

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 26, 2023.

The following individuals were in attendance:

Committee Members: Elizabeth Chetney, Christopher Morin, Oliver Robinson,
Nicholas Smirensky

Board Members: Juliet Benaquisto, Eric Iberger, David Keefe, Jennifer Longtin,
Phyllis Harrington

Risk Committee Advisors: Sean Atkinson, Peter Cosgrove, Steven Huber

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

Visitors via WebEx: Cyril Espanol, With Intelligence; Alvaro Carrillo, BlackRock;
Donna Martin, Albany NY

The meeting was called to order by C. Morin, Chair at 8:32 a.m.

The following items were discussed:

1. Approval of the minutes of January 25, 2023

Upon motion of N. Smirensky, seconded by E. Chetney and unanimously carried, the meetings minutes of the January 25, 2023 were approved.

2. Risk Management Division Update

M. Albano gave an update on division staff (Appendix A, pp. 3-5).

3. Enterprise Risk Management Update

M. Albano and M. Tice presented an enterprise risk management update (Appendix B, pp. 6-16).

4. Investment Risk Report

M. Albano presented the investment risk report (Appendix C, pp. 17-28).

Upon motion of E. Chetney, seconded by D. Keefe and unanimously carried, the Committee went into Executive Session at 8:51 a.m. to hear an information security update.

With unanimous consent, the meeting came out of Executive Session at 9:10 a.m. and there being no further business, the Committee unanimously adjourned at 9:10 a.m.

Respectfully submitted,

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

Thomas K. Lee

Risk Management Divisional Update

Matthew Albano, CFA, Chief Risk Officer



Division Updates

- Assistant Manager of Investment Risk to start at the end of April
 - Additional Investment Officer posting will follow
- Student Intern starts June 8th



Compliance Inventory Board Action

Compliance Inventory Item	Owner	Board Meeting			
		January	April	July	October
Approval of the IPM -Investment Policy Manual	Risk/Compliance				Board Resolution
Signatory approval	Finance	Submitted to Board for approval if any Changes	Submitted to Board for approval if any Changes	Submitted to Board for approval if any Changes	Submitted to Board for approval if any Changes
Annual Reporting - Pension Government Accounting Standards Board- (GASB) 67 and 68 filing	Actuary				Reviewed at the Board Meeting
Annual Reporting - Other Post Employment Benefits- (OPEB) GASB 67 Filing	Actuary	Reviewed in the December Audit Committee			
Transfer of Reserves & Pension Reserve Factors	Actuary		Board resolution only needed if transfer hits criteria		
Divest and restriction list criteria. I.E. Divest from all of the System's directly held public equity securities in companies that derive more than 10% of their revenue from thermal coal.	Executive	At Board Discretion	At Board Discretion	At Board Discretion	At Board Discretion
Annual Investment Asset Allocation	Investment Operations Department		Reviewed by the Board	Board Resolution	
Approval of DR and BC plan changes	Administration	Board Resolution			



Enterprise Risk Management Update

Matthew Albano, CFA, Chief Risk Officer

Matthew Tice, Asst. Mgr. Enterprise Risk Management
and Compliance



"Thoughtfully assessing and addressing enterprise risk and placing a high value on corporate transparency can protect the one thing we cannot afford to lose: trust."

— Dale E. Jones

Agenda

- 2022 Annual Risk Assessment
- Enterprise Risk Management Update



2022 Annual Risk Assessment



Department risk surveys



Executive team discussion



Report to the Risk Committee of the Board in April

2022 Annual Risk Assessment

- No new risks identified
- No new or additional risk mitigations were required
- Continue to monitor mitigations and respond to risks as identified

Management and staff are working to address risks, whether continuously through standard operating procedure, or as new risks are identified.

Enterprise Risk Management Update



Enterprise Risk Management Update

- DFS recommendation - Enterprise Risk Management Maturity Assessment, performed by Grant Thornton
 - In line with pension peers, NYSTRS' ERM program rated at the "Initial Level"
 - Grant Thornton recommended working on moving up to the "Repeatable Level" of maturity



Enterprise Risk Management Update

- ERM department has procured and is currently implementing a GRC (Governance Risk and Control) platform
- A centralized GRC platform will allow:
 - Tracking and monitoring of risk information
 - Development of a risk register and key controls
 - Improve efficiencies when collaborating with risk owners
- Subsequent risk assessments and reporting will be produced from the new GRC product
- ERM department is working with the Internal Audit department to align reporting and information sharing

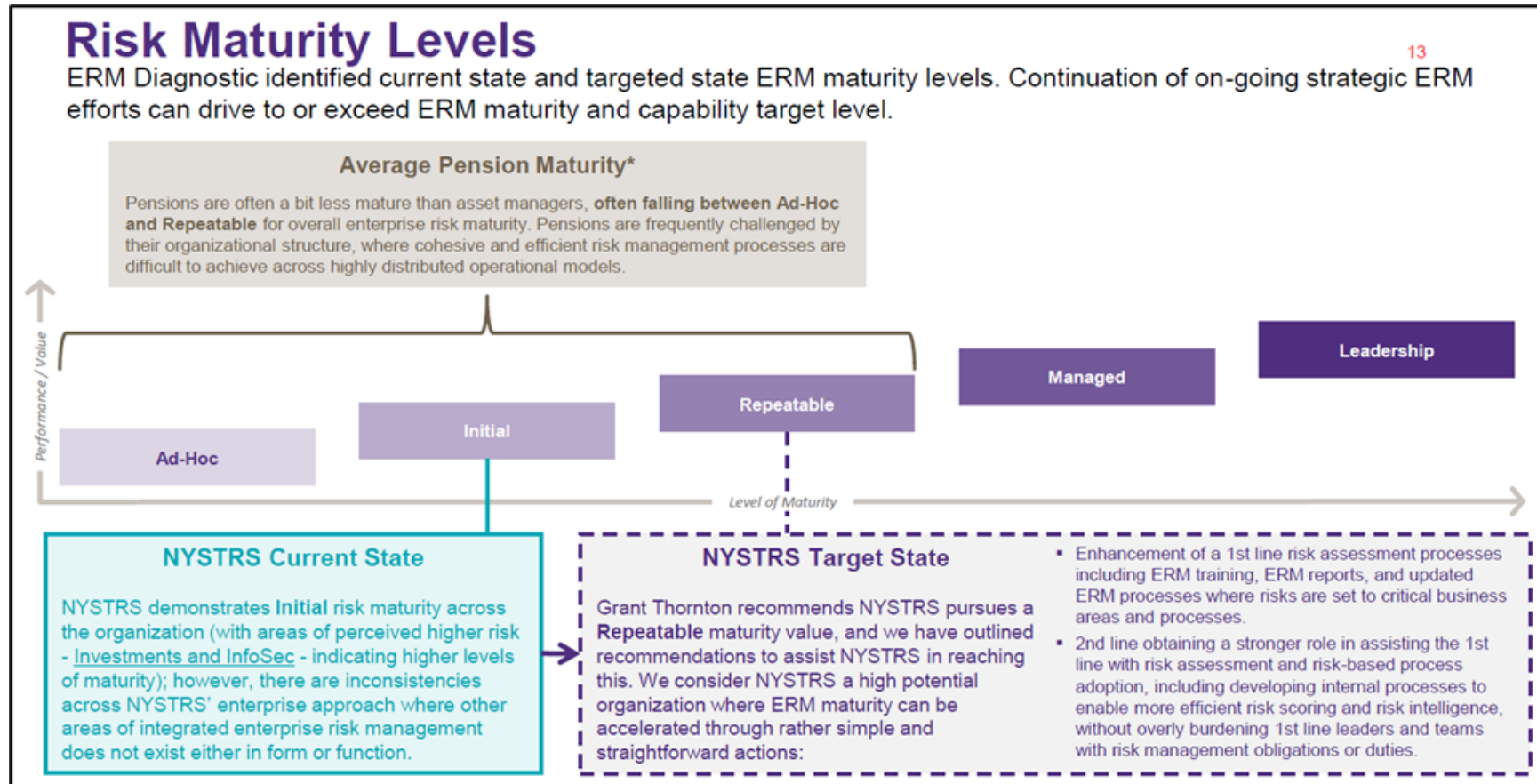
Questions?



Appendix



Grant Thornton Enterprise Risk Management Maturity Assessment



Appendix C

Investment Risk Update

Risk Management

Risk Committee Meeting: April 2023

Matthew Albano, CFA, Chief Risk Officer

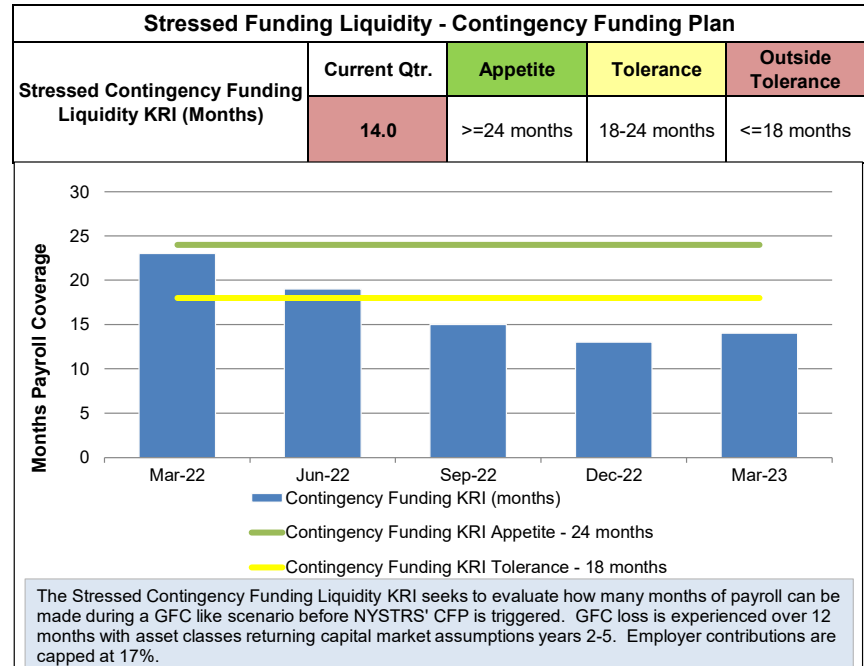
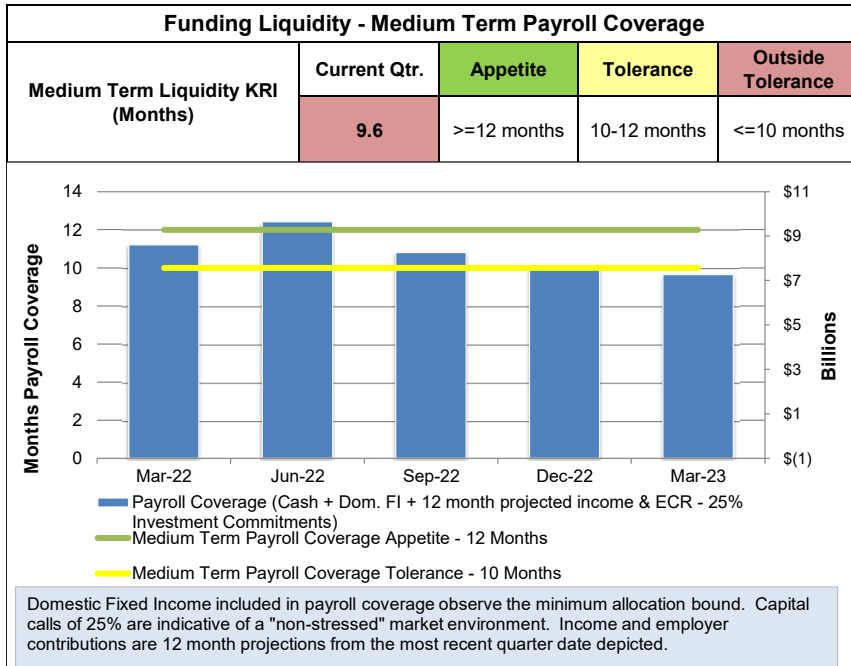
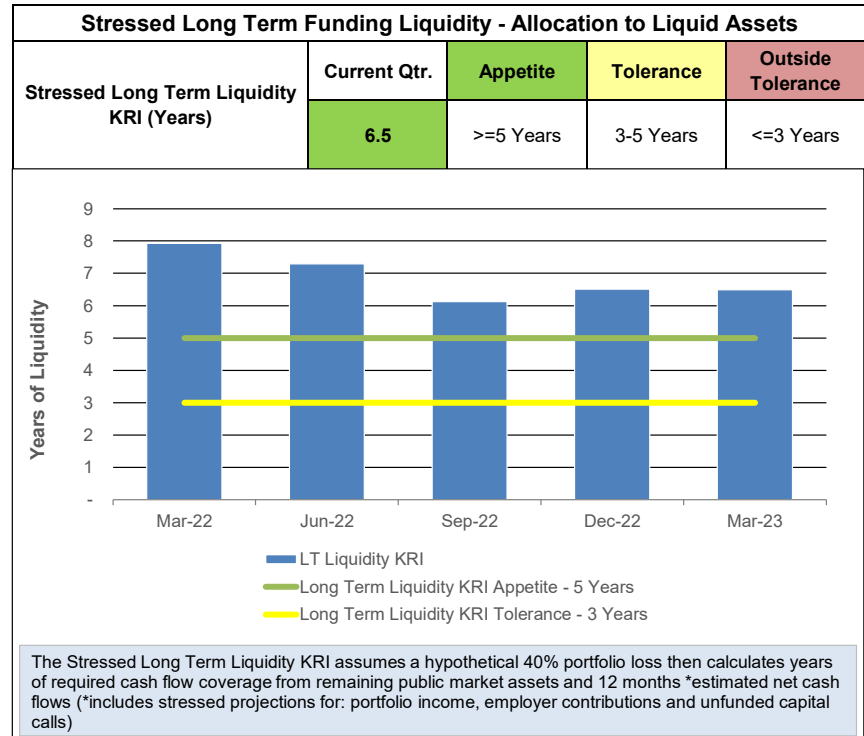
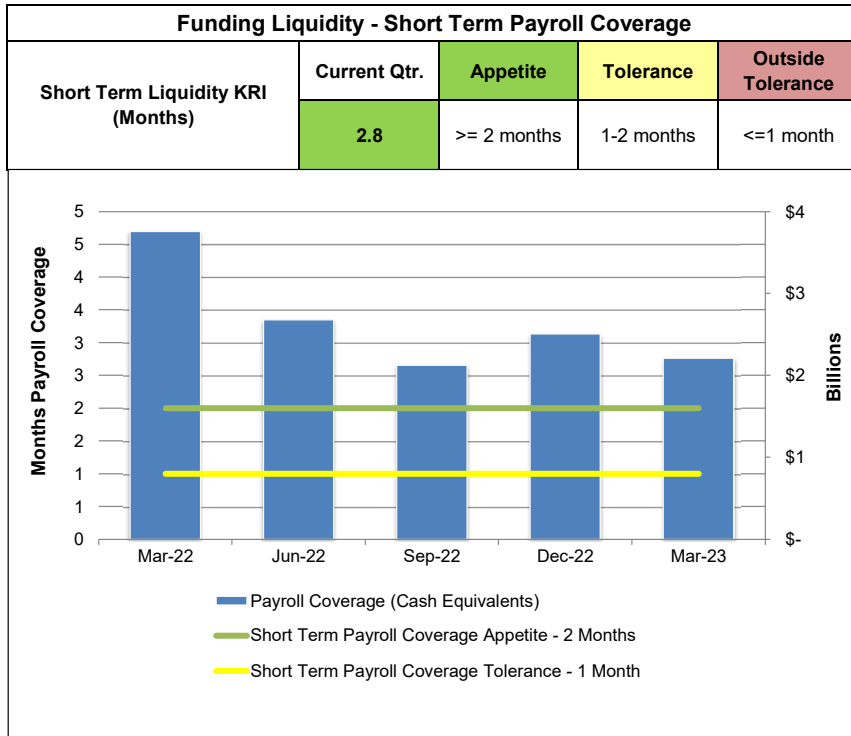
Public market data as of 2/28/2023; Private asset data as of 12/31/2022



Investment Risk - Key Risk Indicators

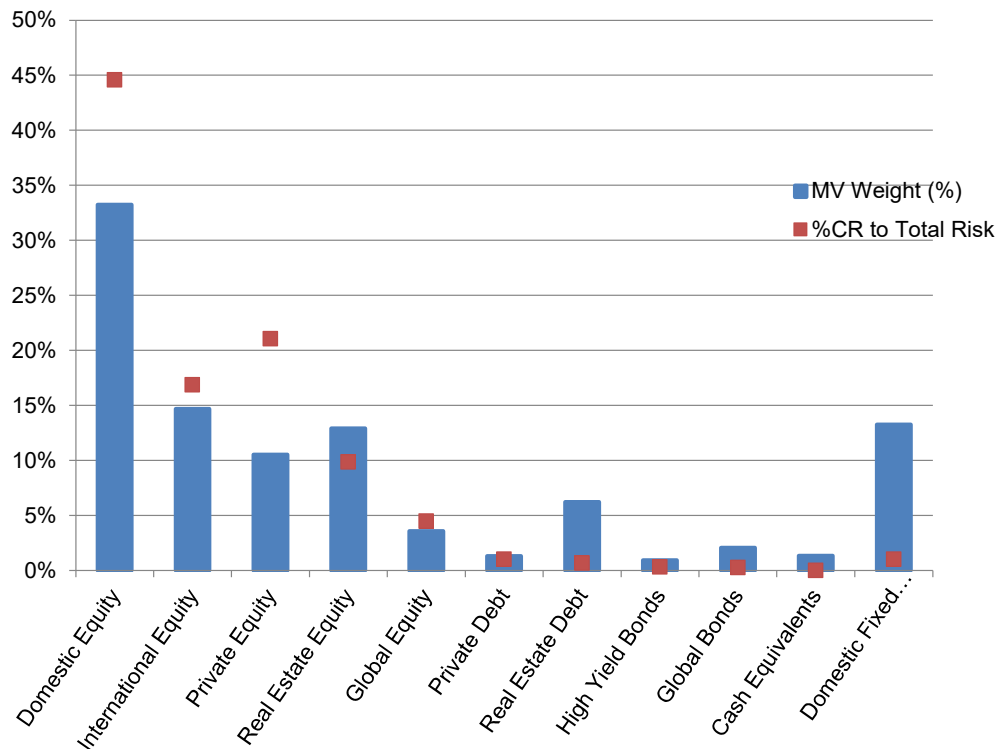
- Updates:
- Medium Term Liquidity moved to "Outside Tolerance" this quarter and the Stressed Contingency Funding Liquidity continues to be "Outside Tolerance" but did improve over last quarter from 13 months to 14
 - **Risk Mitigation**
 - Staff continues to meet weekly on asset allocation, monitoring current market volatility, and is executing a plan to address the liquidity KRIs
 - Recent actions show improvements in the liquidity KRIs
 - The Stressed Contingency Funding model assumes an extreme stressed scenario similar to the 2008-2009 Global Financial Crisis on the portfolio, beyond the current market volatility already experienced
 - The plan Funded Ratio remains in "Tolerance" as of 6/30/2021 with an overfunded ratio of 113%
 - **Risk Mitigation**
 - Staff continues to engage with stakeholders and monitor legislature updates

Key Risk Indicator	Outside Tolerance	Risk Tolerance	Risk Appetite	Current Assessment
Asset Allocation (Market Risk Management)	One or More Asset Classes Out of Bounds	One or More Asset Classes Outside of Policy During Transition Period	All Asset Classes within Policy Range	All Asset Classes within Policy Range
Net Benefit Payments as % of Assets (Liquidity)	>10%	>5 - 10%	<= 5%	4.7%
Short Term Liquidity (Liquidity)	<= 1 Month	1 - 2 Months	>= 2 Months	2.8 Months
Medium Term Liquidity (Liquidity)	<= 10 Months	10 - 12 Months	>= 12 Months	9.6 Months
Stressed Contingency Funding Liquidity (Liquidity)	<= 18 Months	18 - 24 Months	>= 24 Months	14 Months
Stressed Long Term Liquidity (Liquidity)	<= 3 Years	3 - 5 Years	>= 5 Years	6.5 Years
Funded Ratio: Market Value of Total Plan Assets (Unfunded Liability)	<80% or >120%	80 - 90% or 110 - 120%	90 - 110%	113.0% (6/30/2021)
ECR Volatility (Unfunded Liability)	Δ +/- >3%	Δ +/- 2 - 3%	Δ +/- 2%	0.49% (6/30/2021)
ECR Level (Unfunded Liability)	<4% or >17%	4 - 6% or 12 - 17%	6 - 12%	10.29% (6/30/2021)
Actuarial Valuation: Quinquennial Full Scope Audit (Valuation Process)	Replicated Liabilities >4% of NYSTRS' Calculation	Replicated Liabilities 1 - 4% of NYSTRS' Calculation	Replicated Liabilities <=1% of NYSTRS' Calculation	0.04% (4/16/2019)
Actuarial Valuation: Annual Independent Review (Valuation Process)	Adverse Opinion	Modified Opinion	Unmodified Opinion	Unmodified Opinion (10/27/2022)



Total Predicted Risk by Asset Class

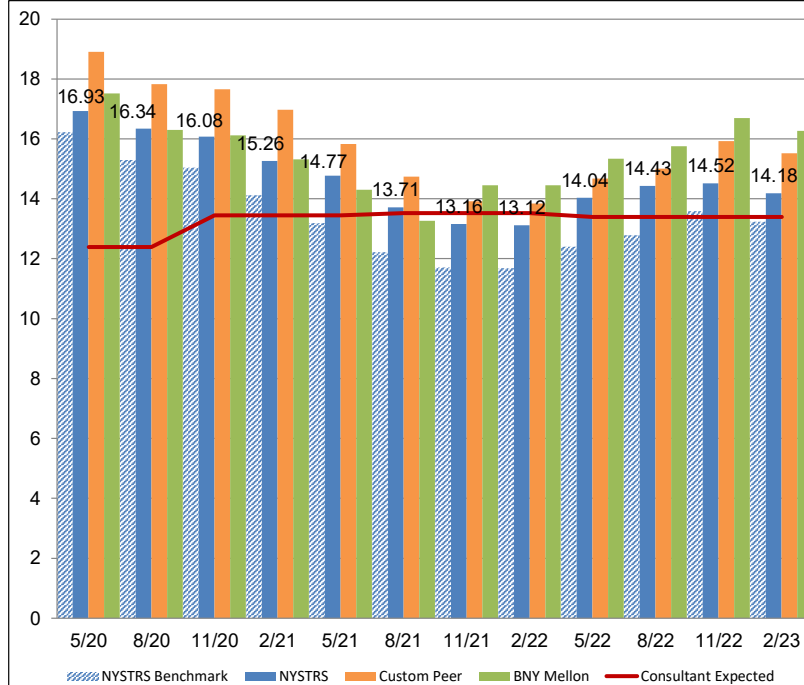
Asset class contributions to Total Predicted Risk are in line with expectations, with equity investments being the largest contributors.



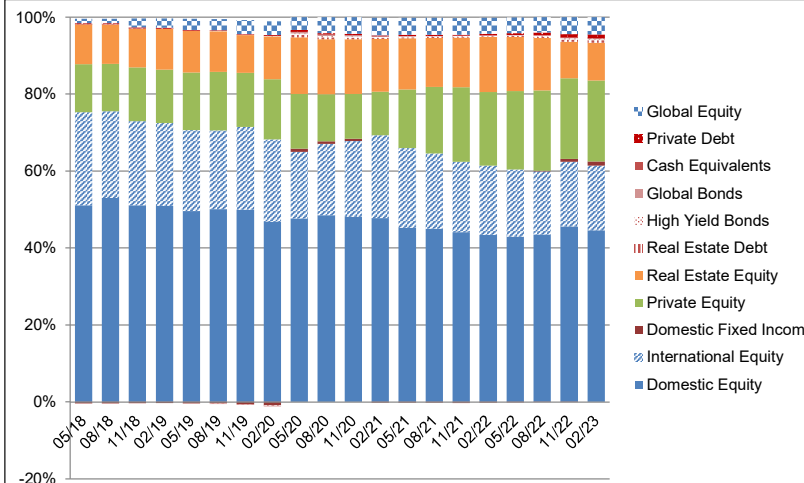
Portfolio Name	Market Value (Millions \$)	Weight (%)	%CR to Total Risk	Total Plan Risk Cont.	Total Predicted Risk
Total Portfolio	\$ 129,150	100%	100%	14.18	14.18
Domestic Equity	\$ 42,934	33.24%	44.57%	6.32	19.69
International Equity	\$ 18,946	14.67%	16.86%	2.39	18.12
Private Equity	\$ 13,603	10.53%	21.05%	2.99	33.30
Real Estate Equity	\$ 16,668	12.91%	9.84%	1.40	13.06
Global Equity	\$ 4,602	3.56%	4.46%	0.63	18.28
Private Debt	\$ 1,664	1.29%	1.02%	0.14	12.90
Real Estate Debt	\$ 8,036	6.22%	0.65%	0.09	3.48
High Yield Bonds	\$ 1,196	0.93%	0.30%	0.04	6.36
Global Bonds	\$ 2,651	2.05%	0.24%	0.03	5.27
Cash Equivalents	\$ 1,729	1.34%	0.00%	0.00	0.06
Domestic Fixed Income	\$ 17,121	13.26%	1.01%	0.14	5.30

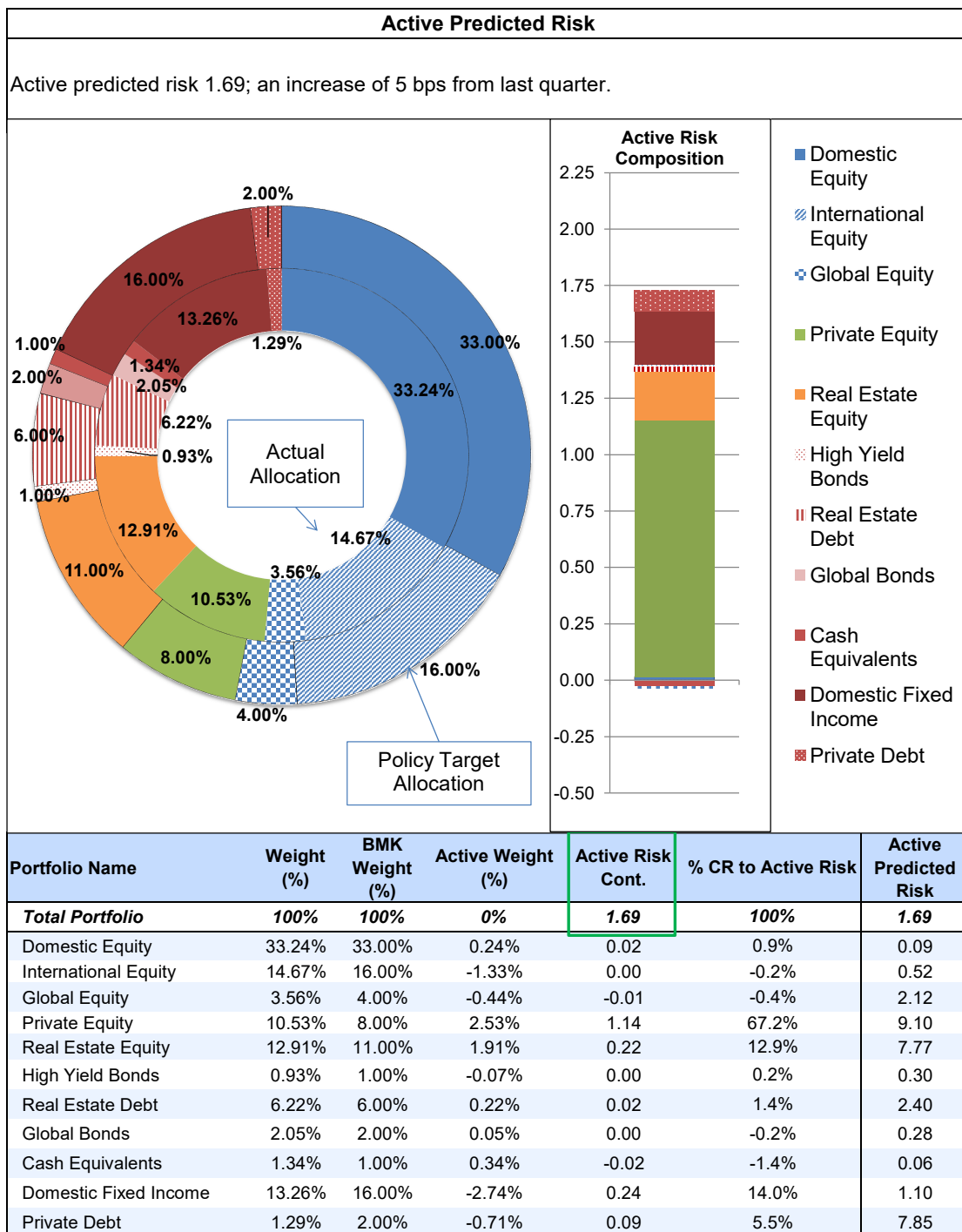
Total Predicted Risk and Peer Comparison

Long term expected risk target 13.39%; short term predicted risk 14.18%



Historical Total Predicted Risk Contribution





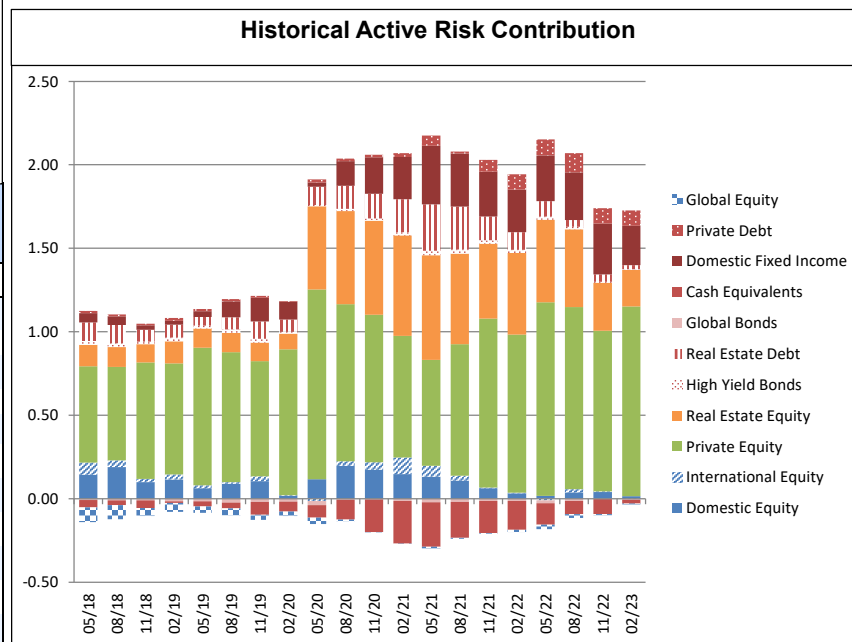
Active Predicted Risk:

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.

Observations:

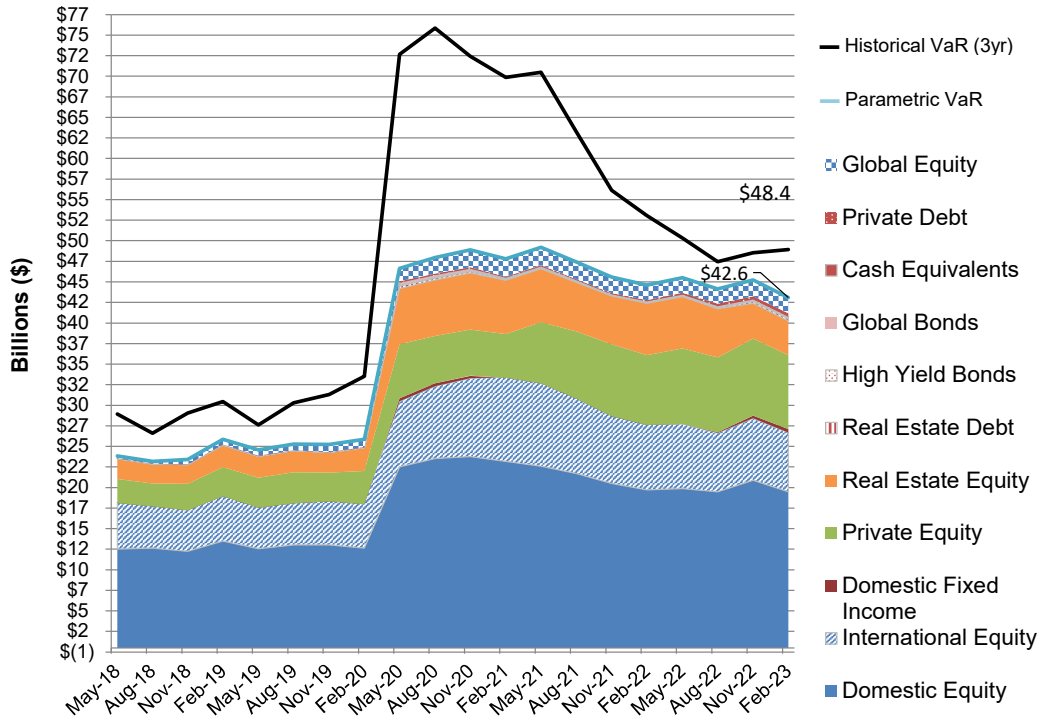
Active Risk for the Fund is largely controlled by limiting the difference between the actual and policy benchmark (target) weights for each asset class.

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



Value at Risk Contribution by Asset Class

VaR metrics remain elevated as a result of recent market volatility. NYSTRS' strong liquidity position provides significant downside protection against realized portfolio losses.



Portfolio Name	Total Portfolio VaR	Diversification Benefit	\$ Contribution to VaR (millions)	%Contribution to VaR
Total Portfolio	\$48,974	-\$6,368	\$42,605	100%
Domestic Equity	\$19,662		\$18,991	44.57%
International Equity	\$7,987		\$7,184	16.86%
Private Equity	\$10,539		\$8,968	21.05%
Real Estate Equity	\$5,064		\$4,192	9.84%
High Yield Bonds	\$177		\$126	0.30%
Real Estate Debt	\$651		\$276	0.65%
Global Bonds	\$325		\$104	0.24%
Cash Equivalentents	\$3		\$0	0.00%
Domestic Fixed Income	\$2,109		\$430	1.01%
Private Debt	\$500		\$433	1.02%
Global Equity	\$1,957		\$1,901	4.46%

Value at Risk:

Value at Risk (VaR) is an estimate of the maximum portfolio loss over a specified time period and confidence interval given normal market conditions. VaR can be expressed in % loss or dollar terms. In this analysis, we use a 1 year time horizon and a 99% confidence interval. VaR can also be stated as: There is a 99% chance that the portfolio's market value will not lose more than [VaR amount] over the next year.

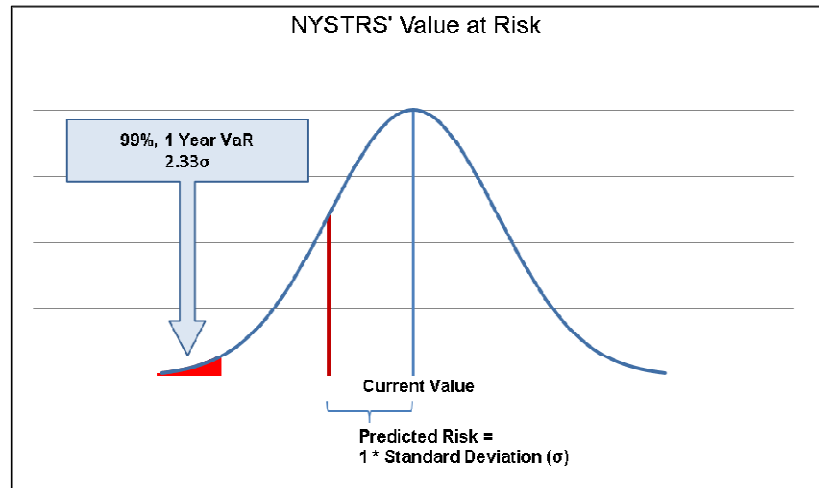
Methods Used:

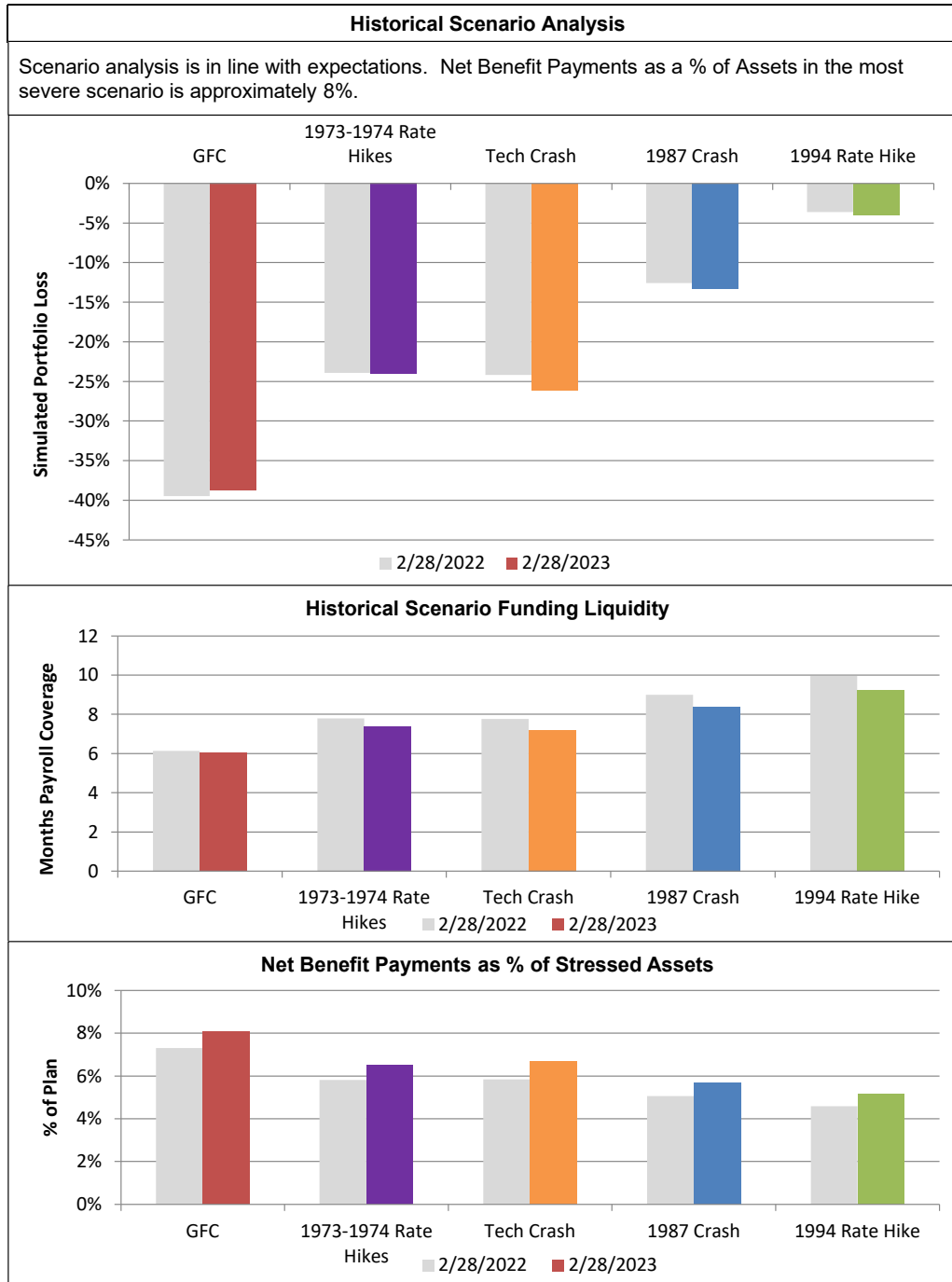
- **Parametric VaR:** $99\%VaR(\$) = 2.33\sigma * \text{Portfolio Market Value}$
- **Historical Simulation VaR:** $99\%VaR(\$) = \text{Simulated P\&L of portfolio utilizing empirical daily risk factor/price changes. 3 year lookback period (756 trading days) observed.}$

Drawbacks:

Parametric VaR assumes asset returns are normally distributed which may not be realistic. This could underestimate the VaR due to unfavorable asset returns having a higher chance of occurring in real life.

Historical Simulation VaR assumes past returns are indicative of future returns which may not be realistic. The specific return period analyzed directly impacts results which may or may not capture typical volatility, market extremes, or cyclicity.





Scenario Analysis

A scenario analysis seeks to determine how a portfolio may be affected by subjecting it to various historical or hypothetical market conditions.

Historical Scenarios:

The following historical scenarios apply market conditions experienced during their respective timeframes to NYSTRS' current portfolio as an instantaneous shock with no ability to rebalance or otherwise manage assets during the event. Simulated losses are illustrated on the chart to the top left. High level scenario inputs are provided below for context:

Historical Scenario	Domestic Equity	UST Yields: 2y/5y/10y (bps)	Credit Spreads: AA/BB/CCC (bps)
Global Financial Crisis: (9/30/07-3/4/09)	-54%	-308/-226/-115	+234/+849/+3779
1973-1974 Stagflation & Rate Hikes: (1/1/73-8/31/74)	-35%	+347(1y)/+239/+158	LIBOR +334
Tech Crash & Recession: (1/9/00-3/12/03)	-47%	-488/-387/-281	-13/+244/+1151
1987 Stock Market Crash: (8/3/87-11/30/87)	-27%	Unchanged	Unchanged
1994 US Rate Hike: (1/31/94-12/13/94)	-6%	+162/+152/+131	+2/+36/+0

Funding Liquidity:

The middle 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 could be used to make payroll before lower asset allocation bounds were breached and additional rebalancing was required. The attribution of each payroll coverage asset and cash flow component (in months coverage) is as follows:

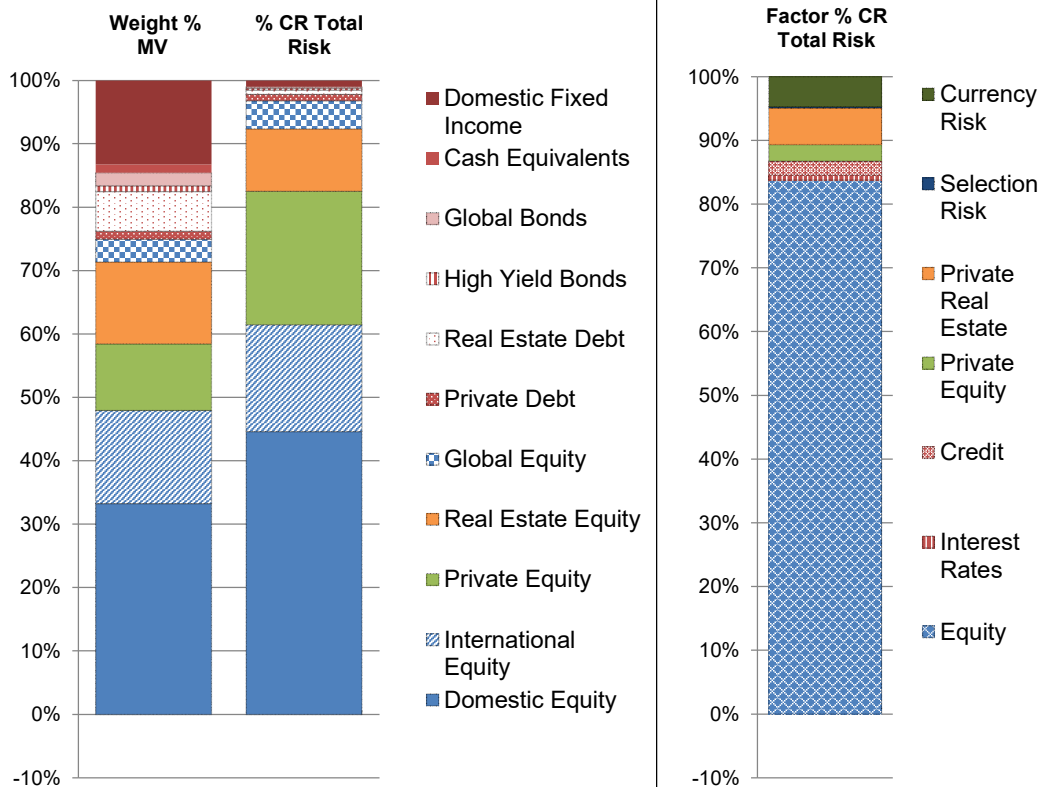
Funding Liquidity Assumptions	Months Coverage	
	2/28/2022	2/28/2023
Cash + Domestic Fixed Income	6.4 to 10.2	5.6 to 8.8
Portfolio Income/Maturities	6.8	6.5
Employer Contributions	2.6	2.9
Capital Calls	-9.7	-9.0
Total Payroll Coverage	6 to 10	6 to 9

Net Benefit Payments as % of Assets:

The bottom 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)

Total Predicted Risk by Risk Factor

As expected, equity markets are the largest contributor to the Plan's total risk.



Risk Source	Total Plan Risk Cont.	%CR to Total Risk	BMK Risk Cont.	BMK %CR to Total Risk	% CR to Active Risk
Total Risk	14.18	100%	13.23	100.00%	100%
Local Market Risk	13.51	95.28%	12.59	95.18%	97.92%
Common Factor Risk	13.48	95.05%	12.54	94.80%	90.07%
Equity	11.88	83.76%	10.37	78.39%	54.84%
Interest Rates	0.11	0.76%	0.20	1.54%	5.26%
Credit	0.31	2.20%	0.39	2.95%	-2.13%
Private Equity	0.37	2.62%	0.13	0.96%	35.76%
Private Real Estate	0.81	5.71%	1.45	10.95%	-3.65%
Selection Risk	0.03	0.23%	0.05	0.39%	7.85%
Currency Risk	0.67	4.72%	0.64	4.82%	2.08%

Risk Factors:

Risk factors are characteristics shared by a group of securities that influence their risk and return as well as their correlations.

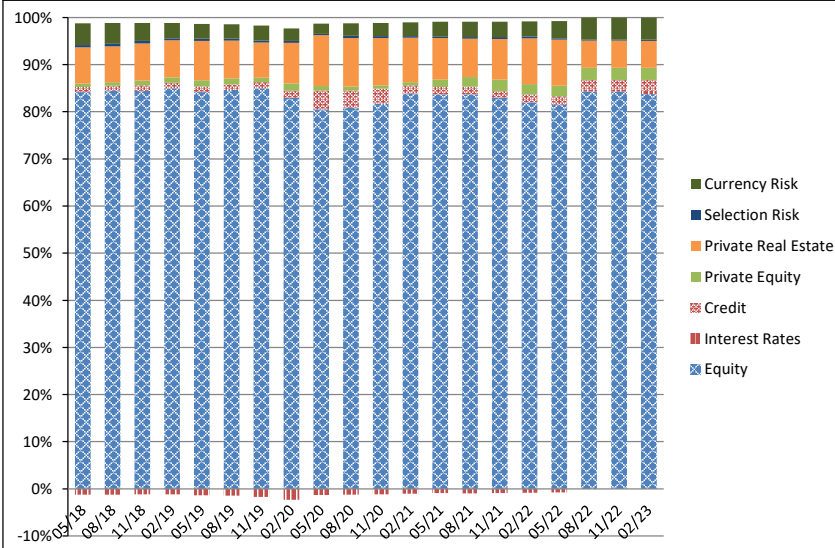
The five risk factor groups used for this analysis (equity, interest rates, credit, private equity, and private real estate) can be further decomposed into underlying factors such as industry, style, interest rate term structure, and geography. Each factor has an expected volatility and correlation with the other risk factors.

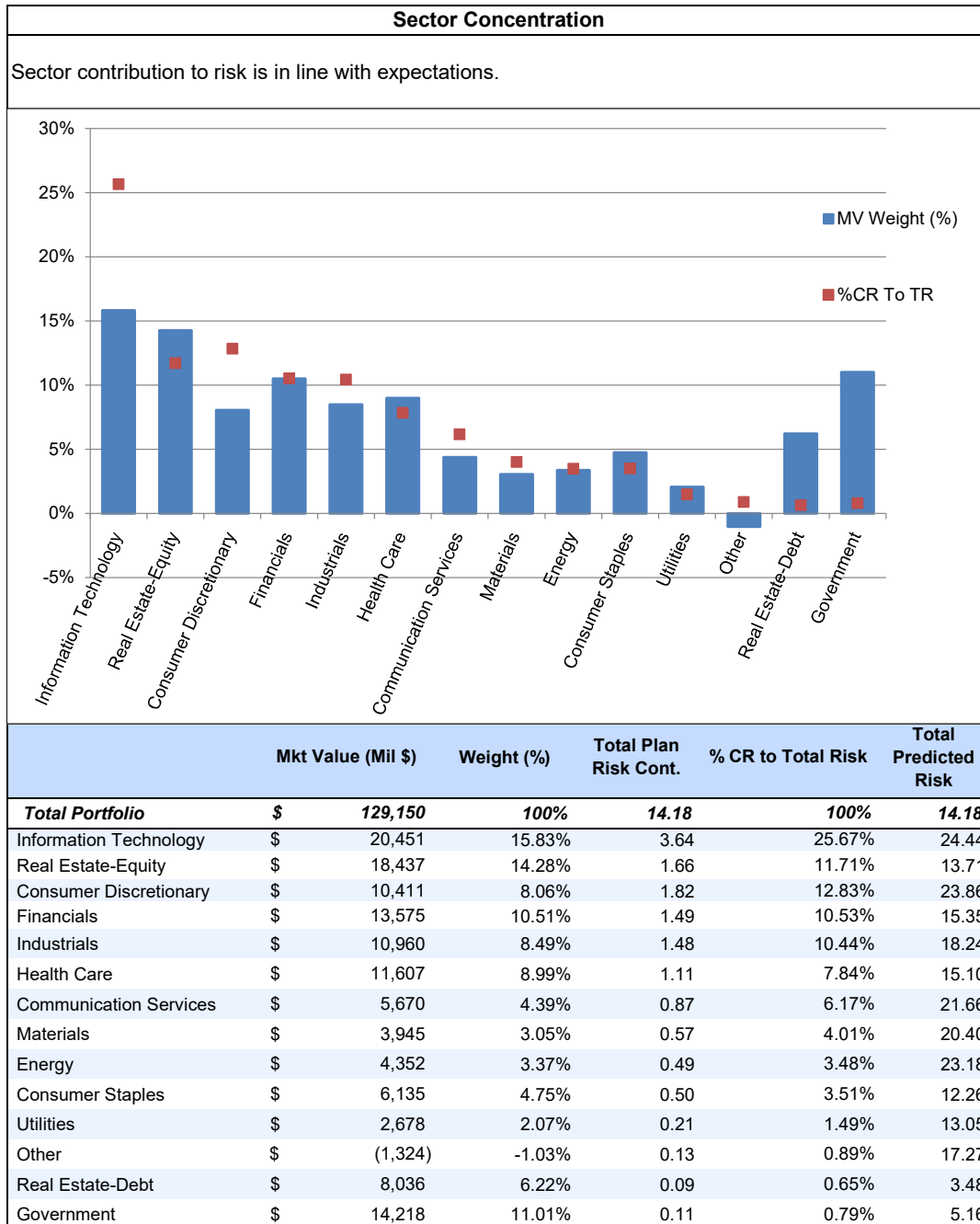
All of NYSTRS holdings are modeled according to their exposures to individual risk factors.

Observations:

As expected, Total Plan risk is primarily driven by the equity markets.

Historical Risk Factor Contribution to Total Risk





Sectors:

In developing the sector schedule, NYSTRS began with industry recognized sectors used by MSCI and S&P.

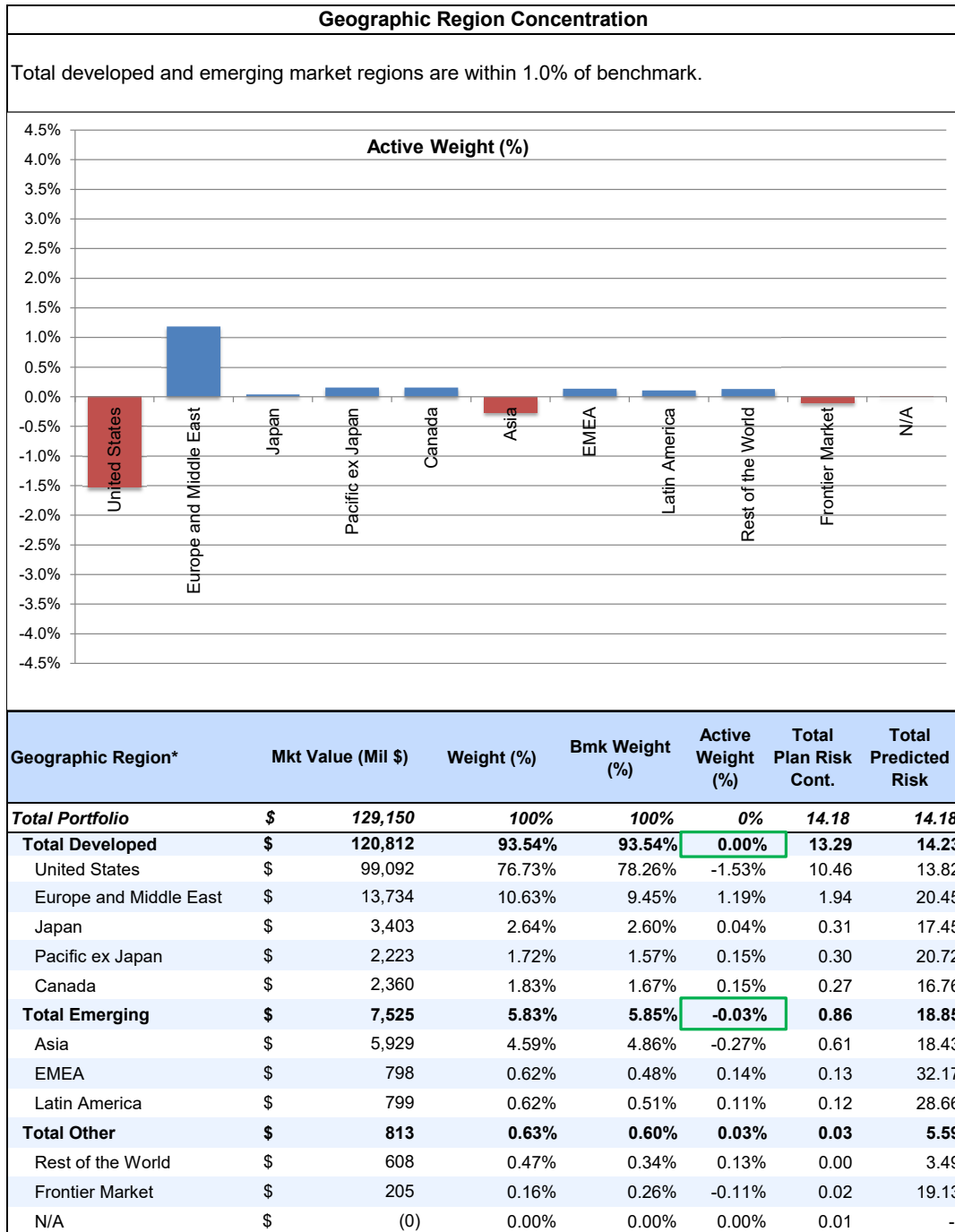
Five custom sectors were added to this base to accommodate the Fund's allocation to Government, Real Estate Debt, Real Estate Equity, Cash and "Other" investments.

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. ¹

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.

¹Investopedia

"Other" primarily consists of Cash, Private Equity fund liabilities; fund of funds; derivatives; and asset backed securities.



Observations:

As expected, the largest contribution on a geographic basis comes from NYSTRS exposure to U.S. investments.

*See appendix for countries included in each geographic region.

Glossary:

%CR to Active Risk: Percent of Plan's Active Predicted Risk contributed by each component. This column sums to 100%.

%CR to Total Risk: Percent of Plan's Total Predicted Risk contributed by each component. Negative numbers imply a diversification benefit. This column sums to 100%.

Active Predicted Risk: Asset class portfolios' Active Predicted Risk compared to its respective benchmark.

Active Risk Cont.: Absolute contribution to Plan's Active Predicted Risk from each asset class portfolio. This column sums to the Plan's Active Predicted Risk.

Active Weight (%): Difference between the Plan's current weight and the Plan's benchmark policy weight.

BMK %CR to Total Risk: Percent of Total Predicted Risk for the Plan's Policy Benchmark contributed by each component. This column sums to 100%.

BMK Risk Cont.: Absolute contribution to Total Predicted Risk for Plan's Policy Benchmark from each Risk Factor group.

Total Predicted Risk: Individual components' distinct Total Predicted Risk.

Total Plan Risk Cont.: Absolute contribution to Plan's Total Predicted Risk from each component. Negative numbers imply a diversification benefit. This column sums to the Plan's Total Predicted Risk.

Total Portfolio VaR: The expected loss to a specified degree of confidence (99%) when subjected to a historical stress simulation. Also could be stated as there is a 99% chance that the total portfolio or individual asset classes' market value will not lose more than the [VaR amount] over the next year.

Diversification Benefit: The benefit achieved by owning a diversified portfolio comprised of assets with correlations < 1.

Notes:

BNY Mellon Peer Median; >\$10B: BNY Mellon Total Public Fund > \$10B median allocation.

- 41 public pension funds with an average plan size of \$41.6B. Aggregate assets of \$1,706.1B.

NYSTRS Custom Peer Group Median: NYSTRS' custom peer group used during annual asset allocation study. Allocation data provided by Pension Fund Date Exchange, Ltd. (PFDE).

- 5 public pension funds with an average plan size of \$160B and median plan size of \$99B.

- California State Teacher' Retirement System
- New Jersey Division of Investment
- Oregon Public Employees' Retirement Fund
- State Board of Administration of Florida
- State Teachers Retirement System of Ohio

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 ²		
	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 ¹									
						Americas	Europe	Africa	Middle East
						Argentina	Bosnia Herzegovina	Botswana	Lebanon
						Jamaica	Bulgaria	Zimbabwe	Palestine
						Panama	Malta		
						Trinidad & Tobago	Ukraine		

*MSCI.com/market-classification

**NEW YORK STATE
TEACHERS' RETIREMENT SYSTEM
INVESTMENT COMMITTEE MEETING
April 26, 2023**

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 26, 2023.

Nicholas Smirensky, Chair, called the meeting to order at 9:10 a.m.

ATTENDANCE:

Investment Committee Members

Elizabeth Chetney, David Keefe, Jennifer Longtin, Christopher Morin, Nicholas Smirensky

Board Members

Juliet Benaquisto, Phyllis Harrington, Eric Iberger, Oliver Robinson

Staff

Thomas Lee, Paul Cummins, Richard Young, Don Ampansiri, Kathy Ebert, David Gillan, Gerald Yahoudy, Margaret Andriola, Matt Albano, Michael Federici, Miriam Dixon, Danny Malavé, Emily Ekland, Han Yik, Vijay Madala, Beth Dellea, Melody Prangley, Heidi Brennan, Ben Keezer, Bridget Seager, Stacey Lesser Meehan

System Consultants

Callan – Tom Shingler, Jay Kloepfer, Lauren Sertich, Kevin Machiz (via WebEx)

StepStone via WebEx – Jose Fernandez, Scott Schwind

System Risk Advisors via WebEx

Peter Cosgrove, Steven Huber

Visitors via WebEx

Donna Martin, Albany NY

Cyril Espanol – With Intelligence

Christopher Albanese, Alvaro Carrillo – BlackRock

Approval of Minutes

A. Approval of Minutes of January 25, 2023 and January 26, 2023 Investment Committee Meetings

There being no additions or corrections to the minutes of the January 25, 2023 and January 26, 2023 Investment Committee meetings, the minutes were approved with a motion made by E. Chetney, seconded by J. Longtin and unanimously carried.

Staff Updates

1. Investment Committee Executive Summary (Appendix A, pp. 8-16)
2. Public Equities Update (Appendix B, pp. 17-18)
3. Fixed Income Update (Appendix C, p. 19)
4. Real Estate Update (Appendix D, pp. 20-22)
5. Private Equity/Debt Update (Appendix E, p. 23)

Presentations

A. Callan – Asset Allocation Review

T. Shingler and J. Kloepfer from Callan reviewed the results and recommendations of the System's asset allocation review (Appendix F pp. 24-55).

Upon motion of E. Chetney, seconded by J. Longtin and unanimously carried, the Committee went into Executive Session at 11:00 a.m. to hear Fixed Income manager presentations.

B. Fixed Income - BlackRock

M. Federici and J. Wood recommended BlackRock to manage a portion of the System's fixed income portfolio in a Global Carbon Transition Bond Portfolio fixed

income mandate benchmarked to the Bloomberg Global Aggregate Corporate Bond Index (in USD hedged to USD) and to allocate an initial funding of up to \$150 million. Felipe Esguerra, Tom Mondaelaers, Ashley Schulten and Souheir Asba from BlackRock gave a presentation to the Committee.

C. Fixed Income – Pacific Investment Mgt Co (PIMCO)

M. Federici and D. Bondi recommended PIMCO to manage a portion of the System's fixed income portfolio in a Global Carbon Transition Bond Portfolio fixed income mandate benchmarked to the Bloomberg Global Aggregate Corporate Bond Index (in USD hedged to USD) and to allocate an initial funding of up to \$150 million. John Studzinski, Grover Burtney, Jelle Brons and Ignacio Galaz from PIMCO gave a presentation to the Committee.

Upon motion of C. Morin, seconded by D. Keefe and unanimously carried, the Committee came out of Executive Session at 1:02 p.m.

Policy Review and Action

A. Consent Agenda Recommendation Item 1 (Appendix G, pp. 56-57)

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. Chetney, seconded by J. Longtin 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, 2023.

- 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, 2023.

- 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, 2023.

- 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, 2023, 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, 2023.

2. Resolution on BlackRock Financial Mgt

Upon motion of J. Longtin, 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, or designee, is authorized to contract with BlackRock Financial Management, Inc. to manage a portion of the System's fixed income portfolio in a Global Carbon Transition Bond Portfolio fixed income mandate benchmarked to the Bloomberg Global Aggregate Corporate Bond Index (in USD hedged to USD) and to allocate an initial funding of up to \$150 million to such manager in one or more tranches; 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 Pacific Investment Mgt Co

Upon motion of C. Morin, 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, or designee, is authorized to contract with Pacific Investment Management Company LLC to manage a portion of the System's fixed income portfolio in a Global Carbon Transition Bond Portfolio fixed income mandate benchmarked to the Bloomberg Global Aggregate Corporate Bond Index (in USD hedged to USD) and to allocate an initial funding of up to \$150 million to such manager in one or more tranches; 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.

4. IPM Global Bonds Benchmark Resolution

Upon motion of E. Chetney, seconded by J. Longtin and unanimously

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

WHEREAS, The Retirement Board, by separate resolutions prior to and contemporaneously herewith, has authorized the System to contract with certain global bond managers to manage different global bond and global carbon transition bond portfolio separate accounts for the System; and

WHEREAS, System Staff has recommended to the Retirement Board that it is in the System’s best interest to retain a single global bond policy benchmark while permitting the use of different global bond benchmarks for separately managed accounts.

NOW THEREFORE BE IT RESOLVED, That, the System is authorized to make the following changes to the System’s Investment Policy Manual (“IPM”):

IPM Section	Item	October 2022 IPM (Prior Version)	April 2023 IPM (Authorized Changes)
Statement of Investment Policy	Global Bonds Policy Benchmark	The Bloomberg Global Aggregate Float Adjusted Ex CNY Index in USD hedged to USD (the Benchmark)	No Change
Global Bonds	Performance Objective	The System’s externally managed active global bond portfolios are measured against the Bloomberg Global Aggregate Float Adjusted Ex CNY Index in USD hedged to USD (the Benchmark). The portfolios are to earn, net of fees and over one (1) or more market cycles, an average total rate of return that exceeds that of the Benchmark.	The System’s externally managed active global bond portfolios are measured against (i) the Bloomberg Global Aggregate Float Adjusted Ex CNY Index in USD hedged to USD, or (ii) the Bloomberg Global Aggregate Corporate Bond Index in USD hedged to USD, as applicable (the “Benchmarks”). The portfolios are to earn, net of fees and over one (1) or more market cycles, an average total rate of return that exceeds that of the applicable Benchmarks.

; and

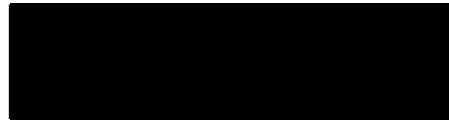
RESOLVED, That the Executive Director and Chief Investment Officer, or designee, is authorized to take such actions as may be necessary or required to implement the foregoing resolution.

Informational reports

- The Committee reviewed the following informational reports: EDCIO Investment Discretion Report (Appendix H, pp. 58-60) and Mail Vote Quarterly Board Report (Appendix I, p. 61).

There being no further business and with unanimous consent, the meeting adjourned at 1:05 p.m.

Respectfully submitted,



Thomas K. Lee

Appendix A

Investment Committee Executive Summary

Office of the CFO: Investment Operations Department

Investment Committee Meeting: April 26, 2023

Margaret Andriola, CIPM, CPA
Chief Financial Officer



Investment Committee Executive Summary

Market Value Summary ('000s)

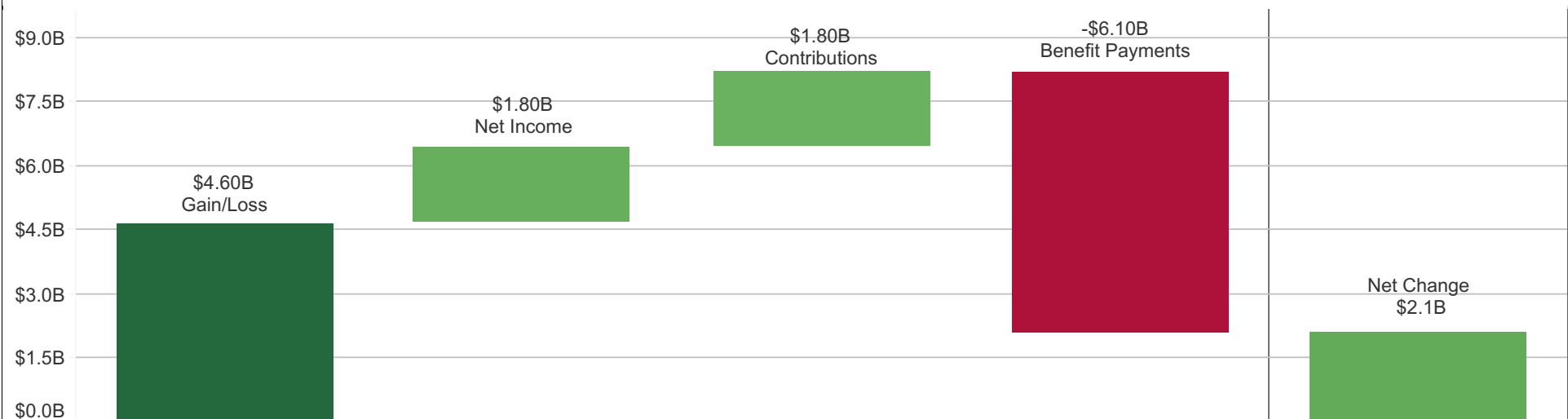
Asset Category	Asset Class	March 31, 2023		December 31, 2022		March 31, 2022	
		Net Asset Value	% Net Asset Value	Net Asset Value	% Net Asset Value	Net Asset Value	% Net Asset Value
Equity	Domestic Equity	\$43,913,364	33.2%	\$41,899,700	32.6%	\$50,367,368	34.6%
	International Equity	\$19,253,326	14.6%	\$19,142,211	14.9%	\$22,707,432	15.6%
	Global Equity	\$4,634,117	3.5%	\$4,401,006	3.4%	\$4,925,344	3.4%
	Real Estate Equity	\$16,518,879	12.5%	\$16,786,954	13.1%	\$17,211,717	11.8%
	Private Equity	\$14,425,621	10.9%	\$13,715,149	10.7%	\$14,561,238	10.0%
	Asset Category Subtotal	\$98,745,306	74.8%	\$95,945,019	74.7%	\$109,773,099	75.4%
Fixed Income	Domestic Fixed Income	\$17,571,336	13.3%	\$16,725,931	13.0%	\$19,183,766	13.2%
	Global Bonds	\$2,710,005	2.1%	\$2,626,905	2.0%	\$3,053,009	2.1%
	High Yield	\$1,214,585	0.9%	\$1,169,505	0.9%	\$1,072,273	0.7%
	Real Estate Debt	\$8,073,659	6.1%	\$7,997,854	6.2%	\$7,924,667	5.4%
	Private Debt	\$1,833,473	1.4%	\$1,704,241	1.3%	\$1,320,108	0.9%
	Cash & Short Term Debt	\$1,940,012	1.5%	\$2,328,739	1.8%	\$3,171,553	2.2%
Asset Category Subtotal	\$33,343,070	25.2%	\$32,553,174	25.3%	\$35,725,376	24.6%	
Total Plan		\$132,088,376	100.0%	\$128,498,194	100.0%	\$145,498,475	100.0%

Due to rounding, numbers may not sum to 100%

Components of Change in Total Investments

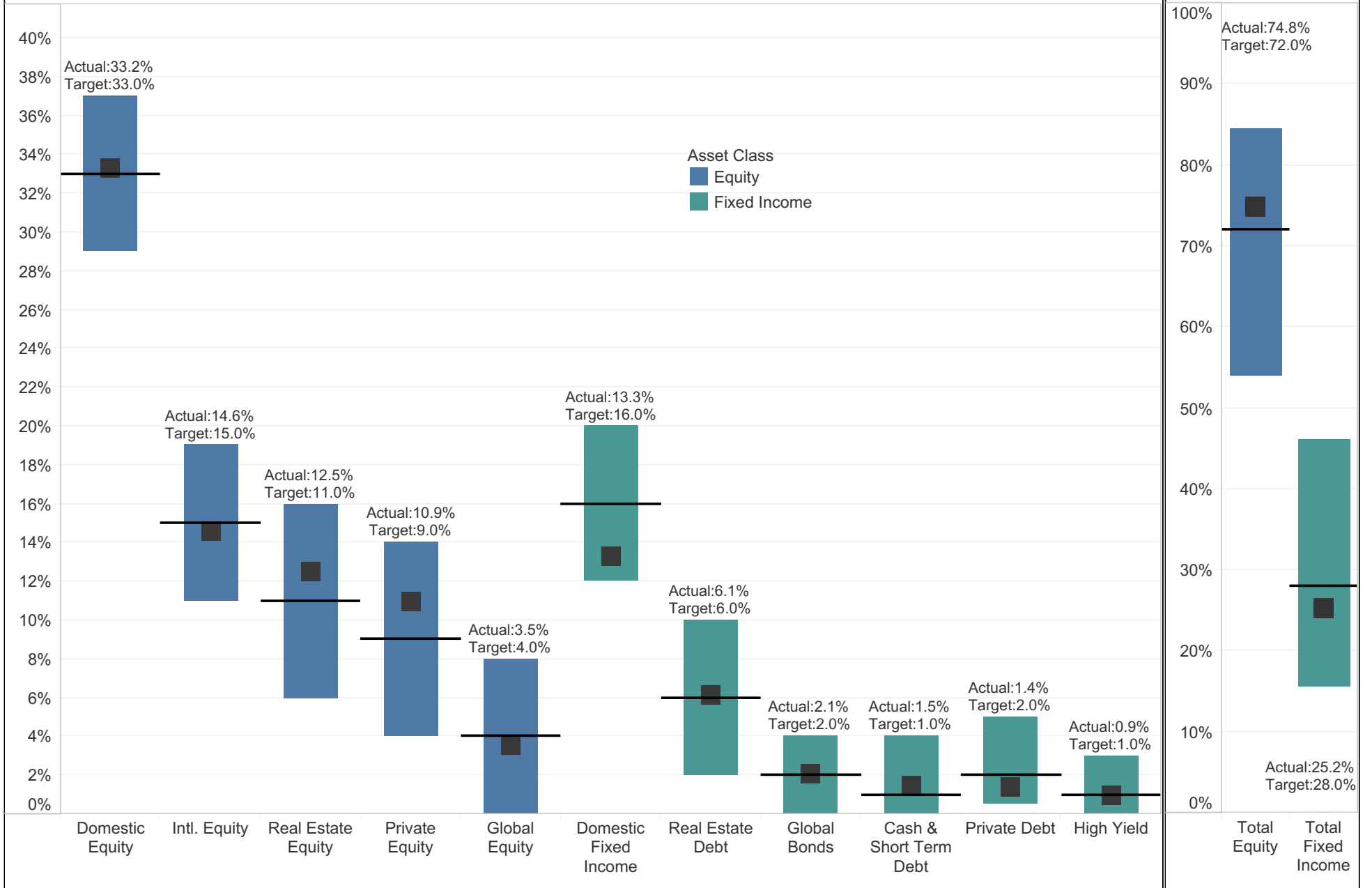
FYTD: 7/1/2022 to 3/31/2023

\$130.0B to \$132.1B



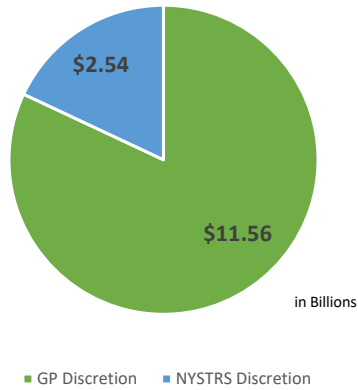
NYSTRS' Asset Allocation: \$132.1B (March 31, 2023)

Equity vs. Debt

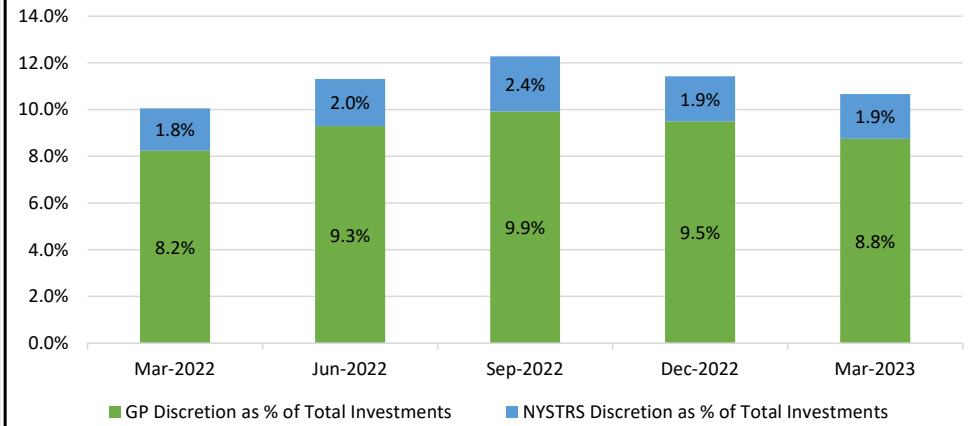


Unfunded Commitments - Private Assets

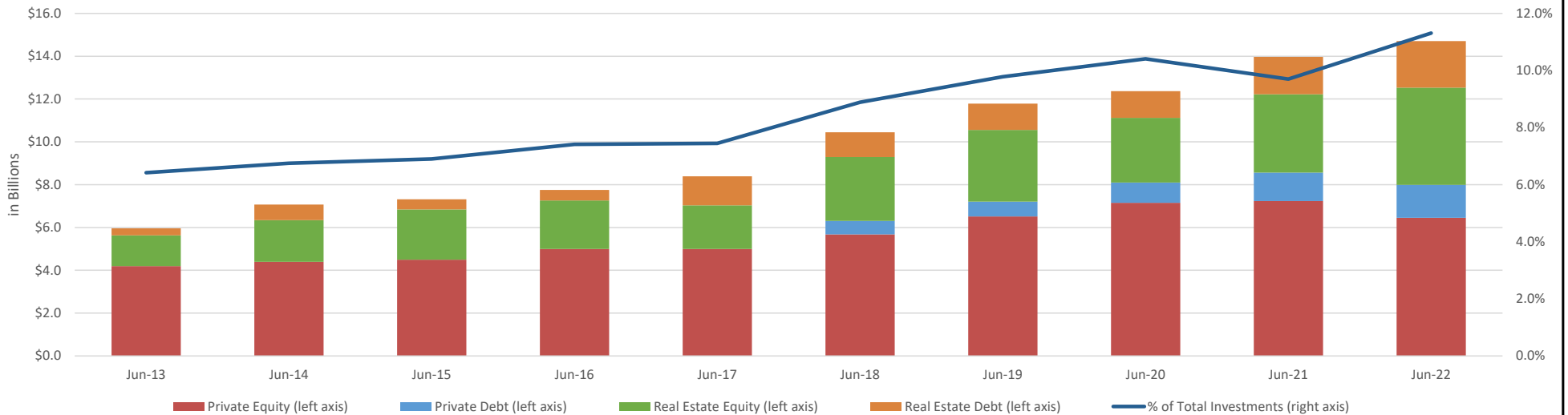
Total Unfunded Commitments at 3/31/2023 \$14.1B



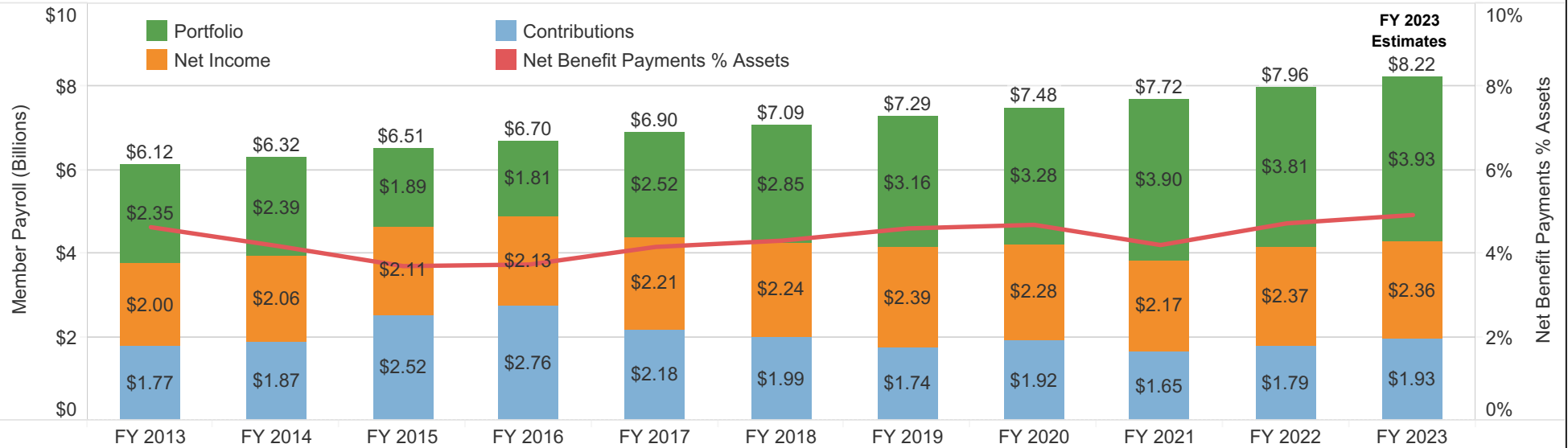
Unfunded Commitments - GP vs. NYSTRS Discretion



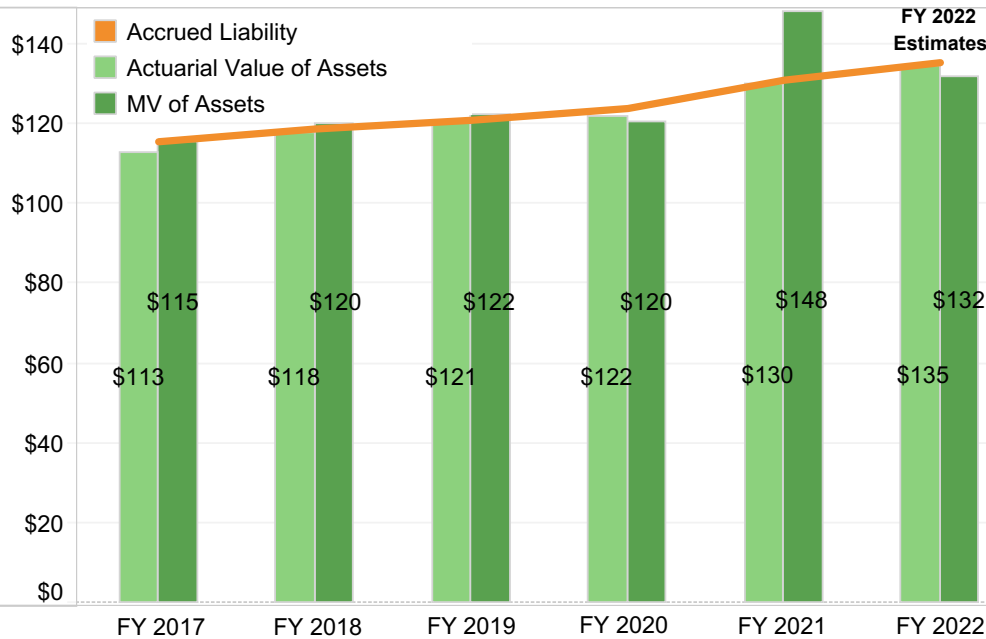
Unfunded Commitments - by Asset Class and % of Total Investments



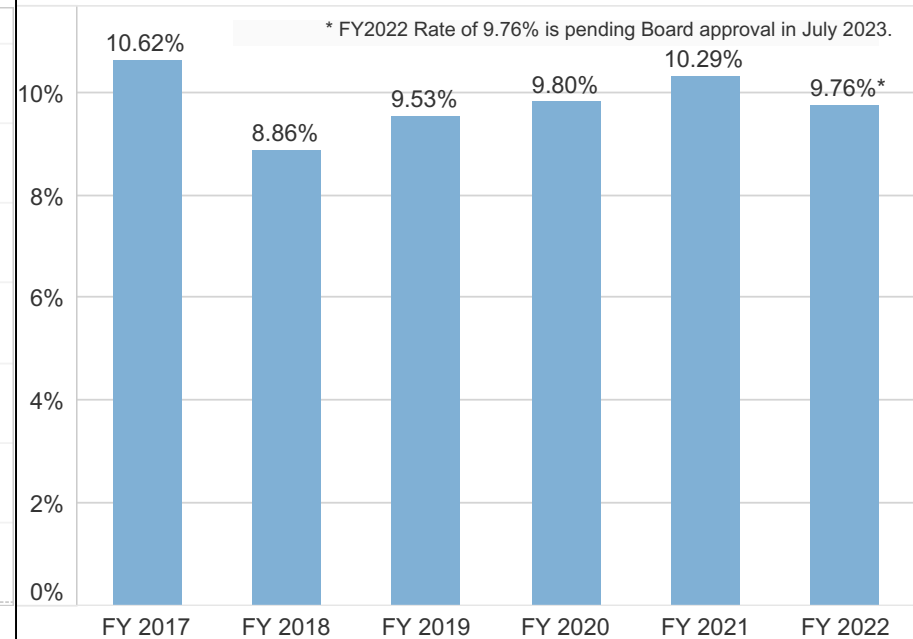
Member Payroll Funding Sources



Assets & Actuarial Accrued Liability



Employer Contribution Rate



Investment Committee Executive Summary

Public Market Performance as of March 31, 2023

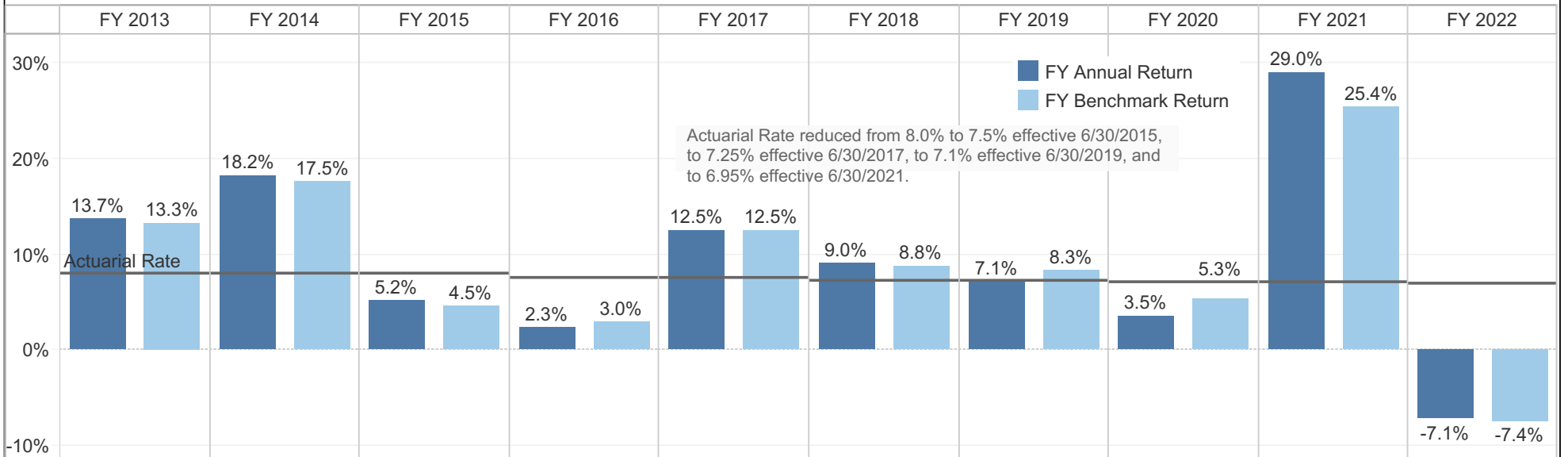
Asset Class	Current QTR	
	Net Return	Excess Return
Domestic Equity	7.2%	0.1%
International Equity	7.1%	0.3%
Global Equity	5.2%	-2.1%
Private Equity	N/A	N/A
Real Estate Equity	2.3%	-0.2%
Domestic Fixed Income	2.9%	-0.1%
Global Bonds	3.1%	0.0%
High Yield Bonds	3.8%	0.2%
Private Debt	N/A	N/A
Real Estate Debt	1.6%	0.5%
Short Term	1.1%	0.1%

RE Equity is REITs only and RE Debt is CMBS only.
For additional performance information see Supplemental Materials.

Total Fund Performance as of December 31, 2022

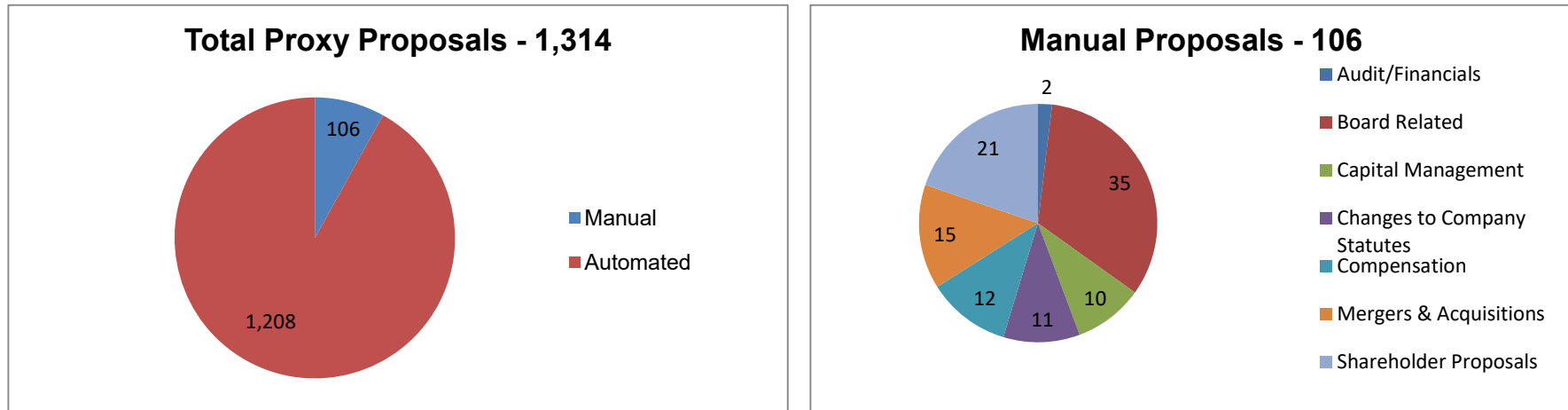
Asset Class	QTR		FYTD		10YR	
	Net Return	Excess Return	Net Return	Excess Return	Net Return	Excess Return
Domestic Equity	7.7%	-0.1%	2.6%	0.0%	12.3%	-0.1%
International Equity	14.4%	0.1%	3.0%	0.1%	4.3%	0.4%
Global Equity	12.5%	2.7%	4.0%	1.7%	N/A	N/A
Private Equity	2.7%	-6.1%	0.3%	-4.5%	16.0%	-1.6%
Real Estate Equity	-0.3%	4.8%	-3.1%	1.7%	9.7%	0.5%
Domestic Fixed Income	1.7%	-0.2%	-2.3%	0.6%	1.0%	-0.1%
Global Bonds	1.3%	0.2%	-2.5%	0.4%	1.8%	0.2%
High Yield Bonds	4.4%	0.0%	3.8%	0.3%	N/A	N/A
Private Debt	2.4%	-1.0%	3.7%	-1.7%	N/A	N/A
Real Estate Debt	0.4%	-0.8%	-0.9%	2.1%	3.7%	0.8%
Short Term	0.9%	0.1%	1.5%	0.2%	0.9%	0.3%
Total Fund	5.5%	-0.4%	0.7%	-0.4%	8.3%	0.1%

Annual Performance



Investment Committee Executive Summary

Proxy Voting Summary: 1/1/2023 - 3/31/2023



The System has implemented automated voting for those issues that can reliably be voted according to established policy without review. 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 sensitive issue arise which is not included in the established guidelines, 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 generally supports independent directors outside of management, gender diversity on boards, and considers related party transactions.

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.

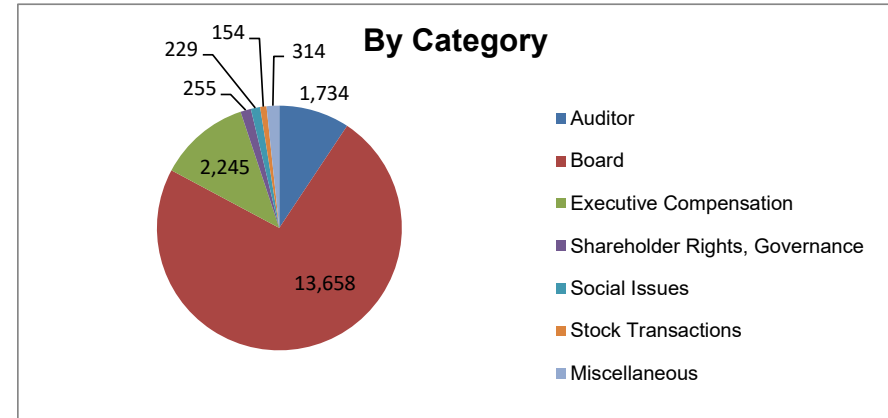
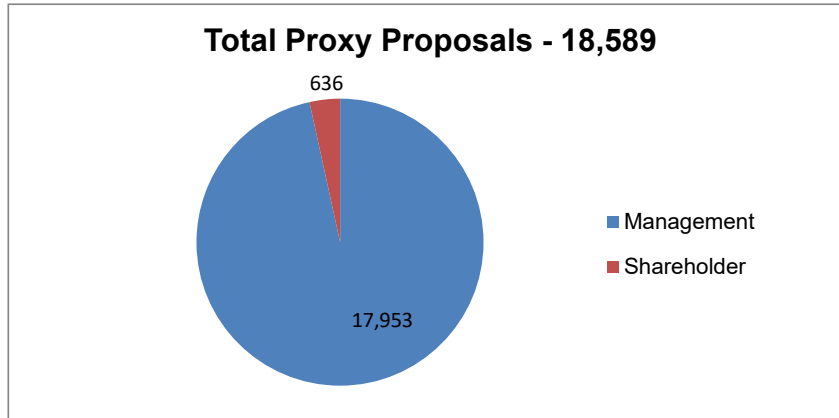
Compensation - The System generally supports reasonable compensation plans which are tied to objective performance measures. Stock option plans should be used to motivate corporate personnel.

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

Shareholder Proposals (type & number) - Compensation: 1, Environment: 2, Governance: 5, Other: 2, and Social: 11

Investment Committee Executive Summary

Annual Proxy Voting Report: 1/1/2022 - 12/31/2022 Domestic and Canadian Portfolios



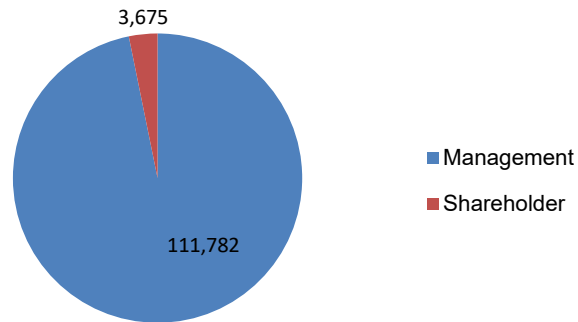
	Proposals	For	% For	Against	% Against	Abstain	% Abstain
Management	17,953	16,531	92.1%	1,419	7.9%	3	0.0%
Shareholder Proposals	636	404	63.5%	174	27.4%	58	9.1%
	18,589	16,935	91.1%	1,593	8.6%	61	0.3%
Auditor	1,734	1,733	99.9%	-	0.0%	1	0.1%
Board	13,658	12,550	91.9%	1,108	8.1%	-	0.0%
Executive compensation	2,245	1,933	86.1%	312	13.9%	-	0.0%
Shareholder Rights, Governance	255	188	73.7%	66	25.9%	1	0.4%
Social Issues	229	137	59.8%	51	22.3%	41	17.9%
Stock Transactions	154	136	88.3%	16	10.4%	2	1.3%
Miscellaneous	314	258	82.2%	40	12.7%	16	5.1%
	18,589	16,935	91.1%	1,593	8.6%	61	0.3%

The Statistics above represent proposals presented at 1,769 meetings for the companies in the System's domestic equity and Canadian portfolios. Meetings and proposals at companies held in multiple portfolios are counted once.

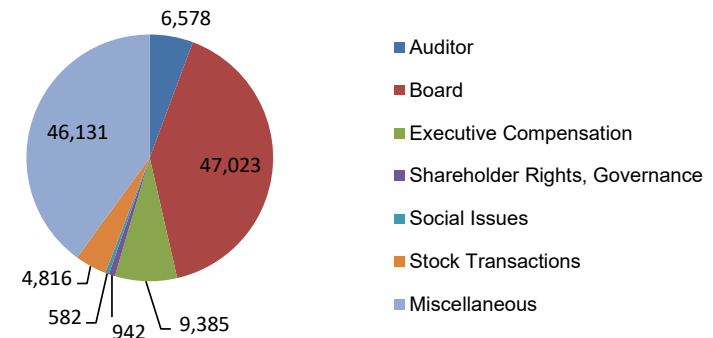
Investment Committee Executive Summary

Annual Proxy Voting Report: 1/1/2022 - 12/31/2022 External Managers - International and Global Equities

Total Proxy Proposals - 115,457



By Category



	Proposals	For	% For	Against	% Against	Abstain	% Abstain
Management	111,782	96,631	86.4%	12,529	11.2%	2,622	2.4%
Shareholder Proposals	3,675	2,280	62.0%	1,212	33.0%	183	5.0%
	115,457	98,911	85.7%	13,741	11.9%	2,805	2.4%
Auditor	6,578	6,417	97.6%	100	1.5%	61	0.9%
Board	47,023	40,180	85.4%	4,937	10.5%	1,906	4.1%
Executive compensation	9,385	7,639	81.4%	1,657	17.7%	89	0.9%
Shareholder Rights, Governance	942	634	67.3%	288	30.6%	20	2.1%
Social Issues	582	258	44.3%	295	50.7%	29	5.0%
Stock Transactions	4,816	3,860	80.1%	928	19.3%	28	0.6%
Miscellaneous	46,131	39,923	86.5%	5,536	12.0%	672	1.5%
	115,457	98,911	85.7%	13,741	11.9%	2,805	2.4%

The statistics above represent proposals presented at 10,099 meetings for the companies in the System's externally managed, international and global equity portfolios. Meetings and proposals at companies held in multiple portfolios are counted for each portfolio.



Appendix B

Public Equities Managing Director Update

Investment Committee April 26, 2023

Paul Cummins, CFA, CAIA

Public Equities



Public Equity MD Update

Investment Committee April 26, 2023

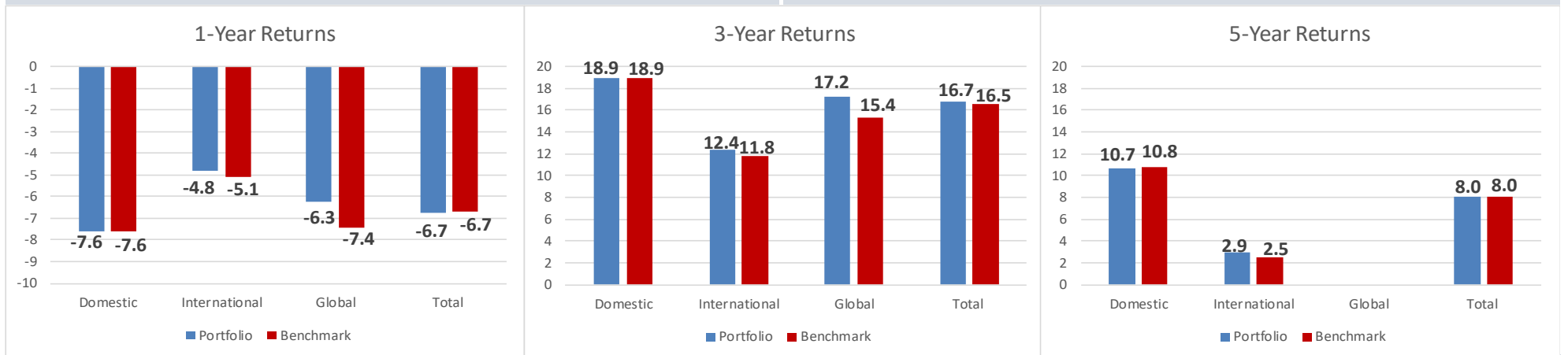
Portfolio Values				Asset Allocation			
Portfolio Values (000)	03/31/23	03/31/22	Difference	Asset Allocation	Range	Target	Actual 03/31/23
Domestic Equity	\$43,913,364	\$50,367,368	(\$6,454,004)	Domestic:	29-37%	33.0%	33.2%
International Equity	\$19,253,326	\$22,707,432	(\$3,454,106)	International:	11-19%	15.0%	14.6%
Global Equity	\$4,634,117	\$4,925,344	(\$291,227)	Global:	0-8%	4.0%	3.5%
Total Public Equity	\$67,800,807	\$78,000,144	(\$10,199,337)				

Public Equity Portfolio Values:

- During the one-year period ended 3/31/23:
 - o \$2.3B (including dividends swept) was raised from domestic equities.
 - o \$2.5B was raised from international equities.
- Hence, the public equity portfolio decreased in value by \$5.4B for the one-year period.

Asset Allocation

- Public equities asset classes remain close to target and well within the ranges.
- \$2.3B was raised from the domestic and international equities portfolios during the quarter.



Commentary:

- All managers remain in good standing and are performing within our range of expectations.
- Positive quarter for both domestic and international markets.
- During the quarter, strong returns for large-cap technology stocks offset negative impact from banks.
- Growth out-performed value during the quarter; a tailwind for our growth managers, headwind for quantitative strategies.



Fixed Income MD Update

Investment Committee Meeting: April 26, 2023

	Sector/Portfolio	Mkt Val \$B	Asset Allocation %			Absolute Return %					Excess Return vs. Benchmark %				
			NAV	Target	Range	Qtr	FYTD	1-Yr	3-Yr	5-Yr	Qtr	FYTD	1-Yr	3-Yr	5-Yr
Internal	Dom. Fixed Income	17.57	13.3	16	12-20	2.92	0.56	-2.59	-1.83	1.14	-0.08	0.55	2.13	0.90	0.18
	Short-Term Bond	1.94	1.5	1	0-4	1.14	2.62	2.82	1.07	1.51	0.11	0.32	0.42	0.25	0.35
External	Global Bonds	2.71	2.1	2	0-4	3.12	0.58	-4.87	-1.42	1.24	0.03	0.47	0.03	1.19	0.54
	High Yield	1.21	0.9	1	0-3	3.76	7.73	-2.21	5.05	3.12	0.21	0.50	0.75	-0.29	-0.14

- **Allocation:** High yield at 1% target after post-quarter funding; net investing in domestic to reduce gap with 16% target
- **Market:** Extreme volatility amid regional bank turmoil; government bond yields and non-financial credit spreads declined
- **Dom. FI:** Underperformed as lower interest rate risk (duration) outweighed positive from credit positioning¹
- **Short-Term Bond:** Portfolio now yields 4.8% as Fed rate hikes continued in quarter
- **Global Bonds:** Flat versus benchmark as negative from lower duration offset by corporate and securitized positioning
- **High Yield:** Outperformed due to underweight to financials and other industry positioning

- **Policy:** Markets expect last 0.25% Fed hike while other central banks tighten more—contributing to reversal in dollar strength
- **Inflation:** Overall slowing, but ex-food and energy (core) still running over 5%; Central banks don't want to risk a 2nd wave
- **Growth:** US and global forecasts for 2023/2024 centered around very low growth; bank lending availability an additional risk
- **Credit:** Overall company and consumer finances remain strong, but lower growth may hit corporate profits and employment

¹Domestic Fixed Income duration was -1.1 years vs. benchmark and -0.8 year excluding maturities under 1 year

Commercial Real Estate (CRE) Investments - Managing Director Update

<u>CRE Equity</u>	<u>3/31/23 Value</u>	<u>Target</u>	<u>Range</u>	<u>Actual</u>	<u>w/Commit</u>	
	\$16,519	11%	6%-16%	12.5%	15.4%	
<u>Performance for Periods Ended December 31, 2022</u>						
<u>Strategy (Inception Date)</u>	<u>Net Asset Value</u>	<u>Current Quarter</u>	<u>1 Year</u>	<u>5 Year</u>	<u>10 Year</u>	<u>Since Inception</u>
Direct Properties (2/90)	\$6,818	-1.1%	9.6%	8.7%	10.9%	9.8%
Core Funds (7/85)	\$1,769	-7.9%	-3.4%	3.2%	6.1%	6.6%
Value Added (12/89)	\$1,566	-0.1%	5.7%	18.3%	18.1%	12.2%
Opportunistic (3/99)	\$2,807	1.7%	5.9%	9.7%	10.9%	11.3%
U.S. RE Securities (7/95)	\$2,258	2.2%	-24.0%	4.6%	7.2%	10.8%
Global RE Securities (9/17)	\$1,056	6.8%	-23.8%	1.0%	-	1.4%
Timber (12/98)	\$291	3.1%	7.3%	6.0%	6.0%	4.5%
Total CRE Equity Portfolio	\$16,565	-0.3%	-2.7%	7.7%	9.7%	8.4%
NCREIF-ODCE (Spliced)	-	-5.2%	6.5%	8.3%	9.2%	6.8%

Appendix D

Return Drivers:

- The direct portfolio’s one-year return continues to reflect the sell off in the public REIT markets. Repricing in the private markets, driven by higher interest rates has begun across the property sectors due to increased financing costs, albeit leasing fundamentals remain strong for most property sectors.
- The office markets are particularly problematic due to the work from home phenomena, tech market layoffs and finally, commuting conditions in major markets. Private market valuations continue to substantially lag the public markets, where office REIT securities are trading at a 30%+ discount to private asset valuations.

Market Conditions

- According to Green Street, over the past 12 months, it is estimated that private market commercial property values have declined ~15% over the prior year. Office values have displayed the greatest decline at 25%. Transaction activity remains muted with multifamily properties transacting at ~10-15% discount to broker guidance. In a number of cases, office owners are looking to turn assets over to the lenders when they don’t believe in a recovery that would be accretive to the investment.

Portfolio Focus:

- Acquisitions remains focused on maintaining vintage year diversification with high conviction managers in sectors with durable long term demand expectations such as industrial, multifamily and, previously committed operating companies focused on necessity-based retail and cold storage.

Investment Activity:

- The System closed on a \$50 million of commitments to Cabot VII, a value-add industrial focused commingled fund. Additionally, \$375 million was liquidated from the REIT portfolio and \$13.8M was returned from outstanding open-end commingled fund redemption requests.



Commercial Real Estate (CRE) Investments - Managing Director Update

CRE Debt	3/31/23 Value	Target	Range	Actual	w/Commit	
	\$8,074	6%	2%-10%	6.1%	7.4%	
Performance for Periods Ended December 31, 2022						
Strategy (Inception Date)	Net Asset Value	Current Quarter	1 Year	5 Years	10 Years	Since Inception
First Mortgages (7/85)	\$3,191	1.3%	-3.4%	2.9%	3.6%	7.8%
Commercial MBS (4/01)	\$2,333	-0.4%	-11.3%	0.9%	2.1%	4.2%
Core Plus Strategies (8/04)	\$1,884	0.1%	-0.1%	4.1%	5.8%	4.4%
Opportunistic Debt (9/01)	\$596	0.1%	2.7%	5.4%	8.9%	0.9%
Total CRE Debt Portfolio	\$8,004	0.4%	-4.6%	2.9%	3.7%	7.7%
GL Custom Index (Spliced)	-	1.3%	-9.3%	2.0%	2.9%	7.8%

Return Drivers:

- Negative performance for the year was driven by a significant increase in lending rates in 2022, which primarily affected the System’s existing fixed rate portfolio that carried lower yields relative to the current market. Despite the markdowns in value, the System’s first mortgage portfolio is expected to be held to maturity and has a weighted average interest coupon of 4.3%.

Market Conditions:

- Interest rates were extremely volatile during the first quarter of 2023 as a result of the Fed rate hikes, inflation, and the most recent bank failures. In addition, transaction financing volume continues to be down significantly due to a wide bid-ask spread between buyers and sellers right now....owners are unwilling to capitulate on discounted offers. Loan maturities on troubled office properties have now forced workouts between owners and lenders where owners must decide whether making a pay down (additional capital) on their asset would be economically attractive from a go-forward return perspective.
- The following investments continue to provide an attractive risk adjusted return:
 - 5-10 year first mortgage interest rates are currently in the mid-5.0% range.
 - Investment grade CMBS securities continue to provide yields in excess of 5.50%.
 - Private senior mezzanine and bridge loans continue to provide net yields in excess of 7.50%.

Portfolio Focus:

- Work through the \$1.2 billion of office first mortgage maturities in 2023 targeting paydowns with modification's/extensions as well as loan payoffs.
- Continue to pursue investment grade CMBS, private mezzanine and bridge loans, and first mortgages on high quality, new vintage, stabilized assets.

Investment Activity:

- The System closed on a \$150 million upside commitment to the Artemis Debt Separate Account targeting mezzanine loans and first mortgage loans on high-quality stabilized and transitional assets in the United States.



Commercial Real Estate (CRE) Investments - Managing Director Update

Performance Relative to Blended Benchmarks

Equity Real Estate Performance for Periods Ended <u>December 31, 2022</u>						
Strategy (Inception Date)	Net Asset Value	Current Quarter	1 Year	5 Year	10 Year	Since Inception
Direct Properties (2/90)	\$6,818	-1.1%	9.6%	8.7%	10.9%	9.8%
Core Funds (7/85)	\$1,769	-7.9%	-3.4%	3.2%	6.1%	6.6%
Value Added (12/89)	\$1,566	-0.1%	5.7%	18.3%	18.1%	12.2%
Opportunistic (3/99)	\$2,807	1.7%	5.9%	9.7%	10.9%	11.3%
U.S. RE Securities (7/95)	\$2,258	2.2%	-24.0%	4.6%	7.2%	10.8%
Global RE Securities (9/17)	\$1,056	6.8%	-23.8%	1.0%	-	1.4%
Timber (12/98)	\$291	3.1%	7.3%	6.0%	6.0%	4.5%
Total CRE Equity Portfolio	\$16,565	-0.3%	-2.7%	7.7%	9.7%	8.4%
Blended Benchmark*	-	-2.8%	-2.9%	5.6%	7.9%	6.4%

Debt Real Estate Performance for Periods Ended <u>December 31, 2022</u>						
Strategy (Inception Date)	Net Asset Value	Current Quarter	1 Year	5 Years	10 Years	Since Inception
First Mortgages (7/85)	\$3,191	1.3%	-3.4%	2.9%	3.6%	7.8%
Commercial MBS (4/01)	\$2,333	-0.4%	-11.3%	0.9%	2.1%	4.2%
Core Plus Strategies (8/04)	\$1,884	0.1%	-0.1%	4.1%	5.8%	4.4%
Opportunistic Debt (9/01)	\$596	0.1%	2.7%	5.4%	8.9%	0.9%
Total CRE Debt Portfolio	\$8,004	0.4%	-4.6%	2.9%	3.7%	7.7%
Blended Benchmark*	-	1.1%	-9.6%	1.8%	2.8%	7.8%

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



Private Equity/Debt MD Update

April 26, 2023

Appendix E

23

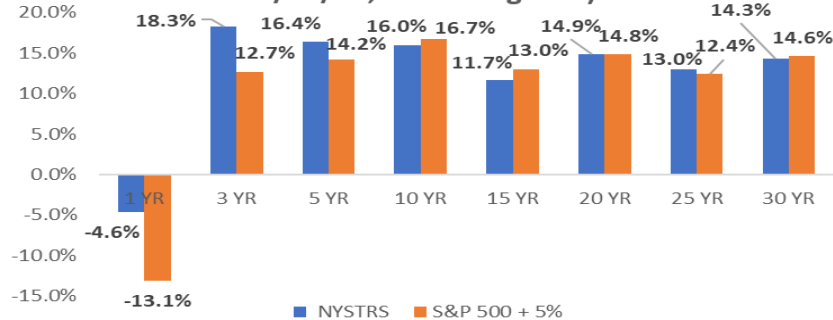
Private Equity – 9% Target (4-14%)

- 3/31/23 - \$14.4bn or approx. 10.9% vs. target
- \$6.5bn unfunded

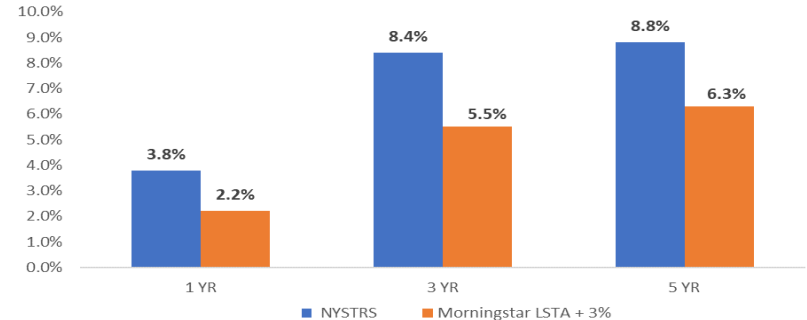
Private Debt – 2% Target (0.5-5%)

- 3/31/23 - \$1.8bn or approx. 1.4% vs. target
- \$1.3bn unfunded

NYSTRS Private Equity Performance (as of 12/31/22, time-weighted)



NYSTRS Private Debt Performance (as of 12/31/22, time-weighted)



Market Overview:

- Fundraising is slow given investors are generally overallocated to private equity.
- PE deal activity continues to be slow but may be regaining momentum as evidence by recent large buyout deals.
- PE & PD time weighted returns up over 2% from 9/30.
- Private debt markets continue to take share from the syndicated loan markets particularly in buyouts.

Other Items:

- Team – two new investment officers (entry level) started in Q123.
- RFP issued for alternatives consultant.

Appendix F

April 26, 2023



**New York State Teachers'
Retirement System**

2023 Asset Allocation Review

Jay Kloepfer

Capital Market Research

Kevin Machiz, CFA, FRM

Capital Market Research

Tom Shingler

Fund Sponsor Consulting

Angel Haddad

Fund Sponsor Consulting

Important Disclosures regarding the use of this document are included at the end of this document. These disclosures are an integral part of this document and should be considered by the user.

Setting Strategic Asset Allocation Policy

The cornerstone of a prudent process for pension plan fiduciaries is a careful and thorough examination of their long-term strategic plan

- Asset allocation is the single most important decision fiduciaries make with regard to investment policy
- AA is the primary determinant of the expected level of return, and AA defines the range of potential results or volatility of the investment program. This evaluation of volatility includes the potential to experience drawdowns in the capital markets
- Asset allocation policy acknowledges the goals and risk tolerance for the investor and aligns these goals to potential outcomes for both the policy target and potential alternative asset mixes
- AA process:
 - Explicitly acknowledge change and uncertainty in the capital markets
 - Establish reasonable rate-of-return and risk expectations for individual investments
 - Establish reasonable rate-of-return and risk expectations for investment portfolios
 - Confirm an investment policy to meet return and risk objectives in relation to goals

Callan and NYSTRS Staff began the annual asset allocation review process in January that is being presented today. 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.

Why Make Capital Markets Projections?

Guiding objectives and process

Cornerstone of a prudent process is a long-term strategic investment plan

- Capital markets projections are key elements—set reasonable return and risk expectations for the appropriate time horizon
- Projections represent our best thinking regarding the long-term (10-year) outlook, recognizing our median projections represent the midpoint of a range, rather than a specific number
- Develop results that are readily defensible both for individual asset classes and for total portfolios
- Be conscious of the level of change suggested in strategic allocations for long-term investors: DB plan sponsors
- Reflect common sense and recent market developments, within reason

Callan's forecasts are informed by current market conditions, but are not built directly from them

- Balance recent, immediate performance and valuation against long-term equilibrium expectations

How Are Capital Markets Projections Constructed?

Guiding objectives and process

Underlying beliefs guide the development of the projections

- An initial bias toward long-run averages
- A conservative bias
- An awareness of risk premiums
- A presumption that markets are ultimately clear and rational

Reflect our beliefs that long-term equilibrium relationships between the capital markets and lasting trends in global economic growth are key drivers to setting capital markets expectations

Long-term compensated risk premiums represent “beta”—exposure to each broad market, whether traditional or “exotic,” with limited dependence on successful realization of alpha

The projection process is built around several key building blocks

- Advanced modeling at the individual asset class level (e.g., a detailed bond model, an equity model)
- A path for interest rates and inflation
- A cohesive economic outlook
- A framework that encompasses Callan beliefs about the long-term operation and efficiencies of the capital markets

2023 Callan Capital Market Projections – Standard Set, 10 Year Horizon

Risk and return: 2023–2032

Summary of Callan's Long-Term Capital Markets Assumptions (2023–2032)

Asset Class	Index	Projected Return		Real	Projected Risk Standard Deviation	2022–2031			vs. 2022	
		1-Year Arithmetic	10-Year Geometric*			1-Year Arithmetic	10-Year Geometric*	Standard Deviation	Geometric* Delta	Std Dev Delta
Equities										
Broad U.S. Equity	Russell 3000	8.75%	7.35%	4.85%	18.05%	8.00%	6.60%	17.95%	0.75%	0.10%
Large Cap U.S. Equity	S&P 500	8.60%	7.25%	4.75%	17.75%	7.85%	6.50%	17.70%	0.75%	0.05%
Smid Cap U.S. Equity	Russell 2500	9.60%	7.45%	4.95%	22.15%	8.75%	6.70%	21.30%	0.75%	0.85%
Global ex-U.S. Equity	MSCI ACWI ex USA	9.45%	7.45%	4.95%	21.25%	8.70%	6.80%	20.70%	0.65%	0.55%
Developed ex-U.S. Equity	MSCI World ex USA	9.00%	7.25%	4.75%	20.15%	8.25%	6.50%	19.90%	0.75%	0.25%
Emerging Market Equity	MSCI Emerging Markets	10.45%	7.45%	4.95%	25.70%	9.80%	6.90%	25.15%	0.55%	0.55%
Fixed Income										
Short Duration Gov/Credit	Bloomberg 1-3 Year Gov/Credit	3.75%	3.80%	1.30%	2.30%	1.50%	1.50%	2.00%	2.30%	0.30%
Core U.S. Fixed	Bloomberg Aggregate	4.25%	4.25%	1.75%	4.10%	1.80%	1.75%	3.75%	2.50%	0.35%
Long Government	Bloomberg Long Gov	4.55%	3.70%	1.20%	13.50%	1.85%	1.10%	12.50%	2.60%	1.00%
Long Credit	Bloomberg Long Credit	5.75%	5.20%	2.70%	11.75%	2.60%	2.10%	10.50%	3.10%	1.25%
Long Government/Credit	Bloomberg Long Gov/Credit	5.25%	4.75%	2.25%	11.35%	2.30%	1.80%	10.40%	2.95%	0.95%
TIPS	Bloomberg TIPS	4.10%	4.00%	1.50%	5.30%	1.35%	1.25%	5.05%	2.75%	0.25%
High Yield	Bloomberg High Yield	6.75%	6.25%	3.75%	11.75%	4.40%	3.90%	10.75%	2.35%	1.00%
Global ex-U.S. Fixed	Bloomberg Global Agg ex US	2.70%	2.25%	-0.25%	9.80%	1.20%	0.80%	9.20%	1.45%	0.60%
Emerging Market Sov Debt	EMBI Global Diversified	6.25%	5.85%	3.35%	10.65%	4.00%	3.60%	9.50%	2.25%	1.15%
Alternatives										
Core Real Estate	NCREIF ODCE	6.60%	5.75%	3.25%	14.20%	6.60%	5.75%	14.20%	0.00%	0.00%
Private Infrastructure	MSCI GI Infra/FTSE Dev Core 50/50	7.15%	6.15%	3.65%	15.45%	7.10%	6.10%	15.45%	0.05%	0.00%
Private Equity	Cambridge Private Equity	11.95%	8.50%	6.00%	27.60%	11.45%	8.00%	27.60%	0.50%	0.00%
Private Credit	See footnote	8.00%	7.00%	4.50%	15.50%	6.40%	5.50%	14.60%	1.50%	0.90%
Hedge Funds	Callan Hedge FOF Database	5.80%	5.55%	3.05%	8.45%	4.35%	4.10%	8.20%	1.45%	0.25%
Commodities	Bloomberg Commodity	5.05%	3.50%	1.00%	18.00%	4.05%	2.50%	18.00%	1.00%	0.00%
Cash Equivalents	90-Day T-Bill	2.75%	2.75%	0.25%	0.90%	1.20%	1.20%	0.90%	1.55%	0.00%
Inflation	CPI-U		2.50%		1.60%		2.25%	1.60%	0.25%	0.00%

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

Note that return projections for public markets assume index returns with no premium for active management.

Callan's projection for Private Credit does not correspond to a specific index, instead is based on middle market direct lending strategies

Source: Callan LLC

Callan's 2023 Capital Market Assumptions

Key observations

Inflation raised to 2.5% from 2.25%

Cash projection raised to 2.75% from 1.2%

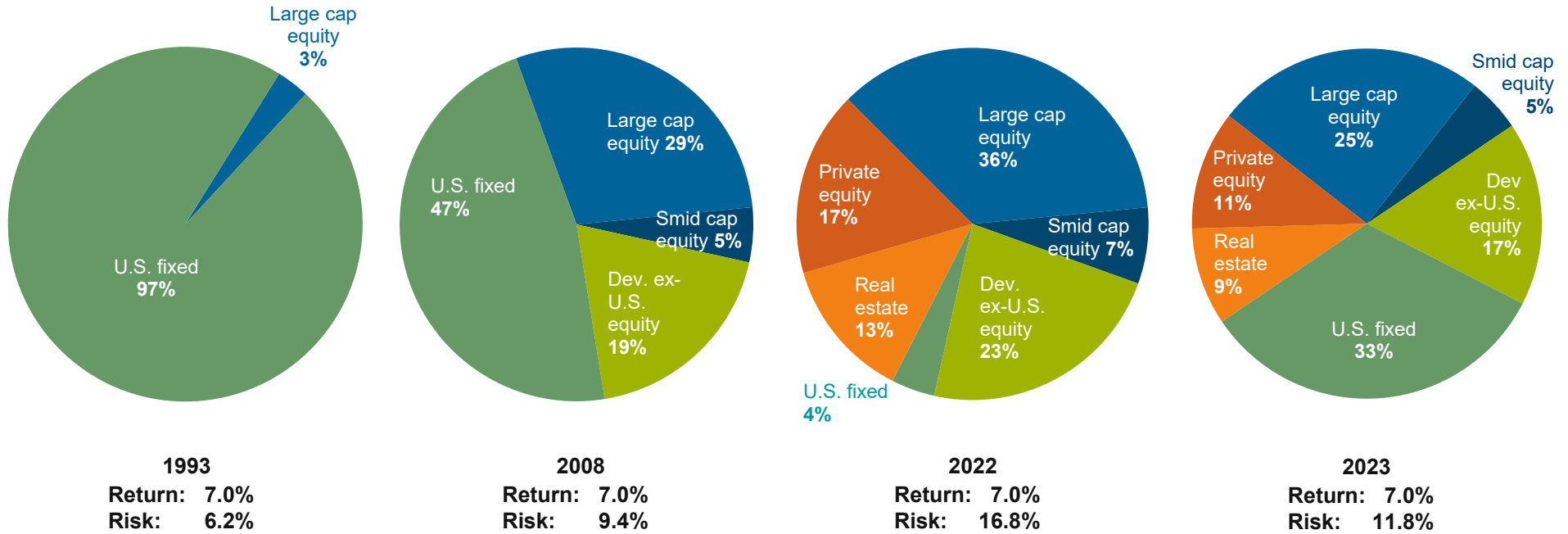
Core fixed income projection raised to 4.25% from 1.75%

Public equity projections raised by 0.55%-0.75% depending on asset class; equity risk premium over both cash and fixed income narrowed

Private markets returns raised commensurate with public equity, with the exception of real estate, whose return we held constant from 2022

7% Expected Returns Over Past 30 Years

Increasing Complexity



Increasing Risk

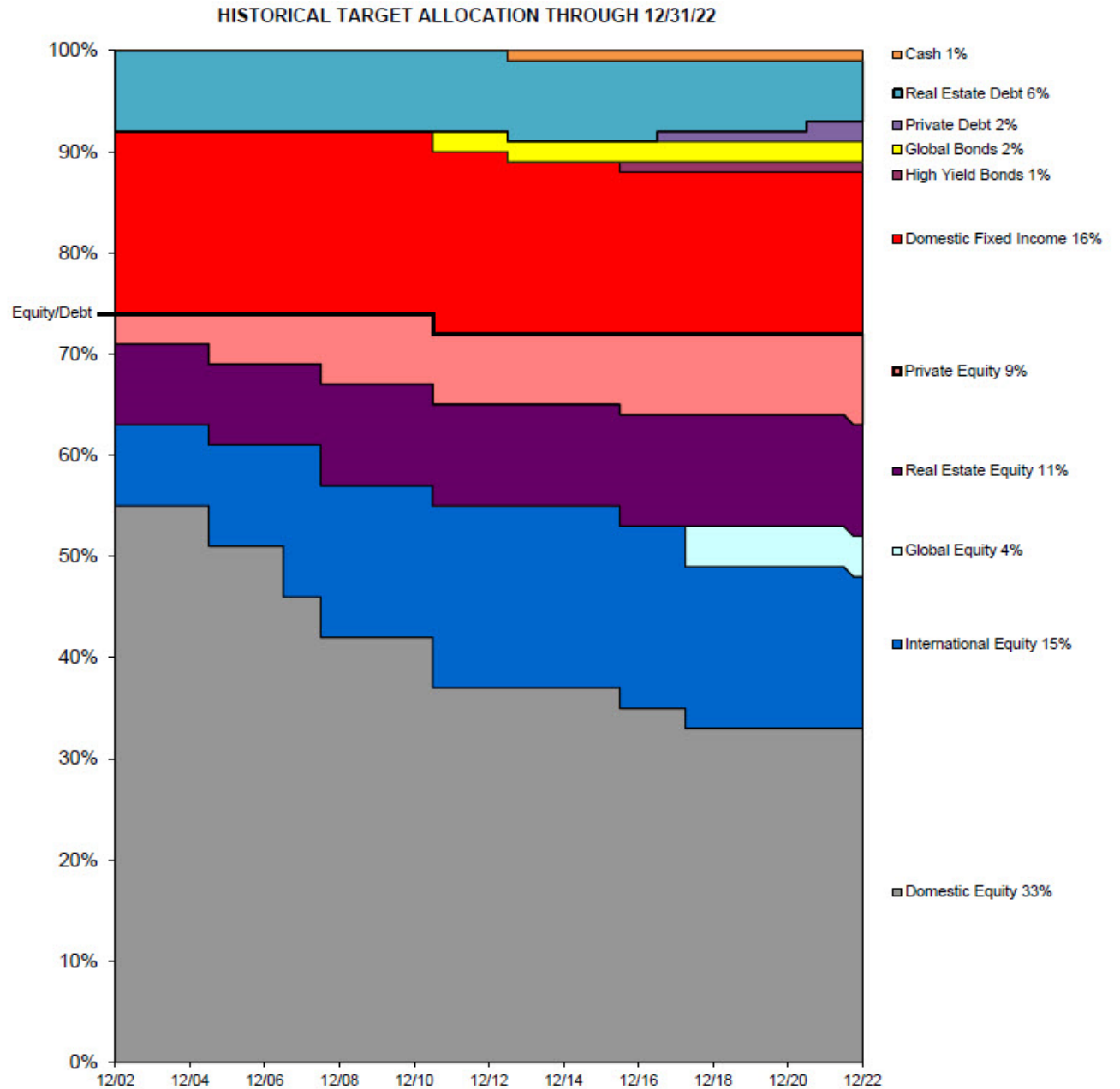
<p>In 1993, our return expectation for broad U.S. fixed income was 6.85%.</p> <p>Just 3% in return-seeking assets was required to earn a 7% projected return.</p>	<p>15 years later, an investor would have needed over half of the portfolio in public equities to achieve a 7% projected return.</p>	<p>In 2022 an investor was required to include 96% in return-seeking assets (including 30% in private market investments) to earn a 7% projected return at almost 3x the volatility compared to 1993.</p>	<p>Today's 7% expected return portfolio is much more reasonable than it was just a year ago, with a third in fixed income and a correspondingly lower level of risk.</p>
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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
 - Global equity
 - Global fixed income
 - Real estate
 - Private credit
 - High Yield bonds

Importantly, NYSTRS has maintained a deliberate fixed income allocation over time



Source: Office of the CFO/Investment Operations Department

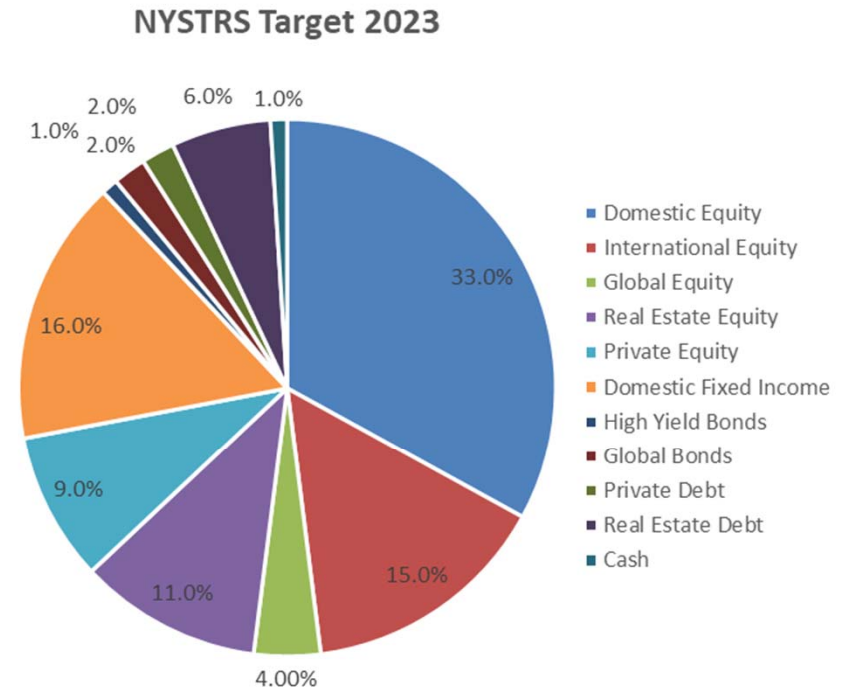
No Changes Recommended For the Current Target

Callan and NYSTRS Staff considered whether to recommend asset allocation changes and explored several themes

- Adding emerging market debt
- Increasing fixed income
- Increasing cash
- Reducing real estate debt and increasing private credit

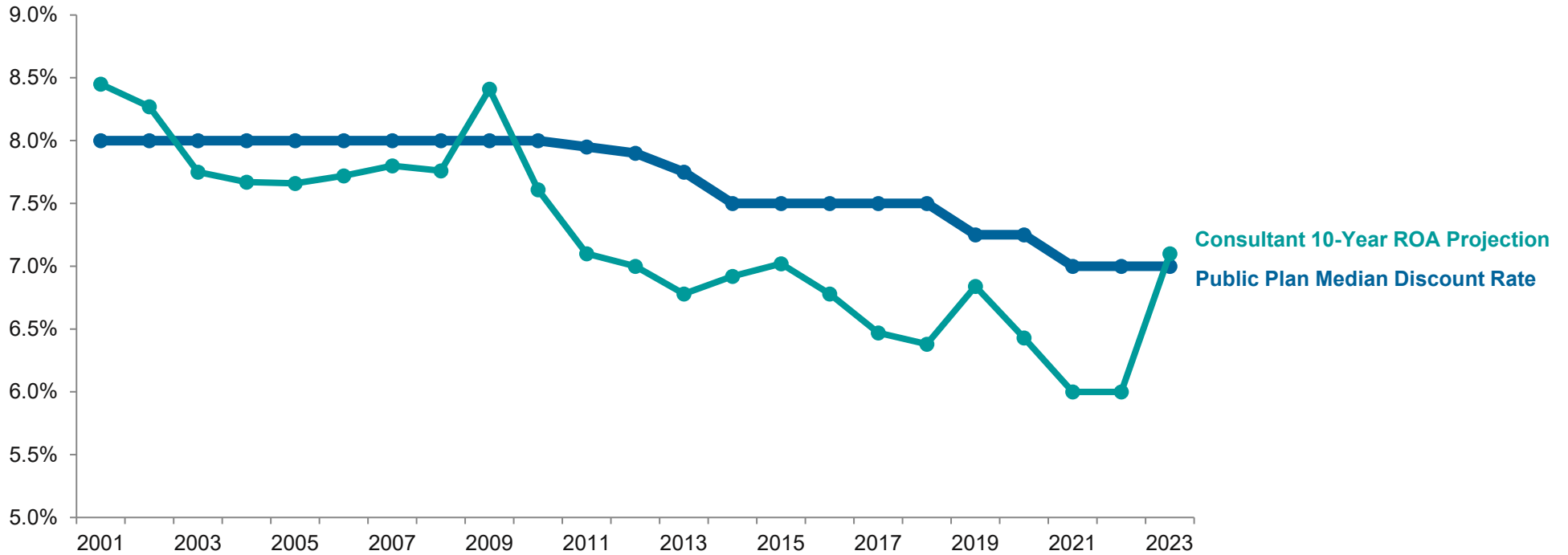
Callan does not recommend any change to the Current Target asset allocation

- Current actual allocation is not at policy target; focus on rebalancing to policy target



Setting the Discount Rate: The Challenge

Actuaries and Consultants Never Agree!



Source: Callan, NASRA

Time Horizon Considerations for Fiduciaries

Fiduciaries should understand how actuaries' and consultants' return assumptions differ

- Consultants such as Callan typically use 10-year projections to evaluate a plan's investment policy; we provide 20-year and 30-year projections as well, as clients request them
- Why use 10 years as the standard for consultants? Appropriate length for evaluating the economic and financial market environment. 10-year projections may diverge from longer-term equilibrium expectations
- If using a 30-year horizon like many actuaries do, the amount of uncertainty observed in consultants' portfolio simulation results is so vast that it makes them less relevant to evaluating investment policy choices
- A plan actuary is responsible for evaluating the discount rate with the Board using a longer time horizon of up to 30 years
- As a result, these two different purposes of setting investment policy and the discount rate can result in two different numbers

Customized NYSTRS Capital Market Projections – 10-Year Time Horizon

NYSTRS Asset Allocation Model 2023-2032

Projection set customized to reflect specific NYSTRS strategies:

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

Current target projected return of 7.27% compounded over 10 years, at a risk (standard deviation) of 13.44%

Actual AA at 12/31/22 is 1.1% lower in public equity, 2.1% higher in real estate equity, 1.7% higher in private equity, and 3% lower in core US fixed income, compared to the target

Asset Class	Target Weight	Actual (12/31/2022)	PROJECTED RETURN			PROJECTED RISK
			Single-Period Arithmetic Return	10-Year Geometric Return	Projected Yield	Annualized Standard Deviation
Public Equity	52.0%	50.9%				
Broad US Equity (1)	33.0%	32.6%	8.75%	7.35%	1.96%	18.05%
Global Ex-US Equity (2)	15.0%	14.9%	9.35%	7.45%	3.69%	21.05%
Global Equity (3)	4.0%	3.4%	9.05%	7.60%	2.74%	18.35%
Private Market Equity	20.0%	23.8%				
Real Estate Equity (4)	11.0%	13.1%	8.05%	6.95%	3.12%	16.10%
Private Equity	9.0%	10.7%	11.95%	8.50%	0.00%	27.60%
Private Debt	2.0%	1.3%				
Private Debt	2.0%	1.3%	8.00%	7.00%	7.00%	15.50%
Fixed Income	25.0%	22.1%				
Core U.S. Fixed Income	16.0%	13.0%	4.25%	4.25%	4.30%	4.10%
Global Fixed Income (5)	2.0%	2.0%	3.30%	3.30%	3.16%	3.70%
Real Estate Debt (6)	6.0%	6.2%	5.55%	5.50%	3.60%	5.00%
High Yield	1.0%	0.9%	6.75%	6.25%	8.00%	11.75%
Cash Equivalents	1.0%	1.8%				
Cash Equivalents	1.0%	1.8%	2.75%	2.75%	2.75%	0.90%
Inflation				2.50%		1.60%
Total Fund	100.0%	100.0%				
Single-Period Arithmetic Return			7.95%	8.07%		
10-Year Geometric Return			7.27%	7.34%		
Annualized Standard Deviation			13.44%	13.86%		
Projected Yield			2.87%	2.75%		
Sharpe Ratio			0.34	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 = 55% broad US, 45% global ex-US

(4) Real estate equity = 55% core real estate, 30% non-core real estate, 15% REITs

(5) Global fixed income = 60% non-US developed market bonds, 40% core US fixed income

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

Source: Callan LLC

Customized NYSTRS Capital Market Projections – 20-Year Time Horizon

NYSTRS Asset Allocation Model 2023-2042

Projection set customized to reflect specific NYSTRS strategies:

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

Current target projected return of 7.57% compounded over 20 years, at a risk (standard deviation) of 13.44%

Actual AA at 12/31/22 is 1.1% lower in public equity, 2.1% higher in real estate equity, 1.7% higher in private equity, and 3% lower in core US fixed income, compared to the target.

Asset Class	Target Weight	Actual (12/31/2022)	PROJECTED RETURN			PROJECTED RISK
			Single-Period Arithmetic Return	20-Year Geometric Return	Projected Yield	Annualized Standard Deviation
Public Equity	52.0%	50.9%				
Broad US Equity (1)	33.0%	32.6%	9.05%	7.65%	1.96%	18.05%
Global Ex-US Equity (2)	15.0%	14.9%	9.75%	7.80%	3.69%	21.05%
Global Equity (3)	4.0%	3.4%	9.35%	7.95%	2.74%	18.35%
Private Market Equity	20.0%	23.8%				
Real Estate Equity (4)	11.0%	13.1%	8.45%	7.35%	3.12%	16.10%
Private Equity	9.0%	10.7%	12.30%	8.85%	0.00%	27.60%
Private Debt	2.0%	1.3%				
Private Debt	2.0%	1.3%	8.25%	7.25%	7.00%	15.50%
Fixed Income	25.0%	22.1%				
Core U.S. Fixed Income	16.0%	13.0%	4.45%	4.45%	4.30%	4.10%
Global Fixed Income (5)	2.0%	2.0%	3.75%	3.70%	3.16%	3.70%
Real Estate Debt (6)	6.0%	6.2%	5.65%	5.60%	3.60%	5.00%
High Yield	1.0%	0.9%	6.85%	6.30%	8.00%	11.75%
Cash Equivalents	1.0%	1.8%				
Cash Equivalents	1.0%	1.8%	2.80%	2.80%	2.75%	0.90%
Inflation				2.50%		1.60%
Total Fund	100.0%	100.0%				
Single-Period Arithmetic Return	8.24%	8.37%				
20-Year Geometric Return	7.57%	7.66%				
Annualized Standard Deviation	13.44%	13.86%				
Projected Yield	2.87%	2.75%				
Sharpe Ratio	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 = 55% broad US, 45% global ex-US

(4) Real estate equity = 55% core real estate, 30% non-core real estate, 15% REITs

(5) Global fixed income = 60% non-US developed market bonds, 40% core US fixed income

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

Source: Callan L2C

Customized NYSTRS Capital Market Projections – 30-Year Time Horizon

NYSTRS Asset Allocation Model 2023-2052

Projection set customized to reflect specific NYSTRS strategies:

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

Current target projected return of 7.83% compounded over 30 years, at a risk (standard deviation) of 13.44%

Actual AA at 12/31/22 is 1.1% lower in public equity, 2.1% higher in real estate equity, 1.7% higher in private equity, and 3% lower in core US fixed income, compared to the target

Asset Class	Target Weight	Actual (12/31/2022)	PROJECTED RETURN			PROJECTED RISK
			Single-Period Arithmetic Return	30-Year Geometric Return	Projected Yield	Annualized Standard Deviation
Public Equity	52.0%	50.9%				
Broad US Equity (1)	33.0%	32.6%	9.30%	7.90%	1.96%	18.05%
Global Ex-US Equity (2)	15.0%	14.9%	10.05%	8.10%	3.69%	21.05%
Global Equity (3)	4.0%	3.4%	9.65%	8.20%	2.74%	18.35%
Private Market Equity	20.0%	23.8%				
Real Estate Equity (4)	11.0%	13.1%	8.75%	7.70%	3.12%	16.10%
Private Equity	9.0%	10.7%	12.60%	9.15%	0.00%	27.60%
Private Debt	2.0%	1.3%				
Private Debt	2.0%	1.3%	8.50%	7.55%	7.00%	15.50%
Fixed Income	25.0%	22.1%				
Core U.S. Fixed Income	16.0%	13.0%	4.65%	4.65%	4.30%	4.10%
Global Fixed Income (5)	2.0%	2.0%	4.10%	4.05%	3.16%	3.70%
Real Estate Debt (6)	6.0%	6.2%	5.70%	5.70%	3.60%	5.00%
High Yield	1.0%	0.9%	6.90%	6.35%	8.00%	11.75%
Cash Equivalents	1.0%	1.8%				
Cash Equivalents	1.0%	1.8%	2.80%	2.80%	2.75%	0.90%
Inflation				2.50%		1.60%
Total Fund	100.0%	100.0%				
Single-Period Arithmetic Return			8.49%	8.62%		
30-Year Geometric Return			7.83%	7.93%		
Annualized Standard Deviation			13.44%	13.86%		
Projected Yield			2.87%	2.75%		
Sharpe Ratio			0.37	0.37		

(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 = 55% broad US, 45% global ex-US

(4) Real estate equity = 55% core real estate, 30% non-core real estate, 15% REITs

(5) Global fixed income = 60% non-US developed market bonds, 40% core US fixed income

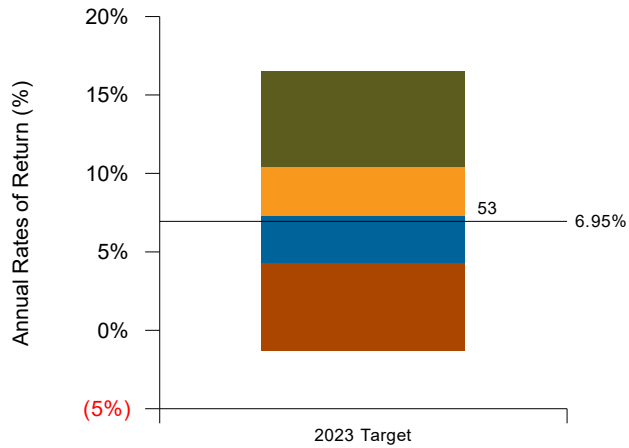
(6) Real estate debt = 80% commercial mortgages/20% private mezzanine debt

Source: Callan LLC

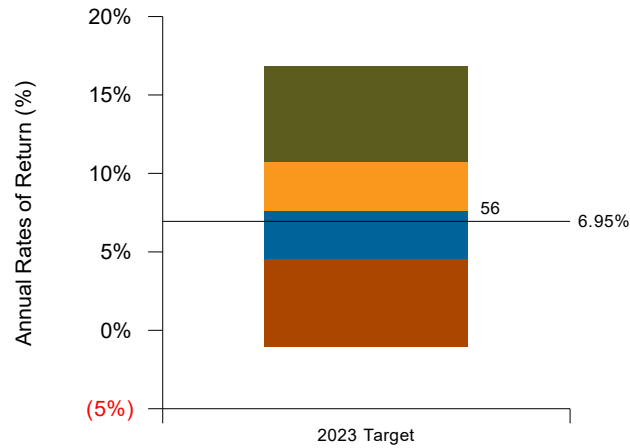
Range of Projected Rates of Return vs. 6.95% Assumed Return

Probability of Exceeding 0% and 6.95% Using Ten, Twenty and Thirty Year CMAs

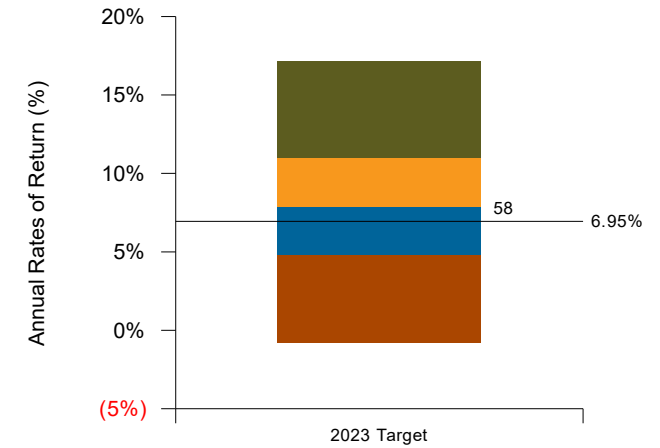
Range of Projected Rates of Return
Projection Period: 10 Years
Optimization Set: 2023 10-Year



Range of Projected Rates of Return
Projection Period: 10 Years
Optimization Set: 2023 20-year



Range of Projected Rates of Return
Projection Period: 10 Years
Optimization Set: 2023 30-year



2.5th Percentile	16.5%
25th Percentile	10.4%
Median	7.3%
75th Percentile	4.3%
97.5th Percentile	(1.3%)
Prob > 6.95%	53%
Prob > 0%	95%

2.5th Percentile	16.8%
25th Percentile	10.7%
Median	7.6%
75th Percentile	4.6%
97.5th Percentile	(1.0%)
Prob > 6.95%	56%
Prob > 0%	96%

2.5th Percentile	17.1%
25th Percentile	11.0%
Median	7.9%
75th Percentile	4.8%
97.5th Percentile	(0.8%)
Prob > 6.95%	58%
Prob > 0%	96%

Source: Callan LLC

Callan

Appendix

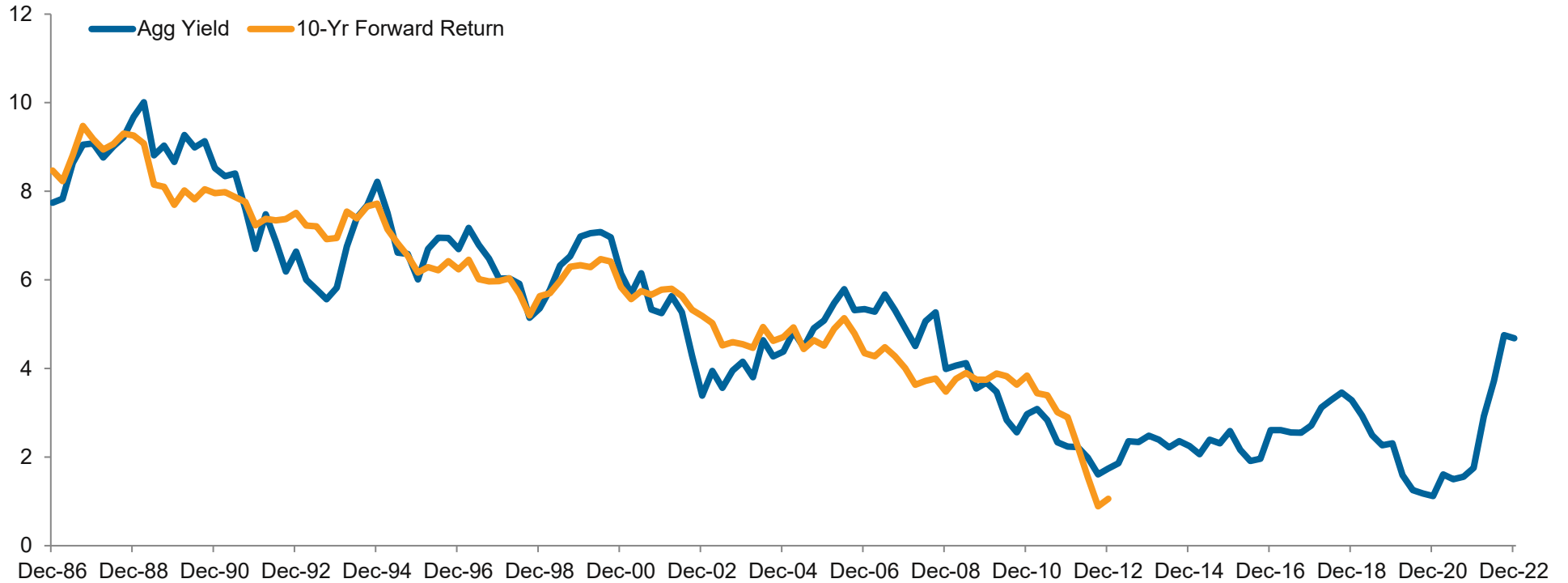
NYSTRS Net Asset Value 12/31/22

Asset Category	Asset Class	December 31, 2022	
		Net Asset Value	% Net Asset Value
Equity	Domestic Equity	\$41,899,700	32.6%
	International Equity	\$19,142,211	14.9%
	Global Equity	\$4,401,006	3.4%
	Real Estate Equity	\$16,786,954	13.1%
	Private Equity	\$13,715,149	10.7%
	Asset Category Subtotal	\$95,945,019	74.7%
Fixed Income	Domestic Fixed Income	\$16,725,931	13.0%
	Global Bonds	\$2,626,905	2.0%
	High Yield	\$1,169,505	0.9%
	Real Estate Debt	\$7,997,854	6.2%
	Private Debt	\$1,704,241	1.3%
	Cash & Short Term Debt	\$2,328,739	1.8%
Asset Category Subtotal	\$32,553,174	25.3%	
Total Plan		\$128,498,194	100.0%

Source: NYSTRS

Starting Yield Strongly Predicts Forward Returns

Bloomberg 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 Aggregate Index was 4.68% as of December 31, 2022

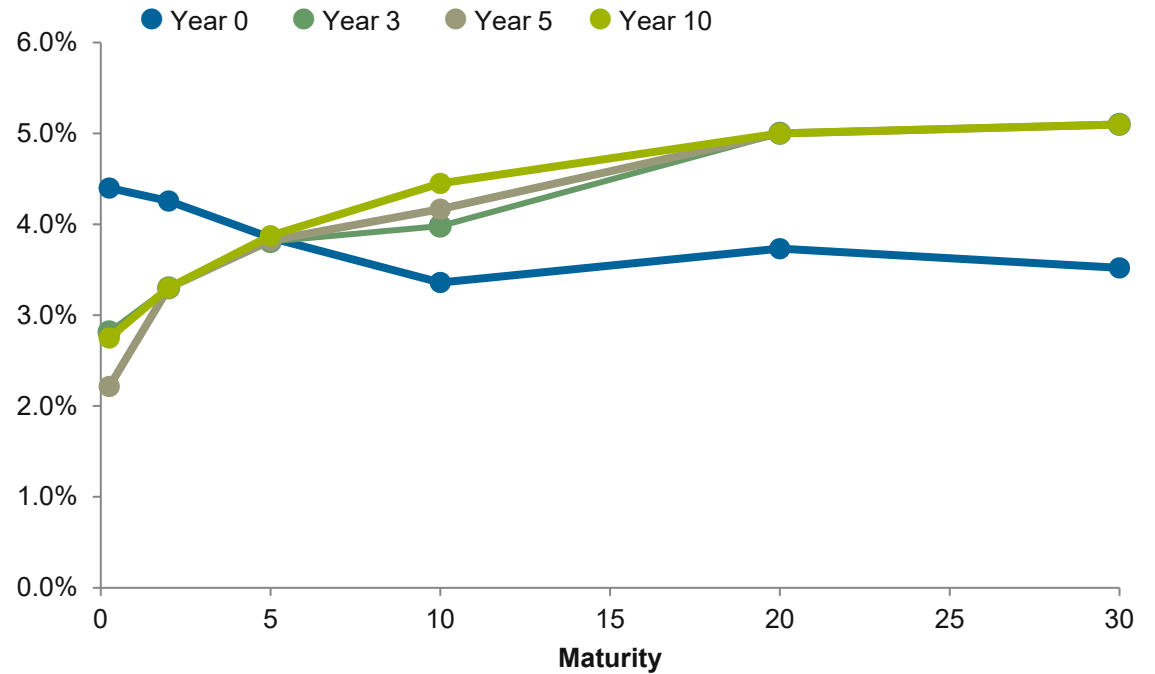
Source: Bloomberg

Shape of Yield Curve at Different Points in Forecast Horizon

Our forecast has the yield curve steepening within the first few years

With yields already high, we expect yields to reach equilibrium by year 10 of our forecast (vs. year 30 in prior forecasts)

Yield Curve Forecast



	3 Month	2 Year	5 Year	10 Year	20 Year	30 Year
Forecast Year 0	4.40	4.26	3.85	3.36	3.73	3.52
Forecast Year 3	2.82	3.30	3.81	3.98	5.00	5.10
Forecast Year 5	2.22	3.30	3.82	4.17	5.00	5.10
Forecast Year 10 (Equilibrium Reached)	2.75	3.30	3.88	4.45	5.00	5.10

Source: Callan

10-Year Expected Returns

	Income Return	+	Capital Gain/Loss	+	Credit Default	+	Roll Return	=	2023 Expected Return	Prelim 2023 Expected Return	Change vs 2023 Prelim	2022 Expected Return	Change vs 2022
Cash	2.75%		0.00%		0.00%		0.00%		2.75%	2.40%	0.35%	1.20%	1.55%
1-3 Year G/C	3.45%		0.20%		-0.10%		0.25%		3.80%	3.20%	0.60%	1.50%	2.30%
1-3 Year Government	3.15%		0.20%		0.00%		0.25%		3.60%	3.10%			
1-3 Year Credit	3.85%		0.10%		-0.20%		0.25%		4.00%	3.40%			
Intermediate Gov/Credit	3.95%		0.00%		-0.10%		0.25%		4.10%	3.60%	0.50%	1.70%	2.40%
Intermediate Gov	3.65%		0.10%		0.00%		0.25%		4.00%	3.40%			
Intermediate Credit	4.50%		-0.10%		-0.40%		0.25%		4.25%	3.90%			
Aggregate	4.30%		-0.20%		-0.10%		0.25%		4.25%	3.90%	0.35%	1.75%	2.50%
Government	3.80%		-0.10%		0.00%		0.25%		3.95%	3.60%			
Securitized	4.00%		0.00%		0.00%		0.25%		4.25%	3.90%			
Credit	5.25%		-0.40%		-0.40%		0.25%		4.70%	4.10%			
Long Duration Gov/Credit	6.15%		-1.70%		-0.30%		0.60%		4.75%	4.00%	0.75%	1.80%	2.95%
Long Government	4.90%		-1.80%		0.00%		0.60%		3.70%	3.30%			
Long Credit	6.50%		-1.50%		-0.40%		0.60%		5.20%	4.50%			
TIPS	3.95%		-0.20%		0.00%		0.25%		4.00%	3.25%	0.75%	1.25%	2.75%
Non-US Fixed (unhedged)	2.40%		-0.20%		-0.20%		0.25%		2.25%	2.00%	0.25%	0.80%	1.45%
High Yield	8.00%		0.20%		-2.20%		0.25%		6.25%	6.00%	0.25%	3.90%	2.35%
Emerging Market Debt	7.40%		0.20%		-2.00%		0.25%		5.85%	5.80%	0.05%	3.60%	2.25%
Bank Loans	7.40%		0.30%		-1.60%		0.00%		6.10%	6.10%	0.00%	4.60%	1.50%

Source: Callan

U.S. Equity Market: Key Metrics

S&P 500 valuation measures

S&P 500 Index: Forward P/E Ratio

Valuation Measure	Latest	25-year Average	Std Dev Over-/Under-valued
Forward P/E	16.65x	16.82x	-0.05
Shiller's P/E	27.96x	27.93x	0.01
Dividend yield	1.81%	1.99%	0.53
Price to book	3.42x	3.10x	0.40
Price to cash flow	12.42x	11.19x*	0.56
EY minus Baa yield	0.17%	0.27%	0.05



- All valuation measures are now within +/- one standard deviation of 25-year averages.
- Forward P/E is near the long-term average, but if we enter a recession both prices and earnings are likely to decline.

Source: FactSet, FRB, Refinitiv Datastream, Robert Shiller, Standard & Poor's, Thomson Reuters, J.P. Morgan Asset Management.

Price-to-earnings is price divided by consensus analyst estimates of earnings per share for the next 12 months as provided by IBES since December 1997 and by FactSet since January 2022. Current next 12 months consensus earnings estimates are \$231. Average P/E and standard deviations are calculated using 25 years of history. Shiller's P/E uses trailing 10 years of inflation-adjusted earnings as reported by companies. Dividend yield is calculated as the next 12 months consensus dividend divided by most recent price. Price-to-book ratio is the price divided by book value per share. Price-to-cash flow is price divided by NTM cash flow. EY minus Baa yield is the forward earnings yield (consensus analyst estimates of EPS over the next 12 months divided by price) minus the Moody's Baa seasoned corporate bond yield. Std. dev. over-/under-valued is calculated using the average and standard deviation over 25 years for each measure. *P/CF is a 20-year average due to cash flow availability. Guide to the Markets – U.S. Data are as of Dec. 31, 2022

Equity Forecasts

Building blocks

Index	Current Dividend Yield*	Forecast Dividend Yield	Net Buyback Yield	Inflation	Real Earnings Growth**	Valuation Adjustment	Total Geometric Return
S&P 500	1.77%	2.00%	0.50%	2.50%	2.25%	0.00%	7.25%
Russell 2500	1.61%	1.75%	0.00%	2.50%	3.20%	0.00%	7.45%
Russell 3000	1.72%	1.95%	0.45%	2.50%	2.45%	0.00%	7.35%
MSCI World ex USA	3.21%	3.75%	0.00%	1.75%	1.75%	0.00%	7.25%
MSCI Emerging Markets	3.27%	3.55%	-2.90%	3.00%	3.80%	0.00%	7.45%
Aggregate							4.25%
Cash							2.75%

Index	Forecast ERP Cash	Historical ERP Cash^	Delta ERP Cash	Forecast ERP Bonds	Historical ERP Bonds^^	Delta ERP Aggregate
S&P 500	4.50%	7.56%	-3.06%	3.00%	4.95%	-1.95%
Russell 2500	4.70%	7.22%	-2.52%	3.20%	4.61%	-1.41%

* Index yields as of Dec. 31, 2022

** S&P 500 real earnings growth is forecast real GDP growth. R 2500 real earnings growth is 100 bps spread over S&P 500. Developed and emerging markets earnings growth in line with their respective GDP assumptions.

^ Return relative to 90-day T-bills for 40 years ended Dec. 31, 2022

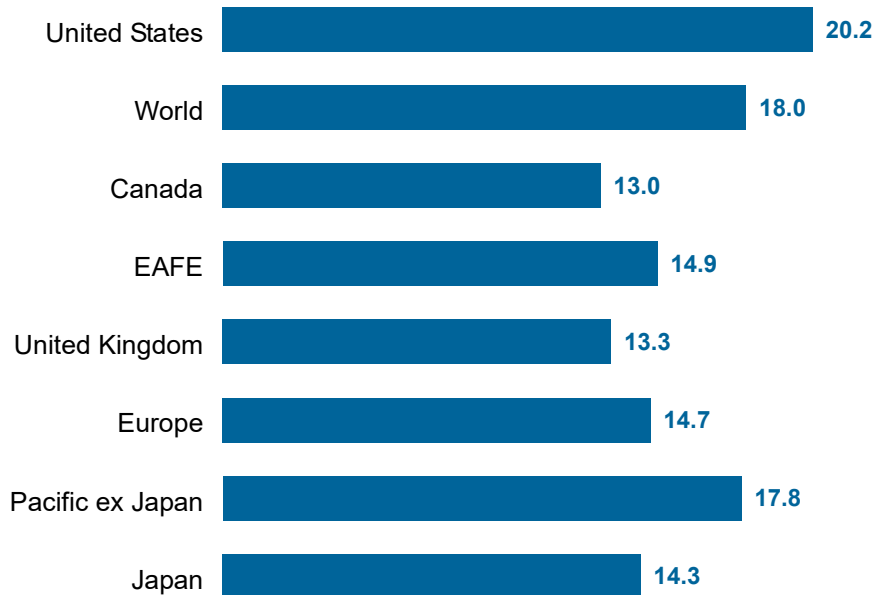
^^ Return relative to the Bloomberg Aggregate for 40 years ended Dec. 31, 2022

Source: Callan

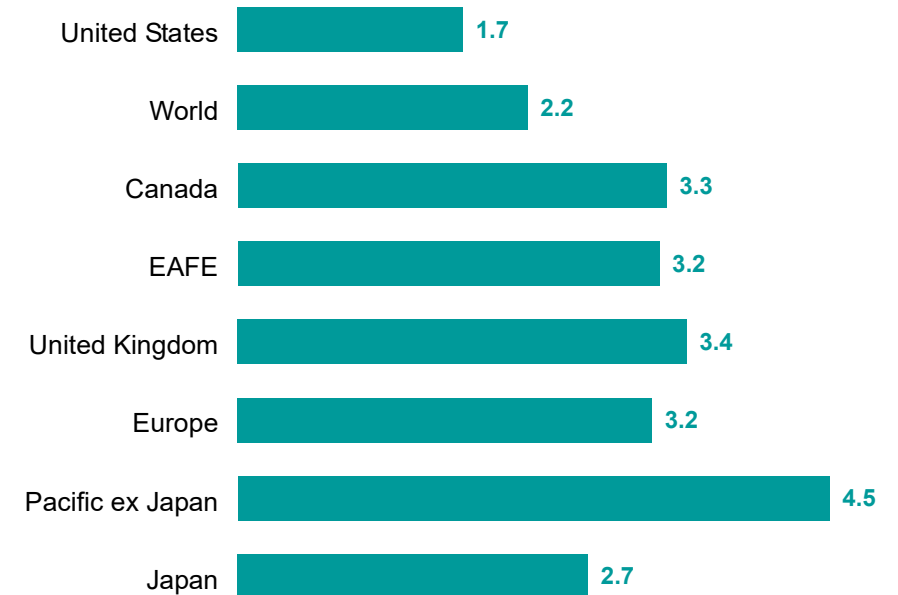
Global ex-U.S. Equity Assumptions

Developed market valuations and dividend yield

Price Earnings Ratio



Dividend Yield



Valuations have come down over the past year across each of these developed market indices

- U.S. continues to have the highest valuations

Dividend yields have risen since last year for all indices shown except the U.K.

Source: MSCI (Dec. 31, 2022)

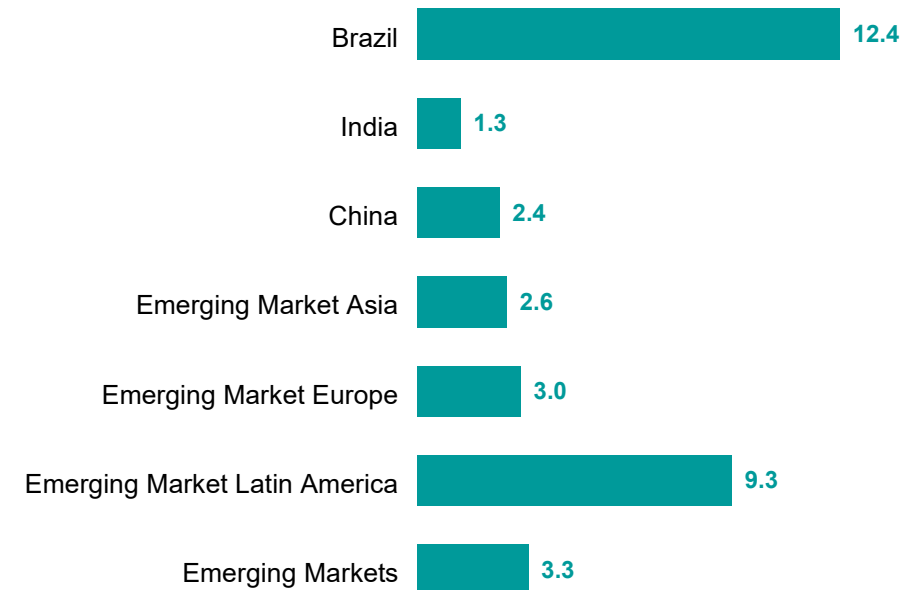
Global ex-U.S. Equity Assumptions

Emerging market valuations and dividend yield

Price Earnings Ratio



Dividend Yield



Emerging market valuations have also come down over the last year, but moderately compared to developed market valuations

- Asia has the highest regional valuations, Emerging Europe the lowest

Dividend yields have risen meaningfully across emerging market indices

Significant dilution is realized as growing companies issue more shares

Source: MSCI (Dec. 31, 2022)

Core Real Estate

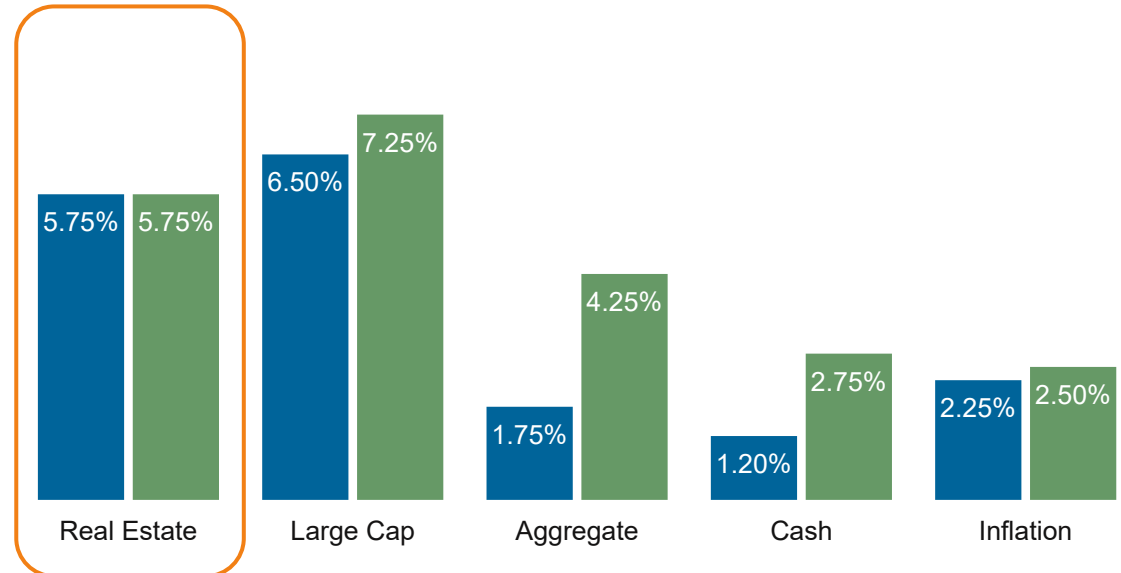
Background

- Real estate has characteristics of equity (ownership and appreciation) and bonds (income from rents). While both public equities and public fixed income saw meaningful increases in projected returns, we believe real estate valuations already reflect much of the potential forward-looking gains, as core real estate logged record appreciation in 2021 and 2022
- No change to the outlook for real estate returns compared to last year

2023 real estate return projection: 5.75% (unchanged)

Return Projections

● 2022 ● 2023



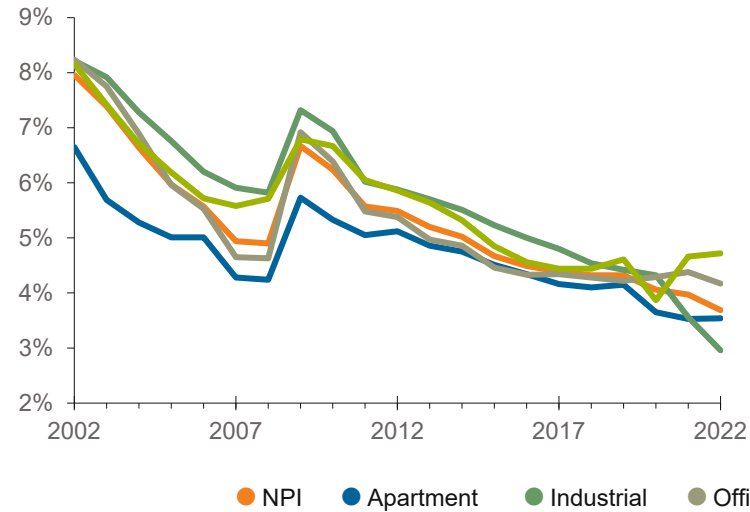
Source: Callan

Core Real Estate

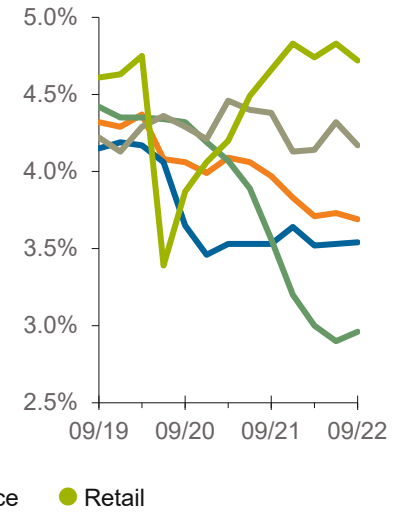
- ▶ 5.75% core real estate compound return (net of fees)
- ▶ Return calculations assume 4.7% cost of leverage and 0.4x debt-to-equity (30% loan-to-value)

Income Return (unlevered property)	5.1%
Appreciation (unlevered property)	0.7%
Total Return (before leverage)	5.8%

Annual Cap Rates



Quarterly



Callan Return Assumptions (unlevered property returns)

	Office	Retail	Industrial	Apartments	Other	NPI Index
Income	4.9%	5.7%	4.8%	5.0%	5.9%	5.1%
Appreciation	-0.1%	0.1%	1.4%	0.9%	0.9%	0.7%
Total Return	4.8%	5.7%	6.2%	5.9%	6.8%	5.8%

Source: NCREIF Property Index (NPI) cap rates correspond to unlevered property valuations

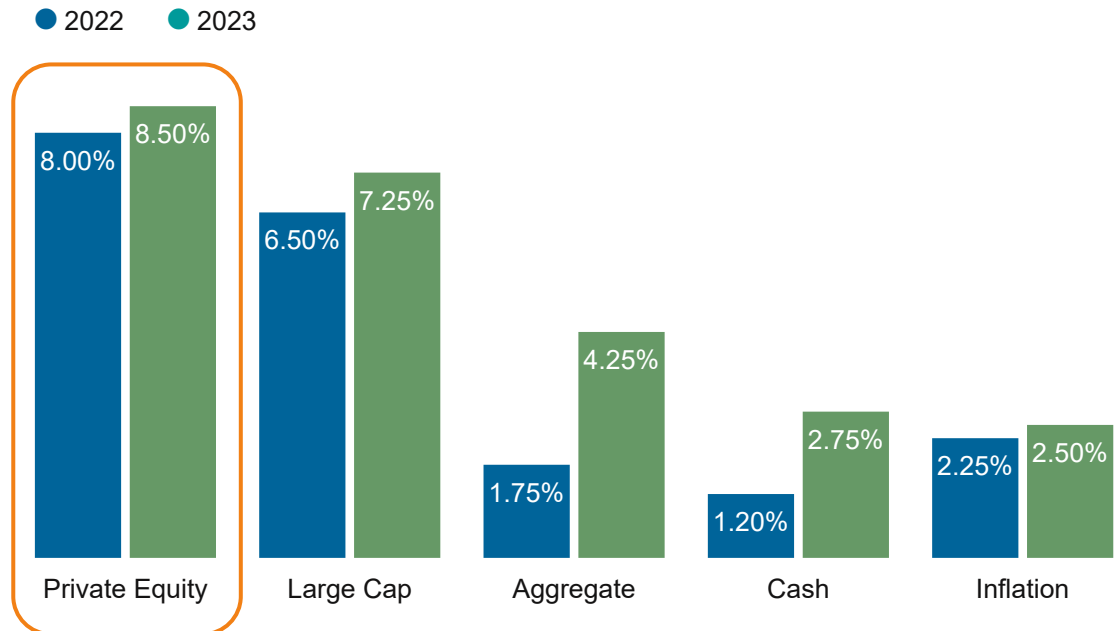
Private Equity

Background

- The private equity market in aggregate is driven by many of the same economic factors as public equity markets. However, we expect private equity to experience some write-downs that have not yet been reflected in performance
- Consequently, the private equity performance expectations did not rise as much as public equity expectations
- We see tremendous disparity between the best- and worst-performing private equity managers
- The ability to select skillful managers could result in realized returns significantly greater than projected here

2023 private equity return projection:
8.50% (up 50 bps)

Return Projections



Private Credit

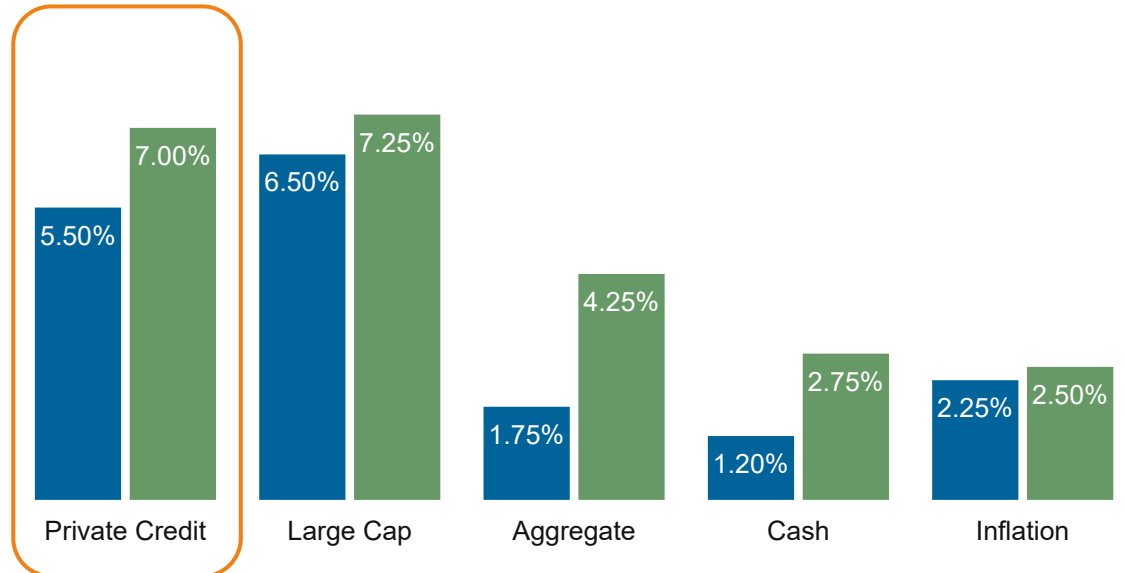
Background

- Return projection is anchored on middle market direct lending where yields have risen along with public fixed income yields
- While banks are no longer major investors in this market, there is strong appetite from institutional and retail investors
- A portfolio with more distressed and specialty finance exposure would have a higher return though with a lower current yield and higher volatility and higher correlation to public and private equity

2023 private credit return projection:
7.0% (up 150 bps)

Return Projections

● 2022 ● 2023



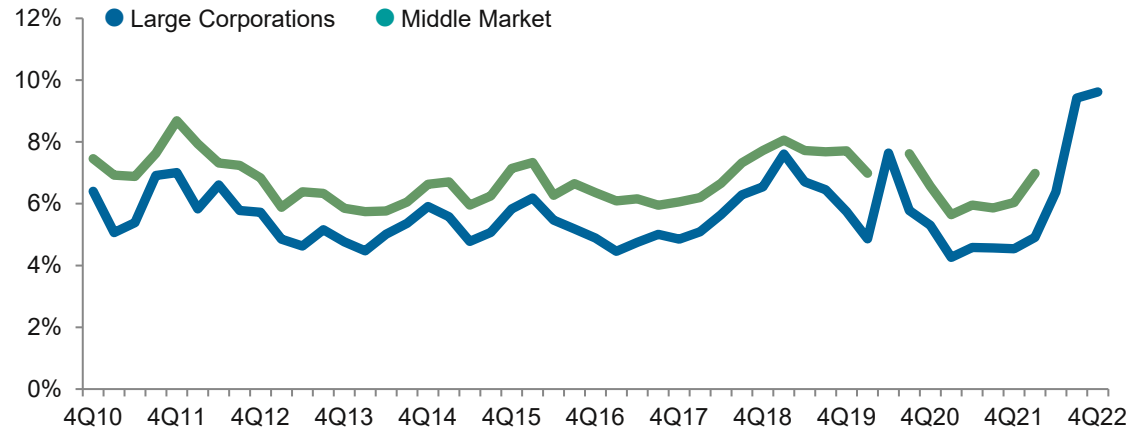
Source: Callan

Private Credit

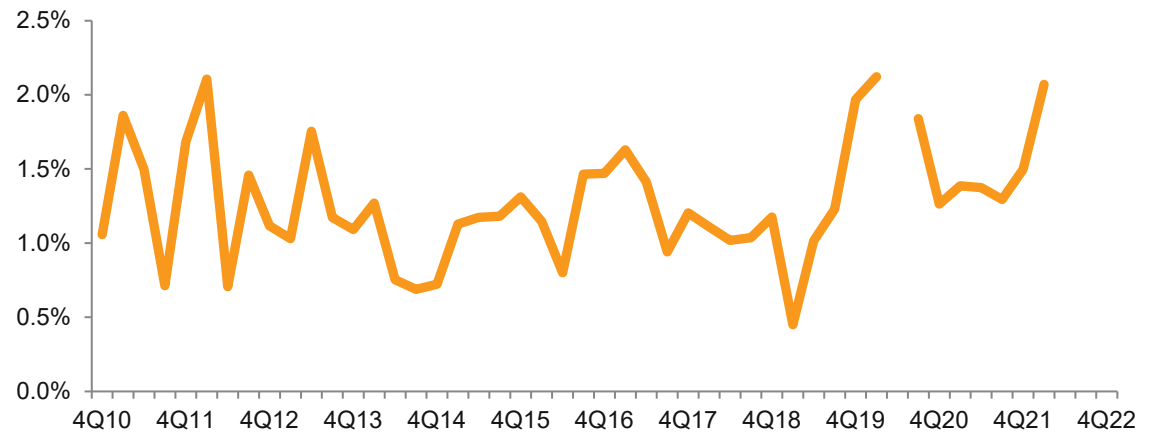
- ▶ Return calculations assume 5.25% cost of leverage and 1% unlevered loss ratio
- ▶ Corresponds to 7% compound return

Unlevered Yield	9.25%
Leverage	0.85x
Levered Yield	12.65%
Management Fee and OpEx	1.7%
Incentive Rate	15%
Hurdle	4%
Incentive Fee	1%
Total Fees and Expenses	2.7%
Loss Ratio	1.85%
Net Arithmetic	8%

Loan Yields



Middle Market Premium



Source: Refinitiv LPC. All-in yield (LIBOR + Spread + OID) assuming 3-year takeout
 Note: 2Q20, 2Q22, and 3Q22 not shown due to lack of data points to calculate a MM institutional all-in yield statistic.

2023 Capital Market Assumption Correlations

Summary of Callan’s long-term capital market projections (2023 – 2032)

Large Cap U.S. Equity	1.00																				
Smid Cap U.S. Equity	0.88	1.00																			
Dev ex-U.S. Equity	0.73	0.79	1.00																		
Em Market Equity	0.79	0.83	0.89	1.00																	
Short Dur Gov/Credit	0.05	0.01	0.04	-0.01	1.00																
Core U.S. Fixed	0.02	-0.02	0.00	-0.04	0.80	1.00															
Long Government	-0.05	-0.06	-0.03	-0.06	0.67	0.83	1.00														
Long Credit	0.45	0.40	0.40	0.40	0.64	0.80	0.66	1.00													
TIPS	-0.07	-0.08	-0.09	-0.11	0.56	0.70	0.50	0.52	1.00												
High Yield	0.75	0.74	0.73	0.75	0.10	0.09	0.00	0.45	0.02	1.00											
Global ex-U.S. Fixed	0.10	0.07	0.13	0.12	0.50	0.60	0.50	0.55	0.45	0.18	1.00										
EM Sovereign Debt	0.65	0.65	0.65	0.69	0.16	0.19	0.10	0.47	0.08	0.62	0.21	1.00									
Core Real Estate	0.44	0.42	0.42	0.41	0.16	0.14	0.05	0.30	0.09	0.31	0.16	0.29	1.00								
Private Infrastructure	0.48	0.47	0.46	0.46	0.14	0.15	0.10	0.33	0.08	0.34	0.18	0.32	0.76	1.00							
Private Equity	0.79	0.77	0.76	0.75	-0.01	-0.09	-0.13	0.30	-0.11	0.61	0.08	0.51	0.55	0.60	1.00						
Private Credit	0.69	0.68	0.65	0.68	0.11	0.00	-0.05	0.33	-0.12	0.63	0.12	0.50	0.25	0.27	0.67	1.00					
Hedge Funds	0.67	0.63	0.63	0.63	0.23	0.29	0.20	0.55	0.20	0.60	0.25	0.54	0.28	0.30	0.48	0.51	1.00				
Commodities	0.20	0.20	0.20	0.20	-0.05	-0.04	-0.10	0.05	0.00	0.20	0.10	0.15	0.18	0.15	0.20	0.17	0.23	1.00			
Cash Equivalents	-0.06	-0.08	-0.10	-0.10	0.30	0.15	0.12	0.00	0.12	-0.09	0.05	-0.06	0.00	-0.04	0.00	-0.04	-0.04	-0.02	1.00		
Inflation	-0.02	0.02	0.00	0.03	-0.21	-0.23	-0.30	-0.20	0.25	0.00	-0.15	-0.04	0.20	0.10	0.06	-0.05	0.05	0.35	0.05	1.00	
	Large Cap	Smid Cap	Dev	Em Mkts	Short Dur	Core Fixed	Long Gov	Long Credit	TIPS	High Yield	Global ex-US Fixed	EM	Core Real Estate	Private Infra	Private Equity	Private Credit	Hedge Funds	Comm	Cash Equiv	Inflation	

- Relationships between asset classes are as important as standard deviation
- To determine portfolio mixes, Callan employs mean-variance optimization
- Return, standard deviation, and correlation determine the composition of efficient asset mixes

Source: Callan

Customized NYSTRS Capital Market Projections

NYSTRS Correlation Matrix

Correlation Matrix	Broad US	Glb ex US	Gbl Eq	RE Eq	Priv Eq	Priv Cred	Core Fix	Gbl Fix	RE Debt	Hi Yield	Cash
Broad US Equity	1.000										
Global ex-US Equity	0.797	1.000									
Global Equity	0.949	0.946	1.000								
Real Estate Equity	0.618	0.623	0.654	1.000							
Private Equity	0.804	0.778	0.836	0.730	1.000						
Private Credit	0.701	0.678	0.727	0.458	0.670	1.000					
Core US Fixed	0.016	-0.013	0.004	0.050	-0.086	0.000	1.000				
Global Fixed Income	0.072	0.081	0.081	0.092	0.015	0.080	0.846	1.000			
Real Estate Debt	0.746	0.720	0.775	0.712	0.873	0.627	0.316	0.368	1.000		
High Yield	0.762	0.756	0.801	0.411	0.610	0.630	0.090	0.160	0.644	1.000	
Cash Equivalents	-0.065	-0.103	-0.088	-0.037	0.000	-0.040	0.150	0.100	0.065	-0.090	1.000

Projection set customized to reflect specific NYSTRS strategies:

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

Source: Callan LLC

Important Disclosures

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Past performance is no guarantee of future results.



Appendix G

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

Investment Committee Meeting

April 26, 2023

COMMITTEE MEMBERS

Nicholas Smirensky, Chair
Elizabeth Chetney, David Keefe, Jennifer Longtin, Ruth Mahoney, Christopher Morin

AGENDA pp. 48-49

- A. Approval of Minutes of January 25, 2023 and January 26, 2023 Investment Committee Meetings pp. 50-59

STAFF UPDATES

- A. Investment Committee Executive Summary – M. Andriola pp. 60-68
B. Managing Director Updates
- Public Equities Update – P. Cummins p. 69
 - Fixed Income Update – M. Federici p. 70
 - Real Estate Update – D. Gillan pp. 71-73-
 - Private Equity/Debt Update – G. Yahoudy p. 74

PRESENTATIONS

- A. Asset Allocation Review – Callan pp. 75-106
B. Fixed Income Manager Presentation – BlackRock (**motion for Executive Session** pursuant to Open Meetings Law Section 105(f)) pp.107-171
C. Fixed Income Manager Presentation – Pimco (**motion for Executive Session** pursuant to Open Meetings Law Section 105(f)) pp. 172-244

INVESTMENT COMMITTEE ACTION REQUIRED

- A. **Consent Agenda Recommendation Item #1** pp. 245-249
1. Renew Agreements
 - Adelante Capital Management LLC p. 245
 - Goldman Sachs Asset Mgt India Equity Strategy p. 246
 - J.P. Morgan Chase Bank NA (Securities Lending) p. 247

- LSV Asset Management p. 248
 - Wellington Management Company LLP p. 249
2. Resolution on BlackRock Financial Mgt Co p. 250
 3. Resolution on Pacific Investment Mgt Co p. 251
 4. IPM Global Bonds Benchmark Resolution p. 252

Informational Reports

1. EDCIO Investment Discretion Report pp. 253-255
2. Mail Vote Quarterly Board Report p. 256



**NEW YORK STATE
TEACHERS' RETIREMENT SYSTEM
ED&CIO Investment Discretion Exercised**

Appendix H

TO: Retirement Board
FROM: T. Lee
SUBJECT: Quarterly Report of Executive Director and Chief Investment Officer Investment Discretion Exercised January – March 2023

Fixed Income

Period	Action Taken	Amount
Q/E 3/31/23	Net cash reallocated into internally managed Long-Term Bonds	\$462.6 M

Public Equities

Period	Action Taken	Amount
Q/E 3/31/2023	Net cash reallocated out of internally managed domestic equity portfolios	\$776.1M
Q/E 3/31/2023	Net cash reallocated out of externally managed international equity portfolios (BlackRock \$750M, SSGA \$750M)	\$1.5B



**NEW YORK STATE
TEACHERS' RETIREMENT SYSTEM
ED&CIO Investment Discretion Exercised**

SUBJECT: Quarterly Report of Executive Director and Chief Investment Officer Investment Discretion Exercised January – March 2023

Real Estate - New Commitments

Date of Internal Inv. Comm. Approval	Investment Name	Amount	New or Renew
Jan 18 2023	Artemis RE Debt Sep Acct Upsize	\$150M	Renew
Jan 18 2023	Cabot Ind Value Fund VII	\$50M	Renew

Real Estate

Period	Action Taken	Amount
Q/E 3/31/2023	Net cash reallocated out of externally managed REIT accounts; US Strategies (Cohen & Steers \$180M, Adelante \$75M). Global (Brookfield \$37.5M, AEW \$82.5M)	\$375.0M



**NEW YORK STATE
TEACHERS' RETIREMENT SYSTEM
ED&CIO Investment Discretion Exercised**

SUBJECT: Quarterly Report of Executive Director and Chief Investment Officer Investment Discretion Exercised January – March 2023

Private Equity/Debt – New Commitments

Date of Internal Inv. Comm. Approval	Investment Name	Amount	New or Renew
01-03-2023	Amulet Capital Fund III	\$100M	Renew
03-16-2023	GTCR Fund XIV	\$200M	Renew



**NEW YORK STATE
TEACHERS' RETIREMENT SYSTEM**

Board Mail Votes

Appendix I

TO: Retirement Board
FROM: T. Lee
SUBJECT: Quarterly Board Report of Mail Votesⁱ for the period January – March 2023

Date	Type (Full Board Vote or Investment Committee Vote)	Transaction
	- None -	

ⁱ "...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

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 27, 2023.

The following individuals were in attendance:

Committee Members: David Keefe, Phyllis Harrington, Christopher Morin, Oliver Robinson

Board Members: Juliet Benaquisto, Elizabeth Chetney, Eric Iberger, Jennifer Longtin, Ruth Mahoney, Nicholas Smirensky

NYSTRS Staff: Thomas Lee, Don Ampansiri, Yiselle Ruoso, Miriam Dixon, Rebecca Kannan

Visitors via WebEx: Donna Martin, Albany NY; Cyril Espanol, WithIntelligence

With unanimous consent, the meeting was called to order at 8:30 a.m. by D. Keefe, Chair. The following items were discussed:

1. Approval of January 26, 2023 and March 23, 2023 meeting minutes

Upon motion of P. Harrington, seconded by O. Robinson, and unanimously carried, the meeting minutes from January 26, 2023 and March 23, 2023 were approved.

2. System's Operating Budget

Upon motion of O. Robinson, seconded by C. Morin, 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 2023-24, a copy of which is annexed hereto and made a part hereof as Appendix A, pp. 3-17; be it

RESOLVED, That the Operating Budget for Fiscal Year 2023-24 is approved as presented.

3. Legislative Update

D. Ampansiri updated the Committee that the Legislature has yet to take up any of NYSTRS' proposed Program Bills, Executive/Governor's budget negotiations are ongoing with staff continuing to track policy pieces that may affect the System, and the Legislature continues to pass extenders to maintain state operations pending, and in anticipation of, passage of the budget.

4. Discussion on Proposed Changes to Rules and Regulations

D. Ampansiri reviewed the proposed changes to the System's Rules and Regulations relating to parts 5004.9 and 5020.6. Staff will submit resolutions capturing the proposals at the July 2023 meeting for the Board's consideration (Appendix B, pp 18-24).

5. Short-Term Executive Director/CIO Succession Plan

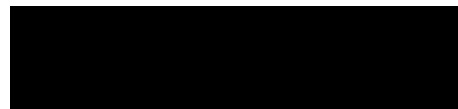
The Committee reviewed the completed Annual Executive Director and Chief Investment Officer Short-Term Succession Plan designations for the period July 1, 2023 – June 30, 2024 (Appendix C, pp. 25-27).

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. 28-32).

There being no further business and with unanimous consent, the Committee adjourned the meeting at 8:46 a.m.

Respectfully submitted,

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

Thomas K. Lee

DATE: April 27, 2023
TO: Executive Committee
FROM: T. Lee
SUBJECT: 2023-24 Proposed Budget
CC: M. Andriola, M. Dixon, R. Kannan

Appendix A

Attached is the 2023-24 proposed budget.

- The overall System budget for 2023-24 is proposed to be \$87.28 million, which is a 6.8% increase from the 2022-2023 budget.
- The administrative expense rate for 2023-2024 is proposed to remain at 0.26% of member salary base for the sixth consecutive year.
- The number of total authorized positions is proposed to remain at 430.
- Capital Improvement Program:
 - The 2023-24 budget for the Capital Improvement Program will remain at \$5.25 million for the eighth consecutive year.
 - The System's Capital Improvement Program includes funding for depreciation and maintenance costs of fixed assets at the Albany and Malta locations.
- The budget contains an estimated contribution of \$6.91 million for other post-employment benefits (other than pensions), which is a 15.2% increase from the 2022-23 budget. NYSTRS' actuarial consultant, Cheiron, estimates with this contribution the funded ratio for the trust will be 55.5%. Cheiron will be providing a final report at the completion of the fiscal year. The report, final contribution and funded ratio will be presented to the board at the July meeting.

Proposed Budget FY 2023-2024



April 27, 2023

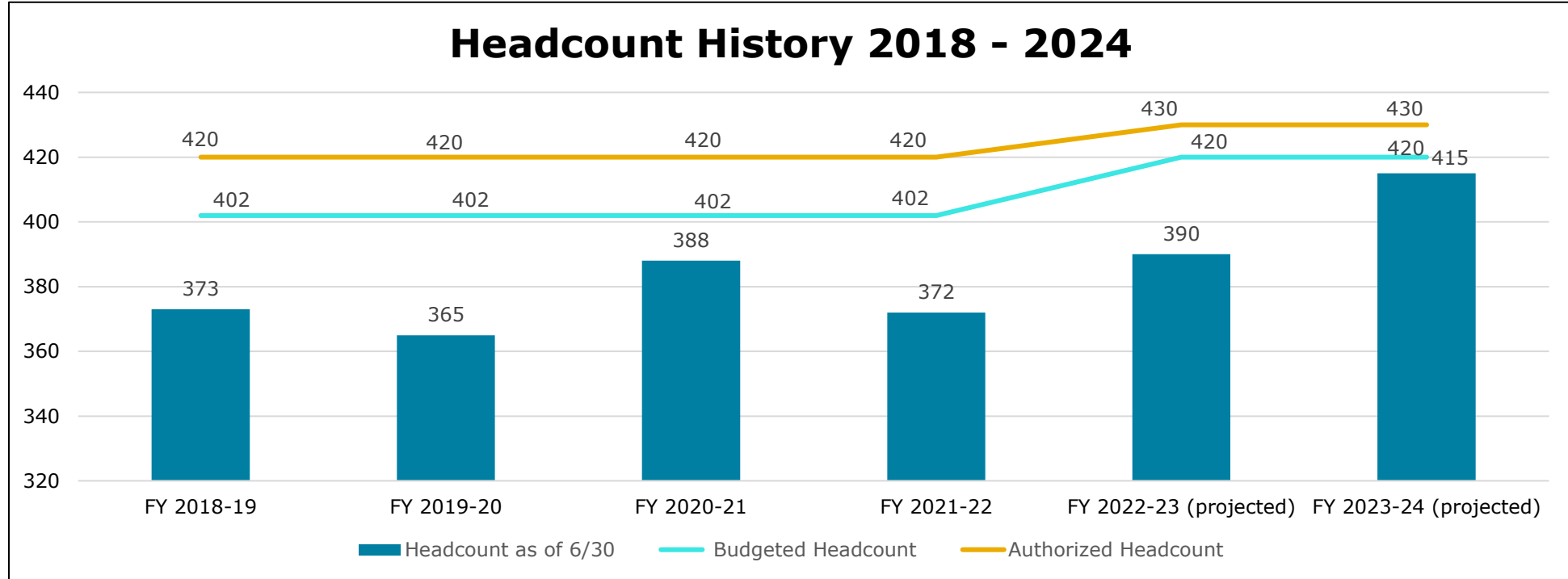
Agenda

- Workforce
- 23-24 Budget Investments
- Budget Funding
- Fund Balance
- Administrative Rate

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



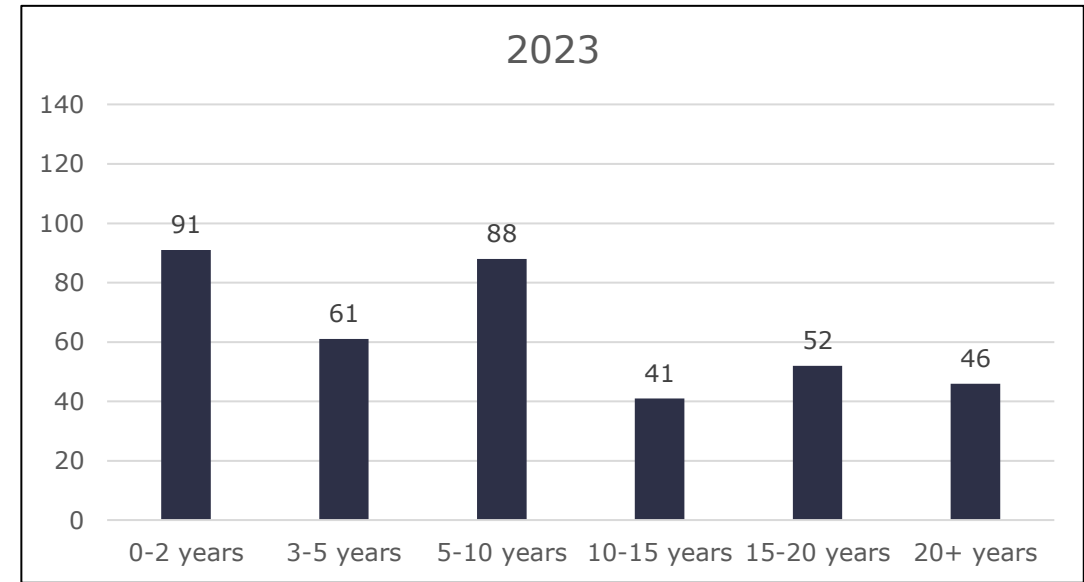
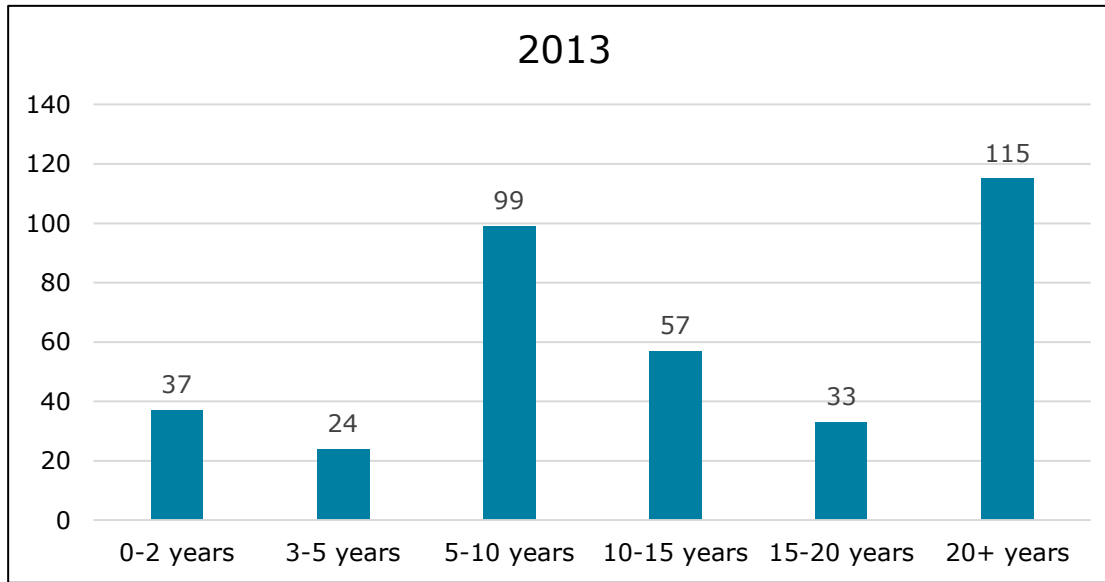
Growing Workforce



Year	2018-19	2019-20	2020-21	2021-22	2022-23 (projected)	2023-24 (projected)
Hires	39	31	45	33	59	61
Separations	38	39	22	49	41	36

Changing Workforce

Staff years of experience



	2018-19	2019-20	2020-21	2021-22	2022-23 (projected)
Retirements	23	18	13	24	12

Investing in our Workforce

(dollars in thousands)	2022-23	2023-24	\$ Change	% Change
Salaries	\$ 43,053	\$ 44,488	\$ 1,435	3.3%
Member	\$ 9,852	\$ 10,180	\$ 328	3.3%
Investment	\$ 9,310	\$ 9,414	\$ 104	1.1%
Support	\$ 23,891	\$ 24,894	\$ 1,003	4.2%
Benefits	\$ 13,462	\$ 13,823	\$ 361	2.7%
OPEB	\$ 6,000	\$ 6,910	\$ 910	15.2%
Professional Development	\$ 1,052	\$ 1,141	\$ 89	8.5%
Other Personnel Expenses	\$ 94	\$ 288	\$ 194	206.4%
Total	\$ 63,661	\$ 66,650	\$ 2,989	4.7%

Strategic Objective: Recruit, develop and retain a quality workforce

Workforce investment – 76.3% of budget

Salaries and Benefits

- 420 positions
- 3% contractual increase effective 4/1/23
- 2.5% or 3% increment for many employees
- Rising health and dental costs

Professional Development

- Avg \$2,700/employee training – includes required trainings, conferences, IT trainings, specialized trainings, tuition reimbursement

Other Personnel Expenses

- Investing in employee engagement
- Increasing recruitment efforts



Investing in our Infrastructure

System Budget				
<i>(dollars in thousands)</i>	2022-23	2023-24	\$ Change	% Change
Personnel	\$62,515	\$65,221	\$2,706	4.3%
Non-personnel (recurring)	\$12,493	\$13,374	\$881	7.1%
Capital Improvement	\$5,250	\$5,250	\$0	0%
Total Recurring	\$80,258	\$83,845	\$3,587	4.5%
Non-personnel (non-recurring)	\$1,497	\$3,434	\$1,937	129.4%
Total Budget	\$81,755	\$87,279	\$5,524	6.8%

Recurring costs

- Increase in business travel expenses
- Rising utilities
- IT hardware replacements
- New software for departments

Facilities Projects

- Bathroom renovations
- EV Vehicle for mailroom

IT Projects

- A/V Upgrades (Boardroom, Auditorium)
- Kofax Environment Upgrade
- Web Infrastructure upgrade
- MyNYSTRS Mobile and Web App rewrite



System Memberships

Retirement Administration	
Pension Fund Data Exchange	\$1,250
International Centre for Pension Management	\$21,800
National Institute on Retirement Security	\$18,000
National Conference on Public Employee Retirement Systems	\$4,660
National Association of State Retirement Administration	\$4,750
National Council on Teacher Retirement	\$5,200
Institute of Certified Professional Managers	\$28,000
Government Finance Officers Association	\$1,650
National Association of State Investment Officers	\$2,500
International Foundation of Employee Benefit Plans	\$1,145
Sustainability Accounting Standards Board	\$20,000
New York State Council of School Superintendents	\$125
Total	\$109,080

Asset Management	
Pacific Pension & Investment	\$14,000
Council of Institutional Investors	\$31,200
Certified Commercial Investment Member	\$250
Pension Real Estate Association	\$330
Investor Network on Climate Risk	\$9,200
National Council of Real Estate Investment Fiduciaries	\$2,500
Total	\$57,480



System Funding

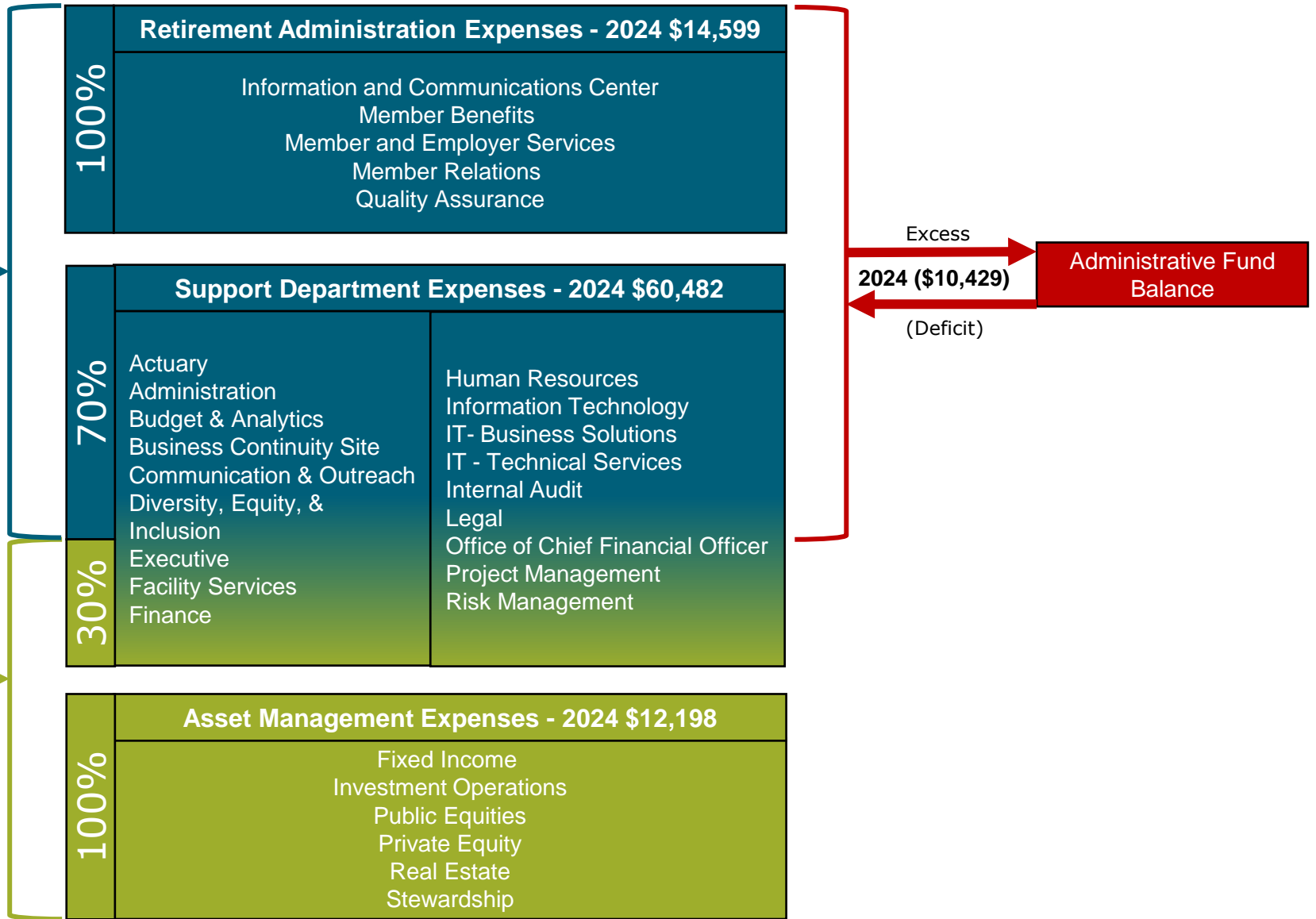
Funding Sources

Employer Contribution Rate – 10.29%
Normal Rate - 9.89%
Group Life - .13%
Excess Benefit - .01%
Admin Rate 0.26%

2024 \$46,507

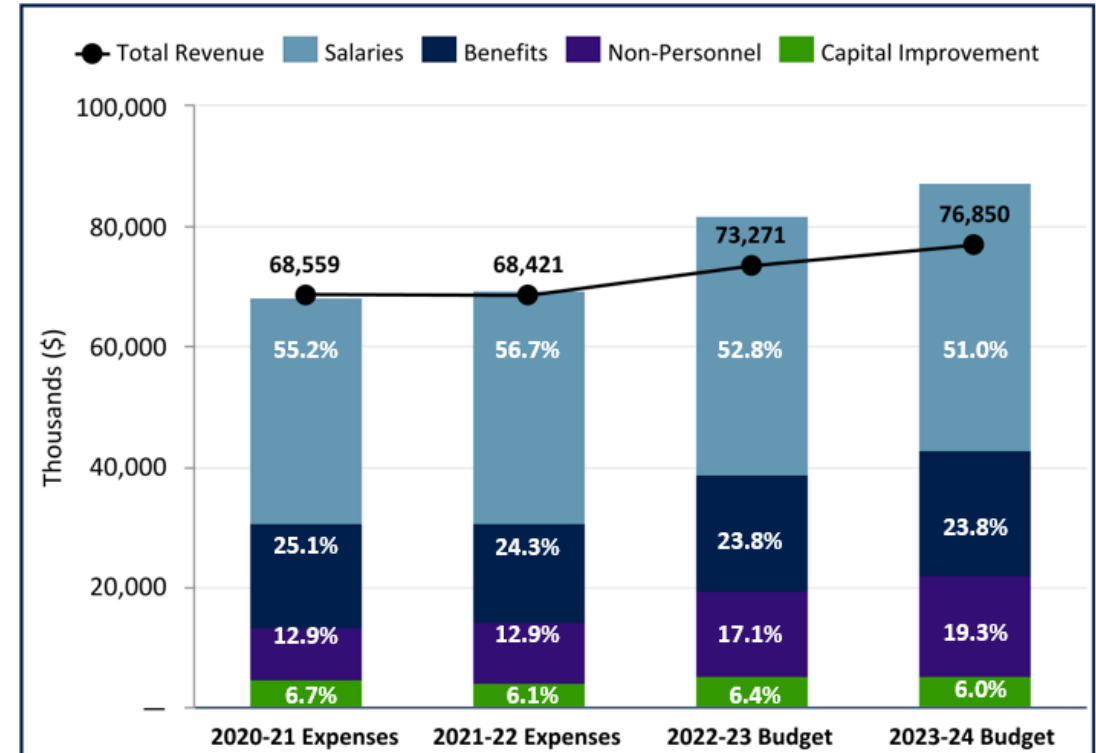
Investment Income
Asset Management Costs
Member Benefits
Allocation of Inv. Income

2024 \$30,343

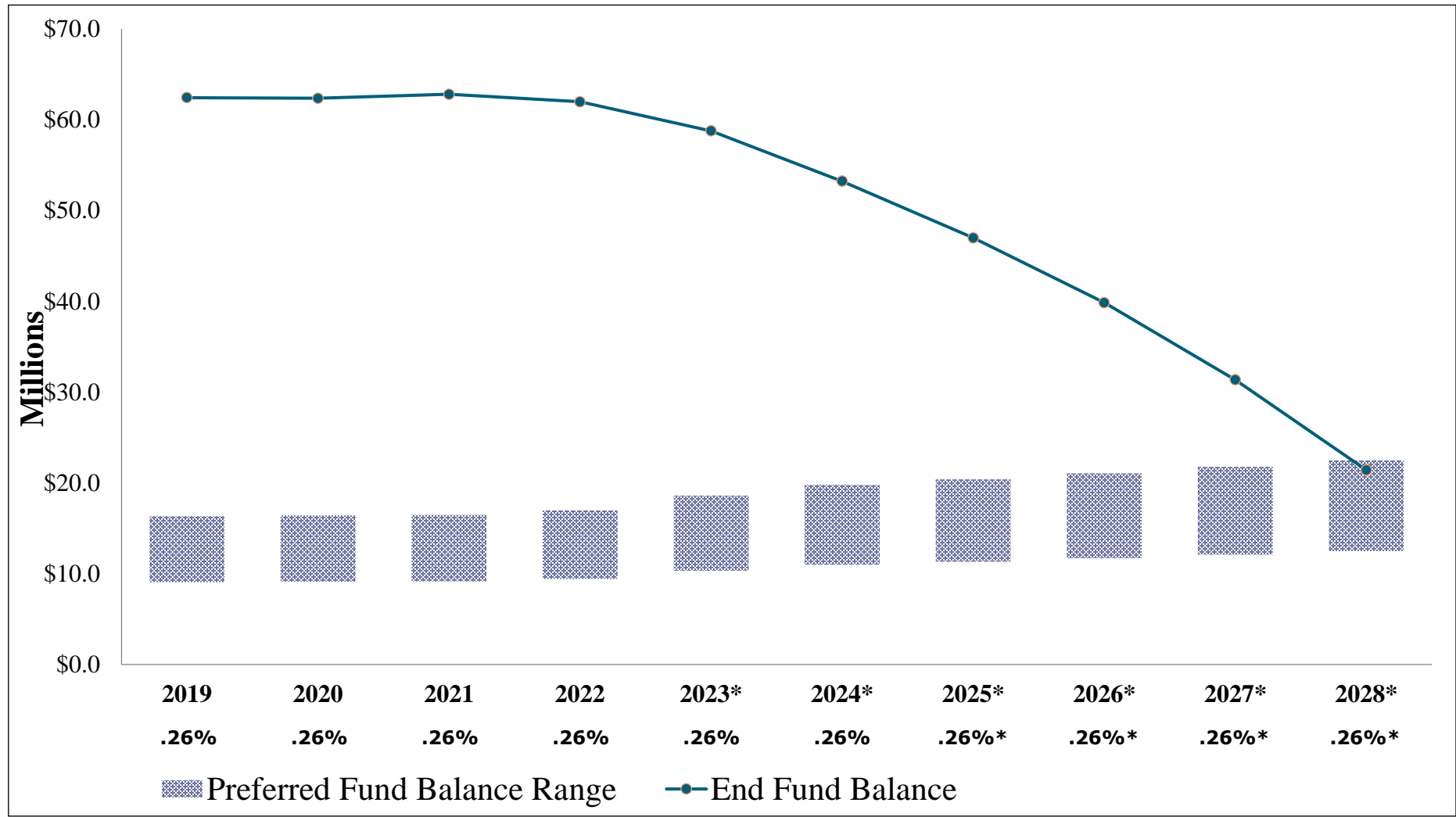


Change in Fund Balance

System Budget				
<i>(dollars in thousands)</i>	FY 2020-21 Actual	FY 2021-22 Actual	FY 2022-23 Budget	FY 2023-24 Budget
Revenue				
Retirement administration	\$ 44,430	\$ 44,465	\$ 44,847	\$ 46,507
Asset management	24,129	23,956	28,424	30,343
Total revenue	68,559	68,421	73,271	76,850
Expenses				
Personnel costs	54,728	55,103	62,515	65,221
Non-personnel costs	8,809	10,019	13,990	16,808
Capital improvement	4,576	4,124	5,250	5,250
Total expenses	68,113	69,246	81,755	87,279
Change in fund balance	\$ 446	\$ (825)	\$ (8,484)	\$ (10,429)
Administrative Rate	0.26 %	0.26 %	0.26 %	0.26 %



Administrative Expense Rate 5-Year Projection



* projected



Asset Management Cost

	Internally Managed Investments**	Total Internal Managed Expenses**	Basis Points
FY 2021-2022	\$74,390,578	\$70,808	9.5
FY 2020-2021	82,755,001	60,407	7.3
FY 2019-2020	70,840,469	56,606	8.0
FY 2018-2019	71,918,660	55,347	7.7
FY 2017-2018	71,366,012	48,334	6.8
Five Year Average	74,254,144	58,300	7.9

	Externally Managed Investments	Total External Managed Expenses	Basis Points
FY 2021-2022	\$55,630,413	\$352,784	63.4
FY 2020-2021	63,570,275	303,264	47.7
FY 2019-2020	47,915,730	296,736	61.9
FY 2018-2019	48,564,123	262,090	54.0
FY 2017-2018	46,742,963	249,634	53.4
Five Year Average	52,484,701	292,902	55.8

	Total Investments*	Total Investment Expenses	Basis Points
FY 2021-2022	\$130,020,991	\$423,592	32.6
FY 2020-2021	146,325,276	363,671	24.9
FY 2019-2020	118,756,199	353,342	29.8
FY 2018-2019	120,482,783	317,437	26.3
FY 2017-2018	118,108,975	297,968	25.2
Five Year Average	126,738,845	351,202	27.7

*Investments are presented at net asset value, which is consistent with asset allocation reporting.

**Investments are classified as internally managed when NYSTRS retains investment discretion.



New York State Teachers' Retirement System
FY 2023-24 Budget Proposal
All Segments

	3-Year Historical Expenses			FY 2022-23		FY 2023-24 Budget		
	2019-20	2020-21	2021-22	Budget	YTD Actual	Proposed	\$ Increase	% Increase
Salaries:								
Salaries	\$ 34,181,000	\$ 35,153,000	\$ 36,066,000	\$ 40,210,000	\$ 22,819,000	\$ 41,485,000	\$ 1,275,000	3.2 %
Social Security	2,384,000	2,462,000	2,511,000	2,843,000	1,546,000	3,003,000	160,000	5.6
	36,565,000	37,615,000	38,577,000	43,053,000	24,365,000	44,488,000	1,435,000	3.3
Benefits:								
Employees retirement	4,517,000	4,383,000	4,451,000	5,266,000	2,267,000	5,127,000	(139,000)	(2.6)
Health and dental insurance	5,883,000	6,419,000	6,018,000	8,136,000	4,617,000	8,634,000	498,000	6.1
Civil Service	49,000	50,000	57,000	60,000	84,000	62,000	2,000	3.3
	10,449,000	10,852,000	10,526,000	13,462,000	6,968,000	13,823,000	361,000	2.7
OPEB Trust:								
OPEB trust	6,004,000	6,261,000	6,000,000	6,000,000	4,796,000	6,910,000	910,000	15.2
	6,004,000	6,261,000	6,000,000	6,000,000	4,796,000	6,910,000	910,000	15.2
Building Occupancy Expenses:								
Building operation expenses	903,000	710,000	939,000	1,111,000	484,000	1,043,000	(68,000)	(6.1)
Office supplies and expenses	186,000	114,000	164,000	233,000	130,000	215,000	(18,000)	(7.7)
Utilities and municipal assessments	920,000	911,000	1,127,000	1,213,000	826,000	1,374,000	161,000	13.3
	2,009,000	1,735,000	2,230,000	2,557,000	1,440,000	2,632,000	75,000	2.9
Computer Expenses:								
IT hardware and software	1,184,000	957,000	799,000	1,406,000	1,240,000	1,552,000	146,000	10.4
IT contracts and maintenance	2,779,000	3,414,000	3,228,000	4,670,000	3,334,000	4,455,000	(215,000)	(4.6)
	3,963,000	4,371,000	4,027,000	6,076,000	4,574,000	6,007,000	(69,000)	(1.1)
Personnel and Meeting Expenses:								
Board - meetings, travel and education	93,000	28,000	72,000	126,000	71,000	130,000	4,000	3.2
Delegates' meeting	47,000	3,000	6,000	65,000	632,000	65,000	—	—
Preretirement seminars	134,000	—	(3,000)	90,000	—	35,000	(55,000)	(61.1)
Professional development	773,000	561,000	635,000	1,052,000	471,000	1,141,000	89,000	8.5
Travel and automobile expenses	133,000	3,000	69,000	187,000	101,000	318,000	131,000	70.1
Other personnel expenses	83,000	64,000	116,000	94,000	118,000	287,000	193,000	205.3
	1,263,000	659,000	895,000	1,614,000	1,393,000	1,976,000	362,000	22.4
Professional and Governmental Expenses:								
Auditor expenses	567,000	200,000	483,000	580,000	844,000	420,000	(160,000)	(27.6)
Disability medical examinations	68,000	94,000	96,000	100,000	53,000	100,000	—	—
Postage and cartage	771,000	779,000	804,000	780,000	702,000	828,000	48,000	6.2
Publications	114,000	152,000	130,000	170,000	219,000	195,000	25,000	14.7
Other professional fees	947,000	818,000	1,354,000	2,113,000	1,017,000	4,650,000	2,537,000	120.1
	2,467,000	2,043,000	2,867,000	3,743,000	2,835,000	6,193,000	2,450,000	65.5
Capital Improvement Program:								
Amortization and depreciation	2,816,000	3,563,000	3,204,000	3,250,000	1,526,000	3,694,000	444,000	13.7
Capital improvement maintenance	1,577,000	1,013,000	920,000	1,434,000	814,000	1,546,000	112,000	7.8
Capital contingency	—	—	—	566,000	—	10,000	(556,000)	(98.2)
	4,393,000	4,576,000	4,124,000	5,250,000	2,340,000	5,250,000	—	—
Total	\$ 67,113,000	\$ 68,112,000	\$ 69,246,000	\$ 81,755,000	\$ 48,711,000	\$ 87,279,000	\$ 5,524,000	6.8 %

New York State Teachers' Retirement System
 FY 2023-24 Budget Proposal
 Retirement Administration Segment

	3-Year Historical Expenses			FY 2022-23		FY 2023-24 Budget		
	2019-20	2020-21	2021-22	Budget	YTD Actual	Proposed	\$ Increase	% Increase
Salaries:								
Salaries	\$ 21,256,000	\$ 21,527,000	\$ 22,499,000	\$ 24,802,000	\$ 14,259,000	\$ 25,718,000	\$ 916,000	3.7 %
Social Security	1,506,000	1,533,000	1,588,000	1,774,000	983,000	1,888,000	114,000	6.4
	22,762,000	23,060,000	24,087,000	26,576,000	15,242,000	27,606,000	1,030,000	3.9
Benefits:								
Employees retirement	2,850,000	2,706,000	2,792,000	3,304,000	1,410,000	3,199,000	(105,000)	(3.2)
Health and dental insurance	4,055,000	4,368,000	4,118,000	5,594,000	3,151,000	5,803,000	209,000	3.7
Civil Service	34,000	35,000	40,000	42,000	59,000	43,000	1,000	2.4
	6,939,000	7,109,000	6,950,000	8,940,000	4,620,000	9,045,000	105,000	1.2
OPEB Trust:								
OPEB trust	4,203,000	4,383,000	4,200,000	4,200,000	3,357,000	4,837,000	637,000	15.2
	4,203,000	4,383,000	4,200,000	4,200,000	3,357,000	4,837,000	637,000	15.2
Building Occupancy Expenses:								
Building operation expenses	632,000	497,000	657,000	778,000	339,000	730,000	(48,000)	(6.2)
Office supplies and expenses	133,000	80,000	117,000	167,000	93,000	153,000	(14,000)	(8.4)
Utilities and municipal assessments	644,000	638,000	789,000	849,000	578,000	962,000	113,000	13.3
	1,409,000	1,215,000	1,563,000	1,794,000	1,010,000	1,845,000	51,000	2.8
Computer Expenses:								
IT hardware and software	829,000	670,000	559,000	984,000	868,000	1,086,000	102,000	10.4
IT contracts and maintenance	1,953,000	2,410,000	2,399,000	3,455,000	2,354,000	3,235,000	(220,000)	(6.4)
	2,782,000	3,080,000	2,958,000	4,439,000	3,222,000	4,321,000	(118,000)	(2.7)
Personnel and Meeting Expenses:								
Board - meetings, travel and education	65,000	20,000	50,000	88,000	50,000	91,000	3,000	3.4
Delegates' meeting	47,000	3,000	6,000	65,000	632,000	65,000	—	—
Preretirement seminars	134,000	—	(3,000)	90,000	—	35,000	(55,000)	(61.1)
Professional development	449,000	359,000	409,000	614,000	297,000	710,000	96,000	15.6
Travel and automobile expenses	61,000	2,000	29,000	76,000	29,000	91,000	15,000	19.7
Other personnel expenses	58,000	45,000	81,000	66,000	82,000	200,000	134,000	203.0
	814,000	429,000	572,000	999,000	1,090,000	1,192,000	193,000	19.3
Professional and Governmental Expenses:								
Auditor expenses	397,000	140,000	338,000	406,000	591,000	294,000	(112,000)	(27.6)
Disability medical examinations	68,000	94,000	95,000	100,000	53,000	100,000	—	—
Postage and cartage	567,000	571,000	563,000	573,000	491,000	607,000	34,000	5.9
Publications	99,000	125,000	109,000	146,000	173,000	159,000	13,000	8.9
Other professional fees	664,000	574,000	967,000	1,483,000	745,000	3,255,000	1,772,000	119.5
	1,795,000	1,504,000	2,072,000	2,708,000	2,053,000	4,415,000	1,707,000	63.0
Capital Improvement Program:								
Amortization and depreciation	1,971,000	2,494,000	2,243,000	2,275,000	1,068,000	2,586,000	311,000	13.7
Capital improvement maintenance	1,104,000	709,000	644,000	1,004,000	570,000	1,083,000	79,000	7.9
Capital contingency	—	—	—	396,000	—	6,000	(390,000)	(98.5)
	3,075,000	3,203,000	2,887,000	3,675,000	1,638,000	3,675,000	—	—
Total	\$ 43,779,000	\$ 43,983,000	\$ 45,289,000	\$ 53,331,000	\$ 32,232,000	\$ 56,936,000	\$ 3,605,000	6.8 %

New York State Teachers' Retirement System
 FY 2023-24 Budget Proposal
 Asset Management Segment

	3-Year Historical Expenses			FY 2022-23		FY 2023-24 Budget		
	2019-20	2020-21	2021-22	Budget	YTD Actual	Proposed	\$ Increase	% Increase
Salaries:								
Salaries	\$ 12,925,000	\$ 13,626,000	\$ 13,567,000	\$ 15,408,000	\$ 8,560,000	\$ 15,767,000	\$ 359,000	2.3 %
Social Security	878,000	929,000	923,000	1,069,000	563,000	1,115,000	46,000	4.3
	13,803,000	14,555,000	14,490,000	16,477,000	9,123,000	16,882,000	405,000	2.5
Benefits:								
Employees retirement	1,667,000	1,677,000	1,659,000	1,962,000	857,000	1,928,000	(34,000)	(1.7)
Health and dental insurance	1,828,000	2,051,000	1,900,000	2,542,000	1,466,000	2,831,000	289,000	11.4
Civil Service	15,000	15,000	17,000	18,000	25,000	19,000	1,000	5.6
	3,510,000	3,743,000	3,576,000	4,522,000	2,348,000	4,778,000	256,000	5.7
OPEB Trust:								
OPEB trust	1,801,000	1,878,000	1,800,000	1,800,000	1,439,000	2,073,000	273,000	15.2
	1,801,000	1,878,000	1,800,000	1,800,000	1,439,000	2,073,000	273,000	15.2
Building Occupancy Expenses:								
Building operation expenses	271,000	213,000	282,000	333,000	145,000	313,000	(20,000)	(6.0)
Office supplies and expenses	53,000	34,000	47,000	66,000	37,000	62,000	(4,000)	(6.1)
Utilities and municipal assessments	276,000	273,000	338,000	364,000	248,000	412,000	48,000	13.2
	600,000	520,000	667,000	763,000	430,000	787,000	24,000	3.1
Computer Expenses:								
IT hardware and software	355,000	287,000	240,000	422,000	372,000	466,000	44,000	10.4
IT contracts and maintenance	826,000	1,004,000	829,000	1,215,000	980,000	1,220,000	5,000	0.4
	1,181,000	1,291,000	1,069,000	1,637,000	1,352,000	1,686,000	49,000	3.0
Personnel and Meeting Expenses:								
Board - meetings, travel and education	28,000	8,000	22,000	38,000	21,000	39,000	1,000	2.6
Delegates' meeting	—	—	—	—	—	—	—	—
Preretirement seminars	—	—	—	—	—	—	—	—
Professional development	324,000	202,000	226,000	438,000	174,000	431,000	(7,000)	(1.6)
Travel and automobile expenses	72,000	1,000	40,000	111,000	72,000	227,000	116,000	104.5
Other personnel expenses	25,000	19,000	35,000	28,000	36,000	87,000	59,000	210.7
	449,000	230,000	323,000	615,000	303,000	784,000	169,000	27.5
Professional and Governmental Expenses:								
Auditor expenses	170,000	60,000	145,000	174,000	253,000	126,000	(48,000)	(27.6)
Disability medical examinations	—	—	1,000	—	—	—	—	—
Postage and cartage	204,000	208,000	241,000	207,000	211,000	221,000	14,000	6.8
Publications	15,000	27,000	21,000	24,000	46,000	36,000	12,000	50.0
Other professional fees	283,000	244,000	387,000	630,000	272,000	1,395,000	765,000	121.4
	672,000	539,000	795,000	1,035,000	782,000	1,778,000	743,000	71.8
Capital Improvement Program:								
Amortization and depreciation	845,000	1,069,000	961,000	975,000	458,000	1,108,000	133,000	13.6
Capital improvement maintenance	473,000	304,000	276,000	430,000	244,000	463,000	33,000	7.7
Capital contingency	—	—	—	170,000	—	4,000	(166,000)	(97.6)
	1,318,000	1,373,000	1,237,000	1,575,000	702,000	1,575,000	—	—
Total	\$ 23,334,000	\$ 24,129,000	\$ 23,957,000	\$ 28,424,000	\$ 16,479,000	\$ 30,343,000	\$ 1,919,000	6.8 %

NEW YORK STATE TEACHERS' RETIREMENT SYSTEM**Memorandum**

Appendix B

TO: Retirement Board

FROM: Don Ampansiri, Jr. and Beth Dellea

SUBJECT: Amendments to the System's Rules and Regulations

DATE: April 18, 2023

CC: T. Lee

Staff from Member Relations and Legal reviewed the System's Rules and Regulations and are proposing the following amendments summarized in this memo. For your review, we have provided a first look at the proposed amendments in two formats (a mark-up and a clean version).

Staff will return to the Retirement Board at the July 2023 meeting with resolutions capturing the proposals for your consideration.

Part 5004 – amend §5004.9, subdivision (b)

When a member commences the retirement process, and has an outstanding loan, System staff provide the member with the opportunity to make a loan payoff thirty (30) days from the member's date of retirement. This has been an administrative practice for members retiring for service retirement for many years and parallels the timeframe to make an option change. If the member does not make payment on the outstanding loan, the statutes require a lifetime actuarial reduction of the member's retirement benefit equivalent to the amount of the outstanding loan.

Staff recommends the administrative practice of allowing 30 days from the date of retirement to make payment on the outstanding loan be incorporated into regulations for members filing for service and disability retirement.

The proposed regulations, as envisioned, amend Section 5004.9 (b) to allow retiring members to make said payment as follows:

1. In the case of those retiring for service, the member will have 30 days from the date of retirement to make the payment on the outstanding loan.
2. In the case of those retiring for disability, the member will have 30 days following the date that the System's Retirement Board approves the disability retirement application or 30 days following the date on which retirement occurs, whichever is later.

The time frame for the disability retiree reflects and captures the Medical Board process which unavoidably takes them outside the 30 day loan payoff window available for service retirees and will provide disability retirees with a comparable opportunity to remit the payment on the outstanding loan.

Part 5020 – add new §5020.6

Workers' compensation payments to NYSTRS members having an employer-employee relationship and being paid directly by the member's employer are pensionable and employers are required to report these payments to the System.

Worker's compensation payments paid by a private or third-party administrator are not considered pensionable. With that said, many members collect these benefits for lengthy periods of time and then decide to file for disability retirement. Although the members technically meet the criteria for filing their disability application as they are on a leave of absence for medical reasons without pay and have not terminated their employment, the extension of time between collecting these benefits and filing for retirement is problematic.

In some cases, the members are on a leave collecting the benefits from a third-party administrator for many years and have a substantial gap between the ceased teaching date and the date they file their disability application. Under the statute, they must establish and meet the standard of totally and permanently disabled from gainful employment at the time they ceased teaching.

The further out in time these cases are filed, the more difficult it is for the Medical Board to determine the member's degree of disability at the time they ceased teaching. The same difficulty may also exist for the member. In our research, peer NYS plans have addressed this matter via regulation to provide time parameters for disability retirement filing around these extended leaves when the member is receiving workers' compensation or other employer-funded disability programs not paid directly by their employer.

Staff recommends a regulation to provide members receiving said private or third-party payments a period not exceeding twelve (12) months from the date the member was last paid on the employer payroll for the timely filing of the disability retirement application.

The period of 12 months parallels the statutory time frame to file for disability retirement and creates a consistent process for those members who are no longer reported on the district payroll, but have also not terminated their employment with the district due to the receipt of these types of payments. Staff recommends an effective date of January 1, 2024 for this regulation in order to provide education to the employers and membership.

The addition of this regulation will help to ensure, for both the System and the members, that contemporaneous medical documentation is submitted and reviewed for the disability claim while also affording a consistent process and time parameter for all members filing for disability.

PART 5004**LOANS**

(Statutory authority: Education Law, §512-b; Retirement and Social Security Law, §§517-b, 613-a)

Section 5004.9 THE EFFECT ON UNPAID LOANS OF DEATH, RETIREMENT, WITHDRAWAL OR TRANSFER TO ANOTHER RETIREMENT SYSTEM FOR TIER 3 THROUGH 6 MEMBERS.

(b) (1) Whenever a member for whom a loan is outstanding retires for service, the member will have 30 days from the date of retirement to make payment on the outstanding loan. If no such payment is received by the System, the retirement allowance payable without optional modification shall be reduced by a life annuity which is actuarially equivalent to the amount of the outstanding loan. Such life annuity shall be calculated utilizing the average annual percentage interest rate on the Nominal 10-year United States Treasury constant maturity obligations as published in the Federal Reserve Selected Interest Rates H.15 Historical Data report for the days during the calendar year preceding the calendar year in which the retirement becomes effective, truncated to two decimal places and pursuant to the mortality tables for options available under Retirement and Social Security Law Section 514 or 610.

(2) Whenever a member for whom a loan is outstanding retires under a disability retirement, the member will have the later of: (1) 30 days following the date on which the retirement application is approved by the System's Retirement Board for members retiring under Section 511 of the Education Law or under Sections 506, 507 or 605 of the Retirement and Social Security Law; or (2) 30 days following the date on which retirement occurs to make payment on the outstanding loan. If no such payment is received by the System, the retirement allowance payable without optional modification shall be reduced by a life annuity which is actuarially equivalent to the amount of the outstanding loan. Such life annuity shall be calculated utilizing the average annual percentage interest rate on the Nominal 10-year United States Treasury constant maturity obligations as published in the Federal Reserve Selected Interest Rates H.15 Historical Data report for the days during the calendar year preceding the calendar year in which the retirement becomes effective, truncated to two decimal places and pursuant to the mortality tables for options available under Retirement and Social Security Law Section 514 or 610.

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PART 5020**DISABILITY RETIREMENT DETERMINATIONS**

(Statutory authority: Education Law, §511; Retirement and Social Security Law, §§506, 507, 605)

Section 5020.6 WORKERS' COMPENSATION OR OTHER EMPLOYER-FUNDED

DISABILITY PROGRAMS. For the purposes of eligibility for timely filing an application for disability retirement benefits, members who are receiving benefit payments from either workers' compensation or other employer-funded disability programs and whose employment has not terminated by resignation, employer action or any other means, shall be considered to be in service upon which membership in the System is based for a period not exceeding 12 months from the date the member was last paid on the employer payroll.

PART 5020**DISABILITY RETIREMENT DETERMINATIONS**

(Statutory authority: Education Law, §511; Retirement and Social Security Law, §§506, 507, 605)

Section 5020.6 WORKERS' COMPENSATION OR OTHER EMPLOYER-FUNDED DISABILITY PROGRAMS. For the purposes of eligibility for timely filing an application for disability retirement benefits, members who are receiving benefit payments from either workers' compensation or other employer-funded disability programs and whose employment has not terminated by resignation, employer action or any other means, shall be considered to be in service upon which membership in the System is based for a period not exceeding 12 months from the date the member was last paid on the employer payroll.



New York State Teachers' Retirement System

10 Corporate Woods Drive
Albany, New York 12211-2395
(800) 348-7298 or (518) 447-2900
NYSTRS.org

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Thomas K. Lee, Executive Director & CIO	

Appendix C

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: Miriam Dixon

CIO Responsibilities

Primary: Dave Gillan
Backup: Gerald Yahoudy

These designations will remain in effect from July 1, 2023 - June 30, 2024, unless alternative names are submitted to the Board prior to the end of this period.

[Redacted Signature]

Thomas K. Lee

3-23-23
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)

NEW YORK STATE
TEACHERS' RETIREMENT SYSTEM

MEMORANDUM

Appendix D

TO: T. Lee

FROM: Office of the CFO / Finance Department

DATE: April 26, 2023

SUBJECT: Retirement Board Package

Attached are the System's quarterly financial statements and related schedules for the quarters ended March 31, 2023 and 2022.

The following is a list of the documents included:

1. Statements of Fiduciary Net Position (Unaudited)
2. Statements of Changes in Fiduciary Net Position (Unaudited)
3. Schedule of Administrative Expenses (Unaudited)



NEW YORK STATE TEACHERS' RETIREMENT SYSTEM
Statements of Fiduciary Net Position (Unaudited)

29

March 31, 2023 and 2022

Assets	2023	2022
Investments at fair value:		
Domestic equity	\$ 43,881,485,920	\$ 50,334,512,390
International equity	18,904,490,150	22,607,055,431
Global equity	4,611,680,253	4,918,722,576
Real estate equity	16,504,737,755	17,151,215,660
Private equity	14,425,620,909	14,561,238,255
Domestic fixed income	17,478,330,154	19,089,226,552
High-yield bonds	1,197,875,496	1,063,937,178
Global bonds	2,687,699,255	3,115,653,083
Real estate debt	8,066,264,377	7,927,026,151
Private debt	1,833,472,912	1,320,107,871
Cash equivalents	1,949,201,651	3,196,224,609
Total investments	<u>131,540,858,832</u>	<u>145,284,919,756</u>
Receivables:		
Employer	1,371,524,165	1,254,355,770
Member	125,817,328	101,894,731
Investment income	328,307,000	303,957,871
Investment sales	362,036,005	398,451,294
Total receivables	<u>2,187,684,498</u>	<u>2,058,659,666</u>
Other assets:		
Securities lending collateral, invested	396,384,915	503,585,062
Member loans	252,283,672	236,458,328
Net investment in capital assets	19,836,207	21,534,934
Miscellaneous assets	15,722,528	6,540,643
Total other assets	<u>684,227,322</u>	<u>768,118,967</u>
Total assets	<u>134,412,770,652</u>	<u>148,111,698,389</u>
Deferred outflows of resources:		
Changes in net OPEB liability	10,703,193	10,903,816
Changes in net pension liability	18,052,606	21,766,822
Total deferred outflows of resources	<u>28,755,799</u>	<u>32,670,638</u>
Liabilities		
Securities lending collateral, due to borrowers	394,710,263	501,954,106
Investment purchases payable	132,554,249	479,615,600
Mortgage escrows and deposits, net of investments	16,645,008	10,275,157
Net OPEB liability	34,792,089	47,187,493
Other liabilities	133,606,288	143,796,084
Total liabilities	<u>712,307,897</u>	<u>1,182,828,440</u>
Deferred inflows of resources:		
Changes in net OPEB liability	13,229,678	4,276,117
Changes in net pension liability	33,768,375	32,275,181
Total deferred inflows of resources	<u>46,998,053</u>	<u>36,551,298</u>
Net position restricted for pensions	<u>\$133,682,220,501</u>	<u>\$146,924,989,289</u>



For the nine months ending March 31, 2023 and 2022

Additions:	<u>2023</u>	<u>2022</u>
Investment income:		
Net increase in fair value of investments	\$ 4,623,982,505	\$ 1,709,713,263
Interest	645,271,106	584,090,855
Dividends	1,008,579,118	1,009,134,896
Real estate, net operating income	414,157,984	392,198,646
Securities lending, gross earnings	15,280,914	2,271,887
Other (net)	2,070,490	10,332,290
	<u>6,709,342,117</u>	<u>3,707,741,837</u>
Less: Investment expenses	302,627,254	304,415,634
Securities lending:		
Broker rebates	10,856,266	(708,768)
Management fees	626,534	401,863
Depreciation on collateral	265,490	200,830
Net investment income	<u>6,394,966,573</u>	<u>3,403,432,278</u>
Contributions:		
Employer	1,414,403,352	1,292,512,367
Member	141,328,639	119,480,981
Transfers (to)/from other systems	6,319,650	5,618,729
Total contributions	<u>1,562,051,641</u>	<u>1,417,612,077</u>
Net additions	<u>7,957,018,214</u>	<u>4,821,044,355</u>
Deductions:		
Retirement benefit payments, periodic	6,106,534,134	5,926,916,387
Beneficiary payments	61,479,372	51,515,466
Return of contributions	15,593,598	12,953,131
Administrative expenses	55,772,716	53,127,445
Total deductions	<u>6,239,379,820</u>	<u>6,044,512,429</u>
Net increase (decrease) in net position	1,717,638,394	(1,223,468,074)
Net position restricted for pensions, beginning of year	<u>131,964,582,107</u>	<u>148,148,457,363</u>
Net position restricted for pensions, end of period	<u>\$133,682,220,501</u>	<u>\$146,924,989,289</u>



NEW YORK STATE TEACHERS' RETIREMENT SYSTEM
 Schedule of Administrative Expenses (Unaudited)
Compared to Budget Appropriations for 2022-2023

	Budget Appropriations 2022-2023	Expenses and Encumbrances YTD 03/31/2023	Remaining Balance 3/31/2023	Actual Expenses YTD 03/31/2023
Salaries:				
Salaries	\$ 40,145,057	\$ 27,293,593	\$ 12,851,464	\$ 27,293,593
Overtime salaries	65,000	45,725	19,275	45,725
Social Security	2,843,519	1,876,142	967,377	1,876,142
Subtotal Salaries	43,053,576	29,215,460	13,838,116	29,215,460
Benefits				
Employees retirement	5,265,599	3,789,448	1,476,151	3,789,448
Dental insurance	280,405	215,288	65,117	215,288
Health insurance	7,461,960	5,249,680	2,212,280	5,247,463
OPEB contribution	6,394,396	4,795,797	1,598,599	4,795,797
Civil service	60,000	49,092	10,908	49,092
Subtotal Benefits	19,462,360	14,099,305	5,363,055	14,097,088
Total salaries and benefits	62,515,936	43,314,765	19,201,171	43,312,548
Building occupancy:				
Building security and vending	376,473	358,639	17,834	236,068
Building supplies and expenses	136,000	85,718	50,282	85,718
Heat, light and power	370,000	364,267	5,733	364,267
Insurance	570,000	530,230	39,770	530,230
Municipal assessments	227,500	134,593	92,907	134,593
Office supplies and expenses	172,850	80,091	92,759	79,562
Storage	60,000	55,531	4,469	39,031
Telephone	615,000	429,440	185,560	400,830
Total building occupancy	2,527,823	2,038,509	489,314	1,870,299
Computer:				
IT Hardware Purchases	850,000	864,238	(14,238)	805,019
IT Software Purchases	535,000	524,897	10,103	523,336
Software and support services	4,669,955	3,467,280	1,202,675	2,878,680
Computer supplies	20,000	—	20,000	—
Total computer	6,074,955	4,856,415	1,218,540	4,207,035
Personnel and meeting:				
Board - meetings, travel and education	126,000	78,874	47,126	63,499
Delegates meeting	65,000	632,118	(567,118)	632,118
Dues	351,885	161,059	190,826	161,059



NEW YORK STATE TEACHERS' RETIREMENT SYSTEM
 Schedule of Administrative Expenses (Unaudited) (Continued)

Compared to Budget Appropriations for 2022-2023

	Budget Appropriations 2022-2023	Expenses and Encumbrances YTD 03/31/2023	Remaining Balance 3/31/2023	Actual Expenses YTD 03/31/2023
Personnel and meeting (continued):				
Employee Engagement	\$ 28,950	\$ 9,564	\$ 19,386	\$ 9,564
Library	48,570	36,581	11,989	33,307
Overtime meals	2,150	1,031	1,119	1,031
Personnel expenses	83,000	116,494	(33,494)	99,335
Pre-retirement seminars	90,000	—	90,000	—
Staff schooling	601,045	354,583	246,462	273,758
Travel and automobile expense	187,050	143,359	43,691	143,359
Tuition assistance	50,000	24,674	25,326	24,674
Wellness fund	9,000	7,085	1,915	4,685
Total personnel and meeting	<u>1,642,650</u>	<u>1,565,422</u>	<u>77,228</u>	<u>1,446,389</u>
Professional and governmental services:				
Auditors - financial	420,000	420,000	—	355,890
Auditors - insurance department	160,000	—	160,000	—
Disability medical examinations	100,000	64,065	35,935	64,065
Postage and cartage	780,150	793,135	(12,985)	793,135
Professional fees and services	1,973,255	1,745,434	227,821	720,255
Publications	170,000	218,867	(48,867)	216,627
Statutory custodian charges	140,000	106,250	33,750	106,250
Total professional and governmental services	<u>3,743,405</u>	<u>3,347,751</u>	<u>395,654</u>	<u>2,256,222</u>
Capital improvement program:				
Depreciation - building and improvements	1,977,943	1,504,684	473,259	1,504,684
Depreciation - equipment	228,844	94,775	134,069	94,775
Amort./depreciation - computer micro	1,043,381	679,485	363,896	679,485
Building improvement expense	125,000	130,009	(5,009)	109,443
Building maintenance contracts	693,000	672,083	20,917	194,132
Equipment	121,000	24,907	96,093	24,907
Equipment maintenance	76,838	57,094	19,744	47,606
Computer equipment maintenance	387,788	—	387,788	—
Fleet maintenance	30,000	25,191	4,809	25,191
Capital contingency	566,206	—	566,206	—
Total capital improvement program	<u>5,250,000</u>	<u>3,188,228</u>	<u>2,061,772</u>	<u>2,680,223</u>
Total Administration Expenses	<u>\$ 81,754,769</u>	<u>\$ 58,311,090</u>	<u>\$ 23,443,679</u>	<u>\$ 55,772,716</u>



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

Compensation Committee Meeting

A meeting of the Compensation Committee of the Retirement Board was held at the System on April 26, 2023.

The following individuals were in attendance:

Committee Members: Phyllis Harrington, Ruth Mahoney, Oliver Robinson,
Nicholas Smirensky

Board Members: Juliet Benaquisto, Elizabeth Chetney, Eric Iberger, David
Keefe, Jennifer Longtin, Christopher Morin

NYSTRS Staff: Thomas K. Lee

The meeting was called to order by Phyllis Harrington, Chair, at 1:05 p.m.

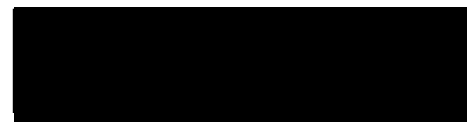
Upon motion of R. Mahoney, seconded by N. Smirensky and unanimously carried, the minutes of the October 26, 2022 meeting were approved.

Upon motion of N. Smirensky, seconded by R. Mahoney and carried, the meeting went into Executive Session at 1:05 p.m. for discussion about executive compensation and personnel matters.

With unanimous consent, the meeting came out of Executive Session at 1:20 p.m.

There being no further business and with unanimous consent, the meeting adjourned at 1:20 p.m.

Respectfully submitted,

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

— Thomas K. Lee

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 27, 2023. The meeting was called to order by Ruth Mahoney, Chair, at 8:47 a.m.

The following individuals were in attendance:

Committee Members: Elizabeth Chetney, Ruth Mahoney, Nicholas Smirensky
Thomas Lee, Don Ampansiri

Board Members: Juliet Benaquisto, Phyllis Harrington, Eric Iberger, David Keefe, Jennifer Longtin, Christopher Morin, Oliver Robinson

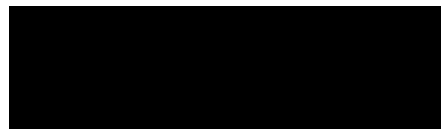
NYSTRS Staff: Matt Albano, Matt Tice

Visitors via WebEx: Donna Martin, Albany NY; Cyril Espanol, WithIntelligence

Upon motion of E. Chetney seconded by N. Smirensky, the minutes from the January 26, 2023 meeting were approved.

R. Mahoney asked the Committee if any discussion was needed on the EDCIO quarterly disclosures. The Committee agreed no further discussion was needed. There being no further business, the meeting unanimously adjourned at 8:47 a.m.

Respectfully submitted,

A solid black rectangular box used to redact the signature of the person submitting the minutes.

Thomas K. Lee

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 27, 2023. The meeting was called to order at 8:48 a.m. by Elizabeth Chetney, Chair.

The following individuals were in attendance:

Committee Members: Juliet Benaquisto, Elizabeth Chetney, Eric Iberger,
David Keefe, Ruth Mahoney, Oliver Robinson

Board Members: Jennifer Longtin, Christopher Morin, Phyllis Harrington,
Nicholas Smirensky

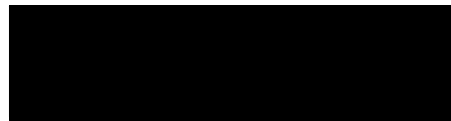
Visitors via WebEx: Donna Martin, Albany NY; Cyril Espanol, WithIntelligence

Upon motion of J. Benaquisto, seconded by R. Mahoney and unanimously carried, the meeting minutes of January 26, 2023 were approved.

E. Chetney, Chair, reported that the System's Medical Board had met monthly over the prior three months and that a disability denial resolution would be brought to the Board at the Board meeting on April 27, 2023.

With unanimous consent, the Committee adjourned at 8:48 a.m.

Respectfully submitted,

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

Thomas K. Lee

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

A meeting of the Trustees of the New York State Teachers' Retirement System Retired Employee Health Benefits Trust was held at the System on April 27, 2023.

Board Members: Juliet Benaquisto, Elizabeth Chetney, Phyllis Harrington, Eric Iberger, David Keefe, Jennifer Longtin, Ruth Mahoney, Christopher Morin, Oliver Robinson, Nicholas Smirensky

NYSTRS Staff: Thomas K. Lee, Don Ampansiri, Richard Young

Visitors via WebEx: Donna Martin, Albany NY; Cyril Espanol, WithIntelligence

The meeting was called to order by D. Keefe at 8:50 a.m.

1. Approval of Minutes of October 27, 2022

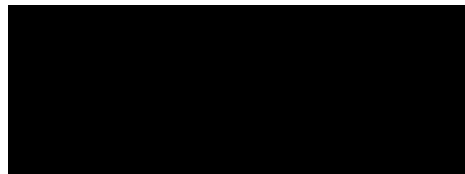
Upon motion of O. Robinson, seconded by E. Chetney and unanimously adopted by the Trustees, the minutes of the October 27, 2022 meeting were approved.

2. Review of OPEB Trust Actuarial Valuation Report (attached Appendix A)

3. Review of Trust Financial Statements (Appendix B).

There being no further business, the meeting adjourned at 8:51 a.m.

Respectfully submitted,

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

Thomas K. Lee

Appendix A

New York State Teachers' Retirement System

**Other Post-employment Benefits
(OPEB) for NYSTRS Staff Plan**

**Funding Report Valuation as of
June 30, 2022**

**For the period July 1, 2023
through June 30, 2024 Actuarially
Determined Contributions**

**Produced by Cheiron
February 2023**

FINAL REPORT

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Letter of Transmittal

February 27, 2023

Mr. Richard A. Young
Chief Actuary
New York State Teachers' Retirement System
10 Corporate Woods Drive
Albany, NY 12211-2395

Dear Richard:

As requested, we have performed an actuarial valuation of the other postemployment benefits (OPEB) for Staff provided by the New York State Teachers' Retirement System (NYSTRS) as of June 30, 2022, for the determination of the fiscal year July 1, 2023 through June 30, 2024 Actuarially Determined Contribution (ADC) and associated funding ratios. The following report contains our findings on funding the postemployment benefit plan. Additional disclosures required by the Governmental Accounting Standards Board (GASB) Statement Nos. 74 and 75 will be forthcoming in a separately provided GASB report.

This funding report provides the results of the actuarial valuation including the development of the Actuarially Determined Contribution (ADC) for the period July 1, 2023 to June 30, 2024 based upon a June 30, 2022 valuation date. A lag has been instituted so that the final ADC can be developed before the beginning of the budget year to facilitate the System's budgeting process.

In this funding valuation, we utilize a smoothed Actuarial Value of Assets, which incorporates a 5-year recognition of the unexpected investment gains and losses. This asset smoothing methodology is intended to reduce the volatility in the funding contributions associated with annual fluctuations in the market value of plan assets.

The purpose of this report is to present the results of the annual actuarial valuation of the post-employment benefit plan provided by NYSTRS. This report is for the use of NYSTRS and its auditors in preparing financial reports in accordance with applicable law and accounting requirements. Other users of this valuation report are not intended users as defined in the Actuarial Standards of Practice, and Cheiron assumes no duty or liability to such other users.

In preparing our report, we relied on information (some oral and some written) supplied by the System. This information includes, but is not limited to, the plan provisions, employee data, and financial information. We performed an informal examination of the obvious characteristics of the data for reasonableness and consistency in accordance with Actuarial Standard of Practice No. 23.

Mr. Richard A. Young

February 27, 2023

Page ii

Future actuarial measurements may differ significantly from the current measurements due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions, changes in economic or demographic assumptions, and changes in plan provisions or applicable law.

We hereby certify that this report and its contents have been prepared in accordance with generally recognized and accepted actuarial principles and practices and our understanding of the Code of Professional Conduct and applicable Actuarial Standards of Practice set out by the Actuarial Standards Board as well as applicable laws and regulations. Furthermore, as credentialed actuaries, we meet the Qualification Standards of the American Academy of Actuaries to render the opinion contained in this report. This report does not address any contractual or legal issues. We are not attorneys, and our firm does not provide any legal services or advice.

This report was prepared for the System for the purposes described herein and for use by the System and its auditors. Other users of this report are not intended users as defined in the Actuarial Standards of Practice, and Cheiron assumes no duty or liability to any other user.

Sincerely,
Cheiron



Michele Domash, FSA, MAAA
Principal Consulting Actuary



Margaret A. Tempkin, FSA, EA, MAAA
Principal Consulting Actuary



Ryan Benitez, ASA, MAAA
Consulting Actuary

**NEW YORK STATE TEACHERS' RETIREMENT SYSTEM POSTEMPLOYMENT BENEFIT PLAN
ACTUARIAL VALUATION REPORT AS OF JUNE 30, 2022**

SECTION I – SUMMARY

NYSTRS engaged Cheiron to provide an analysis of its other post-employment benefits (OPEB) plan liabilities as of June 30, 2022. The primary purposes of performing this actuarial valuation are to:

- Determine the Actuarially Determined Contribution (ADC) so the System can appropriately fund its OPEB plan in accordance with the System's actuarial funding method,
- Provide funded ratios in order to gauge funding progress, and
- Provide projections of future ADC's.

This actuarial valuation reflects a full valuation based on updated census, claims, and premium information.

This report reflects several changes as highlighted below:

- The claim cost curves were updated based on the updated premiums provided for the NYSHIP health plans.
- Medical trend assumptions used were developed using the Society of Actuaries (SOA) Long-Run Medical Cost Trend Model. The SOA model was released in December 2017, and version 2023-1f was used for this valuation.
- The assets used for determining the ADC were updated from a Market Value of Assets to an Actuarial Value of Assets, which smooths out market gains and losses by phasing them in over a five-year period.
- This report reflects a change in timing of the actuarial liability used to develop the ADC. Previously, the liability was determined as of the next fiscal year end with the market value of assets estimated. This change included actuarial liabilities determined as of June 30, 2022, with actuarial assets determined as of June 30, 2022. The ADC was then determined by using the annual normal cost plus the amortization of the unfunded liability as of June 30, 2022, trended forward to the middle of the next fiscal year. The trending adjustments were used to estimate the timing of the actual employer payments.

**NEW YORK STATE TEACHERS' RETIREMENT SYSTEM POSTEMPLOYMENT BENEFIT PLAN
ACTUARIAL VALUATION REPORT AS OF JUNE 30, 2022**

SECTION I – SUMMARY

We have determined costs, liabilities, and trends for the substantive plan using actuarial assumptions and methods that we consider reasonable.

- Based upon this actuarial valuation, the program Actuarial Liabilities increased from \$100.7 million to \$111.7 million as of the July 1, 2022 valuation date.
- The ADC for the period ending June 30, 2024, increased to \$6.91 million, compared to \$6.39 million for the period ending June 30, 2023.
- On a Market Value of Assets basis, the percent funded decreased from 65.4% as of June 30, 2021 to 51.5% as of June 30, 2022. On an Actuarial Value of Assets basis, the percent funded was 55.5% as of June 30, 2022.

Funding Policy

NYSTRS has a funding policy to annually contribute the Actuarially Determined Contribution (ADC) determined by the actuarial valuation. For this purpose, the ADC is calculated as the normal cost determined under the Entry Age Normal Actuarial Cost Method, plus the amortization over a closed 30-year period as of July 1, 2016. There are 24 years remaining as of July 1, 2022. The amortization method is a level percentage of pay.

**NEW YORK STATE TEACHERS' RETIREMENT SYSTEM POSTEMPLOYMENT BENEFIT PLAN
ACTUARIAL VALUATION REPORT AS OF JUNE 30, 2022**

SECTION I – SUMMARY

Valuation Results

Below is a summary of the key results of our calculations.

- Actuarial liabilities increased by \$11.0 million due to several factors, including population changes, updated healthcare costs and trend assumptions. This is slightly more than expected from the prior valuation results rolled forward to June 30, 2022. The liability expected was \$106.4 million compared to the \$111.7 million below.
- The Market Value of Plan Assets decreased by \$8.4 million from \$65.9 million as of June 30, 2021 to \$57.5 million as of June 30, 2022 due to a return of -14.1% on plan investments for the fiscal year as a result of negative returns in the capital markets.
- Applying the actuarial value of assets smoothing method results in an Actuarial Value of Assets (AVA) of \$62.0 million as of June 30, 2022.
- The Unfunded Actuarial Liability (UAL) increased from \$34.8 million as of June 30, 2021 to \$49.7 million as of June 30, 2022, with the associated funding percentage declining from 65.4% to 55.5%.
- The Actuarially Determined Contribution increased by \$515,630 from \$6.39 million payable as of June 30, 2023 to \$6.91 million as of June 30, 2024.

Table I-1 Summary of Key Valuation Results		
Discount Rate	6.50%	6.50%
Date of Valuation	June 30, 2021	June 30, 2022
Actuarial Liability (AL)	\$ 100,662,725	\$ 111,696,002
MVA / AVA	<u>65,870,637</u>	<u>61,987,450</u>
Unfunded Actuarial Liability (UAL)	\$ 34,792,088	\$ 49,708,552
Funded Percent	65.4%	55.5%
Actual/Expected Net Benefit Payments	\$ 4,834,885	\$ 5,396,894
	July 1, 2022 - June 30, 2023	July 1, 2023 - June 30, 2024
Actuarially Determined Contribution (ADC)	\$ 6,394,396	\$ 6,910,026
Expected Contribution	\$ 6,394,396	\$ 6,910,026

The increase in the ADC and the decrease in the plan's funded ratio is primarily due to the decrease in the value of the plan assets, as well as increases in plan premiums and future trend assumptions.

NYSTRS' funding policy is to fully contribute the ADC to the Trust.

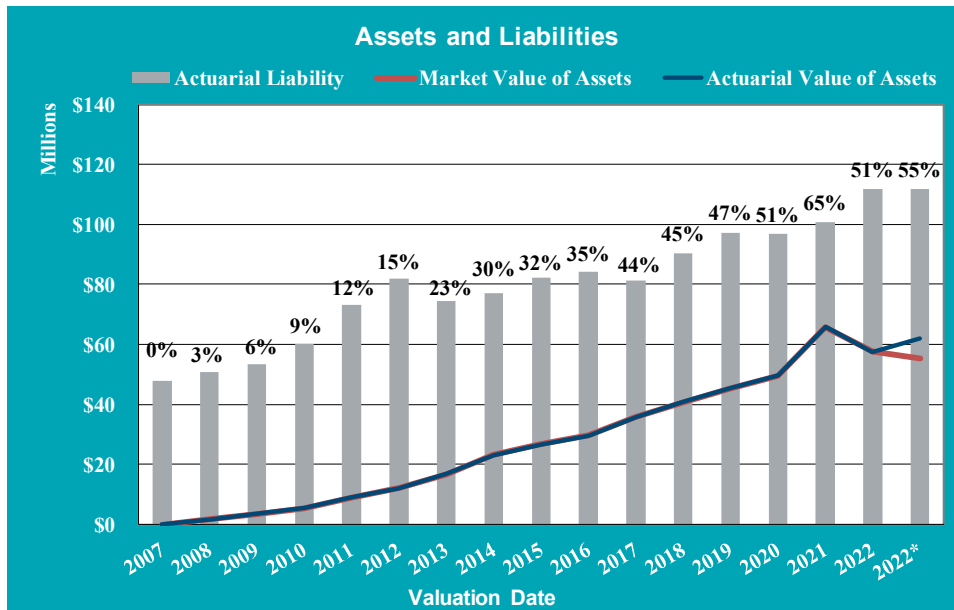
The figures provided in this report are highly sensitive to the assumptions used. Updates in the actuarial valuation from the prior valuation include updates in demographic data, updates in health care claim curves and future trend assumptions, and adjusting the timing of the valuation.

**NEW YORK STATE TEACHERS' RETIREMENT SYSTEM POSTEMPLOYMENT BENEFIT PLAN
ACTUARIAL VALUATION REPORT AS OF JUNE 30, 2022**

SECTION I – SUMMARY

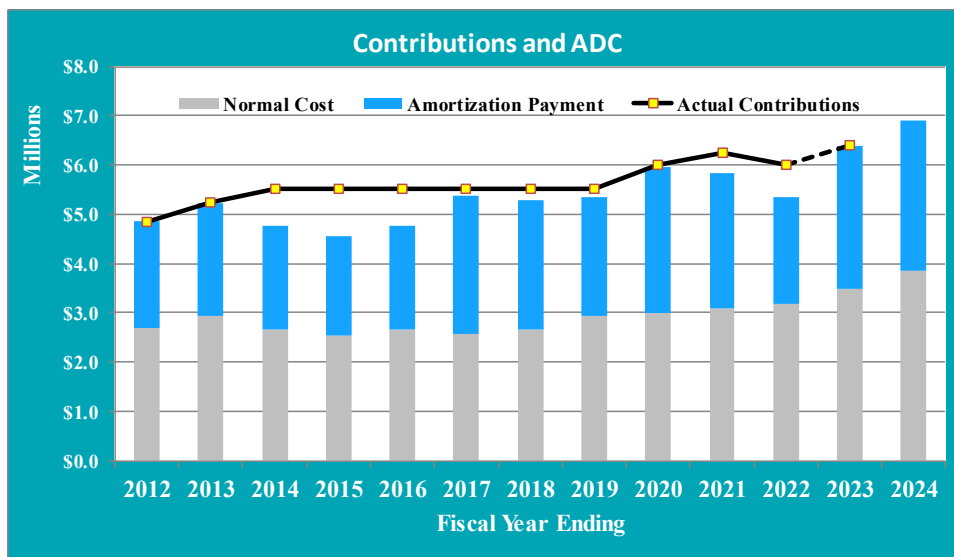
Historical Trends

This chart shows the historical trend of assets and the actuarial liability for the NYSTRS OPEB plan. The percentages above the grey bars represent the ratio of the market value of assets over the actuarial liability, i.e., the funded ratio. Starting with this valuation, the funded ratio shown below is based on the ratio of the actuarial value of assets over the actuarial liability.



* Reflects the change in timing of the actuarial liability used to develop the ADC.

This chart shows the historical trend of actual contributions made compared to the Actuarially Determined Contributions (normal cost-plus amortization payments) for the NYSTRS OPEB plan.



**NEW YORK STATE TEACHERS' RETIREMENT SYSTEM POSTEMPLOYMENT BENEFIT PLAN
ACTUARIAL VALUATION REPORT AS OF JUNE 30, 2022**

SECTION II – ASSETS

Table II-1 and Table II-2 below show the Market Value of Assets for the fiscal years ending June 30, 2021 and June 30, 2022, respectively. The market value of assets experienced a negative return of (14.1%) for the fiscal year ending June 30, 2022, due to negative returns in the capital markets over the period.

Table II-1		
Reconciliation of OPEB Assets		
Fiscal Year Ending	June 30, 2021	June 30, 2022
Additions		
Contributions received		
Employer	\$ 6,261,000	\$ 6,000,000
Government reimbursements	0	0
Benefit recipient healthcare premiums	0	0
Total contributions	\$ 6,261,000	\$ 6,000,000
Net investment income	14,534,551	(9,584,492)
Total Additions	\$ 20,795,551	\$ (3,584,492)
Deductions		
Benefit Payments	\$ 4,527,278	\$ 4,834,885
Administrative expense	19,915	(56,365)
Other	0	0
Total Deductions	\$ 4,547,193	\$ 4,778,520
Net increase in net position	\$ 16,248,358	\$ (8,363,012)
Net position restricted to OPEB		
Beginning of Year	\$ 49,622,279	\$ 65,870,637
End of Year	\$ 65,870,637	\$ 57,507,625

Table II-2		
Statement of OPEB Assets		
Fiscal Year Ending	June 30, 2021	June 30, 2022
Cash and cash equivalents	\$ -	\$ -
Investments - Mutual Funds		
Short Term	\$ 99,620	\$ 129,594
Domestic Fixed Income Securities	15,783,565	15,678,494
Domestic Equities	33,706,399	27,361,878
International Equities	16,337,418	14,337,659
Total Investments	\$ 65,927,002	\$ 57,507,625
Accounts Receivable	\$ -	\$ -
Accrued Interest	\$ -	\$ -
Liabilities		
Accounts Payable	\$ 56,365	\$ -
Due to general fund	-	-
Total Liabilities	\$ 56,365	\$ -
Net Assets Held in Trust	\$ 65,870,637	\$ 57,507,625

**NEW YORK STATE TEACHERS' RETIREMENT SYSTEM POSTEMPLOYMENT BENEFIT PLAN
ACTUARIAL VALUATION REPORT AS OF JUNE 30, 2022**

SECTION II – ASSETS

Table II-3 below shows the development of the Actuarial Value of Assets (AVA) as of June 30, 2022, in the amount of \$61,987,450. This is the first year that the actuarial value of assets is used in determining the ADC.

Table II-3 Development of Actuarial Value of Assets					
FYE	Market Value	Contributions	Benefit Payments	Average Market Value ¹	Discount Rate
6/30/2014	\$ 23,100,251				
6/30/2015	26,675,306	\$ 5,500,000	\$ 2,701,901	\$ 24,499,301	7.00%
6/30/2016	29,564,836	5,500,000	2,992,614	27,928,999	7.00%
6/30/2017	35,850,079	5,500,000	3,427,013	30,601,330	7.00%
6/30/2018	40,752,202	5,500,000	3,810,380	36,694,889	7.00%
6/30/2019	45,423,656	5,500,000	3,983,890	41,510,257	6.75%
6/30/2020	49,622,279	6,004,000	4,478,164	46,186,574	6.75%
6/30/2021	65,870,637	6,261,000	4,547,193	50,479,183	6.50%
6/30/2022	57,507,625	6,000,000	4,778,520	66,481,377	6.50%
FYE	Actual Gain ²	Expected Gain ³	Unexpected Gain ⁴	Smoothing Adjustment ⁵	
6/30/2014					
6/30/2015	\$ 776,956	\$ 1,714,951	\$ (937,995)		
6/30/2016	382,144	1,955,030	(1,572,886)		
6/30/2017	4,212,256	2,142,093	2,070,163		
6/30/2018	3,212,503	2,568,642	643,861	\$ 940,433	
6/30/2019	3,155,344	2,801,942	353,402	1,182,526	
6/30/2020	2,672,787	3,117,594	(444,807)	527,772	
6/30/2021	14,534,551	3,281,147	11,253,404	9,005,972	
6/30/2022	(9,584,492)	4,321,290	(13,905,782)	(4,479,825)	
FYE	Actuarial Value ⁶				
6/30/2022	\$ 61,987,450				

¹ Average Market Value = Market Value(previous yr.) – (.5 x Benefit Payments) + ((.5) x Contributions)

² Actual Gain = Net Investment Income for fiscal years ending on or after 6/30/2015

³ Expected Gain = Discount Rate x Average Market Value for fiscal year

⁴ Unexpected Gain = Actual Gain – Expected Gain

⁵ Smoothing Adjustment =

$$\begin{aligned}
 & (.20 \times \text{Unexpected Gain CY} - 3) \\
 & + (.40 \times \text{Unexpected Gain CY} - 2) \\
 & + (.60 \times \text{Unexpected Gain CY} - 1) \\
 & + (.80 \times \text{Unexpected Gain CY})
 \end{aligned}$$

⁶ Actuarial Value = Market Value - Smoothing Adjustment

**NEW YORK STATE TEACHERS' RETIREMENT SYSTEM POSTEMPLOYMENT BENEFIT PLAN
ACTUARIAL VALUATION REPORT AS OF JUNE 30, 2022**

SECTION III – VALUATION RESULTS

This section of the report calculates the current and expected future contribution requirements under the Plan's funding policy. This valuation calculates the ADC for July 1, 2023 to June 30, 2024. The ADC for July 1, 2022 to June 30, 2023 was determined in the budgeting process. Information about the actuarial liabilities as of June 30, 2021 and June 30, 2022 compared to the Plan assets is shown in Table III-1 below. For the June 30, 2021 unfunded liability calculation, the market value of assets were used. For the June 30, 2022 unfunded liability calculation, the actuarial value of assets are used. Going forward, the actuarial value of assets will be used to determine the unfunded liability.

Table III-1		
Actuarial Liability		
Discount Rate	Valuation Date	
	June 30, 2021	June 30, 2022
	6.50%	6.50%
Actives	\$ 48,388,487	\$ 49,063,785
Retirees	52,274,239	62,632,217
Total	\$ 100,662,726	\$ 111,696,002
Assets (MVA/AVA)	65,870,637	61,987,450
UAL	\$ 34,792,089	\$ 49,708,552

The ADC consists of two parts: (1) the *normal cost*, which represents the annual cost attributable to service earned in a given year and (2) amortization of the UAL, which is based on a closed 30-year level percentage of pay as of July 1, 2016. The Plan's funding policy is to annually contribute no less than the ADC.

In Table III-2 below, we show the computed FYE 2023 and 2024 ADC under the Plan's funding policy and per annum assumed discount rates of 6.50% for FYE 2023 and FYE 2024 (based on a long-term projection of expected returns in accordance with the OPEB Trust's asset allocation).

Table III-2		
Actuarially Determined Contribution		
Discount Rate	Fiscal Year Ending	
	June 30, 2023	June 30, 2024
	6.50%	6.50%
Normal Cost	\$ 3,483,944	\$ 3,847,608
<u>UAL Amortization</u>	<u>2,910,452</u>	<u>3,062,418</u>
Total	\$ 6,394,396	\$ 6,910,026
Amortization Period for Unfunded Actuarial Liability		
Timing of Amortization	Beginning of Year	End of Year
Amortization Period	24	24

**NEW YORK STATE TEACHERS' RETIREMENT SYSTEM POSTEMPLOYMENT BENEFIT PLAN
ACTUARIAL VALUATION REPORT AS OF JUNE 30, 2022**

SECTION III – VALUATION RESULTS

Tables III-3 shows the expected benefit cost net of retiree contributions for the next 15 calendar years. In calculating the liabilities, we project these figures for the life of each existing member.

Fiscal Year Ending June 30,	Expected Net Benefit Cost	Fiscal Year Ending June 30,	Expected Net Benefit Cost	Fiscal Year Ending June 30,	Expected Net Benefit Cost
2023	\$ 5,400,000	2028	\$ 7,300,000	2033	\$ 9,500,000
2024	5,900,000	2029	7,700,000	2034	9,900,000
2025	6,100,000	2030	8,200,000	2035	10,400,000
2026	6,300,000	2031	8,600,000	2036	10,500,000
2027	6,800,000	2032	9,100,000	2037	10,900,000

The expected benefit cost will not equal the actual premiums charged for the retirees due to the implicit subsidy. An implicit subsidy measures the actual cost per member against the charged cost, or premium. An implicit subsidy occurs when a plan includes pre-Medicare retirees in its active plan rates. The plan then blends the claims using younger actives and older retirees to develop a premium. Typically, this produces a much lower premium for the retiree than their “true cost of care” by averaging many healthy actives with a few unhealthy retirees. The postretirement medical plan is subsidized by the active premiums.

Determination of Actuarially Determined Contribution

Table III-4 on the following page provides the determination of the ADC based on the prior method compared to the revised timing method. The prior method of determining the ADC was to utilize a projection of the liabilities and estimated assets. The shaded region shows the projection of the July 1, 2023 to June 30, 2024 ADC.

Below the budget projection calculation we show the revised timing method, which utilizes the current year valuation compared to the current year assets. No additional projections are needed to develop the ADC. The normal cost and amortization are adjusted for timing to the middle of the ADC fiscal year. Thus the normal cost was adjusted by 1.5 years and the amortization payment was adjusted to end of the year.

The difference between the projected ADC of \$6,661,268 from the budgeting process and the revised timing ADC of \$6,910,026 is mainly due to the increase in the normal cost due to the updated population.

**NEW YORK STATE TEACHERS' RETIREMENT SYSTEM POSTEMPLOYMENT BENEFIT PLAN
ACTUARIAL VALUATION REPORT AS OF JUNE 30, 2022**

SECTION III – VALUATION RESULTS

Table III-4 Determination of ADC Based on Budget Projections		
Discount Rate for Liabilities	6.50%	6.50% Projection
Valuation Year for ADC Determination	June 30, 2022	June 30, 2023
Actuarial Liability	\$ 106,354,619	\$ 111,875,161
Estimated Assets	<u>57,507,625</u>	<u>62,484,218</u>
Estimated Unfunded Actuarial Liability at July 1,	\$ 48,846,994	\$ 49,390,943
Funded Ratio	54.1%	55.9%
Actuarially Determined Contribution (ADC)	July 1, 2022 - June 30, 2023	July 1, 2023 - June 30, 2024
Normal Cost adjusted for timing to 1/1	\$ 3,483,944	\$ 3,634,788
Amortization of the unfunded actuarial liability adjusted for timing to 1/1	<u>2,910,452</u>	<u>3,026,480</u>
Total Actuarially Determined Contribution as of June 30,	\$ 6,394,396	\$ 6,661,268
Timing of Amortization	Beginning of Year	Beginning of Year
Amortization Period	24	23
Determination of ADC Revised Timing of Valuation		
Discount Rate for Liabilities	6.50%	
Valuation Year for ADC Determination	June 30, 2022	
Actuarial Liability	\$ 111,696,002	
Actuarial Value of Assets	<u>61,987,450</u>	
Unfunded Actuarial Liability at July 1,	\$ 49,708,552	
Funded Ratio	55.5%	
Normal Cost at Valuation Date	\$ 3,500,793	
Actuarially Determined Contribution (ADC)	July 1, 2023 - June 30, 2024	
Normal Cost adjusted for timing to middle of next FY (1/1/2024)	\$ 3,847,608	
Amortization of the unfunded actuarial liability adjusted for timing to 1/1/2024	<u>3,062,418</u>	
Total Actuarially Determined Contribution (ADC)	\$ 6,910,026	
Amortization Information		
Percent of Pay	3.00%	
Timing of Amortization	End of Year	
Remaining Years	24	
Discount Rate	6.50%	
i=	3.40%	
Factor	16.2318	

The shaded region shows the projections provided in July 2022 during the budgeting process. The projection shown was based on the June 30, 2021 data rolled forward to June 30, 2023, to determine the July 1, 2023 – June 30, 2024 ADC. This process was replaced by the new valuation timing, where the actual June 30, 2022 data is used to determine the July 1, 2023 – June 30, 2024 ADC. Therefore, the normal cost and unfunded liability is based on June 30, 2022, as opposed to being projected to June 30, 2023. The chart above shows the difference between the projected ADC using the prior methodology and the ADC based on the new timing.

**NEW YORK STATE TEACHERS' RETIREMENT SYSTEM POSTEMPLOYMENT BENEFIT PLAN
ACTUARIAL VALUATION REPORT AS OF JUNE 30, 2022**

SECTION IV – SENSITIVITY OF ASSUMPTIONS

The liabilities and ADC produced in this report are sensitive to the assumptions used. The tables below show the impact of a 1% increase or decrease in the healthcare trend rates on the actuarial liability using the 6.50% discount rate and the ADC to provide some measure of sensitivity.

Table IV-1 Actuarial Liability As of June 30, 2022			
	1% Decrease	Healthcare Cost Trend Rates	1% Increase
Actuarial Liability			
Actives	\$ 40,714,863	\$ 49,063,785	\$ 59,648,574
Retirees	<u>57,012,840</u>	<u>62,632,217</u>	<u>69,166,875</u>
Total	\$ 97,727,703	\$ 111,696,002	\$ 128,815,449
Assets	<u>61,987,450</u>	<u>61,987,450</u>	<u>61,987,450</u>
UAL	\$ 35,740,253	\$ 49,708,552	\$ 66,827,999

Table IV-2 Actuarially Determined Contribution – FYE 2024			
	1% Decrease	Healthcare Cost Trend Rates	1% Increase
Normal Cost	\$ 3,080,102	\$ 3,847,608	\$ 4,866,178
UAL Amortization	<u>2,201,866</u>	<u>3,062,418</u>	<u>4,117,103</u>
Total	\$ 5,281,968	\$ 6,910,026	\$ 8,983,281

The tables below show the impact of a 1% increase or decrease in the discount rates on the actuarial liability using the assumed healthcare trends and the ADC to provide some measure of sensitivity.

Table IV-3 Actuarial Liability As of June 30, 2022			
	1% Decrease 5.50%	Discount Rate 6.50%	1% Increase 7.50%
Actuarial Liability			
Actives	\$ 57,743,095	\$ 49,063,785	\$ 42,058,634
Retirees	<u>69,540,273</u>	<u>62,632,217</u>	<u>56,801,235</u>
Total	\$ 127,283,368	\$ 111,696,002	\$ 98,859,869
Assets	<u>61,987,450</u>	<u>61,987,450</u>	<u>61,987,450</u>
UAL	\$ 65,295,918	\$ 49,708,552	\$ 36,872,419

Table IV-4 Actuarially Determined Contribution – FYE 2024			
	1% Decrease 5.50%	Discount Rate 6.50%	1% Increase 7.50%
Normal Cost	\$ 4,879,426	\$ 3,847,608	\$ 3,061,735
UAL Amortization	<u>4,022,716</u>	<u>3,062,418</u>	<u>2,271,616</u>
Total	\$ 8,902,142	\$ 6,910,026	\$ 5,333,351

SECTION V – PROJECTIONS

Projection Results

Table V-1 on the following page provides projections of the actuarial liabilities, Actuarially Determined Contributions (ADC), and other results for the Fiscal Years Ending June 30, 2023 through June 30, 2027. As with all forecasts, actual results will vary from these estimates, based upon demographic experience and enrollment, actual yield on assets and actual program trends. Actual results will reflect actual census, actual claims experience, discount rate, and asset performance.

Table V-1 shows results based upon the actuarial value of assets as of June 30, 2022. For June 30, 2023 to June 30, 2027, future assets are assumed to increase at the same discount rate as the liabilities, 6.50%. The middle section shows projected results based upon the actuarial value of assets as of June 30, 2022, assuming that investment yields are 3.50% greater than the discount rate or 10.00% per annum. The bottom section shows projected results based upon the actuarial value of assets as of June 30, 2022, assuming that investment yields are 2.50% less than the discount rate or 4.00% per annum.

**NEW YORK STATE TEACHERS' RETIREMENT SYSTEM POSTEMPLOYMENT BENEFIT PLAN
ACTUARIAL VALUATION REPORT AS OF JUNE 30, 2022**

SECTION V – PROJECTIONS

Table V-1 New York State Teachers' Retirement System Other Postemployment Benefits						
Determination of ADC - Constant Discount Rate						
Discount Rate for Liabilities	6.50%	6.50%	6.50%	6.50%	6.50%	6.50%
Investment Return on Assets	-14.10%	6.50%	6.50%	6.50%	6.50%	6.50%
Valuation Year	June 30, 2022	June 30, 2023	June 30, 2024	June 30, 2025	June 30, 2026	June 30, 2027
Actuarial Liability	\$ 111,696,002	\$ 117,498,567	\$ 123,355,102	\$ 129,488,518	\$ 136,118,958	\$ 142,889,355
Estimated Actuarial Value of Assets	61,987,450	66,151,355	70,506,017	75,466,483	78,404,561	84,400,271
Estimated Unfunded Actuarial Liability at July 1,	\$ 49,708,552	\$ 51,347,212	\$ 52,849,085	\$ 54,022,035	\$ 57,714,397	\$ 58,489,084
Funded Ratio	55.5%	56.3%	57.2%	58.3%	57.6%	59.1%
Actuarially Determined Contribution (ADC)	June 30, 2024	June 30, 2025	June 30, 2026	June 30, 2027	June 30, 2028	June 30, 2029
Normal Cost	\$ 3,847,608	\$ 4,121,011	\$ 4,358,079	\$ 4,606,853	\$ 4,864,912	\$ 5,122,431
Amortization of the unfunded actuarial liability	3,062,418	3,253,262	3,449,769	3,640,250	4,023,451	4,228,565
Total Actuarially Determined Contribution as of June 30,	\$ 6,910,026	\$ 7,374,273	\$ 7,807,848	\$ 8,247,103	\$ 8,888,363	\$ 9,350,996
Determination of ADC - Higher Returns						
Discount Rate for Liabilities	6.50%	6.50%	6.50%	6.50%	6.50%	6.50%
Investment Return on Assets	-14.10%	10.00%	10.00%	10.00%	10.00%	10.00%
Valuation Year	June 30, 2022	June 30, 2023	June 30, 2024	June 30, 2025	June 30, 2026	June 30, 2027
Actuarial Liability	\$ 111,696,002	\$ 117,498,567	\$ 123,355,102	\$ 129,488,518	\$ 136,118,958	\$ 142,889,355
Estimated Actuarial Value of Assets	61,987,450	66,558,032	71,905,386	78,495,018	84,180,142	93,685,570
Estimated Unfunded Actuarial Liability at July 1,	\$ 49,708,552	\$ 50,940,535	\$ 51,449,716	\$ 50,993,500	\$ 51,938,816	\$ 49,203,785
Funded Ratio	55.5%	56.6%	58.3%	60.6%	61.8%	65.6%
Actuarially Determined Contribution (ADC)	June 30, 2024	June 30, 2025	June 30, 2026	June 30, 2027	June 30, 2028	June 30, 2029
Normal Cost	\$ 3,847,608	\$ 4,121,011	\$ 4,358,079	\$ 4,606,853	\$ 4,864,912	\$ 5,122,431
Amortization of the unfunded actuarial liability	3,062,418	3,227,496	3,358,424	3,436,173	3,620,817	3,557,269
Total Actuarially Determined Contribution as of June 30,	\$ 6,910,026	\$ 7,348,507	\$ 7,716,503	\$ 8,043,026	\$ 8,485,729	\$ 8,679,700
Determination of ADC - Lower Returns						
Discount Rate for Liabilities	6.50%	6.50%	6.50%	6.50%	6.50%	6.50%
Investment Return on Assets	-14.10%	4.00%	4.00%	4.00%	4.00%	4.00%
Valuation Year	June 30, 2022	June 30, 2023	June 30, 2024	June 30, 2025	June 30, 2026	June 30, 2027
Actuarial Liability	\$ 111,696,002	\$ 117,498,567	\$ 123,355,102	\$ 129,488,518	\$ 136,118,958	\$ 142,889,355
Estimated Actuarial Value of Assets	61,987,450	65,860,872	69,523,897	73,381,205	75,238,409	79,776,418
Estimated Unfunded Actuarial Liability at July 1,	\$ 49,708,552	\$ 51,637,695	\$ 53,831,205	\$ 56,107,313	\$ 60,880,549	\$ 63,112,937
Funded Ratio	55.5%	56.1%	56.4%	56.7%	55.3%	55.8%
Actuarially Determined Contribution (ADC)	June 30, 2024	June 30, 2025	June 30, 2026	June 30, 2027	June 30, 2028	June 30, 2029
Normal Cost	\$ 3,847,608	\$ 4,121,011	\$ 4,358,079	\$ 4,606,853	\$ 4,864,912	\$ 5,122,431
Amortization of the unfunded actuarial liability	3,062,418	3,271,667	3,513,878	3,780,765	4,244,174	4,562,854
Total Actuarially Determined Contribution as of June 30,	\$ 6,910,026	\$ 7,392,678	\$ 7,871,957	\$ 8,387,618	\$ 9,109,086	\$ 9,685,285

**NEW YORK STATE TEACHERS' RETIREMENT SYSTEM POSTEMPLOYMENT BENEFIT PLAN
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APPENDIX A – MEMBERSHIP INFORMATION

Participant Data Comparison:

Census Date	6/30/2021	6/30/2022	% Change
Active Employees:			
Count	374	365	-2.41%
Average Age	46.1	46.1	-0.11%
Average Service	11.3	10.7	-5.50%
Covered Payroll	\$ 34,391,448	\$ 34,542,941	0.44%
Inactives:			
Retirees*	283	297	4.95%
Average Age	69.4	69.6	0.20%
Surviving Spouses	16	14	-12.50%
Average Age	82.4	81.2	-1.44%
Spouses of Retirees	122	132	8.20%
Average Age	68.5	69.1	0.83%

*2 deferred retirements treated as “retired” for valuation purposes

Member Data as of June 30, 2022:

Eligible Active Employees as of June 30, 2022										
Years of Service										
Age Group	Under 5	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 & up	Total
Under 25	3	0	0	0	0	0	0	0	0	3
25 to 29	20	2	0	0	0	0	0	0	0	22
30 to 34	20	13	0	1	0	0	0	0	0	34
35 to 39	27	18	4	3	1	0	0	0	0	53
40 to 44	14	23	8	10	2	0	0	0	0	57
45 to 49	15	10	11	10	1	0	0	0	0	47
50 to 54	11	18	13	9	9	6	5	0	0	71
55 to 59	7	3	4	16	9	4	6	1	0	50
60 to 64	6	2	3	3	4	1	1	0	2	22
65 to 69	1	0	0	0	1	1	0	0	1	4
70 & up	0	0	0	1	0	0	0	0	1	2
Total	124	89	43	53	27	12	12	1	4	365

**NEW YORK STATE TEACHERS' RETIREMENT SYSTEM POSTEMPLOYMENT BENEFIT PLAN
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APPENDIX A – MEMBERSHIP INFORMATION

Retirees as of June 30, 2022			
Age Group	Males	Females	Total
Under 50	0	0	0
50 to 54	0	1	1
55 to 59	10	21	31
60 to 64	14	47	61
65 to 69	22	49	71
70 to 74	18	40	58
75 to 79	23	23	46
80 to 84	10	10	20
85 to 89	5	3	8
90 to 94	0	0	0
95 to 99	0	1	1
100 & Over	0	0	0
Under Age 65	24	69	93
Age 65 and Older	78	126	204
Total	102	195	297

Status Reconciliation				
	Active	Retired	Surviving SP	Total
Members on June 30, 2021	374	283	16	673
Deceased		(8)	(2)	(10)
Surviving Spouse Added			0	0
Added Records				0
Terminations	(17)			(17)
Retired Coverage Waived				0
Retired Elected Coverage	(22)	22		0
Newly Elected Coverage	4			4
New Hires	26			26
Members on June 30, 2022	365	297	14	676

*Treated as "Retired" for valuation purposes

Distribution of Plan Coverage as of June 30, 2022			
Plan	Single	Family	Total
Empire Plan	184	228	412
CDPHP	75	135	210
MVP	15	17	32
Pre-85 Empire	0	0	0
Waived Medical	22	0	22
Total	296	380	676

**NEW YORK STATE TEACHERS' RETIREMENT SYSTEM POSTEMPLOYMENT BENEFIT PLAN
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APPENDIX B – ACTUARIAL ASSUMPTIONS AND METHODS

Economic and Health Economic Assumptions

- 1. Expected Return on Plan Assets:** 6.50% per annum consistent with the discount rate effective July 1, 2022.
- 2. Discount Rate:** 6.50% per annum effective July 1, 2022

In the table below, we reflect Horizon’s Survey of Capital Market Assumptions 2022 Edition as one recognized benchmark of the long-term returns and utilize those in developing the weighted average arithmetic yield amounts.

OPEB Trust Asset Allocation	Weight	20 Year - Arithmetic	Standard Deviation
US Equity - Large Cap	37.50%	7.82%	16.33%
US Equity - Small/Mid Cap	12.50%	8.98%	20.34%
Non-US Equity - Developed	21.25%	8.67%	18.09%
Non-US Equity - Emerging	3.75%	10.67%	23.92%
US Corporate Bonds - Core	7.50%	3.65%	5.36%
US Treasuries (Cash Equivalents)	<u>17.50%</u>	<u>2.00%</u>	<u>1.12%</u>
	100.00%	6.92%	12.62%
20-Year Geometric Return		6.18%	
Selected Long-Term Return		6.50%	

- 3. Health Cost Trends:** Health care trend assumptions used were developed using the Society of Actuaries (SOA) Long-Run Medical Cost Trend Model version 2023_1f. The following assumptions were applied in this model as below:

Trend Assumption Inputs	
Variable	Rate
Rate of Inflation	2.70%
Rate of Growth in Real Income/GDP per capita 2029+	1.40%
Extra Trend due to Taste/Technology 2029+	0.80%
Expected Health Share of GDP 2029	19.8%
Health Share of GDP Resistance Point	19.0%
Year for Limiting Cost Growth to GDP Growth	2043

The SOA Long-Run Medical Cost Trend Model and its baseline projection are based on an econometric analysis of historical U.S. medical expenditures and the judgments of experts in the field. The long-run baseline projection and input variables have been developed under the guidance of the SOA Project Oversight Group. Sample medical trends are listed in the table below.

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APPENDIX B – ACTUARIAL ASSUMPTIONS AND METHODS

The table below shows the year-by-year trends applied for Non-Medicare and Medicare costs, Medicare Part B premiums, and a blended trend. The blended trend reflects the portion of Medicare costs associated with health care claims versus Medicare Part B reimbursement.

Fiscal Year Ending June 30,	Non-Medicare Claims and Premium Trends	Medicare Claims and Premium Trends	Medicare Part B Premium Trends	Blended Medicare Claims and Premiums Trends
2023	8.00%	8.80%	5.00%	8.00%
2024	7.75%	8.51%	4.90%	7.75%
2025	7.50%	8.22%	4.80%	7.50%
2026	7.25%	7.93%	4.70%	7.25%
2027	6.87%	7.47%	4.60%	6.87%
2028	6.49%	7.00%	4.50%	6.49%
2029	6.11%	6.54%	4.40%	6.11%
2030	5.73%	6.07%	4.30%	5.73%
2031	5.35%	5.61%	4.20%	5.35%
2032	4.97%	5.14%	4.10%	4.97%
2033	4.80%	4.97%	4.00%	4.80%
2034	4.57%	4.74%	3.90%	4.57%
2035	4.46%	4.63%	3.80%	4.46%
2036	4.39%	4.56%	3.70%	4.39%
2037	4.35%	4.52%	3.60%	4.35%
2038	4.32%	4.49%	3.50%	4.32%
2039	4.29%	4.47%	3.50%	4.29%
2040	4.28%	4.45%	3.50%	4.28%
2041	4.26%	4.43%	3.50%	4.26%
2042	4.20%	4.37%	3.50%	4.20%
2043+	4.14%	4.31%	3.50%	4.14%

**NEW YORK STATE TEACHERS' RETIREMENT SYSTEM POSTEMPLOYMENT BENEFIT PLAN
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APPENDIX B – ACTUARIAL ASSUMPTIONS AND METHODS

4. Retiree Premiums:

No retiree contributions are required for those who retired before July 1, 1985. For eligible retirees who retire on or after July 1, 1985, retirees must pay a contribution equal to the active employee contribution, namely the percentage of premium in the schedule below.

Effective Period	Contribution Percentage
January 1, 2020 to December 31, 2023	14%
January 1, 2024 and after	15%

In addition, if a retiree opts to enroll in a plan other than the Empire Plan, 100% of the excess premium over the Empire Plan premium, if any, must be paid by the retiree.

After a three-month extended coverage period, surviving spouses: pay 25% of the premium cost if the retiree had 10 or more years of service, otherwise the surviving spouse pays the full premium cost.

The fully insured premiums paid to NYSHIP are blended for actives, non-Medicare retirees, and Medicare retirees. Such premiums include medical benefits, prescription drugs, vision, and Part B Medicare premium reimbursement (page 33 for Medicare Part B amounts).

Retirees with a deferred vested benefit pay 50% of the premium cost for single coverage and 65% of the premium cost for family coverage.

Plan	Effective 1/1/2022		Effective 1/1/2023	
	Single Coverage	Family Coverage	Single Coverage	Family Coverage
Empire Plan	\$11,056.56	\$27,361.80	\$12,169.44	\$30,107.88
CDPHP	\$9,808.20	\$23,922.12	\$10,519.00	\$25,673.64
MVP	\$9,682.32	\$22,240.08	\$10,209.84	\$23,481.24

5. Annual Contribution Maximums: Employee and retiree contributions are subject to an annual maximum that varies based upon salary (salary at retirement for retirees) and are established as part of the collective bargaining agreement. The maximums listed below for the four salary bands are effective as of January 1, 2023. Next year the annual maximums will increase based on the amounts shown in the table below.

Salary	Annual Maximum	Annual Maximum Increases
Up to \$40,000	\$3,150	\$300
\$40,001 - \$60,000	\$3,750	\$400
\$60,001 - \$90,000	\$4,575	\$550
\$90,001 and above	\$5,025	\$600

**NEW YORK STATE TEACHERS' RETIREMENT SYSTEM POSTEMPLOYMENT BENEFIT PLAN
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APPENDIX B – ACTUARIAL ASSUMPTIONS AND METHODS

- 6. Maximum Retiree Contributions:** The annual retiree contribution maximum based on salary at retirement is assumed to increase \$100 per year after 2024.
- 7. Banked Sick Leave Credit:** Retirements after April 1, 1991 are eligible to have unused sick leave converted into a credit to offset the required retiree contribution. Sick Leave Credit = (Rate of Pay x Sick Leave Hours)/Life Expectancy. The sick leave credit is calculated at retirement and does not change. For the valuation, participants are assumed to accrue 4.74 days of unused sick days per year. Upon retirement, all employees are assumed to use 100% of sick pay credit.

The maximum sick leave credit eligible to be used in the calculation of sick leave credit is 200 days.

- 8. Life Expectancy:** Expected future lifetime for purposes of the sick leave credit described above is based on the mortality table in use at retirement age. Calculations prior to December 31, 2020 were based on the 1983 Life Expectancy Table. Effective January 1, 2021, the calculation is based on the 1999 Life Expectancy Table. Effective January 1, 2024, the calculation will be based on the 2015 Life Expectancy Table. Samples of the Life Expectancy Months calculated are shown in the table below.

Life Expectancy Tables			
Age	1983	1999	2015
45	342	446	488
50	308	389	432
55	271	337	378
60	232	288	327
65	192	241	277
70	154	197	228
75	119	155	182
80	89	119	141

**NEW YORK STATE TEACHERS' RETIREMENT SYSTEM POSTEMPLOYMENT BENEFIT PLAN
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APPENDIX B – ACTUARIAL ASSUMPTIONS AND METHODS

Demographic Assumptions

1. Rates of Retirement:

Age	Rate (%)	Previous Rate (%)
Under 45	0.00	0.00
45 to 54	0.25	0.25
55	20.00	20.00
56	14.00	20.00
57	15.00	15.00
58	16.00	15.00
59	17.00	15.00
60	20.00	20.00
61	25.00	10.00
62	30.00	25.00
63	40.00	25.00
64	25.00	20.00
65	20.00	20.00
66 to 69	10.00	10.00
70+	100.00	100.00

2. Rates of Withdrawal:

Years of Service	Rate (%)	Previous Rate (%)
0	15.00	14.0
1	12.00	13.6
2	9.00	9.7
3	8.00	7.8
4	7.00	6.2
5	6.00	4.3
6	5.00	4.1
7	4.75	4.0
8	4.50	3.9
9	4.25	3.8
10	3.75	1.7
11	3.25	1.7
12	2.75	1.6
13	2.25	1.6
14	1.75	1.5
15+	1.00	1.0

**NEW YORK STATE TEACHERS' RETIREMENT SYSTEM POSTEMPLOYMENT BENEFIT PLAN
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APPENDIX B – ACTUARIAL ASSUMPTIONS AND METHODS

3. Rates of Mortality:

Pre-Retirement Mortality: The Pub-2010 General Employee Headcount-Weighted Mortality table [PubG.H-2010 Employee] as published by the Society of Actuaries with an 98.75% adjustment for both males and females, and with future improvement from the base year of 2010 on a generational basis using SOA's Scale MP-2020. All pre-retirement deaths are assumed ordinary deaths.

Healthy Retirees (Healthy Annuitants): The Pub-2010 General Healthy Retiree Headcount-Weighted Mortality table [PubG.H-2010 Healthy Retiree] as published by the Society of Actuaries with a 98.75% adjustment for both males and females, and with future improvement from the base year of 2010 on a generational basis using SOA's Scale MP-2020.

Beneficiaries (Healthy Annuitants): Pub-2010 General Contingent Survivors Headcount-Weighted Mortality [PubG.H-2010 Contingent Survivors] as published by the Society of Actuaries with a 98.75% adjustment for both males and females, and with future improvement from the base year of 2010 on a generational basis using SOA's Scale MP-2020.

Disabled Retirees (Disabled Annuitants): The Pub-2010 General Disabled Retiree Headcount-Weighted Mortality table [PubG.H-2010 Disabled Retiree] as published by the Society of Actuaries with a 98.75% adjustment for both males and females, and with future improvement from the base year of 2010 on a generational basis using SOA's Scale MP-2020.

4. Rate of Disability: No disability was assumed.

5. Rate of Payroll Increase: 3.00% per annum

6. Salary Increase Rate:

Years of Service	Rate (%)	Years of Service	Rate (%)	Years of Service	Rate (%)
0	8.00	7	4.10	13	3.50
1	8.00	8	4.00	14	3.40
2	7.00	9	3.90	15	3.30
3	6.00	10	3.80	16	3.20
4	5.00	11	3.70	17	3.10
5	4.50	12	3.60	18+	3.00
6	4.20				

7. Participation and Coverage Election: 100% of future eligible service retirees were assumed to elect coverage. 0% of future inactive vested retirees were assumed to retain eligibility for and elect coverage.

APPENDIX B – ACTUARIAL ASSUMPTIONS AND METHODS

- 8. Dependents:** Demographic data was provided for spouses of current retirees. Of those future retirees who elect to continue their health coverage at retirement, 70% of males and 40% of females were assumed to have an eligible spouse who also opts for health coverage at that time. For future retirees, male retirees are assumed to be two years older than their female spouses. For future retirees, female retirees are assumed to be two years younger than their male spouses. 75% of surviving spouses of actives with 10 or more years of service and 0% of surviving spouses with less than 10 years of service were assumed to elect coverage.
- 9. Rationale for Demographic and Economic Assumptions:** The actuarial assumptions for the New York State Teachers' Retirement System are the same assumptions that were used for the valuation dated June 30, 2022, which were reviewed and considered reasonable, except for those changes listed below.
- 10. Changes Since Last Valuation:** Claim curves and trends were updated to align with recent experience.
- 11. Disclosures Regarding Models Used:**

a. Valuation Software

Cheiron utilizes ProVal, an actuarial valuation software leased from Winklevoss Technologies (WinTech) to calculate the liabilities, normal costs, and projected benefit payments. We have relied on WinTech as the developer of ProVal. We have reviewed ProVal and have a basic understanding of it and have used ProVal in accordance with its original intended purpose. We have not identified any material inconsistencies in assumptions or output of ProVal that would affect this actuarial valuation.

b. SOA Long-Run Medical Cost Trend Model

The SOA Long-Run Medical Cost Trend Model and its baseline projection are based on an econometric analysis of historical U.S. medical expenditures and the judgments of experts in the field. The long-run baseline projection and input variables have been developed under the guidance of the SOA Project Oversight Group.

The trends selected from 2023 to 2026 were based on short-term expectations for medical cost increases based on current market conditions.

We have reviewed the baseline assumptions for the model and found them to be reasonable and consistent with the other economic assumptions used in the valuation, except we are limiting medical costs to the rate of growth in GDP after the year 2043.

We have relied on the Society of Actuaries as the developer of the Model. We have reviewed the Model and have a basic understanding of the Model and have used the Model in accordance with its original intended purpose. We have not identified any material inconsistencies in assumptions or output of the Model that would affect this report.

**NEW YORK STATE TEACHERS' RETIREMENT SYSTEM POSTEMPLOYMENT BENEFIT PLAN
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APPENDIX B – ACTUARIAL ASSUMPTIONS AND METHODS

Claim and Expense Assumptions

Medical, prescription drug, Medicare Part B reimbursement and vision costs for the year beginning July 1, 2022 are shown in the table below for retirees and spouses at selected ages. These costs are net of deductibles and other benefit plan cost-sharing provisions. These claims are derived from actual blended premiums and allocated using Cheiron's aging factors to each age and by gender. No aging factors were applied to the Medicare Part B premium reimbursement when developing these rates.

Average Claim and Expense Assumptions:		
For Fiscal Year 7/1/2022 - 6/30/2023:		
Age	Male	Female
40	\$7,126	\$11,828
45	\$9,365	\$12,625
50	\$12,174	\$14,619
55	\$15,552	\$17,717
60	\$19,499	\$20,793
64	\$23,067	\$21,592
65	\$8,225	\$7,952
70	\$9,158	\$8,387
75	\$9,575	\$8,715
80	\$9,703	\$8,924
85	\$9,711	\$9,015

The following benefit changes are effective 1/1/2023 for the NYSHIP plans, which were determined to be immaterial to the assumed claim costs:

- Empire Plan:
 - Out-of-Pocket Maximum for medical expenses increased from \$5,650/\$11,300 to \$5,900/\$11,800.
 - Out-of-Pocket Maximum for Rx expenses increased from \$3,050/\$6,100 to \$3,200/\$6,400.

Methodology

Census and claims data were gathered as of June 30, 2022, and were used in the actuarial valuation performed as of July 1, 2022.

The Entry Age Actuarial Cost Method was used to value the Plan's actuarial liabilities and to set the normal cost. Under this method, the normal cost rate is the percentage of pay contribution which would be sufficient to fund the Plan benefits if it were paid from each member's entry into the Plan until termination or retirement. The unfunded liability is amortized over a closed 30-year period as of July 1, 2016. There are 24 years remaining as of July 1, 2022. The amortization method is a level percentage of pay.

**NEW YORK STATE TEACHERS' RETIREMENT SYSTEM POSTEMPLOYMENT BENEFIT PLAN
ACTUARIAL VALUATION REPORT AS OF JUNE 30, 2022**

APPENDIX B – ACTUARIAL ASSUMPTIONS AND METHODS

The medical, pharmacy, and vision claims and expenses costs for fiscal year ending 2023 were developed using the average of NYSTRS premium rates for the calendar year 2022 and calendar year 2023. From this data, we developed per person per month (PPPM) costs for actives and retiree non-Medicare Eligible (NME), and for retiree Medicare Eligible (ME). We then adjusted those using Cheiron's age curves. Medical and pharmacy claims and expenses costs include a 19.0% load for anticipated children of pre-Medicare retirees. Medicare-eligible program costs valued include medical, pharmacy and associated administrative costs, plus Medicare Part B premium reimbursements provided under the Plan.

The Plan is assumed to be in compliance with the Patient Protection and Affordability Care Act (PPACA) and the Health Care and Education Reconciliation Act (HCERA) of 2010 as of the valuation date.

Actuarial Value of Assets

The actuarial value of assets is determined by recognizing each year's net investment gain/loss over expected at a rate of 20% per year, until fully recognized after five years. See Table II-3 for calculation details.

Changes Since Last Valuation

Prior to this year the ADC was based upon a valuation date coincident with the beginning of the fiscal year for which the contribution was to be made. Beginning this year, a lag methodology was introduced such that the valuation date is one year earlier than the beginning of the fiscal year the contribution is to be made, improving the System's budgeting process by allowing the final ADC to be known before the fiscal year of payment. Prior to this year the actuarial value of assets was equal to the market value of assets for valuation purposes. Beginning with this valuation, actuarial smoothing has been utilized as described above.

**NEW YORK STATE TEACHERS' RETIREMENT SYSTEM POSTEMPLOYMENT BENEFIT PLAN
ACTUARIAL VALUATION REPORT AS OF JUNE 30, 2022**

APPENDIX C – SUMMARY OF PLAN PROVISIONS

Eligibility

A retiree is eligible for retiree health benefits only if all of the following requirements are met:

1. Must have worked for at least 10 years for the System,
2. Retired directly from System employment, and
3. Commenced receipt of a pension from the New York State and Local Employees' Retirement System (ERS).

In order to maintain benefits coverage, eligible retirees enroll in the Plan and pay monthly premiums owed.

Spouses Covered:

Surviving spouses of active employees are eligible to continue to enroll in the Plan if the retiree had 10 or more years of service at the time of death. Eligible spouses continue coverage by paying 25% of the cost of coverage in premiums. Also, in the event of death of a retiree, surviving spouses are eligible to continue to enroll in the Plan by paying 25% of the cost of coverage in premiums.

Benefits Covered

The retiree health plan offered to eligible employees of the New York State Teachers' Retirement System includes medical, prescription drugs, vision, and Medicare Part B reimbursement. Eligible retirees can elect coverage for themselves, their spouses and dependent children.

Medical and Prescription Drug Benefits:

Each of the plans offered includes medical coverage (inpatient facility, outpatient facility, physician and surgeon services, and other related care) and prescription drug benefits. We include a side-by-side comparison of key coverage. Upon reaching eligibility for Medicare (generally at age 65), the Plan coordinates with Medicare being primary before the Plan pays benefits.

Dental Benefits:

None offered

Vision Benefits:

Included

**NEW YORK STATE TEACHERS' RETIREMENT SYSTEM POSTEMPLOYMENT BENEFIT PLAN
ACTUARIAL VALUATION REPORT AS OF JUNE 30, 2022**

APPENDIX C – SUMMARY OF PLAN PROVISIONS

Medicare Part B Reimbursement:

Medicare Part B premiums are reimbursed by the State and are included in the blended premiums charged by the State.

The standard 2022 Medicare Part B premiums are \$170.10 per month per Medicare beneficiary covered. Higher premiums apply for those retirees having an applicable modified adjusted gross income between \$91,000 to \$114,000 per individual or married couples with modified adjusted gross income between \$182,000 to \$228,000, the Part B monthly premium amount would be the Standard premium + \$68.00 = \$238.10 per month.

The standard 2023 Medicare Part B premiums are \$164.90 per month per Medicare beneficiary covered. Higher premiums apply for those retirees having an applicable modified adjusted gross income between \$97,000 to \$123,000 per individual or married couples with modified adjusted gross income between \$194,000 to \$246,000, the Part B monthly premium amount would be the Standard premium + \$65.90 = \$230.80 per month.

Contributions to Enroll in Coverage

Provisions for Retiree Contributions, Contribution Maximums, Bank Sick Leave Credit, and Life Expectancy Tables are all described on pages 19 and 20 of this report.

**NEW YORK STATE TEACHERS' RETIREMENT SYSTEM POSTEMPLOYMENT BENEFIT PLAN
ACTUARIAL VALUATION REPORT AS OF JUNE 30, 2022**

APPENDIX C – SUMMARY OF PLAN PROVISIONS

New York State Teachers' Retirement System					
Plan:	Empire Plan PPO	CDPHP HMO	BlueShield of Northeastern NY	EmblemHealth HMO	MVP HMO
<u>In-Network (INN) Benefits</u>					
Deductible (Ded) (Individual/Family)	\$0 / \$0 \$3,750 / \$3,750	\$0 / \$0	\$0 / \$0	\$0 / \$0	\$0 / \$0
Coinsurance maximum (Individual/Family)	(combined with OON) \$3,200 / \$6,400 (Rx)	0%	0%	0%	0%
Out-of-Pocket Max (Individual/Family)	\$5,900 / \$11,800 (Medical)	\$8,550 / \$17,100	\$3,000 / \$6,000	\$6,850 / \$13,700	\$6,350 / \$12,700
Preventive Care	No Charge	No Charge	No Charge	No Charge	No Charge
Office Visit (OV) - Primary Care (PCP)	\$25 Copay	\$20 Copay	\$10 Copay	\$5 Copay/ no charge for dep child visit	\$15 Copay/\$0 for dep child visit (up to age 26 yrs)
OV - Specialist Care Provider (SCP)	\$25 Copay	\$20 Copay	\$15 Copay	\$10 Copay/ no charge for dep child visit	\$25 Copay
Hospital Emergency Room (ER)	\$100 copay	\$50 Copay	\$100 Copay	\$75 Copay	\$75 Copay
Outpatient Surgery	Total fees: \$25 Copay/office surgery; \$95 Copay/outpatient surgery (for hospital, office, or facility)	Hospital or Outpatient Surgery Facility fees: \$75 Copay/visit Physician fee: \$20 Copay/visit	Hospital or Outpatient Surgery Facility fees: \$100 Copay/visit Physician fee: \$15 Copay/visit	Facility fees: No charge Physician fee: \$5 Copay/PCP visit and \$10 Copay/specialist visit	Hospital or Outpatient Surgery Facility fees: \$25 Copay/visit Physician fee: \$25 Copay/PCP visit and \$25 Copay/specialist visit
Hospital Inpatient	No charge for facility or for Physician	No charge for facility or for Physician	No charge for facility or for Physician	No charge for facility or for Physician	No charge for facility or for Physician
<u>Out-of-Network (OON) Benefits</u>					
Deductible (Individual/Family)	\$1,250 / \$1,250	Not covered	Not covered	Not covered	Not covered
Coinsurance	Inpatient: 10% Outpatient: Greater of 10% or \$75 copay	Not covered	Not covered	Not covered	Not covered
Coinsurance maximum (Individual/Family)	\$3,750 / \$3,750 (combined with OON)	Not covered	Not covered	Not covered	Not covered
Office Visits (PCP) & (SCP)	20% Coin	Not covered	Not covered	Not covered	Not covered
<u>Prescription Drugs</u>					
Deductible (Rx Only) (Individual/Family)	\$3,200 / \$6,400 (does not apply to Empire Plan Medicare Rx)				
Out-of-Pocket Max (INN Rx Only) (Individual/Family)	\$2,850 / \$5,700				
Retail (1-30 Days) - Generic/Formulary /Non-Form. Copay	\$5 / \$30 / \$60	\$5 / \$30 / \$50	\$5 / \$30 / \$60	\$5 / \$20 / Not Covered	\$0 / \$30 / \$50
Network Pharmacy (31-90 Days) - Generic/Formulary /Non-Form. Copay	\$10 / \$60 / \$120				
Mail Order (31-90 Days) - Generic/Form. /Non-Form. Copay	\$5 / \$55 / \$110	\$10 / \$60 / \$100	\$12.50 / \$75 / \$150	\$7.50 / \$30 / Not Covered	\$0 / \$75 / \$125
Specialty - Generic/Formulary /Non-Form. Copay	Variable	Variable	Variable	Variable	Retail covered - \$0 / \$30 / \$50

APPENDIX D – GLOSSARY OF TERMS

1. Actuarial Assumptions

Assumptions as to the occurrence of future events affecting OPEB costs, such as mortality, withdrawal, and retirement; changes in compensation; rates of investment earnings and asset appreciation or depreciation; procedures used to determine the actuarial value of assets; and other relevant items.

2. Actuarial Cost Method

A procedure for determining the actuarial present value of OPEB plan benefits and expenses and for developing an allocation of such value to each year of service, usually in the form of a normal cost and an actuarial liability.

3. Actuarial Gain (Loss)

A measure of the difference between actual experience and that expected based upon a set of actuarial assumptions during the period between two actuarial valuation dates, as determined in accordance with a particular actuarial cost method.

4. Actuarial Liability

The portion of the actuarial present value of projected benefits will not be paid by future normal costs. It represents the value of the past normal costs with interest to the valuation date.

5. Actuarial Present Value (Present Value)

The value as of a given date of a future amount or series of payments. The actuarial present value discounts the payments to the given date at the assumed investment return and includes the probability of the payment being made. As a simple example: assume you owe \$100 to a friend one year from now. Also, assume there is a 1% probability of your friend dying over the next year, in which case you will not be obligated to pay him. If the assumed investment return is 10%, the actuarial present value is:

$$\frac{\text{Amount}}{\$100} \times \frac{\text{Probability of Payment}}{(1 - .01)} \times \frac{1/}{(1+\text{Discount Rate})} = \frac{\text{Present Value}}{\$90}$$

6. Actuarial Valuation

The determination, as of a specified date, of the normal cost, actuarial liability, actuarial value of assets, and related actuarial present values for an OPEB plan.

7. Actuarial Value of Assets

The value of cash, investments, and other property belonging to an OPEB plan as used by the actuary for the purpose of an actuarial valuation. The purpose of an actuarial value of assets is to smooth out fluctuations in market values. This way long-term costs are not distorted by short-term fluctuations in the market.

APPENDIX D – GLOSSARY OF TERMS

8. Amortization Payment

The portion of the OPEB plan contribution which is designed to pay interest and principal on the unfunded actuarial liability in order to pay for that liability in a given number of years.

9. Entry Age Normal Actuarial Cost Method

A method under which the actuarial present value of the projected benefits of each individual included in an actuarial valuation is allocated on a level basis over the earnings of the individual between entry age and assumed exit ages.

10. Normal Cost

That portion of the actuarial present value of OPEB plan benefits and expenses which is allocated to a valuation year by the actuarial cost method.

11. Unfunded Actuarial Liability

The excess of the actuarial liability over the actuarial value of assets.

12. Funded Percentage

The ratio of the actuarial value of assets to the actuarial liabilities.

13. Mortality Table

A set of percentages which estimate the probability of death at a particular point in time. Typically, the rates are annual and based on age and sex.

14. Discount Rate

The assumed interest rate used for converting projecting dollar related values to a present value as of the valuation date.

15. Medical Trend

The assumed increase in dollar related values in the future due to the increase in the cost of health care.

**NEW YORK STATE TEACHERS' RETIREMENT SYSTEM POSTEMPLOYMENT BENEFIT PLAN
ACTUARIAL VALUATION REPORT AS OF JUNE 30, 2022**

APPENDIX E – ABBREVIATION LIST

Actuarial Liability (AL)
Actuarially Determined Contribution (ADC)
Actuarial Valuation Report (AVR)
Coordination of Benefits (COB)
Deductible and Coinsurance (DC)
Durable Medical Equipment (DME)
Employee Assistance Program (EAP)
Employee Benefits Division (EBD)
Fiscal Year Ending (FYE)
Governmental Accounting Standards Board (GASB)
Hospital Emergency Room (ER)
In-Network (INN)
Inpatient (IP)
Medicare Eligible (ME)
Net Other Postemployment Benefit Liability (NOL)
Non-Medicare Eligible (NME)
Not Applicable (NA)
Office Visit (OV)
Other Postemployment Benefit (OPEB)
Out-of-Network (OON)
Out-of-Pocket (OOP)
Outpatient (OP)
Pay-as-you-go (PAYGo)
Per Person Per Month (PPPM)
Pharmacy (Rx)
Preferred Provider Organization (PPO)
Primary Care Physician (PCP)
Specialist Care Provider (SCP)
Summary Plan Description (SPD)
Unfunded Actuarial Accrued Liability (UAAL)
Unfunded Actuarial Liability (UAL)
Urgent Care

NEW YORK STATE
TEACHERS' RETIREMENT SYSTEM

MEMORANDUM

TO: T. Lee

FROM: Office of the CFO / Finance Department

DATE: April 27, 2023

SUBJECT: Retirement Board Package - OPEB Trust

Attached are the quarterly OPEB Trust financial statements and related supplemental schedule for the quarters ended March 31, 2023 and 2022.

The following is a list of the documents included:

1. Statements of Fiduciary Net Position (unaudited)
2. Statements of Changes in Fiduciary Net Position (unaudited)
3. Diversification of Investments
4. Fund Performance

New York State Teachers' Retirement System Retired Employee Health Benefits Trust
 (Administered by New York State Teachers' Retirement System)
Statements of Fiduciary Net Position (Unaudited)

March 31, 2023 and 2022

	<u>2023</u>	<u>2022</u>
Assets:		
Investments at fair value:		
Cash equivalents	\$ 7,887	\$ 36,031
Mutual funds	<u>62,467,150</u>	<u>65,644,669</u>
Total investments	<u>62,475,037</u>	<u>65,680,700</u>
Receivables:		
Employer contributions	<u>1,598,599</u>	<u>1,500,000</u>
Total assets	<u>64,073,636</u>	<u>67,180,700</u>
 Liabilities:		
Accounts payable	<u>—</u>	<u>—</u>
Total liabilities	<u>—</u>	<u>—</u>
Net position restricted for other postemployment health benefits	<u><u>\$ 64,073,636</u></u>	<u><u>\$ 67,180,700</u></u>

New York State Teachers' Retirement System Retired Employee Health Benefits Trust
 (Administered by New York State Teachers' Retirement System)
Statements of Changes in Fiduciary Net Position (Unaudited)

For the nine months ending March 31, 2023 and 2022

	<u>2023</u>	<u>2022</u>
Additions:		
Investment income:		
Net increase (decrease) in fair value of investments	\$ 3,187,268	\$ (2,093,958)
Dividends	1,004,328	937,544
Net investment income (loss)	<u>4,191,596</u>	<u>(1,156,414)</u>
Contributions:		
Employer	<u>6,394,396</u>	<u>6,000,000</u>
Total contributions	<u>6,394,396</u>	<u>6,000,000</u>
Total additions	<u>10,585,992</u>	<u>4,843,586</u>
Deductions:		
Other postemployment benefit payments	4,005,981	3,589,888
Professional fees and services	<u>14,000</u>	<u>(56,365)</u>
Total deductions	<u>4,019,981</u>	<u>3,533,523</u>
Net increase	6,566,011	1,310,063
Net position restricted for other postemployment health benefits		
Beginning of year	<u>57,507,625</u>	<u>65,870,637</u>
End of period	<u><u>\$ 64,073,636</u></u>	<u><u>\$ 67,180,700</u></u>

New York State Teachers' Retirement System Retired Employee Health Benefits Trust
 (Administered by New York State Teachers' Retirement System)
Diversification of Investments

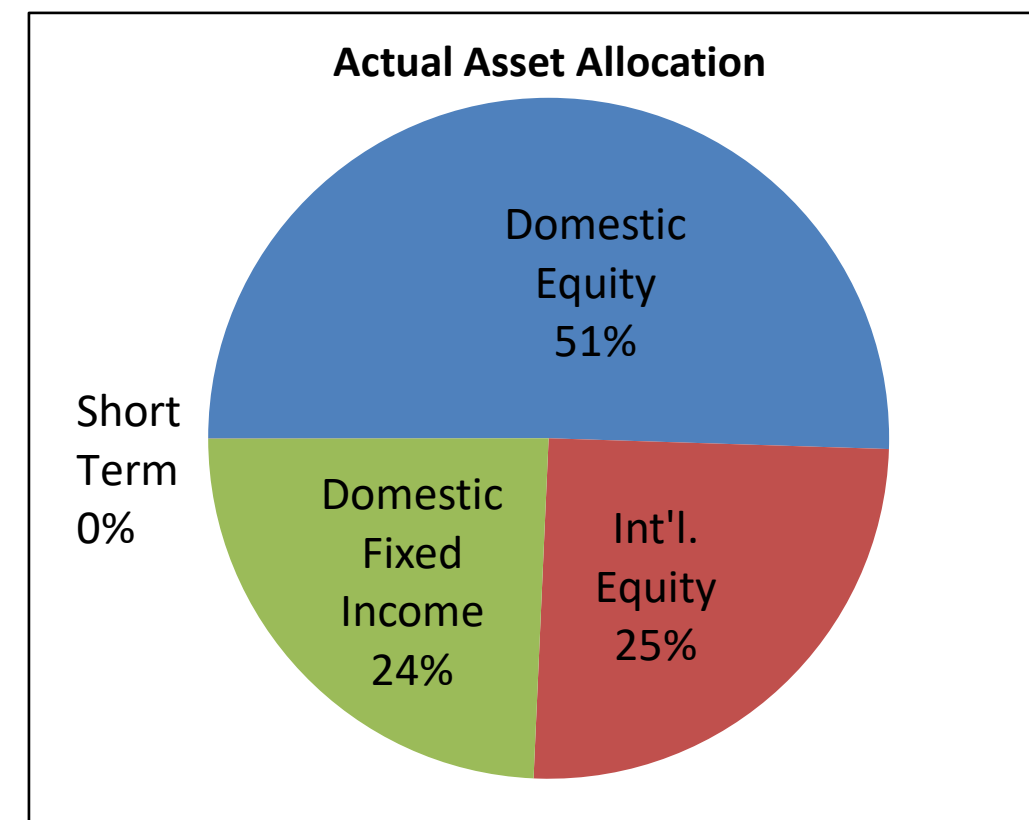
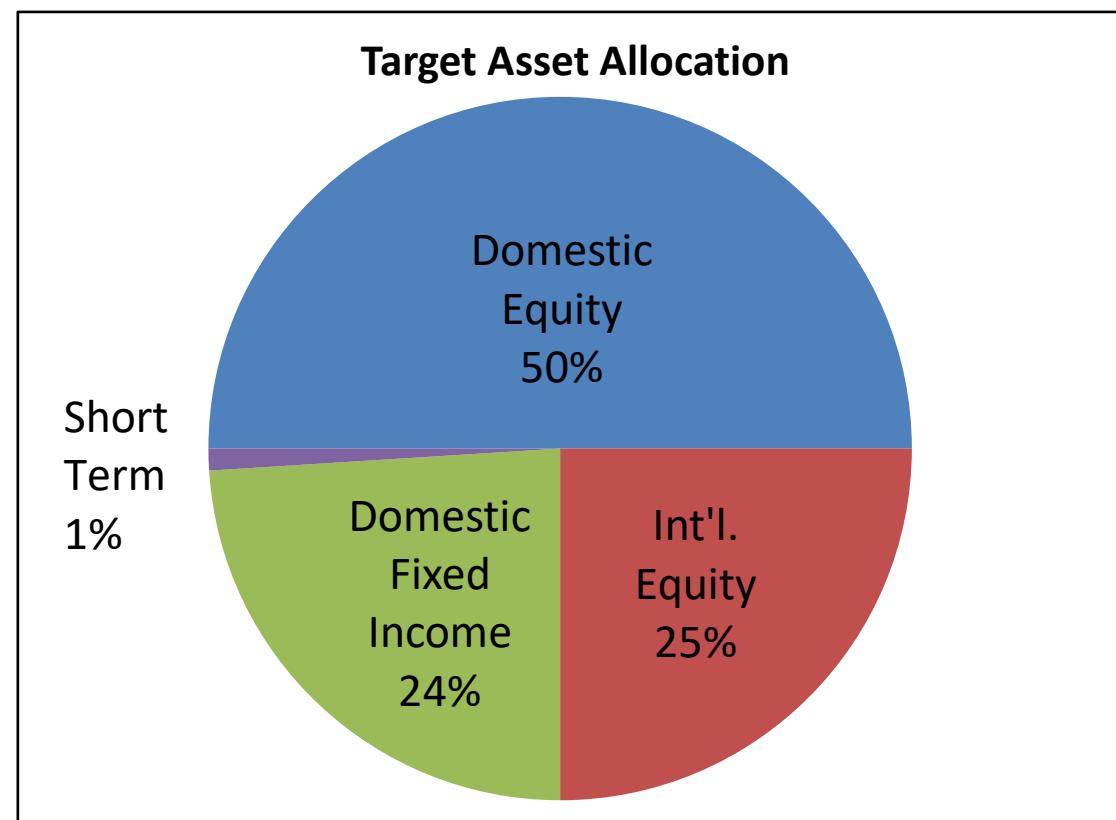
March 31, 2023 and 2022

<u>Investment Type*</u>	<u>2023</u>		<u>2022</u>		<u>Increase (Decrease)</u>	<u>Target Percent</u>
	<u>Percent</u>		<u>Percent</u>			
Short-term:						
Federal Money Market Fund	\$ 7,887	0.01	\$ 36,031	0.05	\$ (28,144)	1.00
Domestic fixed income securities:						
Total Bond Market Index Institutional Fund	15,171,492	24.28	16,383,679	24.94	(1,212,187)	24.00
Domestic equities:						
Total Stock Market Index Institutional Fund	31,549,837	50.51	32,907,823	50.11	(1,357,986)	50.00
International equities:						
International Stock Index Institutional Fund	<u>15,745,821</u>	<u>25.20</u>	<u>16,353,167</u>	<u>24.90</u>	<u>(607,346)</u>	<u>25.00</u>
Total investments	<u>\$ 62,475,037</u>	<u>100.00</u>	<u>\$ 65,680,700</u>	<u>100.00</u>	<u>\$ (3,205,663)</u>	<u>100.00</u>

*All investments are held with Vanguard

**New York State Teachers' Retirement System
Retired Employee Health Benefits Trust
as of March 31, 2023**

		Fund Performance¹							Inception	
	Market Value	Quarter	FYTD	1 Year	3 Years	5 Years	10 Years	Return	Date	
Domestic Equity ²	\$ 31,549,837	7.15%	9.70%	-8.77%	16.96%	10.25%	11.75%	9.45%	04/30/2008	
CRSP US Total Market ³		7.16%	9.71%	-8.78%	16.97%	10.27%	11.78%	9.46%		
International Equity ⁴	\$ 15,745,821	6.65%	9.48%	-4.60%	12.70%	2.53%	4.45%	2.17%	04/30/2008	
FTSE Global All Cap ex US ⁵		6.42%	9.74%	-5.71%	11.77%	2.46%	4.16%	1.91%		
Domestic Fixed Income	\$ 15,171,492	3.16%	0.01%	-4.70%	-2.77%	0.93%	1.33%	2.71%	04/30/2008	
Bloomberg Cap. US Agg. Float Adj.		3.01%	0.01%	-4.72%	-2.73%	0.95%	1.39%	2.77%		
Short Term	\$ 7,887	1.11%	2.51%	2.78%	0.96%	1.36%	0.84%	0.71%	04/30/2008	
iMoney Net Money Fund Avg/Taxable		1.03%	2.30%	2.41%	0.82%	1.16%	0.68%	0.54%		
Total Portfolio	\$ 62,475,037	6.00%	7.07%	-6.50%	10.84%	6.24%	7.24%	6.97%	04/30/2008	



Footnotes:

¹Returns for periods greater than 1 year are annualized. All returns are time-weighted rates of return and reflect the deduction of fund expense ratios, purchase or redemption fees, and any advisory service fees.

²Effective 5/31/21, the Domestic Equity portfolio was transferred from the Institutional Index fund to the Vanguard Total Stock Market Index fund.

³S&P 500 Index through 5/31/21, and the CRSP US Total Market Index thereafter.

⁴The Benchmark for the Vanguard Total International Stock Index Fund was the MSCI EAFE + Emerging Markets Index through 12/15/2010; MSCI ACWI ex USA IMI Index through 6/2/2013; and FTSE Global All Cap ex US Index thereafter.

⁵MSCI EAFE Index through 10/31/11, MSCI ACWI Ex-US Index through 5/31/21, and the FTSE Global All Cap ex US Index thereafter.

**NEW YORK STATE
TEACHERS' RETIREMENT SYSTEM**

**BOARD MEETING
April 27, 2023**

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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 27, 2023. The meeting was called to order by President David Keefe at 9:00 a.m. President Keefe asked Jennifer Longtin to lead the group in the Pledge of Allegiance.

ATTENDANCE:

BOARD MEMBERS

Juliet Benaquisto, Elizabeth Chetney, Phyllis Harrington, Eric Iberger, David Keefe, Jennifer Longtin, Ruth Mahoney, Christopher Morin, Oliver Robinson, Nicholas Smirensky

NYSTRS STAFF

Thomas Lee, Paul Cummins, Beth Dellea, Don Ampansiri, Dave Gillan, Michael Federici, Gerald Yahoudy, Margaret Andriola, Vijay Madala, Richard Young, Kathy Ebert, Miriam Dixon, Danny Malavé, Matt Albano, Emily Ekland, Han Yik

A. Introduction of Visitors

T. Lee introduced Pete Savage, NYSUT (via WebEx); Steve Greenberg, Greenberg PR; Donna Martin, Albany NY (via WebEx), Cyril Espanol, With Intelligence (via WebEx); Robert Steyer, Pensions & Investments (via WebEx); Mindy Lubber, CERES (via WebEx)

B. Correspondence

None.

C. Approval of January 26, 2023 Meeting Minutes

There being no additions or corrections to the January 26, 2023 Board meeting minutes, the minutes were approved with a motion made by N. Smirensky, 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 March 8, 2023 and reviewed internal audit results, personnel matters and the 2023 internal audit project plan.

B. Compensation Committee

P. Harrington, Chair, reported that the Committee had met on April 26, 2023 in Executive Session to discuss personnel matters.

1. Resolution on Executive Compensation (R1)

R. Mahoney offered the following resolution, seconded by E. Chetney and passed by the Board, with C. Morin abstaining from the vote:

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

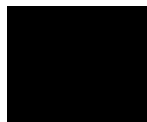
C. Disability Committee

1. Disability Denial Resolution (R2)

E. Iberger offered the following resolution, seconded by J. Benaquisto and unanimously carried by the Board:

WHEREAS, After reviewing the medical information submitted in connection with the following members, the Medical Board has determined the members are not incapacitated for the performance of gainful employment and has recommended the members applications be denied, be it

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



D. Ethics Committee

R. Mahoney, Chair reported that the Committee had met earlier to hear a report on the ED&CIO quarterly disclosures.

E. Executive Committee

1. Resolution Approving Operating Budget Fiscal year 2023-2024 (R3)

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

WHEREAS, System staff has presented to the Retirement Board a proposed Operating Budget for Fiscal Year 2023-2024, a copy of which is annexed hereto and made a part hereof as Appendix B, pp. 10-24, be it

RESOLVED, That the Operating Budget for Fiscal Year 2023-2024 is approved as presented.

2. Annual Short-Term Succession Plan Designation

The completed Annual Executive Director and Chief Investment Officer Succession Plan designations for the period July 1, 2023 – June 30, 2024 were reviewed by the Board and is attached as Appendix C, pp. 25-27.

F. Investment Committee

1. Consent Agenda Items – item A (Appendix D, pp. 28-29)

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 N. Smirensky and unanimously carried, the following resolutions were moved and approved together as consent agenda items:

A. Renew Agreements

- Adelante Capital Management LLC (R4)

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, 2023.

- Goldman Sachs Asset Mgt India Equity Strategy (R5)

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, 2023.

- LSV Asset Management (R6)

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, 2023, 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.

- JP Morgan Chase Bank NA (Securities Lending) (R7)

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, 2023.

- Wellington Management Company (R8)

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, 2023.

2. Resolution on BlackRock Financial Mgt (R9)

P. Harrington 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, or designee, is authorized to contract with BlackRock Financial Management, Inc. to manage a portion of the System's fixed income portfolio in a Global Carbon Transition Bond Portfolio fixed income mandate benchmarked to the Bloomberg Global Aggregate Corporate Bond Index (in USD hedged to USD) and to allocate an initial funding of up to \$150 million to such manager in one or more tranches; 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 Pacific Investment Mgt Co (R10)

J. Benaquisto 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, or designee, is authorized to contract with Pacific Investment Management Company LLC to manage a portion of the System's fixed income portfolio in a Global Carbon Transition Bond Portfolio fixed income mandate benchmarked to the Bloomberg Global Aggregate Corporate Bond Index (in USD hedged to USD) and to allocate an initial funding of up to \$150 million to such manager in one or more tranches; 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.

4. IPM Global Bonds Benchmark Resolution (R11)

O. Robinson offered the following resolution, seconded by P. Harrington

and unanimously carried by the Board:

WHEREAS, The Retirement Board, by separate resolutions prior to and contemporaneously herewith, has authorized the System to contract with certain global bond managers to manage different global bond and global carbon transition bond portfolio separate accounts for the System; and

WHEREAS, System Staff has recommended to the Retirement Board that it is in the System's best interest to retain a single global bond policy benchmark while permitting the use of different global bond benchmarks for separately managed accounts.

NOW THEREFORE BE IT RESOLVED, That, the System is authorized to make the following changes to the System’s Investment Policy Manual (“IPM”):

IPM Section	Item	October 2022 IPM (Prior Version)	April 2023 IPM (Authorized Changes)
Statement of Investment Policy	Global Bonds Policy Benchmark	The Bloomberg Global Aggregate Float Adjusted Ex CNY Index in USD hedged to USD (the Benchmark)	No Change
Global Bonds	Performance Objective	The System’s externally managed active global bond portfolios are measured against the Bloomberg Global Aggregate Float Adjusted Ex CNY Index in USD hedged to USD (the Benchmark). The portfolios are to earn, net of fees and over one (1) or more market cycles, an average total rate of return that exceeds that of the Benchmark.	The System’s externally managed active global bond portfolios are measured against (i) the Bloomberg Global Aggregate Float Adjusted Ex CNY Index in USD hedged to USD, or (ii) the Bloomberg Global Aggregate Corporate Bond Index in USD hedged to USD, as applicable (the “Benchmarks”). The portfolios are to earn, net of fees and over one (1) or more market cycles, an average total rate of return that exceeds that of the applicable Benchmarks.

; and

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

G. Risk Committee

C. Morin, Chair, reported that the Committee had met yesterday and had heard an information security update in Executive Session. In open session, the Committee heard enterprise risk and investment risk updates.

Presentation

Mindy Lubber gave an informational presentation on the sustainability nonprofit organization Ceres, of which she is the CEO and President. Mindy spoke about the work Ceres does in mobilizing investors and companies in order to solve sustainability challenges. She also presented their most recent initiative, a sign-on statement called **Freedom to Invest**, which presents hundreds of private and public sector leaders uniting around a message to policymakers to protect the freedom to invest responsibly.

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 annexed hereto and made a part hereof as Appendix E, pp. 30-47.

2. Litigation Report

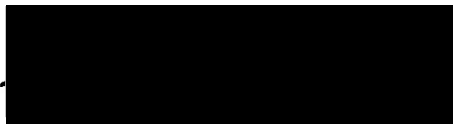
D. Ampansiri discussed the Litigation report, a copy of which is annexed hereto and made a part hereof as Appendix F, pp. 48-49.

3. Member Relations Update

B. Dellea reported that Heidi Travis has been appointed to the position of Deputy Chief Customer Officer.

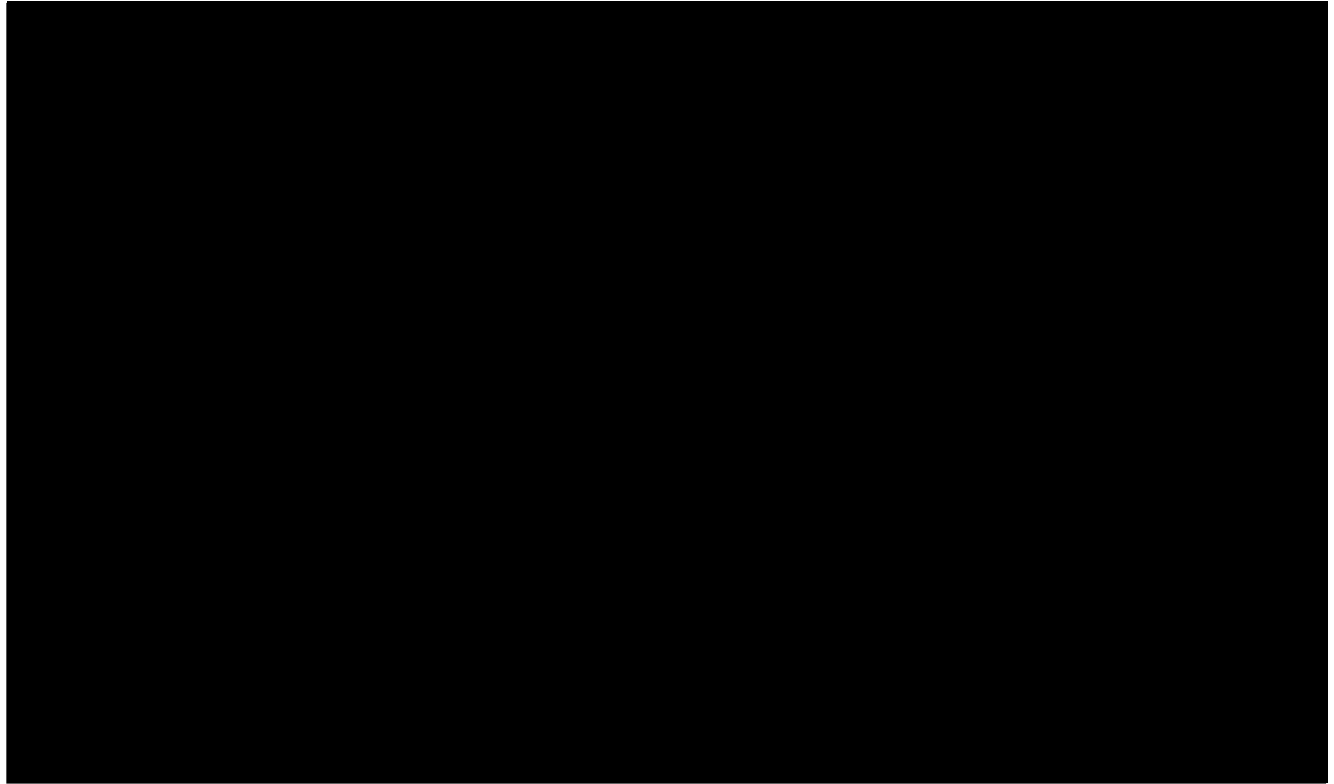
There being no further business and with unanimous consent, the meeting adjourned at 10:13 a.m.

Respectfully submitted,

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

Thomas K. Lee

Executive Summary



April 2023 Executive Director & CIO Recommendation on Executive Compensation

The table below provides details on recommended executive compensation amounts. It is further recommended that the effective date of salary increases implemented in accordance with this recommendation be April 1, 2023. A total of \$ 197,531 is requested.

	Current Base	Base	New Base	Non-Base
Matthew Albano	\$166,015	\$7,797	\$173,812	\$500
Margaret Andriola	\$170,000	\$10,353	\$180,353	\$500
Paul Cummins	\$245,144	\$14,929	\$260,073	\$500
Beth Dellea	\$187,425	\$7,623	\$195,048	\$500
Miriam Dixon	\$185,220	\$11,280	\$196,500	\$500
Kathy Ebert	\$190,000	\$11,571	\$201,571	\$500
Emily Ekland	\$157,710	\$16,102	\$173,812	\$500
Michael Federici	\$210,973	\$12,848	\$223,821	\$500
David Gillan	\$297,123	\$14,914	\$306,036	\$6,501
Vijay Madala	\$176,000	\$10,718	\$186,718	\$500
Danny Malavé	\$157,710	\$16,102	\$173,812	\$500
Gerald Yahoudy	\$248,591	\$15,139	\$263,730	\$500
Han Yik	\$190,000	\$11,571	\$201,571	\$500
Richard Young	\$256,876	\$15,644	\$264,583	\$8,437
Totals		\$176,593		\$20,938

Top of range for investment executives is \$306,036

Top of range for non-investment executives is \$264,583

X

David Keefe
Board President

Phyllis Harrington
Chair, Compensation Committee

Appendix B

DATE: April 27, 2023
TO: Executive Committee
FROM: T. Lee
SUBJECT: 2023-24 Proposed Budget
CC: M. Andriola, M. Dixon, R. Kannan

Attached is the 2023-24 proposed budget.

- The overall System budget for 2023-24 is proposed to be \$87.28 million, which is a 6.8% increase from the 2022-2023 budget.
- The administrative expense rate for 2023-2024 is proposed to remain at 0.26% of member salary base for the sixth consecutive year.
- The number of total authorized positions is proposed to remain at 430.
- Capital Improvement Program:
 - The 2023-24 budget for the Capital Improvement Program will remain at \$5.25 million for the eighth consecutive year.
 - The System's Capital Improvement Program includes funding for depreciation and maintenance costs of fixed assets at the Albany and Malta locations.
- The budget contains an estimated contribution of \$6.91 million for other post-employment benefits (other than pensions), which is a 15.2% increase from the 2022-23 budget. NYSTRS' actuarial consultant, Cheiron, estimates with this contribution the funded ratio for the trust will be 55.5%. Cheiron will be providing a final report at the completion of the fiscal year. The report, final contribution and funded ratio will be presented to the board at the July meeting.

Proposed Budget FY 2023-2024



April 27, 2023

Agenda

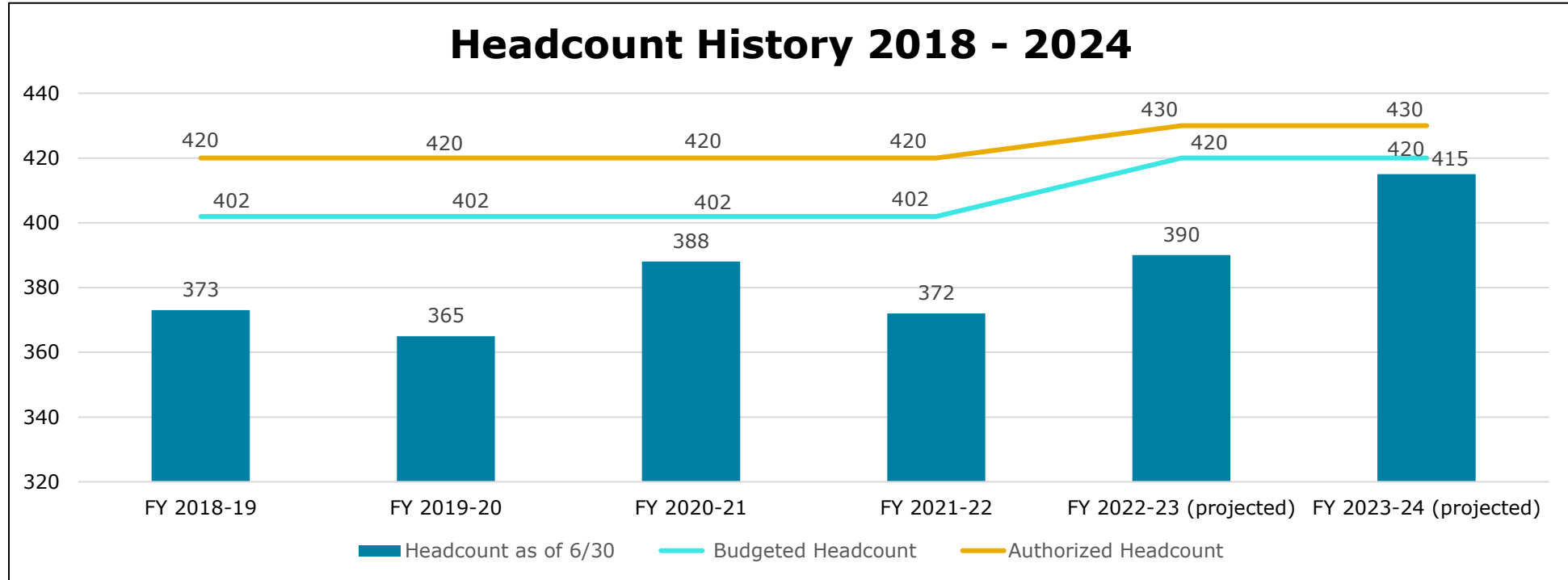
- Workforce
- 23-24 Budget Investments
- Budget Funding
- Fund Balance
- Administrative Rate

NYSTRS Vision

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



Growing Workforce

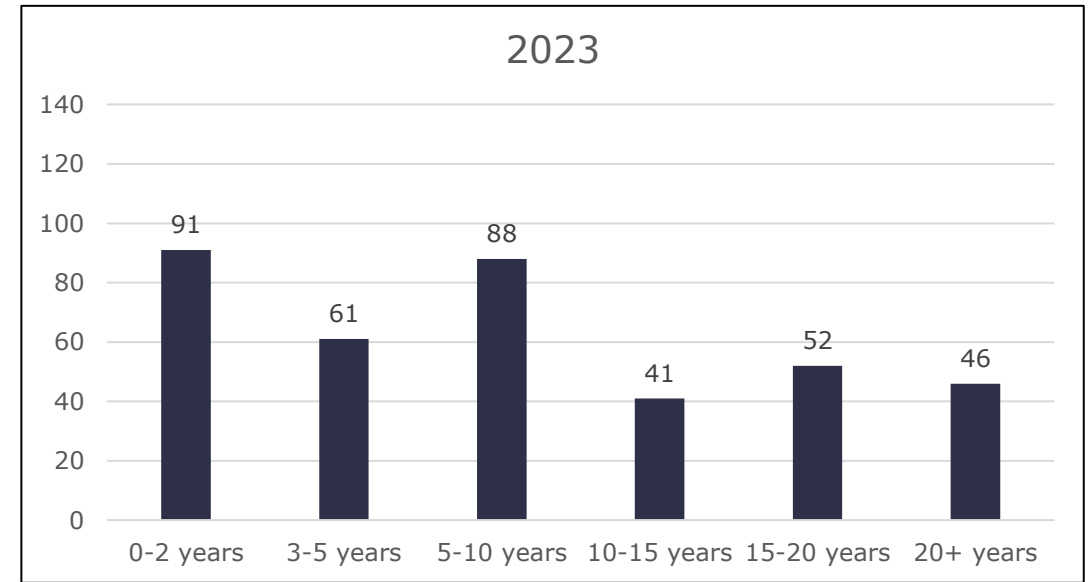
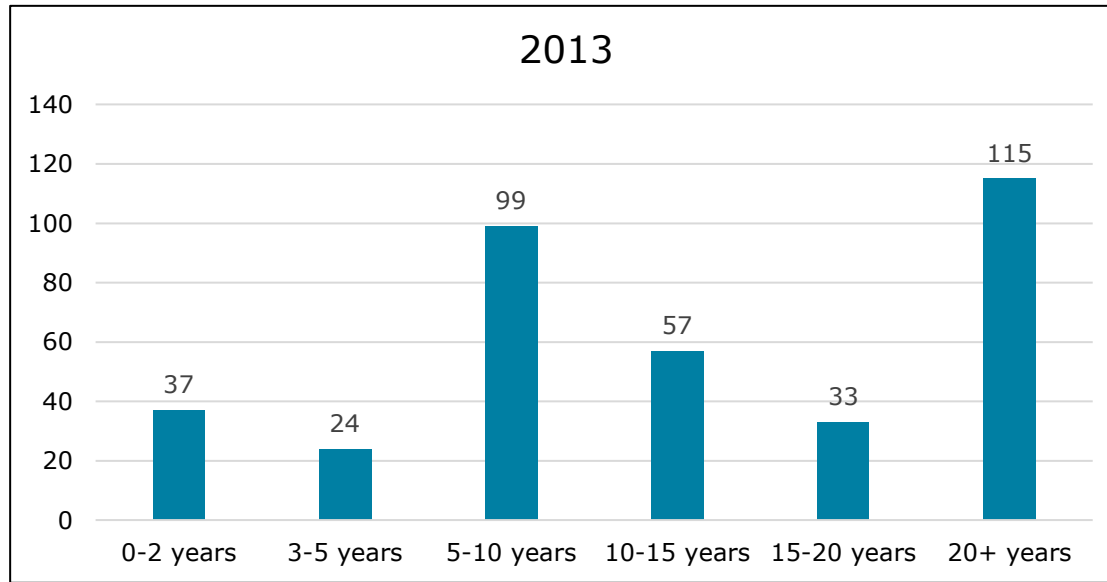


Year	2018-19	2019-20	2020-21	2021-22	2022-23 (projected)	2023-24 (projected)
Hires	39	31	45	33	59	61
Separations	38	39	22	49	41	36



Changing Workforce

Staff years of experience



	2018-19	2019-20	2020-21	2021-22	2022-23 (projected)
Retirements	23	18	13	24	12

Investing in our Workforce

(dollars in thousands)	2022-23	2023-24	\$ Change	% Change
Salaries	\$ 43,053	\$ 44,488	\$ 1,435	3.3%
Member	\$ 9,852	\$ 10,180	\$ 328	3.3%
Investment	\$ 9,310	\$ 9,414	\$ 104	1.1%
Support	\$ 23,891	\$ 24,894	\$ 1,003	4.2%
Benefits	\$ 13,462	\$ 13,823	\$ 361	2.7%
OPEB	\$ 6,000	\$ 6,910	\$ 910	15.2%
Professional Development	\$ 1,052	\$ 1,141	\$ 89	8.5%
Other Personnel Expenses	\$ 94	\$ 288	\$ 194	206.4%
Total	\$ 63,661	\$ 66,650	\$ 2,989	4.7%

Strategic Objective: Recruit, develop and retain a quality workforce

Workforce investment – 76.3% of budget

Salaries and Benefits

- 420 positions
- 3% contractual increase effective 4/1/23
- 2.5% or 3% increment for many employees
- Rising health and dental costs

Professional Development

- Avg \$2,700/employee training – includes required trainings, conferences, IT trainings, specialized trainings, tuition reimbursement

Other Personnel Expenses

- Investing in employee engagement
- Increasing recruitment efforts



Investing in our Infrastructure

System Budget				
<i>(dollars in thousands)</i>	2022-23	2023-24	\$ Change	% Change
Personnel	\$62,515	\$65,221	\$2,706	4.3%
Non-personnel (recurring)	\$12,493	\$13,374	\$881	7.1%
Capital Improvement	\$5,250	\$5,250	\$0	0%
Total Recurring	\$80,258	\$83,845	\$3,587	4.5%
Non-personnel (non-recurring)	\$1,497	\$3,434	\$1,937	129.4%
Total Budget	\$81,755	\$87,279	\$5,524	6.8%

Recurring costs

- Increase in business travel expenses
- Rising utilities
- IT hardware replacements
- New software for departments

Facilities Projects

- Bathroom renovations
- EV Vehicle for mailroom

IT Projects

- A/V Upgrades (Boardroom, Auditorium)
- Kofax Environment Upgrade
- Web Infrastructure upgrade
- MyNYSTRS Mobile and Web App rewrite

System Memberships

Retirement Administration	
Pension Fund Data Exchange	\$1,250
International Centre for Pension Management	\$21,800
National Institute on Retirement Security	\$18,000
National Conference on Public Employee Retirement Systems	\$4,660
National Association of State Retirement Administration	\$4,750
National Council on Teacher Retirement	\$5,200
Institute of Certified Professional Managers	\$28,000
Government Finance Officers Association	\$1,650
National Association of State Investment Officers	\$2,500
International Foundation of Employee Benefit Plans	\$1,145
Sustainability Accounting Standards Board	\$20,000
New York State Council of School Superintendents	\$125
Total	\$109,080

Asset Management	
Pacific Pension & Investment	\$14,000
Council of Institutional Investors	\$31,200
Certified Commercial Investment Member	\$250
Pension Real Estate Association	\$330
Investor Network on Climate Risk	\$9,200
National Council of Real Estate Investment Fiduciaries	\$2,500
Total	\$57,480



System Funding

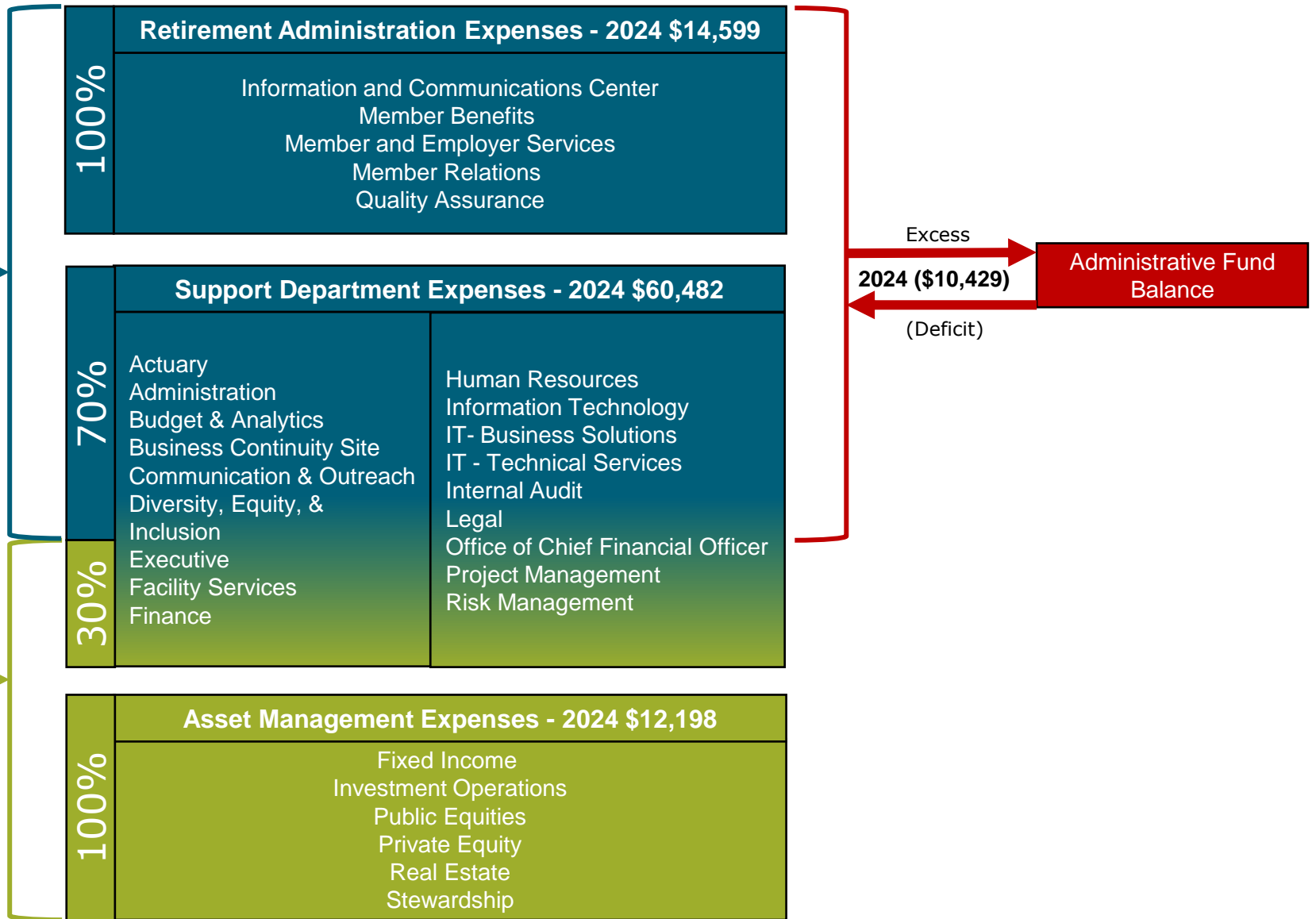
Funding Sources

Employer Contribution Rate – 10.29%
Normal Rate - 9.89%
Group Life - .13%
Excess Benefit - .01%
Admin Rate 0.26%

2024 \$46,507

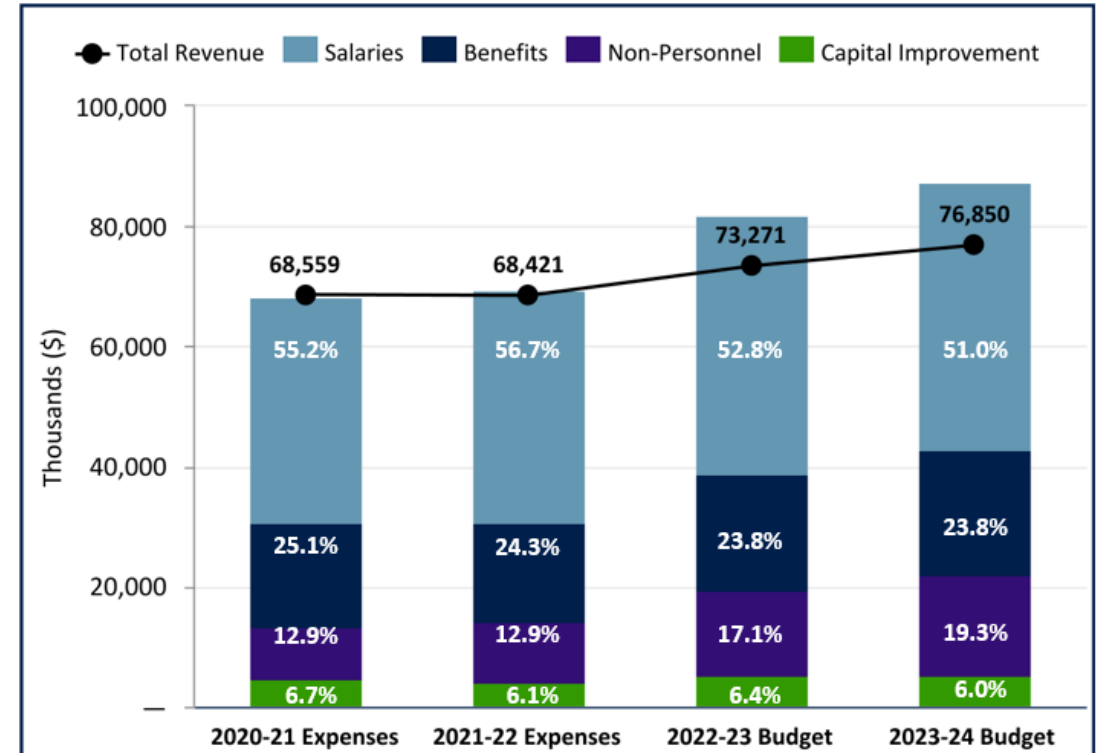
Investment Income
Asset Management Costs
Member Benefits
Allocation of Inv. Income

2024 \$30,343

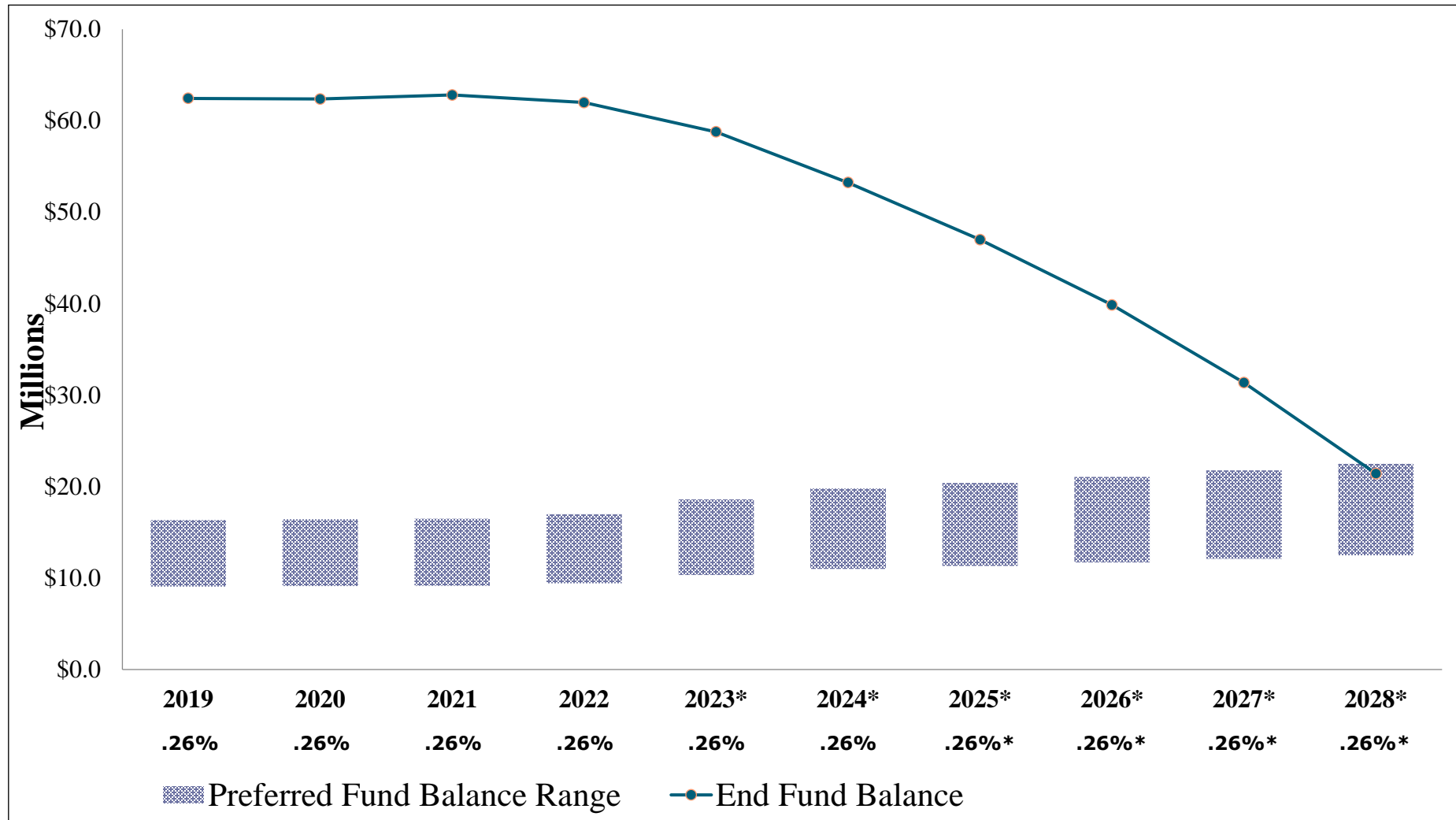


Change in Fund Balance

System Budget				
<i>(dollars in thousands)</i>	FY 2020-21 Actual	FY 2021-22 Actual	FY 2022-23 Budget	FY 2023-24 Budget
Revenue				
Retirement administration	\$ 44,430	\$ 44,465	\$ 44,847	\$ 46,507
Asset management	24,129	23,956	28,424	30,343
Total revenue	68,559	68,421	73,271	76,850
Expenses				
Personnel costs	54,728	55,103	62,515	65,221
Non-personnel costs	8,809	10,019	13,990	16,808
Capital improvement	4,576	4,124	5,250	5,250
Total expenses	68,113	69,246	81,755	87,279
Change in fund balance	\$ 446	\$ (825)	\$ (8,484)	\$ (10,429)
Administrative Rate	0.26 %	0.26 %	0.26 %	0.26 %



Administrative Expense Rate 5-Year Projection



* projected



Asset Management Cost

	Internally Managed Investments**	Total Internal Managed Expenses**	Basis Points
FY 2021-2022	\$74,390,578	\$70,808	9.5
FY 2020-2021	82,755,001	60,407	7.3
FY 2019-2020	70,840,469	56,606	8.0
FY 2018-2019	71,918,660	55,347	7.7
FY 2017-2018	71,366,012	48,334	6.8
Five Year Average	74,254,144	58,300	7.9

	Externally Managed Investments	Total External Managed Expenses	Basis Points
FY 2021-2022	\$55,630,413	\$352,784	63.4
FY 2020-2021	63,570,275	303,264	47.7
FY 2019-2020	47,915,730	296,736	61.9
FY 2018-2019	48,564,123	262,090	54.0
FY 2017-2018	46,742,963	249,634	53.4
Five Year Average	52,484,701	292,902	55.8

	Total Investments*	Total Investment Expenses	Basis Points
FY 2021-2022	\$130,020,991	\$423,592	32.6
FY 2020-2021	146,325,276	363,671	24.9
FY 2019-2020	118,756,199	353,342	29.8
FY 2018-2019	120,482,783	317,437	26.3
FY 2017-2018	118,108,975	297,968	25.2
Five Year Average	126,738,845	351,202	27.7

*Investments are presented at net asset value, which is consistent with asset allocation reporting.

**Investments are classified as internally managed when NYSTRS retains investment discretion.



New York State Teachers' Retirement System
 FY 2023-24 Budget Proposal
 All Segments

	3-Year Historical Expenses			FY 2022-23		FY 2023-24 Budget		
	2019-20	2020-21	2021-22	Budget	YTD Actual	Proposed	\$ Increase	% Increase
Salaries:								
Salaries	\$ 34,181,000	\$ 35,153,000	\$ 36,066,000	\$ 40,210,000	\$ 22,819,000	\$ 41,485,000	\$ 1,275,000	3.2 %
Social Security	2,384,000	2,462,000	2,511,000	2,843,000	1,546,000	3,003,000	160,000	5.6
	36,565,000	37,615,000	38,577,000	43,053,000	24,365,000	44,488,000	1,435,000	3.3
Benefits:								
Employees retirement	4,517,000	4,383,000	4,451,000	5,266,000	2,267,000	5,127,000	(139,000)	(2.6)
Health and dental insurance	5,883,000	6,419,000	6,018,000	8,136,000	4,617,000	8,634,000	498,000	6.1
Civil Service	49,000	50,000	57,000	60,000	84,000	62,000	2,000	3.3
	10,449,000	10,852,000	10,526,000	13,462,000	6,968,000	13,823,000	361,000	2.7
OPEB Trust:								
OPEB trust	6,004,000	6,261,000	6,000,000	6,000,000	4,796,000	6,910,000	910,000	15.2
	6,004,000	6,261,000	6,000,000	6,000,000	4,796,000	6,910,000	910,000	15.2
Building Occupancy Expenses:								
Building operation expenses	903,000	710,000	939,000	1,111,000	484,000	1,043,000	(68,000)	(6.1)
Office supplies and expenses	186,000	114,000	164,000	233,000	130,000	215,000	(18,000)	(7.7)
Utilities and municipal assessments	920,000	911,000	1,127,000	1,213,000	826,000	1,374,000	161,000	13.3
	2,009,000	1,735,000	2,230,000	2,557,000	1,440,000	2,632,000	75,000	2.9
Computer Expenses:								
IT hardware and software	1,184,000	957,000	799,000	1,406,000	1,240,000	1,552,000	146,000	10.4
IT contracts and maintenance	2,779,000	3,414,000	3,228,000	4,670,000	3,334,000	4,455,000	(215,000)	(4.6)
	3,963,000	4,371,000	4,027,000	6,076,000	4,574,000	6,007,000	(69,000)	(1.1)
Personnel and Meeting Expenses:								
Board - meetings, travel and education	93,000	28,000	72,000	126,000	71,000	130,000	4,000	3.2
Delegates' meeting	47,000	3,000	6,000	65,000	632,000	65,000	—	—
Preretirement seminars	134,000	—	(3,000)	90,000	—	35,000	(55,000)	(61.1)
Professional development	773,000	561,000	635,000	1,052,000	471,000	1,141,000	89,000	8.5
Travel and automobile expenses	133,000	3,000	69,000	187,000	101,000	318,000	131,000	70.1
Other personnel expenses	83,000	64,000	116,000	94,000	118,000	287,000	193,000	205.3
	1,263,000	659,000	895,000	1,614,000	1,393,000	1,976,000	362,000	22.4
Professional and Governmental Expenses:								
Auditor expenses	567,000	200,000	483,000	580,000	844,000	420,000	(160,000)	(27.6)
Disability medical examinations	68,000	94,000	96,000	100,000	53,000	100,000	—	—
Postage and cartage	771,000	779,000	804,000	780,000	702,000	828,000	48,000	6.2
Publications	114,000	152,000	130,000	170,000	219,000	195,000	25,000	14.7
Other professional fees	947,000	818,000	1,354,000	2,113,000	1,017,000	4,650,000	2,537,000	120.1
	2,467,000	2,043,000	2,867,000	3,743,000	2,835,000	6,193,000	2,450,000	65.5
Capital Improvement Program:								
Amortization and depreciation	2,816,000	3,563,000	3,204,000	3,250,000	1,526,000	3,694,000	444,000	13.7
Capital improvement maintenance	1,577,000	1,013,000	920,000	1,434,000	814,000	1,546,000	112,000	7.8
Capital contingency	—	—	—	566,000	—	10,000	(556,000)	(98.2)
	4,393,000	4,576,000	4,124,000	5,250,000	2,340,000	5,250,000	—	—
Total	\$ 67,113,000	\$ 68,112,000	\$ 69,246,000	\$ 81,755,000	\$ 48,711,000	\$ 87,279,000	\$ 5,524,000	6.8 %

New York State Teachers' Retirement System
 FY 2023-24 Budget Proposal
 Retirement Administration Segment

	3-Year Historical Expenses			FY 2022-23		FY 2023-24 Budget		
	2019-20	2020-21	2021-22	Budget	YTD Actual	Proposed	\$ Increase	% Increase
Salaries:								
Salaries	\$ 21,256,000	\$ 21,527,000	\$ 22,499,000	\$ 24,802,000	\$ 14,259,000	\$ 25,718,000	\$ 916,000	3.7 %
Social Security	1,506,000	1,533,000	1,588,000	1,774,000	983,000	1,888,000	114,000	6.4
	22,762,000	23,060,000	24,087,000	26,576,000	15,242,000	27,606,000	1,030,000	3.9
Benefits:								
Employees retirement	2,850,000	2,706,000	2,792,000	3,304,000	1,410,000	3,199,000	(105,000)	(3.2)
Health and dental insurance	4,055,000	4,368,000	4,118,000	5,594,000	3,151,000	5,803,000	209,000	3.7
Civil Service	34,000	35,000	40,000	42,000	59,000	43,000	1,000	2.4
	6,939,000	7,109,000	6,950,000	8,940,000	4,620,000	9,045,000	105,000	1.2
OPEB Trust:								
OPEB trust	4,203,000	4,383,000	4,200,000	4,200,000	3,357,000	4,837,000	637,000	15.2
	4,203,000	4,383,000	4,200,000	4,200,000	3,357,000	4,837,000	637,000	15.2
Building Occupancy Expenses:								
Building operation expenses	632,000	497,000	657,000	778,000	339,000	730,000	(48,000)	(6.2)
Office supplies and expenses	133,000	80,000	117,000	167,000	93,000	153,000	(14,000)	(8.4)
Utilities and municipal assessments	644,000	638,000	789,000	849,000	578,000	962,000	113,000	13.3
	1,409,000	1,215,000	1,563,000	1,794,000	1,010,000	1,845,000	51,000	2.8
Computer Expenses:								
IT hardware and software	829,000	670,000	559,000	984,000	868,000	1,086,000	102,000	10.4
IT contracts and maintenance	1,953,000	2,410,000	2,399,000	3,455,000	2,354,000	3,235,000	(220,000)	(6.4)
	2,782,000	3,080,000	2,958,000	4,439,000	3,222,000	4,321,000	(118,000)	(2.7)
Personnel and Meeting Expenses:								
Board - meetings, travel and education	65,000	20,000	50,000	88,000	50,000	91,000	3,000	3.4
Delegates' meeting	47,000	3,000	6,000	65,000	632,000	65,000	—	—
Preretirement seminars	134,000	—	(3,000)	90,000	—	35,000	(55,000)	(61.1)
Professional development	449,000	359,000	409,000	614,000	297,000	710,000	96,000	15.6
Travel and automobile expenses	61,000	2,000	29,000	76,000	29,000	91,000	15,000	19.7
Other personnel expenses	58,000	45,000	81,000	66,000	82,000	200,000	134,000	203.0
	814,000	429,000	572,000	999,000	1,090,000	1,192,000	193,000	19.3
Professional and Governmental Expenses:								
Auditor expenses	397,000	140,000	338,000	406,000	591,000	294,000	(112,000)	(27.6)
Disability medical examinations	68,000	94,000	95,000	100,000	53,000	100,000	—	—
Postage and cartage	567,000	571,000	563,000	573,000	491,000	607,000	34,000	5.9
Publications	99,000	125,000	109,000	146,000	173,000	159,000	13,000	8.9
Other professional fees	664,000	574,000	967,000	1,483,000	745,000	3,255,000	1,772,000	119.5
	1,795,000	1,504,000	2,072,000	2,708,000	2,053,000	4,415,000	1,707,000	63.0
Capital Improvement Program:								
Amortization and depreciation	1,971,000	2,494,000	2,243,000	2,275,000	1,068,000	2,586,000	311,000	13.7
Capital improvement maintenance	1,104,000	709,000	644,000	1,004,000	570,000	1,083,000	79,000	7.9
Capital contingency	—	—	—	396,000	—	6,000	(390,000)	(98.5)
	3,075,000	3,203,000	2,887,000	3,675,000	1,638,000	3,675,000	—	—
Total	\$ 43,779,000	\$ 43,983,000	\$ 45,289,000	\$ 53,331,000	\$ 32,232,000	\$ 56,936,000	\$ 3,605,000	6.8 %

New York State Teachers' Retirement System
 FY 2023-24 Budget Proposal
 Asset Management Segment

	3-Year Historical Expenses			FY 2022-23		FY 2023-24 Budget		
	2019-20	2020-21	2021-22	Budget	YTD Actual	Proposed	\$ Increase	% Increase
Salaries:								
Salaries	\$ 12,925,000	\$ 13,626,000	\$ 13,567,000	\$ 15,408,000	\$ 8,560,000	\$ 15,767,000	\$ 359,000	2.3 %
Social Security	878,000	929,000	923,000	1,069,000	563,000	1,115,000	46,000	4.3
	13,803,000	14,555,000	14,490,000	16,477,000	9,123,000	16,882,000	405,000	2.5
Benefits:								
Employees retirement	1,667,000	1,677,000	1,659,000	1,962,000	857,000	1,928,000	(34,000)	(1.7)
Health and dental insurance	1,828,000	2,051,000	1,900,000	2,542,000	1,466,000	2,831,000	289,000	11.4
Civil Service	15,000	15,000	17,000	18,000	25,000	19,000	1,000	5.6
	3,510,000	3,743,000	3,576,000	4,522,000	2,348,000	4,778,000	256,000	5.7
OPEB Trust:								
OPEB trust	1,801,000	1,878,000	1,800,000	1,800,000	1,439,000	2,073,000	273,000	15.2
	1,801,000	1,878,000	1,800,000	1,800,000	1,439,000	2,073,000	273,000	15.2
Building Occupancy Expenses:								
Building operation expenses	271,000	213,000	282,000	333,000	145,000	313,000	(20,000)	(6.0)
Office supplies and expenses	53,000	34,000	47,000	66,000	37,000	62,000	(4,000)	(6.1)
Utilities and municipal assessments	276,000	273,000	338,000	364,000	248,000	412,000	48,000	13.2
	600,000	520,000	667,000	763,000	430,000	787,000	24,000	3.1
Computer Expenses:								
IT hardware and software	355,000	287,000	240,000	422,000	372,000	466,000	44,000	10.4
IT contracts and maintenance	826,000	1,004,000	829,000	1,215,000	980,000	1,220,000	5,000	0.4
	1,181,000	1,291,000	1,069,000	1,637,000	1,352,000	1,686,000	49,000	3.0
Personnel and Meeting Expenses:								
Board - meetings, travel and education	28,000	8,000	22,000	38,000	21,000	39,000	1,000	2.6
Delegates' meeting	—	—	—	—	—	—	—	—
Preretirement seminars	—	—	—	—	—	—	—	—
Professional development	324,000	202,000	226,000	438,000	174,000	431,000	(7,000)	(1.6)
Travel and automobile expenses	72,000	1,000	40,000	111,000	72,000	227,000	116,000	104.5
Other personnel expenses	25,000	19,000	35,000	28,000	36,000	87,000	59,000	210.7
	449,000	230,000	323,000	615,000	303,000	784,000	169,000	27.5
Professional and Governmental Expenses:								
Auditor expenses	170,000	60,000	145,000	174,000	253,000	126,000	(48,000)	(27.6)
Disability medical examinations	—	—	1,000	—	—	—	—	—
Postage and cartage	204,000	208,000	241,000	207,000	211,000	221,000	14,000	6.8
Publications	15,000	27,000	21,000	24,000	46,000	36,000	12,000	50.0
Other professional fees	283,000	244,000	387,000	630,000	272,000	1,395,000	765,000	121.4
	672,000	539,000	795,000	1,035,000	782,000	1,778,000	743,000	71.8
Capital Improvement Program:								
Amortization and depreciation	845,000	1,069,000	961,000	975,000	458,000	1,108,000	133,000	13.6
Capital improvement maintenance	473,000	304,000	276,000	430,000	244,000	463,000	33,000	7.7
Capital contingency	—	—	—	170,000	—	4,000	(166,000)	(97.6)
	1,318,000	1,373,000	1,237,000	1,575,000	702,000	1,575,000	—	—
Total	\$ 23,334,000	\$ 24,129,000	\$ 23,957,000	\$ 28,424,000	\$ 16,479,000	\$ 30,343,000	\$ 1,919,000	6.8 %



New York State Teachers' Retirement System

10 Corporate Woods Drive
Albany, New York 12211-2395
(800) 348-7298 or (518) 447-2900
NYSTRS.org

RETIREMENT BOARD

David P Keefe <i>President</i>	Hempstead
L. Oliver Robinson <i>Vice President</i>	Clifton Park
Juliet C. Benaquisto	Schenectady
Elizabeth A. Chetney	Baldwinsville
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Jennifer J. Longtin	Ballston Lake
Ruth Mahoney	Albany
Christopher Morin	Scarsdale
Nicholas Smirensky	Delmar
Thomas K. Lee, Executive Director & CIO	

Appendix C

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.

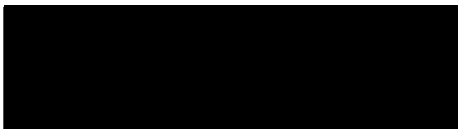
ED Responsibilities

Primary: Beth Dellea
Backup: Miriam Dixon

CIO Responsibilities

Primary: Dave Gillan
Backup: Gerald Yahoudy

These designations will remain in effect from July 1, 2023 - June 30, 2024, unless alternative names are submitted to the Board prior to the end of this period.



Thomas K. Lee

3-23-23
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)



Appendix D

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

Retirement Board Meeting Agenda pp. 47-48

April 27, 2023

Call to Order by President

- A. Introduction of Visitors
- B. Correspondence - none
- C. Approval of Minutes of January 26, 2023 pp. 49-60

COMMITTEE REPORTS & ACTION ITEMS

- A. Audit Committee – O. Robinson, Chair
 - 1. Chairman's report
- B. Compensation Committee – P. Harrington, Chair
 - 1. Resolution on Executive Compensation (R1, p. 61)
- C. Disability Committee – E. Chetney, Chair
 - 1. Disability Denial Resolution (R2, p. 62)
- D. Ethics Committee – R. Mahoney, Chair
 - 1. Chairman's report
- E. Executive Committee – D. Keefe, Chair
 - 1. Resolution Approving Operating Budget – Fiscal Year 2023-24 (R3, p. 63)
 - 2. Annual Succession Plan Designations 7/1/23 – 6/30/24 (pp. 64-66)
- F. Investment Committee – N. Smirensky, Chair
 - 1. **Consent Agenda Item A** pp. 67-71
 - A. Renew Agreements
 - Adelante Capital Management LLC (R4, p. 67)
 - Goldman Sachs Asset Mgt India Equity Strategy (R5, p. 68)
 - LSV Asset Management (R6, p. 69)
 - J.P. Morgan Chase Bank NA (Securities Lending (R7, p. 70)
 - Wellington Management Company LLP (R8, p. 71)
 - B. Resolution on BlackRock Financial Mgt (R9, p. 72)
 - C. Resolution on Pacific Investment Mgt Co (R10, p. 73)
 - D. IPM Global Bonds Benchmark Resolution (R11, p. 74)
- G. Risk Committee – C. Morin, Chair
 - 1. Chairman's report

PRESENTATION

- A. CERES – Mindy Lubber, CEO and President of CERES pp. 75-76

STAFF REPORTS

- A. Old Business
- B. New Business
 - 1. Transfer of Unclaimed Accounts pp. 77-94
 - 2. Litigation Report – D. Ampansiri Jr. pp. 95-96
 - 3. Member Relations Update – B. Dellea

Appendix E

INTEROFFICE MEMORANDUM

TO: Thomas K. Lee
FROM: Heidi Travis, Member and Employer Services Department
SUBJECT: Unclaimed Accounts
DATE: April 27, 2023

Attached is a list of 948 Unclaimed Accounts totaling \$2,649,113.86 These funds, the result of membership cessation, are to be transferred to the Pension Accumulation Fund at the April 2023 Retirement Board meeting.

There were 2,912 Unclaimed Accounts as of June 30, 2021. All addresses in the individual files were thoroughly investigated with the assistance of the Credit Bureau Company Web site. These efforts resulted in the refund of 1,964 of the original 2,912 accounts.

As of March 31, 2023 the Abandoned Accounts Fund includes 14,508 accounts totaling \$28,175,017.59. Annually these accounts are reviewed and those possessing substantial leads for locating the account owners are selected for additional investigation.

NEW YORK STATE TEACHERS' RETIREMENT SYSTEM
 UNCLAIMED ACCOUNTS - MEMBERSHIPS CEASED 01-JUL-2021

Counter Name	Last Teaching Location(s)	Amount Abandoned
0001	Abazi,Sema	Middletown
0002	Abdul,Amna	Bayport-Blue Point
0003	Abelein,Meaghan	Gates-Chili
0004	Abughanem,Kahaled	Global Concepts
0005	Ackerman,Julianne	Middle Country
0006	Adjogah,Ashley	Buffalo
0007	Adolphe,Elda	East Ramapo
0008	Ainbinder,Alessandra	Peekskill Wappingers
0009	Alexandre,Yanick	Nyack
0010	Alexis,Jennifer M	Nyack
0011	Alianell,Samantha D	Jamestown
0012	Allen,Jessica L	Genesee
0013	Alongi,Catherine	Churchville-Chili
0014	Altamura,Christian C	Levittown
0015	Alvarez,Deserie	White Plains
0016	Ambrosini,Dominck J	Connetquot
0017	Andela,Lindsay Sue C	Rome Oneida-Madison-Herkimer
0018	Anderson,Denise L	Wayne
0019	Anderson,Theresa M	East Ramapo
0020	Anderson,Siobhan	Charter School of Educational Excellence
0021	Andreoli,Alise	Port Chester-Rye
0022	Andreu,Karla M	Keene
0023	Anello,Lisa M	Erie 2-Chautauqua-Cattaraugus
0024	Anglim,Niki-Lyn	Freeport
0025	Aniboli,Amanda L	Valley Stream
0026	Annunziata,Kristine	Copiague
0027	Ansman,Kate A	Longwood at Middle Island
0028	Anthony,Ageliki	Plainedge
0029	Appleton,Dawn E	Buffalo
0030	Ardevini,Dana M	Horseheads
0031	Armstrong,April	Middletown
0032	Arrowood,Anne Marie	West Irondequoit
0033	Asbach,Lauren M	Cheektowaga-Maryvale Cheektowaga-Sloan
0034	Asher,Harold E	Hannibal
0035	Atti,Laura F	Cheektowaga Cheektowaga-Maryvale West Seneca
0036	Atwater,Tara L	Cortland
0037	Ayers,Cheryl A	Hilton
0038	Ayscue,Matthew J	Albany
0039	Bader,Leah Y	Kiryas Joel Village
0040	Baez-Sayegh,Helen	Yonkers
0041	Bailey,Amanda L	Richfield Springs
0042	Bain,Nia-Nicole	Rockland
0043	Baker,Cindy L	Farmingdale
0044	Baker,Kevin V	Maine-Endwell
0045	Baker,Breanne J	NYS School for the Blind
0046	Baker,Daniella M	Spencerport
0047	Baker,Susan L	Rochester
0048	Baker,Bethanie M	Minerva
0049	Balaji,Uma	SUNY Farmingdale Ag and Tech (28390)
0050	Balcom,Jennifer L	Applied Technologies
0051	Baldassare,Antonina	Beacon Wappingers
0052	Baldwin,Allison C	Briarcliff Manor
0053	Ballback,Meghan A	Rockville Centre
0054	Balsan,Justine E	Long Beach Oceanside Oyster Bay-East Norwich Merrick
0055	Barbero,Michael D	Churchville-Chili East Irondequoit Greece Penfield
0056	Baril,Chantal	Adirondack
0057	Barker,Eric S	Jamesville-Dewitt
0058	Barr,Alison M	Saranac Lake Lake Placid

NEW YORK STATE TEACHERS' RETIREMENT SYSTEM
 UNCLAIMED ACCOUNTS - MEMBERSHIPS CEASED 01-JUL-2021

Counter Name	Last Teaching Location(s)	Amount Abandoned
0059	Barragan,Melissa E	Arlington
0060	Barse,Carisa L	Massena
0061	Bartell,Kelly L	West Irondequoit
0062	Barth,Katherine I	Rush-Henrietta
0063	Bartlett,Kayla R	Lindenhurst
0064	Basile,Michael	White Plains
0065	Bassett,Marla R	Tapestry
0066	Bastek,James M	Warwick Valley
0067	Beach,Danielle M	Cohoes
		Bethlehem
		Guilderland
		Rotterdam-Mohonasen
		North Colonie
		Schalmont
		South Colonie
		Voorheesville
		Duanesburg
0068	Beaudette,Shelley S	Averill Park
0069	Beckwith,Deana M	Nassau
0070	Bedi,Harsimrat K	Rochester
		Penfield
		Pittsford
		Rush-Henrietta
		Webster
0071	Beeman,Lauren E	Lancaster
		Orchard Park
0072	Belanich,Lydia D	Rocky Point
0073	Belesis,Tania	East Meadow
0074	Bell,Alyssa R	New Paltz
0075	Bell,Jennifer M	Suffern
0076	Bella,Peter P	SUNY College at Buffalo (28160)
0077	Bencosme,Arnaldo	Mamaroneck
0078	Benedict,Amanda R	Three Village
0079	Bennett,Samantha A	Schenectady
		Bethlehem
		Rotterdam-Mohonasen
0080	Berg,Derek L	Rockland
0081	Berghash,Stephanie	Sweet Home
0082	Bergman,Jillian L	Levittown
0083	Bermingham,Gabriel T	East Aurora
		Lake Shore
		Silver Creek
		Cleveland Hill at Cheektowaga
0084	Biggers,Nicole D	Massapequa
		Bellmore-Merrick
0085	Birch,David S	Hudson Valley
0086	Bisbano,Desiree N	Dobbs Ferry
0087	Blabac,Kristen T	Susquehanna Valley
0088	Black,Dwayne E	Rush-Henrietta
0089	Blackman,Vanessa L	Baldwin
0090	Blade,Sydney B	Edmeston
0091	Blank,Jenna M	Middle Country
0092	Blowers,Jason B	Geneva
0093	Bodanzio,Mandie C	Lawrence
0094	Bohenek,Amanda	Glen Cove
0095	Bohrer,Kelly M	Tonawanda
		Cheektowaga
0096	Boland,Sarah A	Lynbrook
0097	Bondy,Danielle E	Levittown
0098	Bonet,Michael P	Rye
0099	Bonforte,Claudia J	Hyde Park
0100	Boniello III,Angelo G	Mahopac
0101	Borodulin,Andrea M	Saugerties
0102	Bortell,Kiersten M	Levittown
0103	Boston-Hill,Kevin E	Patchogue-Medford
0104	Boxhill,Jaevon S	Rockland
0105	Boylan,Christine	Merrick
0106	Brady-Stepien,Kathleen	Buffalo
0107	Brathwaite,Jamila M	Rockland
0108	Breen,Patrick M	Erie Community College
		Erie 1

NEW YORK STATE TEACHERS' RETIREMENT SYSTEM
 UNCLAIMED ACCOUNTS - MEMBERSHIPS CEASED 01-JUL-2021

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Counter Name	Last Teaching Location(s)	Amount Abandoned
0109 Breidenstein,Chelsea R	Erie Community College	
0110 Brenner,Kristen	Albany	
0111 Brenner Stump,Emily	Brighton Victor	
0112 Brilliant,Aimee L	Syosset	
0113 Brockhausen,Christy M	Tuckahoe	
0114 Brookmeyer,Linda H	Syosset	
0115 Brosnan,Loretta	Washington-Saratoga-Warren-Hamilton-Essex	
0116 Brown,Jennifer L	Rockville Centre	
0117 Brown,Courtney E	Onondaga-Cortland-Madison	
0118 Brown,Rosemary C	North Salem	
0119 Brown,Esther M	Albany-Schoharie-Schenectady-Saratoga	
0120 Brugger,Sara A	Sachem	
0121 Brunetti,Marc	Sullivan County	
0122 Bubar,Danielle A	Williamsville	
0123 Buckley,Megan P	Wappingers	
0124 Bunch,Ann Marie	Mount Vernon	
0125 Bunyea,Veronica A	Mahopac	
0126 Buonocore,Paul A	Tuckahoe	
0127 Burakiewicz,Shayne	Clarkstown	
0128 Burch,Amanda L	North Rose-Wolcott	
0129 Burch,Brandon T	Syracuse	
0130 Burda,Lauren M	Middle Country Patchogue-Medford	
0131 Burlingham,Krista M	Fulton	
0132 Burlingham,Tracy S	Ontario-Seneca-Yates-Cayuga-Wayne	
0133 Burton,Crystal A	Olean Bolivar-Richburg	
0134 Butler,Chelsie L	Oswego	
0135 Butler,Thomas	Rochester	
0136 Byrne,Michael	South Lewis	
0137 Calabrese,Christine A	Plainedge	
0138 Calandra,Brandon E	Gloversville St Lawrence-Lewis	
0139 Califano,Arthur J	Suffern	
0140 Callahan,Daniel E	Monroe	
0141 Calvey,Rychelle M	Maine-Endwell Vestal	
0142 Calvo,Alexis O	Jefferson-Lewis-Hamilton-Herkimer-Oneida	
0143 Calway,Mercedes A	Erie Community College	
0144 Camp,Joel T	Riverhead	
0145 Campbell,Alyssa L	Cohoes	
0146 Campeau,Angela M	Jefferson	
0147 Campisi,Dorothy P	Great Neck	
0148 Canada,Kristen E	Brentwood	
0149 Cannon,Gregory P	Kenmore-Town of Tonawanda	
0150 Cantu,James	Auburn	
0151 Caputo,Eileen M	Elwood	
0152 Cardinale,Joseph V	Brocton	
0153 Carew,Caitlin	Copiapue	
0154 Carlino,Elisa	Williamsville	
0155 Carlson,James E	Peru	
0156 Carney,Ian F	Northeastern Clinton	
0157 Carpenter,Kelly A	Greenwich	
0158 Carpenter,Mary Ann	Pine Bush	
0159 Carpenter,Sean M	Chittenango	
0160 Carter,Tammy L	Newark	
0161 Casey,Sharyl A	Broome-Delaware-Tioga	
0162 Cassar,Gina A	West Hempstead	
0163 Cau,Mauro	Rockland	
0164 Cavallo,Hannah D	Rochester	
0165 Chait,Lynne	Scarsdale	
0166 Champion,Matthew S	Rush-Henrietta	
0167 Channer,Jennifer L	Great Neck Sachem	
0168 Chase,Christin D	Onondaga-Cortland-Madison	
0169 Chechanover,Lauren M	Bellmore-Merrick	
0170 Cheriyan,Mary P	Locust Valley	
0171 Chester,Kelly A	Rockville Centre	
0172 Chiarelli,Graziella A	Oceanside	
0173 Ching,Melissa	Charter School of Educational Excellence	

NEW YORK STATE TEACHERS' RETIREMENT SYSTEM
 UNCLAIMED ACCOUNTS - MEMBERSHIPS CEASED 01-JUL-2021

Counter Name	Last Teaching Location(s)	Amount Abandoned
0174	Chiossone,Christina M	Sachem
0175	Chowdhry,Fahmida	Greenville
0176	Cibella,Maria	Lancaster
0177	Cinelli,Keri E	Clarkstown
0178	Clark,Gabriele A	Niagara-Wheatfield
0179	Clarke,Andrea	Westbury
0180	Claroni,Amy L	SUNY College at Buffalo (28160)
0181	Clifford,Cassandra L	Niagara Falls
0182	Climek,Joseph P	Monroe 1
0183	Cline,Alyssa K	Webster
0184	Clough,Kaitlyn R	Albany-Schoharie-Schenectady-Saratoga
0185	Coakley,Timothy	Hempstead
0186	Cobo,Pranvera	Mount Vernon
0187	Coffman,Kathleen P	Kenmore-Town of Tonawanda
0188	Cohen,Lawrence E	Dobbs Ferry
0189	Coleman,Jaime M	Chappaqua
0190	Collins-Douglas,Semaj S	East Ramapo
0191	Colon,Victoria S	Utica
0192	Coloney,Michelle E	St Lawrence-Lewis
0193	Colvin,Kelly A	Fort Plain
0194	Conklin,Jennifer M	Watkins Glen
0195	Connor,Kristen E	Greece
0196	Cook,Marcie A	West Seneca
0197	Cook,Geoffrey C	Phelps-Clifton Springs
0198	Cook,Amber M	Sidney
0199	Cooney,Thomas J	Islip
0200	Cordova,Justin P	Plainview-Old Bethpage Wantagh
0201	Cornell,Kristin L	Middleburgh
0202	Cornwell,Ronald John	Greece
0203	Corvi,Allison M	East Rockaway
0204	Costello,Casey L	Fabius-Pompey
0205	Cotter,David J	East Syracuse-Minoa
0206	Couture,Gina M	Troy
0207	Cowie,Dawn E	Miller Place
0208	Cronk,Alicia J	Carthage Indian River
0209	Croom,Nicole J	Aloma D. Johnson Fruit Belt Community
0210	Crowley,Patricia A	Clarkstown
0211	Curatolo,Joseph V	Churchville-Chili Gates-Chili Spencerport Monroe 2-Orleans
0212	Curran,Elizabeth A	Rensselaer-Columbia-Greene
0213	Curry,Ashleigh I	Oswego
0214	D'Alesio,Justina R	Connetquot
0215	Daly,Megan E	York
0216	Daniels,Marie C	Kingston Onteora Saugerties
0217	Danz,Christine	Troy
0218	Darling,Jennifer A	Glen Cove
0219	DaSilva,David M	Brookhaven-Comsewogue
0220	Dauerer,Erin M	Schenectady
0221	Davis,Elizabeth E	Ballston Spa
0222	Davis,Emory	UFSD of the Tarrytowns
0223	Dazzo,Christopher A	Northport-East Northport
0224	DeBlasio,Heather L	West Islip
0225	DeBlois,Jacqueline L	Queensbury
0226	Decker,Andrea M	East Meadow
0227	DeGiovanni,Jessica M	Edgemont at Greenburgh
0228	DeGraff,Dawn M	Tapestry
0229	DeJohn,Amanda N	Westhill
0230	DeLuca,Silvana M	Briarcliff Manor
0231	Delutri,Joseph A	Great Neck Hastings-on-Hudson
0232	DeMarco,Joseph G	East Rockaway Nassau
0233	Demarco,Chris	Vestal
0234	Demaree,Jillian A	Syracuse Corinth

NEW YORK STATE TEACHERS' RETIREMENT SYSTEM
 UNCLAIMED ACCOUNTS - MEMBERSHIPS CEASED 01-JUL-2021

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Counter Name	Last Teaching Location(s)	Amount Abandoned
0235 Demas,George C		
0236 DeMunn,Regina E	South Glens Falls	
0237 Denny,Samantha L	Washington-Saratoga-Warren-Hamilton-Essex Onondaga-Cortland-Madison Jamesville-Dewitt Liverpool Fayetteville-Manlius DeRuyter Hamilton	
0238 Dentino,Anthony	Rochester	
0239 DeStefano,Tara K	Harborfields	
0240 DeTroia,Anthony D	Suffolk County	
0241 Devens,Amanda L	Hyde Park	
0242 Dexter,Kristen R	Arlington	
0243 Diamond,David M	New Rochelle	
0244 Diana,Travis J	St Lawrence-Lewis	
0245 Diefendorf,Sarah E	Albany	
0246 DiGiovanna,Leonard J	Dundee	
0247 Dimino,Morgan M	Palmyra-Macedon	
0248 Dimitroff,Russell J	Erie Community College	
0249 DiNiro,Anne M	Onondaga-Cortland-Madison	
0250 DiSalvo,Janine M	Deer Park	
0251 DiTucci,Alanah M	Victor	
0252 Dluginski,Thomas	Seaford	
0253 Doherty,Kelly	Farmingdale Three Village Yonkers	
0254 Dolgoff,Stewart	Farmingdale	
0255 Domanick,Heather E	Rome	
0256 Dombrowski,Gregory J	Half Hollow Hills	
0257 Donato,Mark J	Ichabod Crane	
0258 Donohue,Meghan E	Elmont	
0259 Donohue,Jillian S	Saratoga Springs	
0260 Donovan,Laura E	Ballston Spa Queensbury Whitehall Corinth South Glens Falls Schuylerville Stillwater Hadley-Luzerne Argyle	
0261 Donovan,Nicole M	Mount Pleasant	
0262 Doohan,Aileen B	Lakeland	
0263 Dorgan,Melissa L	Erie 1	
0264 Drasba,Michael A	Sachem	
0265 Drumm,Francis A	Saugerties	
0266 Druse III,Frank C	Mohawk Valley	
0267 Dunbar,Keith	Sewanhaka	
0268 Dunn,Nicole M	Rochester	
0269 Duquette,Nicole M	Newburgh	
0270 Duran,Alexander	Suffolk 2	
0271 Duttinger,Brianna	Rochester	
0272 Dwyer,Amanda C	Peekskill	
0273 D`Agostino,Meghan L	Lynbrook	
0274 Eckert,Virginia Lyn	SUNY College at Purchase (28260)	
0275 Econopouly,Nola M	Rhinebeck	
0276 Edinger,Michael K	Central Square Liverpool	
0277 Egerman,Heather	Ossining	
0278 Egert,Sheri Renee A	William Floyd	
0279 Ehlinger,Adam H	Watervliet	
0280 Eichenberger,Lauren	Suffern	
0281 Eisenhauer,Adam T	North Tonawanda	
0282 Eller,Dawn M	Tompkins-Cortland	
0283 Elliott,Jessica M	Cortland	
0284 Ely,Lyda B	Rye Neck	
0285 Engel,Jennifer R	Briarcliff Manor	
0286 Englander,Eric W	Half Hollow Hills	
0287 Eppolito,Kristen M	Hamburg Lancaster Cortland	

Counter Name	Last Teaching Location(s)	Amount Abandoned
0288 Ernenwein, Daniel J	Homer	
0289 Ertischek, Robert S	Monroe	
0290 Estevez, Christina A	Freeport	
0291 Eurich, Mary L	Millbrook	
0292 Evans, Carrie E	West Irondequoit	
0293 Evans, Korey A	Connetquot	
0294 Evereth, Erika	North Colonie	
0295 Eyckmans, Maria C	White Plains	
0296 Fabiyi, Megan T	Greece	
0297 Fallon, Coleen M	Rensselaer-Columbia-Greene	
0298 Farinacci, Christina L	Troy	
0299 Fatscher, Nicole M	Massapequa	
0300 Feidt, Vicki N	Randolph Academy	
0301 Felder, Ezobia	Eastern Suffolk 1	
0302 Feldman, Amy J	Orange County	
0303 Feldman, Chelsey B	Rockland	
	New Rochelle	
	Mamaroneck	
	Rye Neck	
	UFSD of the Tarrytowns	
0304 Ferguson, Peter V	Elmira Heights	
	Horseheads	
0305 Fetta, Maria K	White Plains	
	Elmsford	
0306 Finger, Sara	Buffalo	
0307 Fiorucci, Joseph P	Eastern Suffolk 1	
0308 Fish, Alexandra M	Ballston Spa	
0309 Fisher, Sharon H	Delaware-Chenango-Madison-Otsego	
0310 Flack, Crystal E	Oswego	
0311 Fleischman, Kevin R	Nassau	
0312 Fleming, Sarah J	Attica	
0313 Fleming, Lynn Kimberly	SUNY College at Purchase (28260)	
0314 Flood, Tara M	Babylon	
0315 Flynn, Renate T	Spencer-Van Etten	
0316 Foehr, Gregory M	Riverhead	
0317 Fogarty, Kareen P	Commack	
0318 Forcello, Cassandra	Mamaroneck	
0319 Forese, Christopher M	Rockland	
0320 Fortsch, Sima	SUNY at Buffalo (28030)	
0321 Fotenos, Christie M	Bethpage	
0322 Fowler, Daniel B	Long Beach	
0323 Franceschi, Christina M	Erie 1	
	Westminster Community	
0324 Frank, Brenda J	Brockport	
	Spencerport	
0325 Franzese, Stephanie L	Long Beach	
0326 Friedling, Lily J	Tapestry	
0327 Fuller, Nicole E	East Greenbush	
0328 Furnal, Marcie A	Williamson	
0329 Fussell, Latesha S	St Lawrence-Lewis	
0330 Gabriele, Vita M	Garden City	
0331 Gagliano, Joseph A	West Hempstead	
0332 Gaimari, Danielle M	Liverpool	
0333 Gallagher, Allison E	Bedford	
0334 Gallo, Maria R	Albany	
0335 Galvin, Kathryn M	Suffern	
0336 Gamiello, Marissa A	Harrison	
0337 Gang, Keri F	East Rockaway	
0338 Ganger, Laurie B	Monroe 1	
0339 Ganley, Luke W	Randolph Academy	
0340 Garcia, Lauren M	Elmsford	
0341 Garcia-Lozano, Maria F	Rockland	
0342 Gardner, Pam M	Caledonia-Mumford	
0343 Gardner, Abbey S	Massena	
0344 Garrand, Angela J	Plattsburgh	
	Northern Adirondack	
0345 Gates, Carolyn A	Jamesville-Dewitt	
	Liverpool	
	Monroe-Woodbury	
0346 Gedney, Megan M	North Syracuse	
0347 Gelber, Joshua L	Ravena-Coeymans-Selkirk	

Counter Name	Last Teaching Location(s)	Amount Abandoned
0348	Geller,Christine	Nassau
0349	Gengler,Michael T	Shoreham-Wading River
0350	Gentile,Lindsay	Carthage
0351	Gentzsch,William D	Pleasantville
0352	Gerard,Danielle J	Syracuse
0353	Giannetto,Joseph	Saratoga Springs
0354	Gilbert,Reginald G	Erie Community College
0355	Gill,Colleen E	Haverstraw-Stony Point
0356	Glasgow,JenniferMae G	Rockville Centre
0357	Goff,Nichole Lynn	Greece
0358	Gokey,Miranda A	South Lewis
0359	Gooding,Mary K	New Roots
0360	Gorman,Danielle J	Pine Bush
0361	Gormley,Erik S	Dobbs Ferry
0362	Gossett,Kelli C	Buffalo
		Cheektowaga-Sloan
0363	Graham,Richard P	Eastern Suffolk 1
0364	Gray,Sarah A	City School District of the City of Batavia
0365	Greco,Vincenzo A	Jefferson
0366	Green,Janice C	Beacon
0367	Greene,Colin J	Byram Hills at Armonk
0368	Greene,Nora A	North Shore
0369	Groeblor,Brittany M	Brasher Falls
		Colton-Pierrepont
0370	Gronowski,Jill C	Commack
0371	Grosse,John D	Hampton Bays
0372	Guenette,Christine M	Waterford-Halfmoon
0373	Gulick,Amy E	New Paltz
0374	Gulotta,Matthew J	Cooperstown
0375	Gutmann,Sarah E	Eastport-South Manor
0376	Haberman,Sean	Nassau
0377	Hagadorn,Andrea L	Mount Markham
0378	Haggerty,Jennifer L	Nyack
0379	Halesworth,Valerie R	Carle Place
		Manhasset
0380	Halperin,Alyssa H	Garden City
0381	Halpin,Colleen	Patchogue-Medford
0382	Ham,Grace Y	Syosset
0383	Hamilton,Christine E	Dunkirk
		Frewsburg
0384	Hamm,Clarissa R	Cheektowaga
		North Collins
0385	Han,Helena S	Rockland
0386	Hansen,Matthew B	Eastern Suffolk 1
0387	Hanson,Jessica L	Frankfort-Schuyler
		Herkimer
		Central Valley
0388	Harrandine,Kayli D	Ogdensburg
0389	Hart,Jill A	Greenburgh
0390	Hartford,Catherine D	Nassau
0391	Hartnett,Terence C	Fayetteville-Manlius
0392	Hasbrouck,Aaron C	Middletown
		Warwick Valley
0393	Hauser,Susan E	Eastern Suffolk 1
0394	Hayden,Corey E	Onondaga-Cortland-Madison
0395	Hazard,Bethany R	Watertown
0396	Heddell,Gregory P	Wyandanch
0397	Hedgepeth,Miah J	Yonkers
0398	Heins,Stephanie N	Connetquot
0399	Heller,Michelle E	Erie 1
0400	Helwig,Kayla E	Williamsville
0401	Henchen,Heather M	SUNY College at Plattsburgh (28240)
0402	Henderson,Britney L	Indian River
0403	Hendrix,Denise L	Spencer-Van Etten
0404	Herbst,Eleazar B	Mamaroneck
0405	Herr,James C	Nassau
0406	Herring,Nicole T	Byram Hills at Armonk
0407	Heslop,Melissa P	Chenango Valley
		Broome-Delaware-Tioga
0408	Hess,Nicole J	Buffalo
0409	Hewitt,Alexis E	Troy

Counter Name	Last Teaching Location(s)	Amount Abandoned
0410	Higgins,Douglas J	Madison-Oneida
0411	Hilker,Felice	Corning-Painted Post
0412	Hill,Doreen	Buffalo
0413	Hilland,Stephanie A	Rensselaer-Columbia-Greene
0414	Hillebrandt,Jenna S	Ithaca
0415	Hoefler,Brenna R	Hudson Falls
0416	Hogan,Lauren E	South Glens Falls Schuylerville
0417	Hoke,Rani E	Camden
0418	Holder,Shawn M	Freeport
0419	Hollenbeck,Elizabeth K	Saugerties
0420	Holness,Amie S	Rome
0421	Holt,Rachel D	Onteora
0422	Holt,Lori J	Monroe
0423	Homonai,Tracey L	Williamsville
0424	Hopkins,Zachary T	Oneida Canastota
0425	Hopkins,Carolyn A	Carthage
0426	Horn,Jeffrey L	Farmingdale
0427	Horning,Nicole R	Hamburg Orchard Park
0428	Horning II,Brian E	Mexico
0429	Horsley,Bryce A	South Country
0430	Horvath,Toni Anne	Briarcliff Manor
0431	Hosler,Michelle R	Glens Falls Hudson Falls Corinth South Glens Falls Granville
0432	Houck,Ashley M	Sidney
0433	Houde,Michael	Massapequa
0434	Houser,Christopher J	Chappaqua
0435	Howe,Danielle M	Carmel
0436	Huang,Hsiao-Mei	Westchester 2
0437	Huggler,Kimberly M	Liberty
0438	Hull,Christine S	Horseheads
0439	Hultman,Tyler J	Mamaroneck
0440	Hunsinger,Todd W	SUNY Cobleskill Ag and Tech (28370) Hudson Valley
0441	Hunt,Candice M	Rensselaer-Columbia-Greene
0442	Husain-Holly,Jeanette M	Northville
0443	Hussain,Adnan S	Plainedge
0444	Hussey,Matthew	Marion
0445	Hyde,Kelsey A	Albany
0446	Hyde,Keri A	Genesee
0447	Hyland,Sarah K	Tapestry
0448	Ilardi,Charles	South Country
0449	Interlichia,Tyler J	North Rose-Wolcott
0450	Irr,Brian R	Lockport Newfane
0451	Irving,Colette J	Child Development Center Hamptons
0452	Jackowski,Nina M	Fulton
0453	Jackson,Jennifer L	Buffalo
0454	Jaffe,Amanda M	Herricks
0455	James II,Mark C	Kenmore-Town of Tonawanda
0456	Jarmon,Simone L	Tapestry
0457	Jarvis,Kali N	Ogdensburg
0458	Jasiewicz,Edward W	East Syracuse-Minoa Westmoreland
0459	Johnson,Stephanie H	Spencer-Van Etten
0460	Johnson,Bernadette	Islip
0461	Johnson,Steven T	Whitney Point
0462	Johnson,Lindsay K	Utica Academy of Science
0463	Johnson,Bonnie E	Sachem
0464	Johnstone,Kaitlin D	Newburgh
0465	Jordan Jr,Thomas G	William Floyd
0466	Joseph,Rosaire	Westchester 2
0467	Joseph,Sarah	Syracuse Burnt Hills-Ballston Lake Rotterdam-Mohonasen Niskayuna

0466 After Nabec, Jean M

Last Teaching Location(s)

Member ID	Member Name	Last Teaching Location(s)
0469	Kacharaba, Brian J	North Colonie Schalmont South Colonie Massapequa Plainedge
0470	Kaem, Audrey	Shoreham-Wading River
0471	Kahen, Vanessa K	Half Hollow Hills
0472	Kaires, Donna M	Rocky Point
0473	Kalkman, Brady W	Greece
0474	Kallen, Bryan A	Rhinebeck
0475	Kalofonos, Nicole	Copiague
0476	Kamery, Erin N	Erie 2-Chautauqua-Cattaraugus
0477	Kaufman, Warren J	Massapequa
0478	Kazalski, Salvatore J	Suffolk County
0479	Kearney, Jason D	West Valley
0480	Keeler, Stefanie M	Lakeland
0481	Keiper, Kimberly A	Brentwood
0482	Kell, MacKenzie W	Ulster County
0483	Kelly, Lorraine	Island Park
0484	Kemp, Georgina	Rockland
0485	Kennedy, Nina M	Sharon Springs
0486	Kernan, James	Oriskany
0487	Khalil, Nancy M	Elmont
0488	Khoury, Jonathan	Long Beach
0489	Kim, Youngbin	Rockland
0490	King, Dawn R	William Floyd
0491	Kirisits, Melissa C	Starpoint
0492	Kirsch, Stephen F	Newfane
0493	Klima, David S	Frontier
0494	Klugh, Todd M	York
0495	Knapp, Matthew C	Greece
0496	Knight, Christopher A	Cherry Valley-Springfield
0497	Knox, Rachel A	Jefferson
0498	Koerner, Shannon	Commack Kings Park
0499	Kolokowsky, Rhonda	Starpoint
0500	Koonz, Erin L	Onteora
0501	Kornfield, Brian R	Irvington
0502	Kostek, Michelle L	South Buffalo
0503	Krichbaum, Kaitlin R	Scotia-Glenville
0504	Krisiko-Hoffmann, Brett L	Rockland
0505	Krosche, Anna	Ardsley
0506	Kuney, Melody	Haverstraw-Stony Point
0507	Kuswani, Mpaphi	Syracuse
0508	LaBrake, Matthew L	Dutchess
0509	Lagudi, Courtney	Oceanside
0510	Lake, Kara A	Rotterdam-Mohonasen
0511	Lambert, JoAnn L	Central Square
0512	Lamneck, Michael A	South Country
0513	Lampasona, Cheryl L	Valley Stream #30
0514	Lankes, Megan E	Orchard Park West Seneca
0515	Lanni, Dawn M	East Meadow
0516	Laporta, James J	East Meadow
0517	Larkin, Meghan L	Elmont
0518	LaSusa, Kathryn M	Cornwall Wappingers
0519	Lawrence, Stephen P	Dover
0520	Lawrence, Anna K	Ogdensburg St Lawrence-Lewis
0521	Lee, Cheryl G	Rochester
0522	Lee, Jee-Eun	Fashion Institute of Technology
0523	Leggio, Ashley N	Bay Shore
0524	Leggio, Justine	Bay Shore
0525	LeVea, Justine E	Fulton
0526	Levy, Ayalah	Yonkers
0527	Lewis, Tabitha G	Broadalbin-Perth
0528	Lin, Dongyun	SUNY Farmingdale Ag and Tech (28390)
0529	Lincoln, Danielle J	Pinevalley at South Dayton
0530	Lindoerfer, Megan E	Sherburne-Earlville
0531	Lipuma, Joanna M	Elmont

NEW YORK STATE TEACHERS' RETIREMENT SYSTEM
 UNCLAIMED ACCOUNTS - MEMBERSHIPS CEASED 01-JUL-2021

Counter Name	Last Teaching Location(s)	Amount Abandoned
0532	Listner, Estelle A	Wappingers
0533	Litchfield, Nadyne M	Ellicottville
0534	Llerena, Guisella	Freeport
0535	Lobdell, Kathleen D	Tupper Lake
0536	LoCurto, Victoria L	Bellmore
0537	Loewenthal, Carly	Mineola
0538	Loewke, Amanda	Byron-Bergen
0539	Lombardo, Ashley M	Hampton Bays
0540	Lorey, Susan J	Scotia-Glenville
0541	Louissaint, Madero DM	Rockland
0542	Louvros, Bobbisue L	Wellsville
0543	Lovell, Jennifer A	Mamaroneck
		UFSD of the Tarrytowns
0544	LoVerde, Kristina N	Franklin Square
0545	Lowenstein, Tovah B	Greenburgh-North Castle
0546	Lowery, Thomas Sean	Saratoga Springs
0547	Lubranski, Linda C	Deer Park
0548	Luciana, Kelly M	Yonkers
0549	Luciano, Christine M	Mamaroneck
0550	Luckman, Rashawn M	Lyons
		Ontario-Seneca-Yates-Cayuga-Wayne
0551	Lum, Danielle N	Onondaga-Cortland-Madison
0552	Macauley, Kaitlyn M	Phelps-Clifton Springs
0553	MacCary, Emily J	Commack
		Remsenburg-Speonk
		Eastern Suffolk 1
0554	MacFadden, Kevin C	Bay Shore
0555	MacNiven, Gina T	Saratoga Springs
		Ballston Spa
		Rotterdam-Mohonasen
		North Colonie
		Queensbury
		Scotia-Glenville
		South Colonie
		South Glens Falls
		Stillwater
0556	Maffettone, Lucy K	North Shore
0557	Maher, Meghan O	Erie 1
0558	Mahoney, Megan J	Schenectady
0559	Maida, Sara M	Utica
0560	Malegiannakis, Vasiliki J	Windham-Ashland-Jewett
0561	Mancuso, Cara M	Kenmore-Town of Tonawanda
0562	Mannasse, Jennifer R	Huntington
0563	Marbot, Brandon D	Middleburgh
0564	Marciano, Brittany L	Port Chester-Rye
		Somers
0565	Marion, Jennifer	Syracuse
0566	Marquart, Mackenzie J	Onondaga-Cortland-Madison
0567	Marriott, Elizabeth O	Bedford
0568	Marsala, James M	Cheektowaga
0569	Martinez, Jennifer M	Middle Country
0570	Martinez, Alexis L	Cheektowaga-Sloan
		Williamsville
0571	Martinez-Bauer, Susana A	Rockville Centre
0572	Maskell, Elizabeth A	Vestal
0573	Mastrianni, Jessica B	South Colonie
0574	Mathias, Brandon P	Port Chester-Rye
0575	Mattioni-Cole, Heather J	Gloversville
0576	Matula, Garrett J	Arlington
		Wappingers
0577	Matz, Jordana R	Rye
0578	Maurer, Carolyn M	Amherst
0579	Mc Ginnity, Jessica L	Brentwood
0580	Mc Mahon, Wayne G	Sullivan County
0581	Mc Nerney, Betsy B	Onondaga
0582	McAuley, Patrick R	Eastern Suffolk 1
0583	McCarthy, Michael	Suffolk 2
0584	McCarthy, Christie A	Rockland
0585	McCutcheon, Veronica L	Andover
0586	McDaniel, Kelly A	Valley Stream #24
0587	McDermott, Steven L	Fashion Institute of Technology

NEW YORK STATE TEACHERS' RETIREMENT SYSTEM
 UNCLAIMED ACCOUNTS - MEMBERSHIPS CEASED 01-JUL-2021

Counter Name	Last Teaching Location(s)	Amount Abandoned
0588 McDonald,Caitlyn M	Great Neck Wantagh	
0589 McFadden,Emily A	Freeport	
0590 McGirr,Kari L	Buffalo Cheektowaga	
0591 McGlynn,Christopher	Rye	
0592 McIntosh,David J	Jefferson-Lewis-Hamilton-Herkimer-Oneida	
0593 McIntyre,Ryan C	Croton-Harmon	
0594 McKay,Amanda M	Middle Country	
0595 McKenna,Mary C	Massapequa	
0596 McKoy,Keenan M	Rochester	
0597 McLoughlin,Sean M	Lindenhurst	
0598 McMahan,Grace E	Babylon Bayport-Blue Point	
0599 Meglino,Annette	Edgemont at Greenburgh	
0600 Meier,Eliza	Miller Place	
0601 Melchick,Brittany J	Liberty	
0602 Mercorella,Kelly	Rockland	
0603 Merritt,John J	Newburgh	
0604 Messina,Brittany M	Jamestown	
0605 Metott,Mark W	Camden	
0606 Miao,Rong	Freeport	
0607 Michalak,Rachel E	Buffalo	
0608 Michella,Daniel R	South Orangetown	
0609 Migliorise,Nora	Hauppauge	
0610 Mignault,Amanda J	Wappingers	
0611 Mihelic,Amanda R	Lindenhurst	
0612 Militano,Sara K	Spackenkill	
0613 Milks,Ashley E	Frewsburg	
0614 Milland,Amanda	Orange-Ulster	
0615 Miller,Maria	Hauppauge	
0616 Miller,Jacqueline A	St Lawrence-Lewis	
0617 Miller,Michelle L	City School District of the City of Batavia	
0618 Miller,Todd N	Cayuga-Onondaga	
0619 Milliman,Trisha M	Orleans-Niagara	
0620 Miranda,Anna M	Huntington	
0621 Mirchandani,Carina	Carle Place Herricks Westbury	
0622 Mischo,Dorothy	Corning-Painted Post	
0623 Mitchell,Taylor L	Lancaster	
0624 Mlodozeniec,Thomas J	Buffalo	
0625 Moloney,Michelle	Bethlehem	
0626 Monke,Dawn M	Charter School of Educational Excellence	
0627 Montuma,Jessie	Rye Carmel	
0628 Moore,Jennifer E	Tonawanda	
0629 Moore,Desiree V	Westchester 2	
0630 Moore,Kathleen N	Island Park	
0631 Morgans,Karley	Margaretville	
0632 Moriarty,Sean M	Washington-Saratoga-Warren-Hamilton-Essex	
0633 Mossa,Candida	Long Beach	
0634 Motisi,Amanda E	Rockville Centre	
0635 Mrozek,Ashley L	Lancaster	
0636 Mudge,Melissa M	Germantown	
0637 Mumford-Zisk,Benjamin G	Ithaca	
0638 Munn,Kerry J	Saranac Lake	
0639 Murdoch,Joseph V	Fulton Syracuse	
0640 Murphy,Michelle L	West Seneca	
0641 Muse,Christine J	Sag Harbor	
0642 Music,Alan H	Mount Pleasant	
0643 Myers,Melissa J	Tompkins-Cortland	
0644 Napoli,Danielle	Deer Park	
0645 Nelson-Porter,Kathryn E	Williamsville	
0646 Nichols,Jessica L	Jefferson	
0647 Nichols,Alayna L	Rush-Henrietta	
0648 Nielson,Nicole D	Oceanside	
0649 Nirelli,Regina M	Cleveland Hill at Cheektowaga	
0650 Noble,Kara S	Brockport Churchville-Chili	

NEW YORK STATE TEACHERS' RETIREMENT SYSTEM
 UNCLAIMED ACCOUNTS - MEMBERSHIPS CEASED 01-JUL-2021

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Counter Name	Last Teaching Location(s)	Amount Abandoned
0651	Northrup,Paula G	Washington-Saratoga-Warren-Hamilton-Essex
0652	Nunez,Patricio	Rockland
0653	Nuss,Jennifer	Fashion Institute of Technology
0654	Nwabuoku,Theresa G	Yonkers
0655	O Hara,Angela	Farmingdale
0656	O'Brien,Erin S	Smithtown
0657	O'Brien,Thomas F	Ithaca
0658	O'Carroll,Colleen E	Hauppauge Sachem
0659	O'Conor,Meghan E	Saratoga Springs
0660	O'Hagan,Linda M	Pearl River
0661	O'Halleran,Lauren A	Massapequa
0662	O'Hara,Dusty N	Cattaraugus-Allegany-Erie-Wyoming
0663	O'Keefe,Robert N	Yonkers
0664	O'Leary,Jeanette	Oceanside
0665	O'Leary,Ryan J	Rochester
0666	O'Malley,Christopher J	Sewanhaka
0667	O'Mara,Marisa G	Onondaga-Cortland-Madison
0668	O'Toole,Erin K	West Irondequoit
0669	Obrien,Danielle M	North Colonia
0670	Ogunleye,Oluwasegun M	New Rochelle
0671	Okusanya,Enitan M	Erie 1 Pinnacle
0672	Orgel,Ashley M	Suffolk 2
0673	Overton,Darryl	Buffalo
0674	Paccione,Anne C	Red Hook
0675	Pace,Dacia L	Arlington
0676	Palen,Shannon M	Valley
0677	Palmieri,Vincent J	Chenango Valley
0678	Palumbo,Jacqueline M	Smithtown
0679	Papp,Stephanie	Briarcliff Manor
0680	Paradise,Amber S	Garden City
0681	Parsons,Carolyn L	Ithaca
0682	Pascale,Nicole R	White Plains
0683	Patrick,Matthew J	Buffalo
0684	Patterson,Jill A	Hoosick Falls
0685	Pearo,Amanda L	Silver Creek
0686	Pearson,Kelly M	Tonawanda
0687	Penna,Laura	Eastern Suffolk 1
0688	Penner,Morgan M	Prattsburgh
0689	Pennucci,Dori E	Westbury
0690	Penrose,Timothy M	Greece
0691	Pepe,Phillip	Valley Stream
0692	Percevejo,Jessica	Copiague
0693	Pergolino,Alyssa	Rensselaer
0694	Perlin,Brandon G	East Ramapo
0695	Perrazzelli,Luigi L	Byram Hills at Armonk
0696	Persell,Danielle J	Fallsburg
0697	Perumalla,Ruth F	Washington-Saratoga-Warren-Hamilton-Essex
0698	Pesso,Lindsey F	Long Beach
0699	Pettigrew,Troy R	Attica
0700	Pezone,Melynda M	Orleans-Niagara
0701	Phillips,Mark R	Onondaga-Cortland-Madison
0702	Phillips,Rachel C	Cortland Chenango Forks Onondaga-Cortland-Madison
0703	Phillips,Mollie A	Victor
0704	Pi,Bryan M	North Shore
0705	Piccione,Shannon	Long Beach
0706	Pinchinat,Melissa R	Schenectady
0707	Pisano,Ellen D	Eastport-South Manor Riverhead
0708	Pisano,Deanna	South Country
0709	Plouffe,Donald T	West Genesee
0710	Ponce,Debra L	West Islip
0711	Porter,Jenna	Genesee
0712	Potter,Audrey H	Onondaga-Cortland-Madison
0713	Poulin,Caryn E	Syracuse
0714	Predestin,Farrah V	Cortland Tompkins-Seneca-Tioga
0715	Prentice,Rebecca C	Buffalo

NEW YORK STATE TEACHERS' RETIREMENT SYSTEM
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Counter Name	Last Teaching Location(s)	Amount Abandoned
0716	Price,Clayborn W	SUNY College at Oswego (28230)
0717	Puglia,Victor M	Erie 1
0718	Puglisi,Natalia V	Roosevelt
0719	Putnick,Stephen J	Nanuet
0720	Qian,Lingling	Schenectady
0721	Quiroz-Lewandow,Isabel S	Central Islip
0722	Quist,Judy L	Granville
0723	Rabovsky,Reena L	West Hempstead
0724	Rafferty,Michael C	Great Neck
0725	Raisler,David M	Mamaroneck
0726	Ramos Guardado,Sandra P	Hempstead
0727	Ramsay,Samantha I	Rochester
0728	Ramsey,Katelyn A	Syosset
0729	Randall,Steven M	Bath
0730	Rathburn,Kathlene M	South Country
0731	Reaban,Mary E	Bethlehem
0732	Read,Jacqueline S	William Floyd
0733	Reardon,Janel D	Worcester
0734	Redmond,Amanda R	Utica
		Holland Patent
		Whitesboro
		Oriskany
0735	Reed,Leah M	Erie 1
0736	Rennert,Sara B	Valley Stream #24
		Merrick
0737	Ribaudo,Robert J	Hauppauge
		Sachem
		Smithtown
0738	Ribek,Stephanie Anne	Sachem
0739	Ricci,Nicholas J	Copiague
0740	Richardson,Jennifer	Syracuse
0741	Rickett,Brittany a	Edwards-Knox
0742	Ries,Erika L	Albany-Schoharie-Schenectady-Saratoga
0743	Rindos,Jennifer	Hicksville
0744	Ripchick,Debbie L	Ark Community
0745	Ritch,Jacqueline A	Yonkers
0746	Rivera,Erica A	Garden City
0747	Rivera,Dore J	Wyandanch
0748	Robbins,Sarah H	Ithaca
		Groton
		Tompkins-Seneca-Tioga
0749	Robertson,Anastasia C	Albany
0750	Robinson,Travis	Rochester
0751	Rodriguez,Lauren P	Cortland
0752	Rodriguez,Carlos	Orange County
0753	Rofrano,Claire Elizabeth	Eastern Suffolk 1
0754	Roman,Katrina	Commack
		Elwood
0755	Romano,Christie J	Rotterdam-Mohonasen
0756	Romano,Lisa M	Dobbs Ferry
0757	Roseen,Sara L	West Canada Valley
0758	Rosenbaum,Shira	Kiryas Joel Village
0759	Rosenbaum,Kendra E	Westbury
0760	Ross,Maxwell	Massapequa
		Roslyn
0761	Ruberto,Jillian	Clarkstown
0762	Russell,Rebecca L A	Corning-Painted Post
0763	Russell,Morgan E	Mamaroneck
0764	Russo,Jennifer M	Cheektowaga-Maryvale
		Orchard Park
0765	Russo,Ryan R	Copiague
0766	Ruszkowski,Christopher C	Allegany-Limestone
0767	Ryan,David M	Saratoga Springs
0768	Ryan,Amanda C	South Glens Falls
0769	Ryan Muhammad,Arthur	Mount Vernon
0770	Saccente,Erin M	Deer Park
0771	Salen,Sara E	Genesee-Livingston-Steuben-Wyoming
0772	Salov,Kristen E	Rye
0773	Samodulski,CarolAnn	Onteora
		Saugerties
0774	Sanders,Rebecca R	Eastport-South Manor

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UNCLAIMED ACCOUNTS - MEMBERSHIPS CEASED 01-JUL-2021

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Counter Name	Last Teaching Location(s)	Amount Abandoned
0775 Sanderson, Ian R	Rome	
0776 Saraceno, Donato	Arlington	
0777 Sarin, Pamela K	Eastport-South Manor Sachem	
0778 Sarno, Amy L	Horseheads	
0779 Saunders, Stephanie J	Jefferson-Lewis-Hamilton-Herkimer-Oneida	
0780 Sawchuck, Lauren E	Briarcliff Manor	
0781 Scanlon, Danielle L	Albany	
0782 Schiffhauer, Audrey I	Frontier Hamburg	
0783 Schlaugies, Madison A	Eastern Suffolk 1	
0784 Schmidt, Carlene A	Cornwall	
0785 Schneer, Barbara A	New Rochelle	
0786 Schuhle, Miranda E	Susquehanna Valley	
0787 Sciba, Kylie E	Carmel Wappingers Haldane	
0788 Scott, Kristen E	East Aurora Orchard Park	
0789 Scutchfield, Samantha M	Herricks Bellmore-Merrick	
0790 Scutella, Laticia L	Utica	
0791 Searles, Danielle M	Washington-Saratoga-Warren-Hamilton-Essex	
0792 Sgroi, Maggie L	Suffolk 2	
0793 Sharot, Jaime A	Rockville Centre	
0794 Shedenhelm, Rachel	Geneva	
0795 Shepard, Paige E	Otsego-Delaware-Schoharie-Greene	
0796 Sherotov, Phillip J	Saratoga Springs South Glens Falls Bolton North Warren Lake George Warrensburg Washington-Saratoga-Warren-Hamilton-Essex	
0797 Sherwood, Jennifer E	Oneida Vernon-Verona-Sherrill Madison	
0798 Shewell, Jennifer E	East Greenbush	
0799 Shogren, Karen T	Pine Plains	
0800 Shuknecht, Kathryn M	Greece	
0801 Shultis, Rebecca P	Syracuse	
0802 Sicotte, Colette M	Hudson Valley	
0803 Sidhu, Sophie L	Ithaca	
0804 Siegel, Jamie R	Syracuse Fayetteville-Manlius	
0805 Sierpina, Kathryn L	Rye	
0806 Simens-Cole, Jill M	Lynbrook Oceanside Valley Stream #13	
0807 Simmons-Rosen, Mel J	Horseheads Arkport Schuyler-Steuben-Chemung-Tioga-Allegany	
0808 Simon, Carla A	Lakeland	
0809 Simonis, Lauren A	Garden City	
0810 Singh, Ruby	Riverhead	
0811 Singh, Shamara	Harrison	
0812 Skeats, Jennifer A	Pawling	
0813 Slater, Beth E	Binghamton Chenango Forks Chenango Valley Johnson City Susquehanna Valley Vestal Whitney Point	
0814 Sloan, Kimberly	Lynbrook	
0815 Sloan, Kevin M	Herricks Oceanside	
0816 Sloane, Aileen C	Valley Stream #13 Elmont	
0817 Smaldon, Ashley L	Rome Camden	

NEW YORK STATE TEACHERS' RETIREMENT SYSTEM
 UNCLAIMED ACCOUNTS - MEMBERSHIPS CEASED 01-JUL-2021

Counter Name	Last Teaching Location(s)	Amount Abandoned
0818 Smiddy,Tyler J	Salmon River	
0819 Smith,Sean N	Longwood at Middle Island Bayport-Blue Point	
0820 Smith,Kyle D	Amherst Cheektowaga-Maryvale Cleveland Hill at Cheektowaga Westminster Community	
0821 Smith,Deirdre M	St Lawrence-Lewis	
0822 Smith,Erich L	Byram Hills at Armonk	
0823 Smolka,Elizabeth D	Bemus Point	
0824 Snell,Rhonda B	Eastern Suffolk 1	
0825 Sobieski,Justine J	New Rochelle	
0826 Socia,Jacqueline S	Syracuse	
0827 Solomon,Adam	Northport-East Northport	
0828 Solsky,Anne H M	Ballston Spa Stillwater	
0829 Somberg,Emily A	Port Jefferson	
0830 Sorrentino,Patricia M	Erie Community College	
0831 Soychak,Rachel A	Harrison	
0832 Spiteri,Michelle A	Glen Cove Wantagh	
0833 Sproull,Laura B	Lancaster	
0834 Stam,Jessica L	Palmyra-Macedon	
0835 Stamm,Emily E	Ithaca Tompkins-Seneca-Tioga	
0836 Stanley,Joan M	Arlington	
0837 Stapleton,Tiffany S	Ontario-Seneca-Yates-Cayuga-Wayne	
0838 Stelmach,Katie M	Rochester	
0839 Stephens,Russell J	Lansing	
0840 Stigliano,Jean M	Oyster Bay-East Norwich	
0841 Stoddard,Shana M	Mamaroneck	
0842 Stolarski,Nancy L	Bronxville	
0843 Strong,Cynthia L	Liverpool	
0844 Stroud,Jeffrey J	Erie Community College	
0845 Stulberger,Mara R	Hewlett-Woodmere	
0846 Suarez,Julie J	St Lawrence-Lewis	
0847 Succi,Leelani	Cobleskill-Richmondville	
0848 Sullivan,Janice L	Connetquot	
0849 Sullivan,Morgan L	Lackawanna Hamburg	
0850 Sundberg,Ashley N	Northport-East Northport Westbury	
0851 Swyers,Christine E	Indian River	
0852 Taber,Raven M	Ontario-Seneca-Yates-Cayuga-Wayne	
0853 Talbot,Lisa Marie	Half Hollow Hills	
0854 Talbot,Sarah J	Webster	
0855 Tascione,Tara M	Rochester	
0856 Taylor,Michael J	Rochester	
0857 Taylor,Robert W	Fairport Honeoye	
0858 Thomas,Anu	UFSD of the Tarrytowns	
0859 Thompson III,John E	Buffalo	
0860 Thornton,Dominica L	Utica	
0861 Tobin,Debra	Clarkstown	
0862 Toma,Lucy	Chappaqua	
0863 Tompkins,Shelby A	Green Island	
0864 Totin,Stephanie R	Geneva Gorham-Middlesex Pittsford	
0865 Townley,Christina J	New Rochelle Port Chester-Rye	
0866 Travers,Rianna R	Phelps-Clifton Springs	
0867 Trent,Alaina E	Valley	
0868 Trillo,Patricia	West Hempstead	
0869 Trophia,Jillian J	Madison-Oneida	
0870 Trudell,Travis L	Onondaga-Cortland-Madison	
0871 Tsai,Yu-Shan	Oceanside	
0872 Tsaousis,John C	Fire Island	
0873 Tuchrelo,Mackenzie M	Williamson	
0874 Tucker,Jessica D	Middletown	
0875 Turco,Kristin M	Chappaqua	

NEW YORK STATE TEACHERS' RETIREMENT SYSTEM
 UNCLAIMED ACCOUNTS - MEMBERSHIPS CEASED 01-JUL-2021

Counter Name	Last Teaching Location(s)	Amount Abandoned
0876	Turner,Katia M	Suffolk 2
0877	Turner,Jennifer A	Newark
0878	Ubozoh,Nnamdi M	St Lawrence-Lewis
0879	Urquhart,Jessica	Ogdensburg Edwards-Knox
0880	Ury,Patricia J	Rockville Centre
0881	Vaccarelli,Vincent	Clarkstown
0882	Vaillant,Paula L	Warwick Valley
0883	Valencia,Brittany R	Canastota
0884	Van Linder,Linda M	NYS School for the Blind
0885	Van Tassell,Noreen	Wappingers
0886	VanPatten,Brad L	St Lawrence-Lewis
0887	Vargas,Johanna	Rockland
0888	Vasquez,Maria T	Hannibal
0889	Vicchio Daleo,Petrina R	Half Hollow Hills
0890	Vicedomini,John J	Rocky Point Eastern Suffolk 1
0891	Vitchers,Laurie E	Lawrence
0892	Voland,Nicholas A	Mechanicville
0893	Walden,Lindsay T	Clymer
0894	Waldruff,Leanne F	Herkimer-Fulton-Hamilton-Otsego
0895	Walsh,Kerry E	Hicksville
0896	Walsh,Moet C	New Rochelle
0897	Wang,Zhihe	East Williston
0898	Watson,Tim	SUNY College at New Paltz (28210)
0899	Weinstein,Heather L	Mount Sinai
0900	Weisenburger,Merritt S	SUNY College at Buffalo (28160)
0901	Welch,Derick	Fairport
0902	Weller,Sarah E	Briarcliff Manor
0903	Werner,Tara A	Carle Place
0904	West,Joshua M	Lake Shore
0905	Whalen,Kaylee D	St Lawrence-Lewis
0906	Whitcomb,Dean C	Salamanca
0907	White,Andrew T	Indian River
0908	Wilder,Melinda B	Rochester
0909	Wiley,Christina	Albany
0910	Wilkins,Kyle M	Albany
0911	Willard,Jeremy M	Penfield Rush-Henrietta Webster
0912	Williams,Lashai J.	Yonkers
0913	Williams,Michelle S	Copliague
0914	Williams,Stacy M	Baldwin
0915	Willinger,Randi M	Sachem
0916	Wills,Jacquelyn S	Harborfields
0917	Wilson,Tonya Rae	Syracuse
0918	Wilt,Brian L	Webster
0919	Winepol,Amanda M	Commack
0920	Witkowski,Kayleigh	Buffalo
0921	Witt,Katrina M	Elmont
0922	Woessner,Jennifer M	Nassau
0923	Wojcik,Sandra M	Buffalo
0924	Wojnarowski,Joyce G	Wappingers
0925	Womble,Michael B	Brasher Falls
0926	Wood,Megan A	Broadalbin-Perth
0927	Woodstock,Meghan M	Oyster Bay-East Norwich
0928	Wright,Matthew P	Kenmore-Town of Tonawanda
0929	Wyant,Katie E	Chatham
0930	Wylie,Anna E	Harrisville
0931	Xenos,Irene	Dobbs Ferry
0932	Yacenda,Kimberly A	East Meadow
0933	Yee,Laura A	Eastern Suffolk 1
0934	Yee,Cynthia	Rockland
0935	Yoon,Soyoung	SUNY College at Purchase (28260)
0936	Young,Holly J A	Babylon
0937	Young,Lauren W	Ithaca
0938	Young,Megan O	Victor
0939	Younger,Glenda L	White Plains
0940	Yuan,Weiguang	Liverpool
0941	Zaborowski,Sarah A	Rockville Centre
0942	Zaloga,Joshua J	Tuckahoe

NEW YORK STATE TEACHERS' RETIREMENT SYSTEM
UNCLAIMED ACCOUNTS - MEMBERSHIPS CEASED 01-JUL-2021

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Counter Name

Last Teaching Location(s)

Amount Abandoned

0943 Zambrelli, Frank A
0944 Zegers, Stephen J
0945 Zimdahl, Kara M
0946 Zimmer, Amanda M
0947 Zimmerman, Kurt F
0948 Zych, Breanna M

Fashion Institute of Technology
Lindenhurst
Buffalo
NYS School for the Blind
Tapestry
Syracuse

Grand Total of Amount Abandoned:

NEW YORK STATE TEACHERS' RETIREMENT SYSTEM**Memorandum**

TO: Retirement Board Appendix F
FROM: Don Ampansiri, Jr., Janet A. Graham
RE: Status of System Litigation as of April 17, 2023
DATE: April 17, 2023
CC: T. Lee, Y. Ruoso

LAWSUITS COMMENCED SINCE THE LAST REPORT**[Audra Schmitt v. New York State Teachers' Retirement System](#)**

Action commenced: 4/4/2023

Summary of the case/background information:

Petitioner, a Tier 4 member, is challenging the System's determination excluding for pension purposes all salary and service credit under a settlement agreement with Livonia Central School District (the District) because the payment is termination pay which is not includable in a Tier 4 benefit calculation. Pursuant to NYSTRS' regulations, Termination pay is any payment received in anticipation of the termination of a member's employment, for any reason, or any payment for accrued sick leave, annual leave, deferred compensation, or other credits for time not worked. Notwithstanding that Petitioner rendered no further service to the District following entry into the settlement, and tendered her resignation, the cause of action contends such payments should be considered regular compensation and, as such, includable in the pension calculation. The Attorney General is representing NYSTRS and working with staff to respond to the petition.

UPDATE ON PENDING LAWSUITS SINCE THE LAST REPORT

Michael Bellarosa v. New York State Teachers' Retirement System

Action commenced: 9/8/22

CURRENT STATUS: On March 6, 2023, the Attorney General's office submitted a response to the petition on behalf of NYSTRS. We are awaiting the court's decision.

Summary of the case/background information:

Petitioner, a Tier 4 member, is challenging the System's determination excluding for pension purposes payments made to Petitioner for a Technology/ Wellness/ Transportation Allowance and Vacation by the Valley Central School District (the District). The District converted the Technology/ Wellness/ Transportation Allowance and unused vacation days into salary. The conversion of these benefits into salary on the eve of retirement has the effect of artificially inflating the pension benefit. As such, these payments are not considered regular salary and NYSTRS contends the payments are excluded from the pension calculation.

LAWSUITS WITH NO UPDATES SINCE THE LAST REPORT

Andrea Loscalzo v. New York State Teachers' Retirement System

Action commenced: 7/18/22

CURRENT STATUS: The Attorney General's office responded on behalf of NYSTRS. The court heard, and AG and NYSTRS in-house staff participated in, oral arguments on December 7, 2022. We are awaiting the court's decision.

Summary of the case/background information:

Petitioner, a Tier 4 member, is challenging the System's determination excluding for pension purposes all salary and service credit under a settlement agreement with Greenburgh-Graham Union Free School District (District). Notwithstanding that Petitioner rendered no further service to the District following entry into the settlement, the cause of action contends such payments should be considered regular compensation and, as such, be includable in the pension calculation.