u>
31	0.000479	31	0.000204
32	0.000498	32	0.000218
33	0.000530	33	0.000244
34	0.000559	34	0.000255
35	0.000599	35	0.000279
36	0.000621	36	0.000300
37	0.000651	37	0.000317
38	0.000677	38	0.000346
39	0.000712	39	0.000360
40	0.000740	40	0.000383
41	0.000764	41	0.000405
42	0.000798	42	0.000425
43	0.000841	43	0.000456
44	0.000883	44	0.000487
45	0.000935	45	0.000518
46	0.001001	46	0.000552
47	0.001068	47	0.000597
48	0.001151	48	0.000647
49	0.001237	49	0.000699
50	0.001339	50	0.000767
51	0.001459	51	0.000839
52	0.001585	52	0.000916
53	0.001729	53	0.001017
54	0.001890	54	0.001111
55	0.004211	55	0.003011
56	0.004591	56	0.003214
57	0.004992	57	0.003415
58	0.005427	58	0.003623
59	0.005881	59	0.003842
60	0.006353	60	0.004095

Society of Actuaries Mortality Improvement Scale MP-2021 is applied on a generational basis to base table rates. The base table rates use 2020 as the base year.

# APPENDIX 18 (Cont'd)

## VI. Survivor and Beneficiary Mortality Rates (Cont'd)

<u>Males</u>		<u>Females</u>	
<u>Age</u>	<u>Rate</u>	<u>Age</u>	<u>Rate</u>
61	0.006847	61	0.004376
62	0.007355	62	0.004709
63	0.007893	63	0.005081
64	0.008469	64	0.005515
65	0.009119	65	0.006007
66	0.009879	66	0.006574
67	0.010764	67	0.007228
68	0.011791	68	0.007991
69	0.012977	69	0.008882
70	0.014348	70	0.009913
71	0.015914	71	0.011099
72	0.017714	72	0.012469
73	0.019770	73	0.014025
74	0.022137	74	0.015798
75	0.024837	75	0.017811
76	0.027914	76	0.020084
77	0.031432	77	0.022658
78	0.035426	78	0.025572
79	0.039971	79	0.028889
80	0.045158	80	0.032661
81	0.051057	81	0.036972
82	0.057759	82	0.041889
83	0.065291	83	0.047505
84	0.073728	84	0.053910
85	0.083113	85	0.061218
86	0.093445	86	0.069540
87	0.104717	87	0.078933
88	0.117043	88	0.089461
89	0.130367	89	0.101045
90	0.144705	90	0.113634

Society of Actuaries Mortality Improvement Scale MP-2021 is applied on a generational basis to base table rates. The base table rates use 2020 as the base year.

# APPENDIX 18 (Cont'd)

## VI. Survivor and Beneficiary Mortality Rates (Cont'd)

<u>Males</u>		<u>Females</u>	
<u>Age</u>	<u>Rate</u>	<u>Age</u>	<u>Rate</u>
91	0.160306	91	0.127095
92	0.177295	92	0.141336
93	0.195554	93	0.157256
94	0.214933	94	0.175838
95	0.235173	95	0.195482
96	0.256846	96	0.216617
97	0.279223	97	0.238632
98	0.301941	98	0.261262
99	0.324803	99	0.284370
100	0.347403	100	0.307717
101	0.369814	101	0.331284
102	0.392154	102	0.355062
103	0.414131	103	0.378941
104	0.435647	104	0.402553
105	0.456440	105	0.425814
106	0.476468	106	0.448404
107	0.495730	107	0.470342
108	0.513947	108	0.491432
109	0.531378	109	0.511431
110	0.545110	110	0.530405
111	0.548187	111	0.548187
112	0.557992	112	0.557992
113	0.558942	113	0.558942
114	0.559950	114	0.559950
115	0.560902	115	0.560902
116	0.560959	116	0.560959
117	0.561015	117	0.561015
118	0.561015	118	0.561015
119	0.561015	119	0.561015
120	1.000000	120	1.000000

Society of Actuaries Mortality Improvement Scale MP-2021 is applied on a generational basis to base table rates. The base table rates use 2020 as the base year.

## APPENDIX 18 (Cont'd)

## VII. Disabled Annuitant Mortality Rates

<u>Males</u>		<u>Females</u>	
<u>Age</u>	<u>Rate</u>	<u>Age</u>	<u>Rate</u>
30	0.004652	30	0.003422
31	0.004963	31	0.003769
32	0.005272	32	0.004129
33	0.005569	33	0.004505
34	0.005877	34	0.004881
35	0.006163	35	0.005259
36	0.006456	36	0.005634
37	0.006751	37	0.006015
38	0.007059	38	0.006401
39	0.007371	39	0.006802
40	0.007705	40	0.007219
41	0.008073	41	0.007660
42	0.008491	42	0.008131
43	0.008966	43	0.008652
44	0.009542	44	0.009236
45	0.010203	45	0.009899
46	0.010984	46	0.010640
47	0.011887	47	0.011491
48	0.012917	48	0.012463
49	0.014064	49	0.013571
50	0.015343	50	0.014803
51	0.016424	51	0.015537
52	0.017566	52	0.016336
53	0.018749	53	0.017181
54	0.019960	54	0.018046
55	0.021172	55	0.018866
56	0.022361	56	0.019608
57	0.023488	57	0.020231
58	0.024557	58	0.020721
59	0.025566	59	0.021082

Society of Actuaries Mortality Improvement Scale MP-2021 is applied on a generational basis to base table rates. The base table rates use 2020 as the base year.

# APPENDIX 18 (Cont'd)

## VII. Disabled Annuitant Mortality Rates (Cont'd)

<u>Males</u>		<u>Females</u>	
<u>Age</u>	<u>Rate</u>	<u>Age</u>	<u>Rate</u>
60	0.026516	60	0.021350
61	0.027415	61	0.021532
62	0.028313	62	0.021709
63	0.029236	63	0.021906
64	0.030182	64	0.022166
65	0.031154	65	0.022529
66	0.032187	66	0.023039
67	0.033281	67	0.023732
68	0.034485	68	0.024639
69	0.035810	69	0.025784
70	0.037301	70	0.027188
71	0.039017	71	0.028858
72	0.040985	72	0.030823
73	0.043225	73	0.033071
74	0.045778	74	0.035661
75	0.048700	75	0.038596
76	0.051973	76	0.041899
77	0.055667	77	0.045616
78	0.059793	78	0.049768
79	0.064417	79	0.054392
80	0.069552	80	0.059522
81	0.075256	81	0.065190
82	0.081539	82	0.071412
83	0.088386	83	0.078249
84	0.095845	84	0.085710
85	0.103866	85	0.093862
86	0.112482	86	0.102354
87	0.121693	87	0.111003
88	0.131659	88	0.119794
89	0.144125	89	0.128685

Society of Actuaries Mortality Improvement Scale MP-2021 is applied on a generational basis to base table rates. The base table rates use 2020 as the base year.

# APPENDIX 18 (Cont'd)

## VII. Disabled Annuitant Mortality Rates (Cont'd)

<u>Males</u>		<u>Females</u>	
<u>Age</u>	<u>Rate</u>	<u>Age</u>	<u>Rate</u>
90	0.157863	90	0.137873
91	0.171906	91	0.147449
92	0.186069	92	0.157607
93	0.200252	93	0.168645
94	0.214573	94	0.180687
95	0.229208	95	0.195482
96	0.256135	96	0.216617
97	0.278405	97	0.238632
98	0.300930	98	0.261262
99	0.323597	99	0.284370
100	0.346058	100	0.307717
101	0.368382	101	0.331284
102	0.390636	102	0.355062
103	0.412527	103	0.378941
104	0.433960	104	0.402553
105	0.454672	105	0.425814
106	0.474623	106	0.448404
107	0.493810	107	0.470342
108	0.511957	108	0.491432
109	0.529320	109	0.511431
110	0.530405	110	0.530405
111	0.548187	111	0.548187
112	0.557992	112	0.557992
113	0.558942	113	0.558942
114	0.559950	114	0.559950
115	0.560902	115	0.560902
116	0.560959	116	0.560959
117	0.561015	117	0.561015
118	0.561015	118	0.561015
119	0.561015	119	0.561015
120	1.000000	120	1.000000

Society of Actuaries Mortality Improvement Scale MP-2021 is applied on a generational basis to base table rates. The base table rates use 2020 as the base year.



# APPENDIX 18 (Cont'd)

## VIII. Salary Scale

<u>Duration</u>	<u>Rate</u>	<u>Duration</u>	<u>Rate</u>
0	1.1231	20	1.0293
1	1.1079	21	1.0283
2	1.0814	22	1.0274
3	1.0683	23	1.0265
4	1.0582	24	1.0257
5	1.0518	25	1.0250
6	1.0480	26	1.0243
7	1.0459	27	1.0237
8	1.0447	28	1.0230
9	1.0438	29	1.0225
10	1.0430	30	1.0219
11	1.0421	31	1.0214
12	1.0409	32	1.0210
13	1.0396	33	1.0204
14	1.0380	34	1.0200
15	1.0364	35	1.0195
16	1.0347	36	1.0191
17	1.0332	37	1.0186
18	1.0317	38	1.0183
19	1.0305	39	1.0183
		40	1.0184

## IX. Valuation Rate of Interest Assumption

The interest rate for valuation purposes is a level 6.95%. This valuation rate of interest is made up of a 2.4%<sup>1</sup> annual rate of inflation and a 4.55% real rate of return. The valuation rate of interest assumption represents our best estimate of the anticipated annual rate of return on plan assets over a long-term horizon.

The valuation rate of interest assumption is developed based upon the Retirement System's specific asset allocation, and capital market forecasted long-term return assumptions, as provided by Callan, the System's investment consultant, and other available investment consultant forecasts. Using expected returns and standard deviations for each asset class, and including anticipated correlation between the classes, a long-term anticipated rate of return is developed. Callan's 2025 capital market expectations, reflecting the System's asset allocation and asset class correlations, are as follows.

Horizon	Single-Period Arithmetic Return Expectation	Geometric Return Expectation
10-year	8.14%	7.33%
20-year	8.28%	7.51%
30-year	8.43%	7.65%

Callan's capital market assumptions were set at the beginning of 2025. After setting the capital market assumptions, Callan issued a report stating that "incredible volatility stemmed from the U.S. tariffs, the changing tariff rates, the implementation and then delay of those tariffs. The true impact of the tariffs is still a moving target". Given the volatility, Callan continues to monitor the markets but has not re-cast their capital market assumptions<sup>2</sup>.

For a complete explanation of the rationale behind the System's valuation rate of interest assumption, please refer to the *"Recommended Actuarial Assumptions 2021 Report"*.

## X. Other Assumptions

### Projected COLA Assumption

The annual percentage for estimating future COLA benefit payments is 1.3%<sup>3</sup>.

<sup>1</sup> The average annual rate of increase in the Consumer Price Index (CPI) for the last 30 years ending with March 31, 2024 was 2.54%.

<sup>2</sup> Historic Market Volatility and our 10-Year CMAs by Jay Kloepfer from Callan on April 18, 2025

<sup>3</sup> The COLA percentage is one-half of the increase in the CPI, rounded up to the nearest tenth of a percent, with a floor of 1.0% and a cap of 3.0%. Therefore, the estimate of inflation for the COLA benefit is the result of analyzing available CPI data with percentages bounded between 2.0% and 6.0% and reduced by 50%.

## APPENDIX 18 (Cont'd)

### IRC Section 415(b) and 401(a)(17)

For purposes of the normal rate, the limitations under IRC Section 415(b) were not reflected due to immateriality. The IRC Section 401(a)(17) limit for the fiscal year ending June 30, 2024 was reflected for members with a membership date on or after July 1, 1996.

### Retirement Rates

Retirement Rates for terminated vested members (no earnings in the fiscal year and entitled to a vested benefit, not yet retired): 100% at the age of 55 or current age if later.

### Marriage Assumptions

None

### Tier 6 Pensionable Salary Limit

Tier 6 pensionable earnings are limited by the pensionable salary limit of the current Governor's salary of \$250,000 per year and is then assumed to increase annually by the assumed rate of inflation of 2.4%.

### Maximum Salary for Tier 2-6 Death Benefits

The Tier 2 to Tier 6 maximum salary allowable for purposes of the death benefit calculation under Section 130 of the Civil Service Law is \$207,762 as of June 30, 2024. It is assumed to increase annually by the assumed annual rate of inflation of 2.4%.

## SUMMARY OF BENEFIT PROVISION

### 1. Membership

With certain very limited exceptions, membership is mandatory for all full-time New York State public school teachers and administrators, outside New York City. Membership is optional for certain teachers/administrators eligible for the Optional Retirement Program and teachers employed on other than a full-time basis and for certain employees of the State University of New York, community colleges, and the State Education Department. Generally, the membership of any non-vested person will terminate when seven years have elapsed since (s)he last rendered at least 20 days of credited service in a school year.

Tiers are determined by a member's most recent date of membership in the Retirement System as follows:

- Tier 1: Membership prior to 7/1/1973;
- Tier 2: Membership 7/1/1973 - 7/26/1976\*;
- Tier 3: Membership 7/27/1976\* - 8/31/1983;
- Tier 4: Membership 9/1/1983 - 12/31/2009;
- Tier 5: Membership 1/1/2010 - 3/31/2012;
- Tier 6: Membership on or after 4/1/2012.

\* The end date for Tier 2 and the start date for Tier 3 differs from what is in the law due to a court case known as the Oliver decision, making the start date of the new tier the date that it was signed into law.

Tier 3 members are entitled to receive the benefits of either Tier 3 or Tier 4, however, they may not mix the provisions of the two tiers. For valuation purposes, Tier 3 members are assumed to receive the Tier 4 benefit at retirement, as that is generally always the larger benefit.

### 2. Final Average Salary (FAS)

For all tiers, FAS is generally the average of the three highest consecutive full school years of regular salary, whenever they occurred in the salary history, for duties involving the supervision and instruction of students. For Tier 6 members, pensionable earnings can be no more than the Governor's salary which is \$250,000 as of 6/30/2024.

Certain other restrictions apply to pensionable earnings that can be used in the FAS calculation. There are also limits on the year-over-year percentage increase in salary used in calculating FAS.

### 3. Service Retirement

The service retirement benefits are payable for life in accordance with the following benefit formulas:

#### Tier 1: Non-Contributory Plan

For Tier 1 members with a date of membership prior to July 1, 1970 the benefit is generally calculated as:

Service Credit	Service benefit
NYS service before July 1, 1959 AND Out-of-state service	= $1/100^{\text{th}}$ of FAS per year for each of the first 25 years of service + $1/120^{\text{th}}$ of FAS per year for each of the next 10 years of service + $1/140^{\text{th}}$ of FAS per year for each year of NYS service in excess of 35
NYS service on or after July 1, 1959	= $1/50^{\text{th}}$ of FAS per year for each of the first 25 years of NYS service + $1/60^{\text{th}}$ of FAS per year for each of the next 10 years of NYS service + $1/70^{\text{th}}$ of FAS per year for each year of NYS service in excess of 35

Non-Contributory Plan members generally may retire at:

- Age 55 with 20 years of total service or
- Any age with 35 years of total service.

#### Tier 1: Career Plan (effective July 1, 1970)

Service Credit	Service benefit
NYS service before July 1, 1959	= 1.8% of FAS per year of NYS service
NYS service on or after July 1, 1959	= 2.0% of FAS per year of NYS service
Out-of-state service	= 1.0% of FAS per year for each of out-of-state service* *up to 10 years of credit, but only until total service equals 35 years

The maximum pension permitted is 75% of FAS, or 79% of FAS including the two years of Article 19 service credit.

If less than 20 years of NYS service, the above formula is used except the benefit is reduced by 5% for each year of service less than 20, subject to a maximum reduction of 50%.

Career Plan members generally may retire at:

- Age 55 with 2 years of NYS service or
- Any age with 35 years of total service.

The provisions of Article 19 of the Retirement and Social Security Law, effective July 11, 2000, grants eligible Tier 1 and 2 members additional service credit of one-twelfth of a year of service for each year of retirement credit as of the date of retirement or death, up to a maximum of two additional years.

## APPENDIX 19

### Tier 2: Career Plan

Computed under the Tier 1 Career Plan formula, but may be reduced for early retirement, as noted below.

Tier 2 members generally may retire at:

- Age 62 with 5 years of service, or
- Age 55 with 30 years of service, or
- Age 55 with 5 years of service, with benefit reduced by 6% for each of the first 2 years under age 62 and 3% for each of the next 5 years.

### Tier 3: Article 14

Service Credit	Service benefit
Less than 20 years	= $1\frac{2}{3}\%$ of FAS per year of NYS service
20 to 30 years	= 2% of FAS per year of NYS service
30 or more years	= 60% of FAS

At age 62 the benefit is reduced by 50% of the primary Social Security benefit accrued while in NYS public employment. A member may be eligible for automatic cost-of-living adjustments.

Tier 3 members generally may retire at:

- Age 62 with 5 years of service, or
- Age 55 with 30 years of service, or
- Age 55 with 5 years of service, with benefit reduced by 1/15th for each of the first 2 years under age 62 and 1/30th for each of the next 5 years.

### Tier 4: Article 15

Service Credit	Service benefit
Less than 20 years	= $1\frac{2}{3}\%$ of FAS per year of NYS service
20 to 30 years	= 2% of FAS per year of NYS service for all service
30 or more years	= 60% of FAS + $1\frac{1}{2}\%$ of FAS per year of NYS service in excess of 30 years

Tier 4 members generally may retire at:

- Age 62 with 5 years of service, or
- Age 55 with 30 years of service, or
- Age 55 with 5 years of service, with benefit reduced by 6% for each of the first 2 years under age 62 and 3% for each of the next 5 years.

### Tier 5: Article 15

Service Credit	Service benefit
Less than 25 years	= $1\frac{2}{3}\%$ of FAS per year of NYS service
25 to 30 years	= 2% of FAS per year of NYS service for all service
30 or more years	= 60% + $1\frac{1}{2}\%$ of FAS per year of NYS service in excess of 30 years

Tier 5 members generally may retire at:

- Age 62 with 5 years of service, or
- Age 57 with 30 years of service, or
- Age 55 with 5 years of service, with benefit reduced by  $6\frac{2}{3}\%$  for each of the first 2 years under age 62 and 5% for each of the next 5 years.

#### Tier 6: Article 15

Service Credit	Service benefit
Less than 20 years	= $1\frac{2}{3}\%$ of FAS per year of NYS service
20 years	= 1.75% of FAS per year of NYS service for all service
More than 20 years	= 35% + 2% of FAS per year of NYS service in excess of 20 years

Tier 6 members generally may retire at:

- Age 63 with 5 years of service, or
- Age 55 with 5 years of service, with benefit reduced by 6.5% for each year under age 63.

### **4. Disability Retirement**

Generally, a member with at least 10 years of service may qualify for a disability retirement benefit of the smaller of 1)  $1\frac{2}{3}\%$  of FAS per year of projected service to age 60 or 2)  $\frac{1}{3}$  of FAS; but the benefit shall not be less than  $1\frac{2}{3}\%$  of FAS per year of completed service.

### **5. Death Benefits**

#### *a) Active Service*

The Tier 1 death benefit is generally equal to the greater of 1) 3 times annual salary after 36 years of service (proportionately reduced for less than 36 years), or 2) for members who are at least age 55 with 20 years of service, the pension reserve calculated under a prior, lower service retirement formula.

Under legislation enacted in 2000, all Tier 2-6 members will be covered by the Paragraph 2 Death Benefit, unless they selected Paragraph 1 (see Tier 1 Calculation above) and it is greater than Paragraph 2. All members joining on or after January 1, 2001, will be covered by the Paragraph 2 Death Benefit. The benefit is one year's salary<sup>1</sup> after a year of service, increasing to a maximum of three years' salary after three years or more of service. The benefit is reduced after age 60 by 4% per year, up to a maximum reduction of 40% at age 70 (reductions begin at age 61; age is not rounded, and the reduction is not prorated.)

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<sup>1</sup> The law limits the amount of salary that can be used in the calculation of the Paragraph 2 Death Benefit.

Under Paragraph 2, if the in-service death benefit is in effect when a member retires, coverage may continue after retirement. The benefit would be:

- 1st Year: 50% of the death benefit in effect at retirement;
- 2nd Year: 25% of the benefit at retirement; and,
- 3rd & Ensuing Years: 10% of the benefit in effect at retirement (or at age 60, if the member retires after age 59). To be eligible for the continued coverage in retirement, the member must retire within one year of leaving the payroll and not be employed (other than NYSTRS service) between the member's cease-teaching date and retirement date.

*b) Not in Active Service*

The death benefit for members of all tiers with at least ten years of service credit who die when not in active service is equal to one-half the active member death benefit.

## **6. Deferred Retirement/Vesting**

### *Tiers 1-4:*

A member with at least 5 years of credited service who ceases teaching has a vested right to receive a deferred service retirement benefit. A member with at least five, but less than ten years of service credit, has the choice of receiving a refund of their member contributions with interest or a deferred service retirement benefit. A member with ten or more years of service credit will receive the deferred service retirement benefit.

### *Tiers 5 and 6:*

A member with at least 5 years of credited service who ceases teaching has a vested right to receive a deferred service retirement benefit. Members with less than 5 years of credited service who cease teaching may receive a refund of their member contributions with interest.

## **7. Member Contributions**

Certain Tier 1 and 2 members may elect to contribute to receive an additional benefit upon retirement. Tier 3 and 4 members are required to contribute 3% of pay to fund a portion of their benefit. Effective October 1, 2000, such contributions cease upon the attainment of the earlier of 10 years of service credit or 10 years of membership. Tier 5 members are required to contribute 3.5% of their salary throughout their active membership.

Tier 6 members are required to contribute throughout their active membership. From 4/1/2012 through 3/31/2013, all Tier 6 members were required to contribute 3.5%. Beginning 4/1/2013 members are required to contribute in accordance with the following schedule:



## APPENDIX 19

Salary	Contribution Rate
\$45,000 and less	3.00%
More than \$45,000 to \$55,000	3.50%
More than \$55,000 to \$75,000	4.50%
More than \$75,000 to \$100,000	5.75%
More than \$100,000 to \$250,000 (the limit currently equal to the NYS governor's salary)	6.00%

For purposes of administration, a Tier 6 member's contribution rate in any given year is based on regular compensation earned two years prior. During the member's first three years of membership, he/she will contribute a percentage based on a salary projection provided by the employer. A temporary change for Tier 6 member's during the two fiscal years ending June 30, 2023 and June 30, 2024: the employee contribution rate will be determined using only a member's annual base wages. Compensation earned for extracurricular programs, or any other pensionable earnings paid in addition to the annual base wages will not be included in the employee contribution rate determination, as it ordinarily would.

### 8. Cost-of-Living Adjustment (COLA)

A permanent, annually adjusted cost-of-living benefit is provided to both current and future retired members. This benefit was first paid commencing September 2001, and is increased every September thereafter, to retired members who meet one of the following eligibility criteria:

- Age 62 and retired for 5 years, or
- Age 55 and retired for 10 years, or
- Retired for 5 years under a disability retirement.

The annual COLA percentage is equal to 50% of the increase in the annual CPI; not to exceed 3% nor be lower than 1%. It is applied to the first \$18,000 of annual benefit. Additionally, commencing September 2000, members retired before 1997 are eligible for a "Catch-Up" supplemental benefit upon satisfaction of the above eligibility criteria.



New York State  
Teachers'  
Retirement  
System

# Final Employer Contribution Rate

Melody Prangle, FSA, EA, FCA, MAAA  
Chief Actuary

Tom King, FSA, EA, CERA, CFA  
Director of Actuarial Risk

# Final Employer Contribution Rate (ECR)

June 30, 2024 Actuarial Valuation

## 9.59% of Pay

A decrease of approximately 5.1% over prior year's ECR of 10.11%

# ECR Components

Normal Rate = $\frac{(\text{Liability} - \text{Assets} - \text{Receivables})}{\text{Present Value Future Salaries}}$	9.11%
Expense Rate (Set through Budget process)	0.35%
Group Life Rate	0.13%
Excess Benefit Plan Rate	0.00%
<b>Final June 30, 2024 ECR</b>	<b>9.59%</b>

# Liability Calculation – ECR

- The liability used to calculate the Normal Cost of the ECR is the **Present Value of Benefits**
- Liability Calculations:
  - Projected salary through retirement with the salary assumption
  - Projected **service through retirement** with the retirement assumption

6/30/2024 ECR:

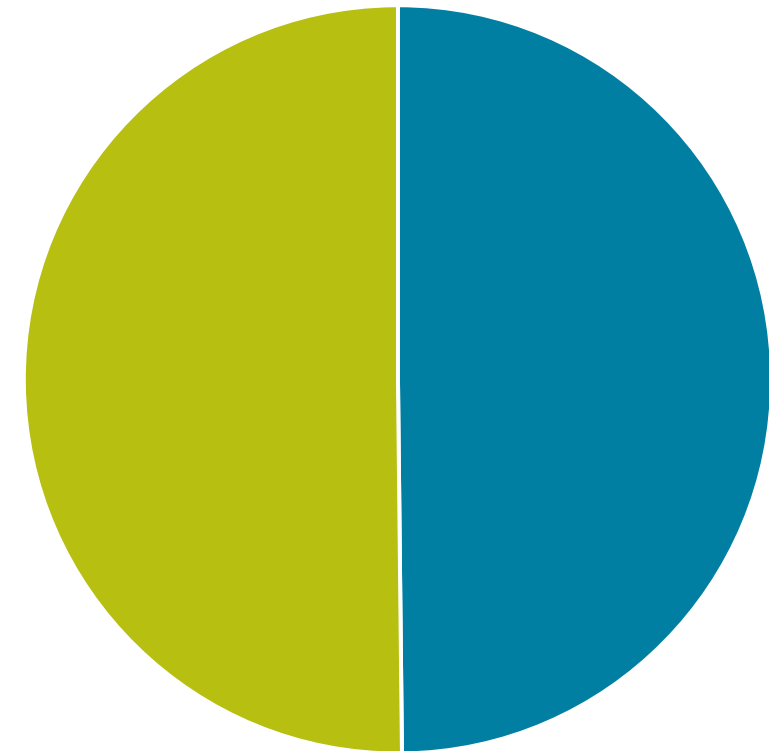
Liability = \$160.0B

Assets (AVA without GLIF) = \$142.0B

Receivables = \$5.2B

Present Value of Future Salaries = \$141.1B

$$\begin{aligned}\text{Normal Rate} &= \frac{(\text{Liability} - \text{Assets} - \text{Receivables})}{\text{Present Value of Future Salaries}} \\ &= 9.11\%\end{aligned}$$



■ Active ■ Retirees & Beneficiaries

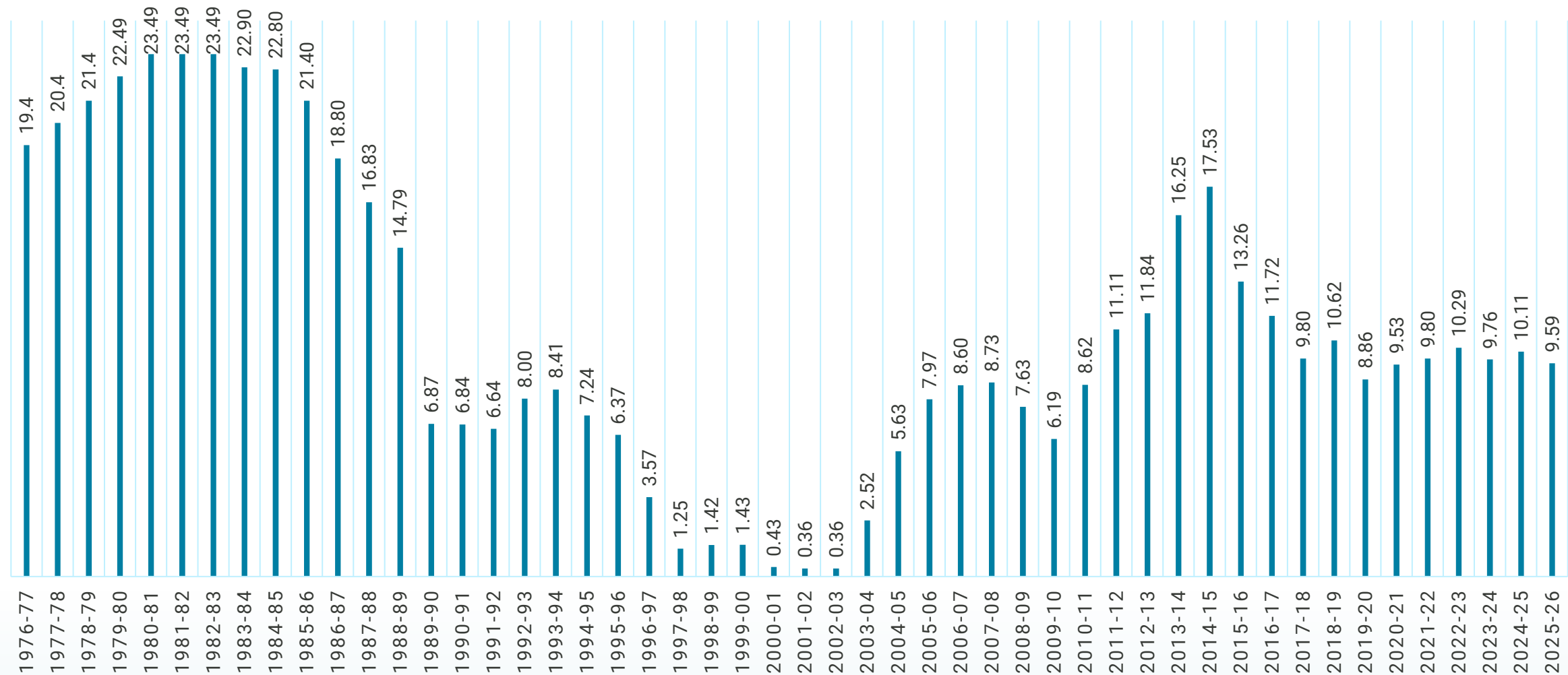
# Employer Contribution in Dollars

Collection Date	Employer Contribution	ECR
Fall 2021	\$1.6 billion	9.53%
Fall 2022	\$1.7 billion	9.80%
Fall 2023	\$1.9 billion	10.29%
Fall 2024	\$1.9 billion	9.76%
Fall 2025	\$2.0 billion (estimated)	10.11%
Fall 2026	\$1.9 billion (estimated)	9.59%

The 9.59% ECR is multiplied by the 2025-2026 fiscal year salaries and collected in Fall 2026 (September, October and November 2026)

# Historic 50 Years of ECRs

50-Year Average ECR = 11.14%



# Liability Calculation – Funded Ratio

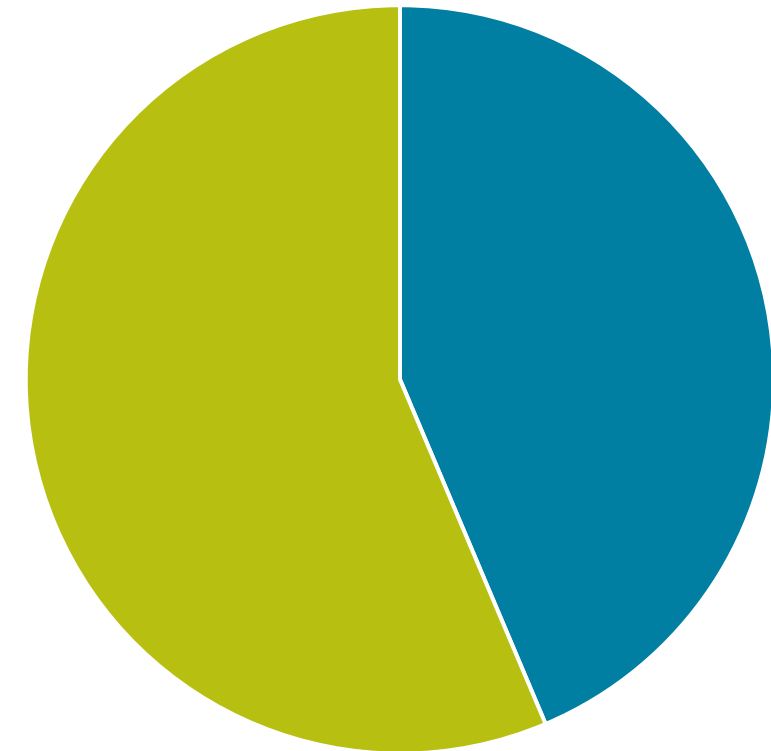
- The Liability used to calculate the Funded Ratio is the **Entry Age Normal Accrued Liability**
- Liability Calculations:
  - Projected salary through retirement with the salary assumption
  - **Service earned through the valuation date**

6/30/2024 Funded Ratio:

Liability = \$143.7B

Assets (AVA with GLIF) = \$142.5B

Funded Ratio = Assets / Liability = 99.1%



■ Active ■ Retirees & Beneficiaries



# Funded Ratio History

The Funded Ratio is the ratio of plan assets to the plan’s accrued liability.

FYE	Funded Ratio Based on MVA	Funded Ratio Based on AVA
6/30/2020	97.3%	98.9%
6/30/2021	113.0%	99.3%
6/30/2022	97.4%	99.3%
6/30/2023	98.2%	98.6%
6/30/2024	101.5%	99.1%

MVA = market value of assets; AVA = actuarial value of assets.

# Periodic Actuarial Studies

The Actuary team completes several studies to ensure that we can accurately measure pension liabilities and the ECR

## Experience Study

### *Annual*

Review actual plan experience compared to the actuarial assumptions.

A significant difference could trigger a mid-cycle assumption study

## Assumption Study

### *Quinquennial*

Review experience study results over an extended period and recommend new assumptions.

Scheduled for summer / fall 2025.

## Asset Liability Study

### *Quinquennial*

After selecting new assumptions, comparison of the liabilities to the assets to determine the long-term strategic asset allocation

Scheduled for winter / spring 2026

# 6/30/2025 Assumption Study

Actuarial calculations (ECR, funded status, fiscal notes, etc.) use assumptions to calculate the liability. Assumptions include the expected rates (probabilities) of future events, such as retirement, death or disability. The assumptions are developed based on actual member experience.

The assumptions are typically studied every 5 years. The last review was conducted in 2021, delayed one year due to COVID.

The actuarial team is currently studying the assumptions and plans to present to the Board proposed assumptions at the October Board meeting.

# 6/30/2025 Assumption Study (cont.)

The actuarial assumptions are studied in two main groups:

## Demographic:

- Mortality
- Retirement
- Withdrawal

## Economic:

- Valuation Rate of Interest
- Salary Scale
- Inflation rate



# Preliminary 6/30/2025 Assets

# Market Value of Assets

As of:	Market Value of Assets (in Billions)
June 30, 2021	\$148.1
June 30, 2022	\$132.0
June 30, 2023	\$137.2
June 30, 2024	\$145.8
June 30, 2025*	\$153.6

Five-Year Period 2020 – 2025 (in Billions)		
Benefit Payments and Expenses	Employer Contributions Collected	Member Contributions Collected
\$41.5	\$9.1	\$1.1

\*Based on estimated 6/30/2025 Real Estate and Private Equity values

# Historic Rates of Return – Last Five Years

Fiscal Year	Rate of Return (net of fees)
2019 – 2020	3.5%
2020 – 2021	29.0%
2021 – 2022	-7.1%
2022 – 2023	9.0%
2023 – 2024	11.4%
5-year average:	8.5%

5-year geometric average:  $[(1.035) \times (1.29) \times (0.929) \times (1.09) \times (1.114)]^{(1/5)} - 1 = 8.5 \%$

# Benchmark Rates of Return for FYE 6/30/25

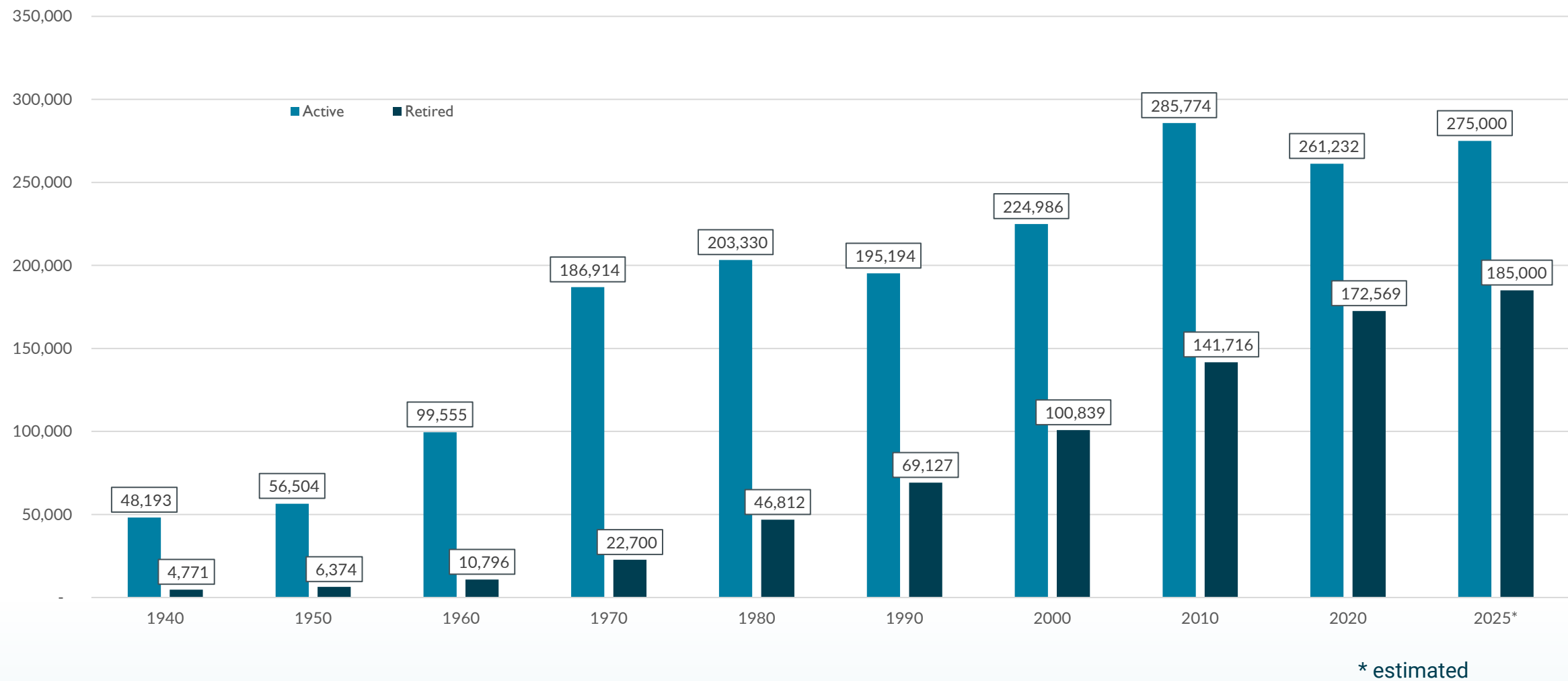
- NYSTRS long-term target investment return is 6.95%
- U.S. and International equity returns for the 2024-2025 fiscal year were volatile throughout the year, but ended with very positive returns
- NYSTRS' rate of return for FYE 6/30/25 will be finalized in October 2025

2024-2025 Fiscal Year Benchmark Rates of Return		
Domestic Equity Index	S&P 1500	14.5%
International Equity Index	ACWI ex-US	17.7%
Fixed Income Index	Barclay's US Aggregate	6.1%



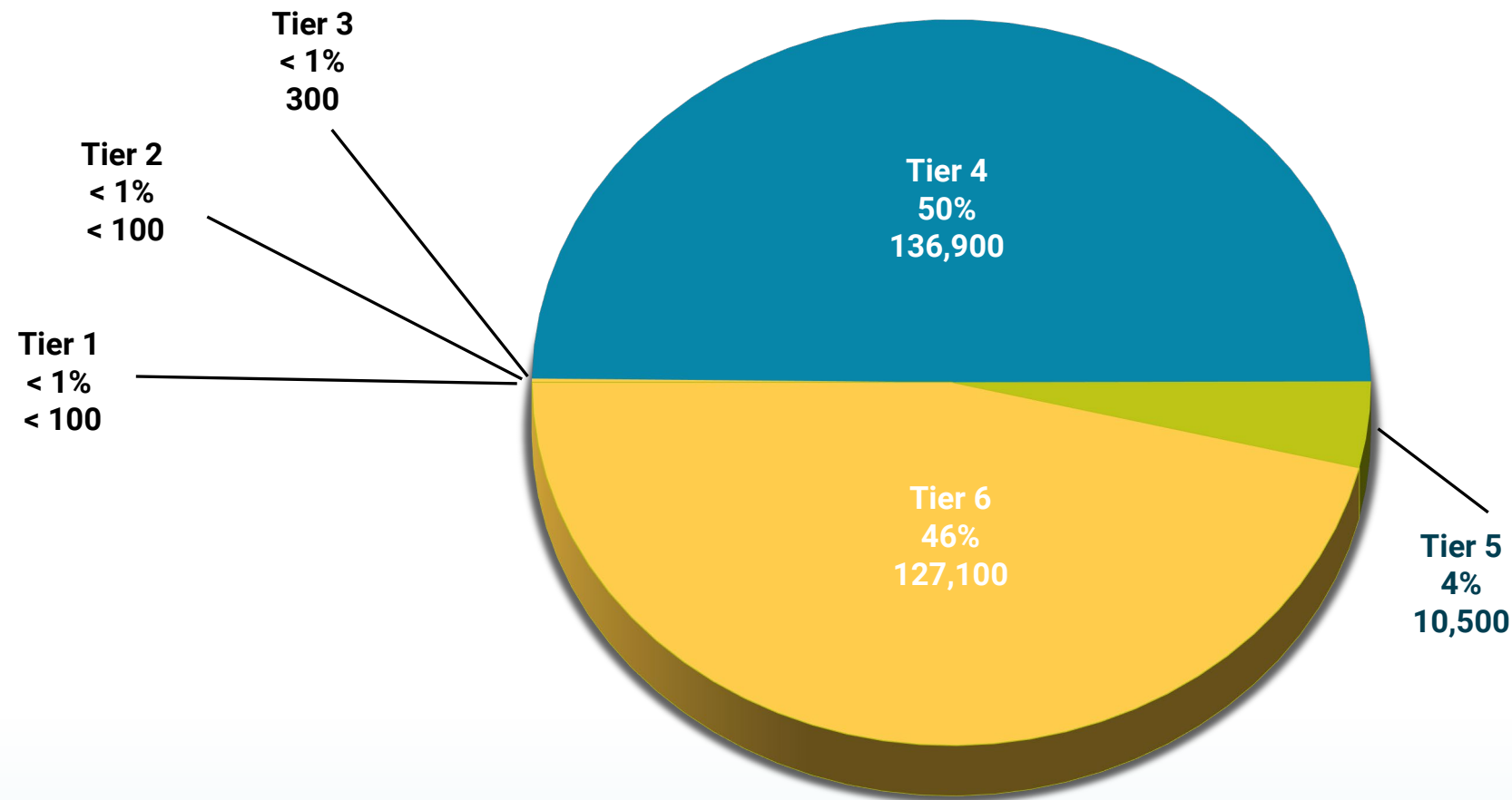
# Preliminary June 30, 2025 Member Data

# Active and Retired Member Counts



# Distribution of Active Members by Tier

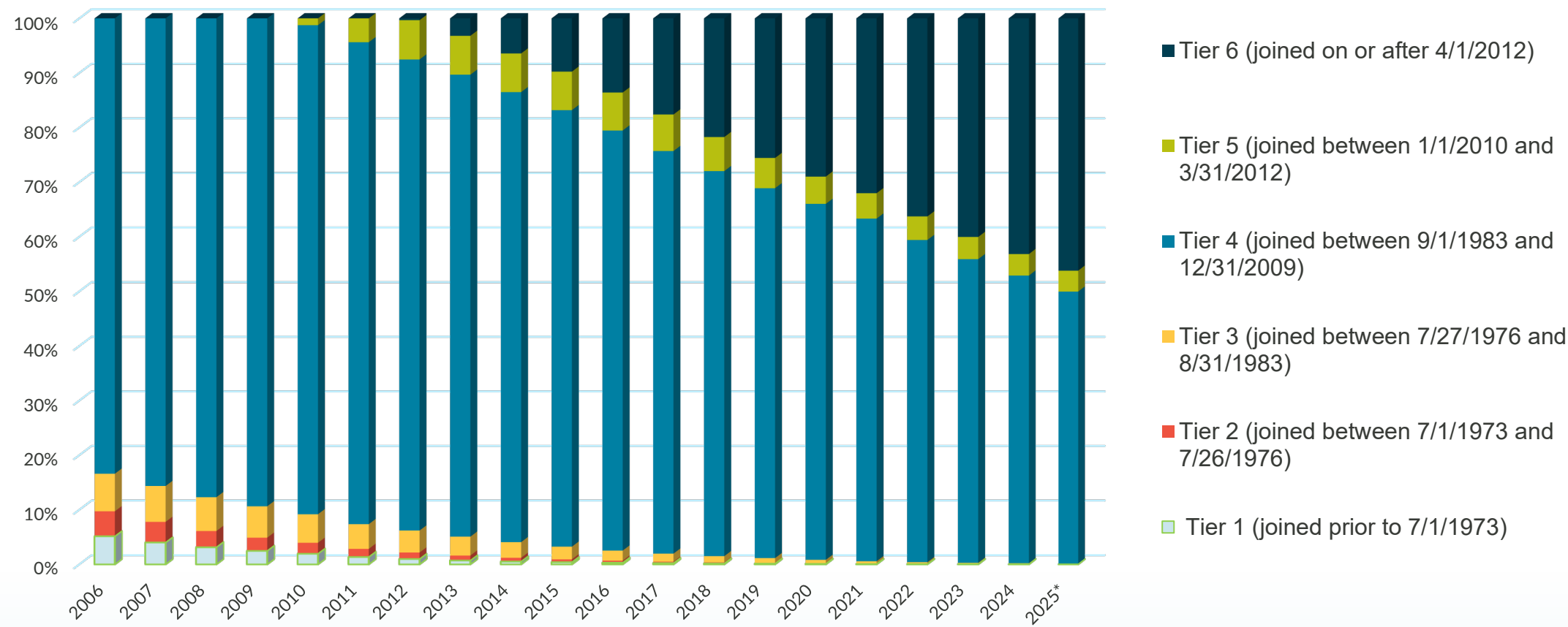
## June 30, 2025\*



\* estimated

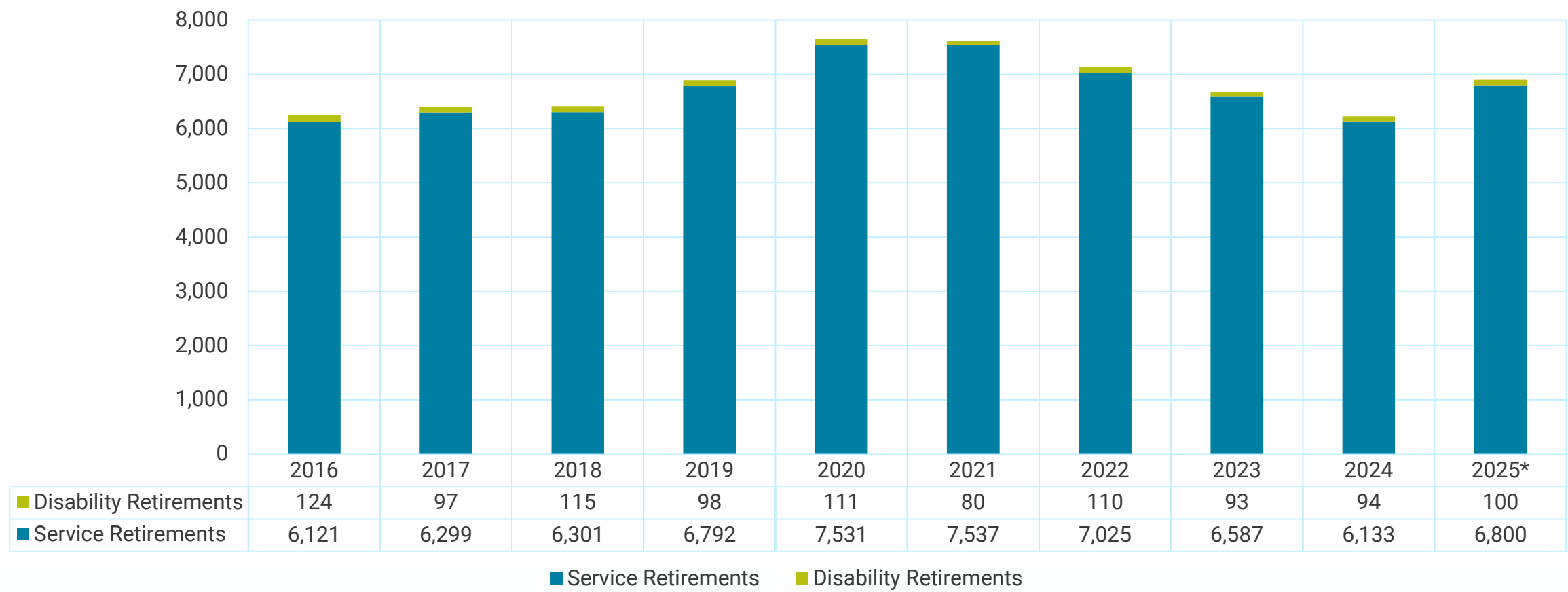
# Number of Active Members by Tier

Distribution of Active Members by Tier, as of June 30th, for the Last 20 Years



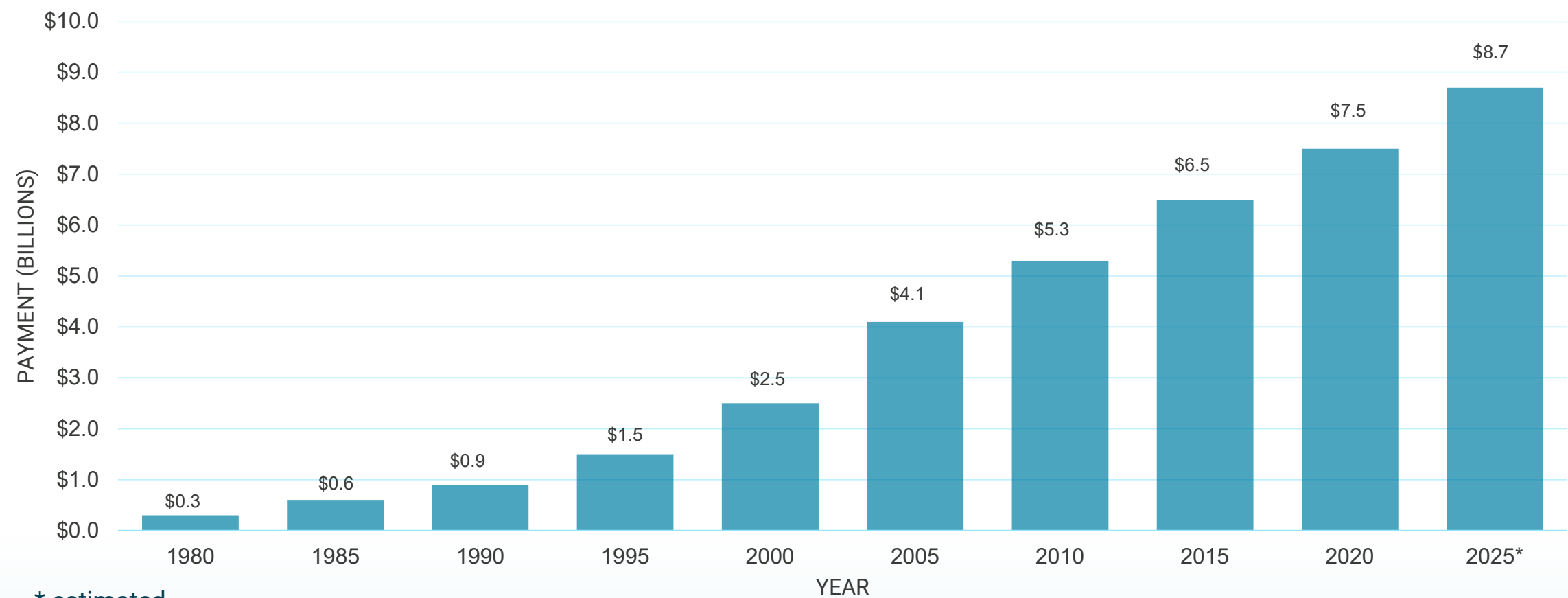
\* estimated

# Number of Retirements



\* estimated

# Annual Benefit Payments



# Monthly COLA Increases

	Commencing September 2025	Commencing September 2024
CPI Percentage Change for Year ended March 31	2.39%	3.48%
Applicable COLA Percentage	1.2%	1.8%
Maximum Monthly COLA Increase based on Annual Benefit Amount of \$18,000	\$18.00	\$27.00
Cumulative Maximum Monthly COLA (back to Sept. 2001)	\$526.50	\$508.50

Cost-of-living increases are paid to eligible retired members (generally the later of age 62 and retired for 5 years) and are increased each September. The annual COLA percentage is equal to 50% of the increase in the annual CPI, not to exceed 3% nor to be lower than 1%. The percentage is applied to the first \$18,000 of the maximum annual benefit.

# Risk Measures 6/30/2024

Actuarial Standards of Practice



# Actuarial Standard of Practice 51 Risk Scorecard

The 6/30/2024 NYSTRS risk measures are all indicative of, and consistent with, a well-funded Retirement System

Risk Measure	6/30/2024	10-Yr Avg	Comment
Asset Volatility Ratio = Market Value of Assets / Payroll	7.6	7.5	The greater a plan's assets are relative to payroll, the more prone the plan is to ECR swings due to investment volatility.
Liability Volatility Ratio = Accrued Liability / Payroll	7.5	7.4	The greater a plan's liabilities are relative to payroll, the more prone the plan is to ECR swings due to plan experience or assumption changes.
Number of Active Members to Retirees Ratio	1.49	1.55	As a plan matures, this ratio typically decreases.
Cash Flow Ratio = (contributions minus ben. pmt's plus expenses) / Market Value Assets	-4.4%	-4.4%	As a mature, well funded plan NYSTRS has a negative cash flow as contributions coming in are less than benefits being paid out. This is typical of a well funded plan and to be expected.

# Sensitivity Analysis

Assumption	Adjustment	Resulting ECR
Current		9.59%
Valuation Rate of Interest	Decrease from 6.95% to 6.70%	12.64%
Valuation Rate of Interest	Decrease from 6.95% to 6.45%	15.78%
Salary Scale	Decrease of 10%	8.69%
Salary Scale	Increase of 10%	10.47%
Service Retirement Rates	Decrease of 10%	8.91%
Service Retirement Rates	Increase of 10%	10.15%
Healthy Annuitant Mortality	Decrease of 10%	11.30%
Healthy Annuitant Mortality	Increase of 10%	8.02%

- The ECR is sensitive to changes in the actuarial assumptions and is very sensitive to changes in the valuation rate of interest.
- Prolonged periods of experience different than expected can lead to notable increases in the ECR.

# Questions

# Actuarial Certification

The actuarial calculations contained in this report rely on member data provided by the participating employers to the Retirement System's administrative staff. The administrative and actuarial staff review this data for reasonability and completeness as well as reconcile it against prior data. In addition, the valuation relies on financial data provided by the Retirement System's Finance Department. Data is reviewed by the Retirement System's independent auditors as part of the annual audit. We believe the data to be reasonable and appropriate for purposes of this valuation.

The benefits recognized in these projections are prescribed by New York State statute (Article 11 of the Education Law and Articles 11, 14, 15, 18, 19, and 20 of the Retirement and Social Security Law) and are summarized in Appendix 19 of the June 30, 2024 Actuarial Valuation Report. All benefits are included in the actuarial valuation.

Future actuarial measurements such as the funded ratio and employer contribution rate may differ significantly from the current measurements presented in this report due to such factors as: future experience that differs significantly from that predicted by the actuarial assumptions; changes in the actuarial assumptions or methods; and changes in plan provisions or applicable law.

The actuarial methods, calculations, and actuarial assumptions are in accordance with standards of practice prescribed by the Actuarial Standards Board and generally accepted actuarial principles and procedures. The actuarial assumptions, as adopted by the Retirement Board and used in determining the liabilities and costs, are internally consistent and reasonably related to actual and anticipated future experience of the Retirement System. The undersigned are members of the American Academy of Actuaries and the Society of Actuaries and meet the qualification standards of the American Academy of Actuaries to render the actuarial opinion contained in this report. We are currently compliant with the Continuing Professional Development Requirement of the Society of Actuaries.

Melody Prangley, FSA, EA, MAAA, FCA

Chief Actuary

Thomas M. King, FSA, EA, CERA, CFA

Director of Actuarial Risk

Board Meeting July 30, 2025

**EMPLOYER CONTRIBUTION RATE**

WHEREAS, The Actuary has presented to the Board the calculations based upon the June 30, 2024 actuarial valuation of the Retirement System's assets and liabilities, therefore, be it

RESOLVED, That the employer rate of contribution levied in the school year 2026-27 shall be 9.59% of the 2025-26 member payroll and shall be comprised as follows:

Normal Rate, 9.11% of payroll, credited to the Pension Accumulation Fund

Group Life Insurance Rate, 0.13% of payroll, credited to the Group Life Insurance Fund

Expense Rate, 0.35% of payroll, credited to the Expense Fund

Excess Benefit Plan Rate, 0.00% of payroll, credited to the Excess Benefit Plan Fund