

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 on January 24, 2024. The meeting was called to order at 8:30 a.m. by Ruth Mahoney, Chair, and she welcomed Paul Farfaglia as the newest member of the Risk Committee.

The following individuals were in attendance:

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

Board Members: Juliet Benaquisto (via WebEx), Eric Iberger, David Keefe (via WebEx)

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

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

Visitors via WebEx: McCyril Espanol, WithIntelligence; Alvaro Carrillo and Mitchell King, BlackRock

Visitor in Person: Kimberly Palermo, Omni Research

The following items were discussed:

1. Approval of the minutes of October 25, 2023

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

2. Information Security Update

Upon motion of N. Smirensky, seconded by P. Farfaglia and unanimously carried, the Committee went into Executive Session at 8:31 a.m. to hear an information security update provided by J. Rosenburg.

Upon motion of P. Farfaglia, seconded by N. Smirensky and unanimously carried, the Committee came out of Executive Session at 8:40 a.m.

3. Enterprise Risk and Compliance Update

M. Albano and M. Tice reviewed the Enterprise Risk and Compliance Update reports (Appendix A, pp. 3-16)

4. Investment Risk Key Risk Indicators and Investment Risk Report

M. Albano and R. Ranado reviewed the risk management key risk indicators dashboard (Appendix B, pp. 17-28).

5. Quarterly Review of Risk Management Team

Upon motion of B. Chetney, seconded by P. Farfaglia and unanimously carried, the Committee went into Executive Session at 8:51 p.m. to discuss personnel matters.

There being no further business, and with unanimous consent, the Committee came out of Executive Session and adjourned at 9:03 a.m.

Respectfully submitted,

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

Thomas K. Lee

Enterprise Risk and Compliance Update

Risk Committee, January 2024

Matthew Albano, CFA, Chief Risk Officer

Matthew Tice, Manager, Enterprise Risk and Compliance



Compliance Update



Regulatory Items Requiring Board Action

	Regulatory Item	Owner
January Meeting	Internal Audit Plan Approval	Internal Audit
	Business Continuity & Disaster Recovery Plan	Administration
April Meeting	Transfer of Reserves & Pension Reserve Factors*	Actuary
	Annual Operating Budget Approval	Administration

*Only if Needed



- Period of September through November
All 35 required regulatory items due were completed by departments

Enterprise Risk Management Update

DFS & Grant Thornton Follow-up



2017 DFS Examination Follow-up



DFS Overview

Report on Examination:

- 1 Recommendation related to Risk Management
- 1 Completed; 0 outstanding

Management Letter:

- 11 Recommendations related to Risk Management
- 10 Completed; 1 In Progress

DFS Management Letter Update

Status 1/2023	Status 1/2024	DFS Recommendation	Deliverable / Notes
		H. Management Agreement Compliance Monitoring	In Progress - 1/2024 Update: Externally managed portfolios management guidelines have been coded and are being tested in the system. Internally managed portfolios are coded and being monitored.



2022 Grant Thornton ERM Maturity Assessment Follow-up



Grant Thornton Overview

Assessment Recommendations:

- 7 Recommendations related to Risk Management
- 1 Completed; 6 In Progress

Grant Thornton Update

Status 1/2023	Status 1/2024	Grant Thornton Recommendation	Deliverable / Notes
		1. Further expand upon and document the roles and responsibilities for all risk management stakeholders.	In Progress - 1/2024 Update: Updates to the roles and responsibilities in the Risk Framework have been drafted. Additional updates will be made as we implement the Governance, Risk, and Controls (GRC) system.
		2. Track and monitor risk information (including a compressive risk register and key controls) through a centralized, automated tool (such as a GRC system or similar).	In Progress - 1/2024 Update: Risk Management purchased a GRC system and finalized working with the vendor implementation team in October of 2023. Tracking, monitoring, along with the development of a risk register, is part of the GRC offering.



Grant Thornton Update

Status 1/2023	Status 1/2024	Grant Thornton Recommendation	Deliverable / Notes
		3. Design and implement select risk management sub-processes, including a root cause analysis on near-miss/high-risk events.	In Progress - 1/2024 Update: Risk Management purchased a GRC system and finalized working with the vendor implementation team in October of 2023. This GT recommendation is part of the GRC offering.
		4. Develop a scoring system to evaluate enterprise risks on both an inherent and residual scoring basis and key controls on the level of control effectiveness.	In Progress - 1/2024 Update: Risk Management purchased a GRC system and finalized working with the vendor implementation team in October of 2023. This GT recommendation is part of the GRC offering.



Grant Thornton Update

Status 1/2023	Status 1/2024	Grant Thornton Recommendation	Deliverable / Notes
		5. Further embed Risk Management into the strategic planning process.	Completed: Risk Officer was added as a member of the Project Steering Committee sponsor group.
		6. Develop new summary reports and aggregate risk reporting views (trends, emerging risks, operational risks, KRIs, etc.) for the Board Risk Committee.	In Progress - 1/2024 Update: Risk Management purchased a GRC system and finalized working with the vendor implementation team in October of 2023. This GT recommendation is part of the GRC offering.



Grant Thornton Update

Status 1/2023	Status 1/2024	Grant Thornton Recommendation	Deliverable / Notes
		7. Update and conduct ERM training program and develop formal communication (and templates) for use in enacting consistent enterprise- wide ERM communication.	In Progress - 1/2024 Update: Training materials are in the process of being updated. Some Information Security training has been moved to the learning management system. The GRC software implementation will enhance communication for enterprise wide ERM topics.



Questions?



Investment Risk Update

Risk Management

Risk Committee Meeting: January 24, 2024

Matthew Albano, CFA, Chief Risk Officer

Ryan Ranado, CFA, Assistant Manager, Investment Risk Management

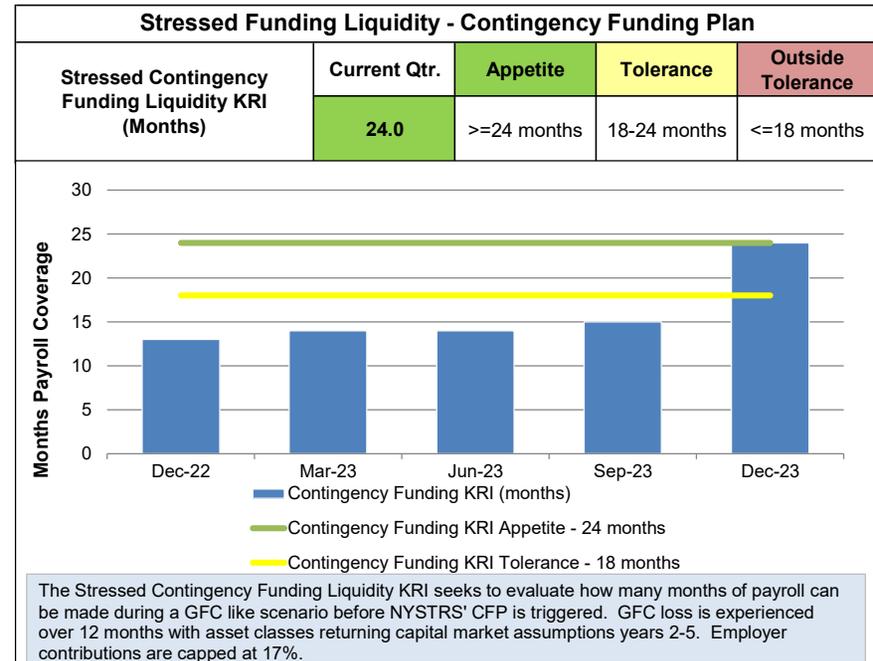
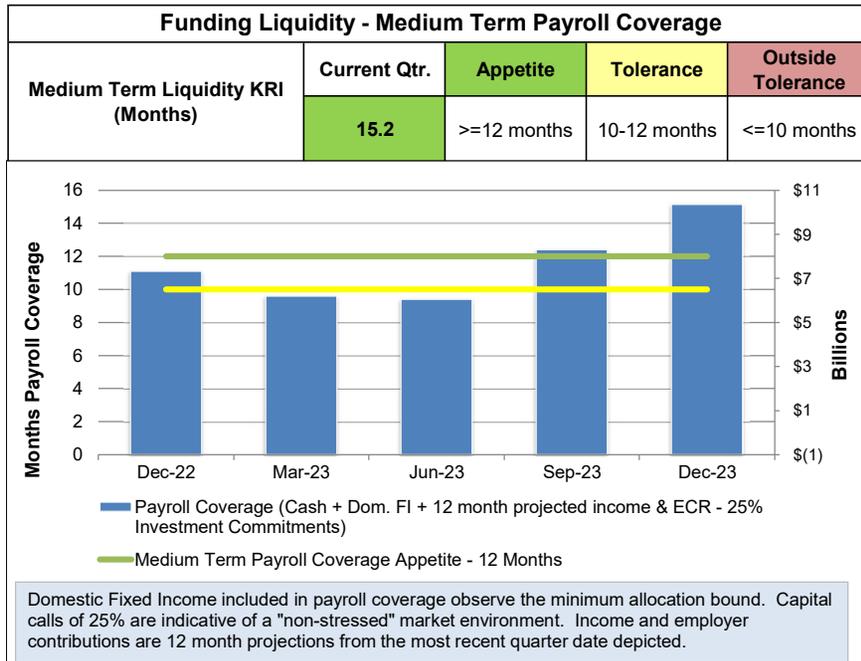
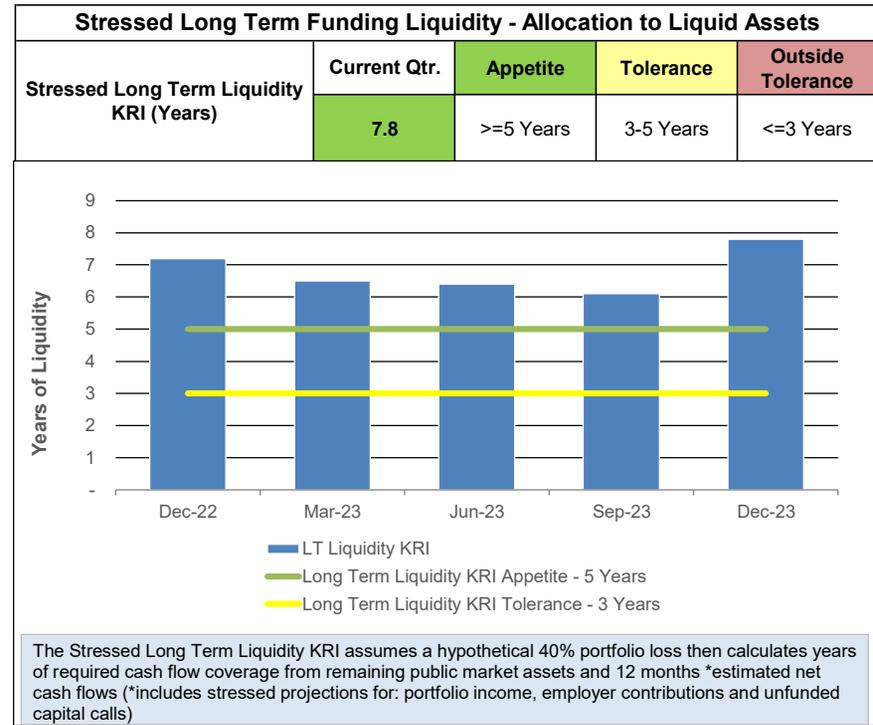
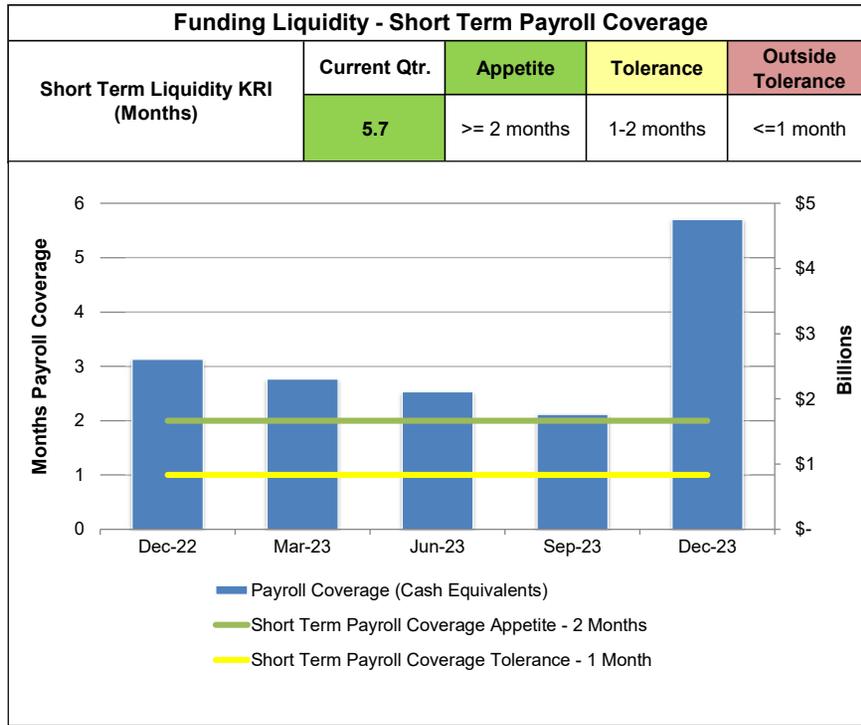


Investment Risk - Key Risk Indicators

Updates:

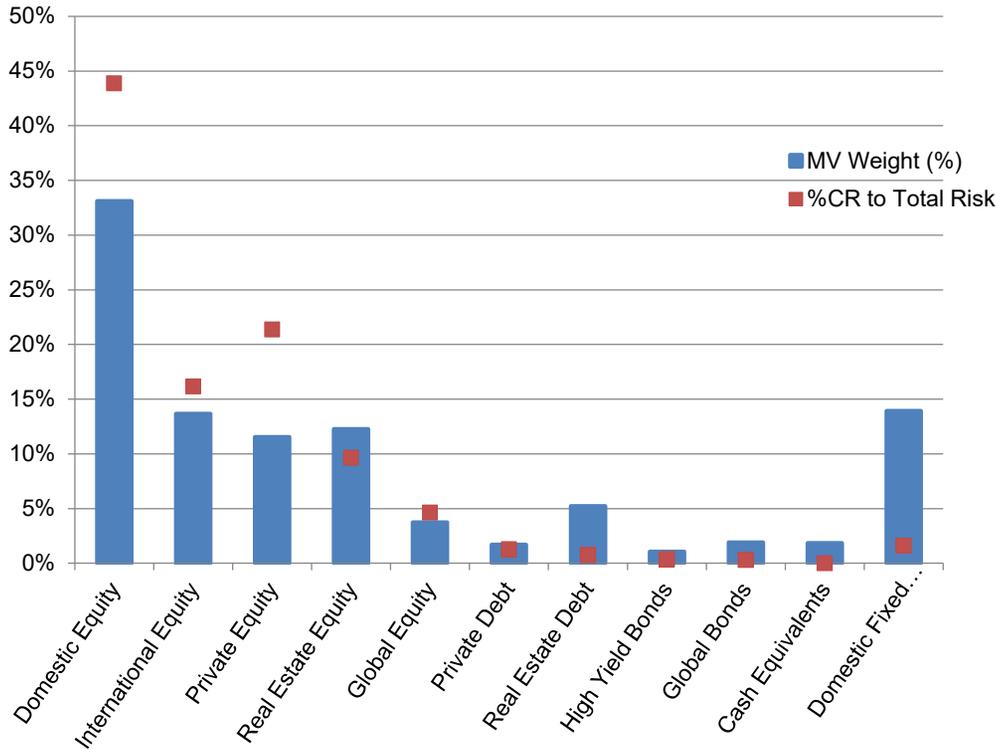
- Short, Medium, and Long Term Liquidity KRI's all remain within our "Risk Appetite".
- Stressed Contingency Funding has improved and is now within our "Risk Appetite".
 - Staff has implemented the methodology change that was proposed at the last board meeting.
 - This change allows cash to be raised from Public Equities when calculating the KRI.
- Total Plan Risk; Tail Risk; and Risk Contributions by Asset Class, Sector, Geography, and Factor are as expected.

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%	4.6%
Short Term Liquidity (Liquidity)	<= 1 Month	1 - 2 Months	>= 2 Months	5.7 Months
Medium Term Liquidity (Liquidity)	<= 10 Months	10 - 12 Months	>= 12 Months	15.2 Months
Stressed Contingency Funding Liquidity (Liquidity)	<= 18 Months	18 - 24 Months	>= 24 Months	24 Months
Stressed Long Term Liquidity (Liquidity)	<= 3 Years	3 - 5 Years	>= 5 Years	7.8 Years
Funded Ratio: Market Value of Total Plan Assets (Unfunded Liability)	<80% or >120%	80 - 90% or 110 - 120%	90 - 110%	97.4% (6/30/2022)
ECR Volatility (Unfunded Liability)*	Δ +/- >3%	Δ +/- 2 - 3%	Δ +/- 2%	-0.53% (6/30/2022)
ECR Level (Unfunded Liability)*	<4% or >17%	4 - 6% or 12 - 17%	6 - 12%	9.76% (6/30/2022)
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 (10/26/2023)



Total Predicted Risk by Asset Class

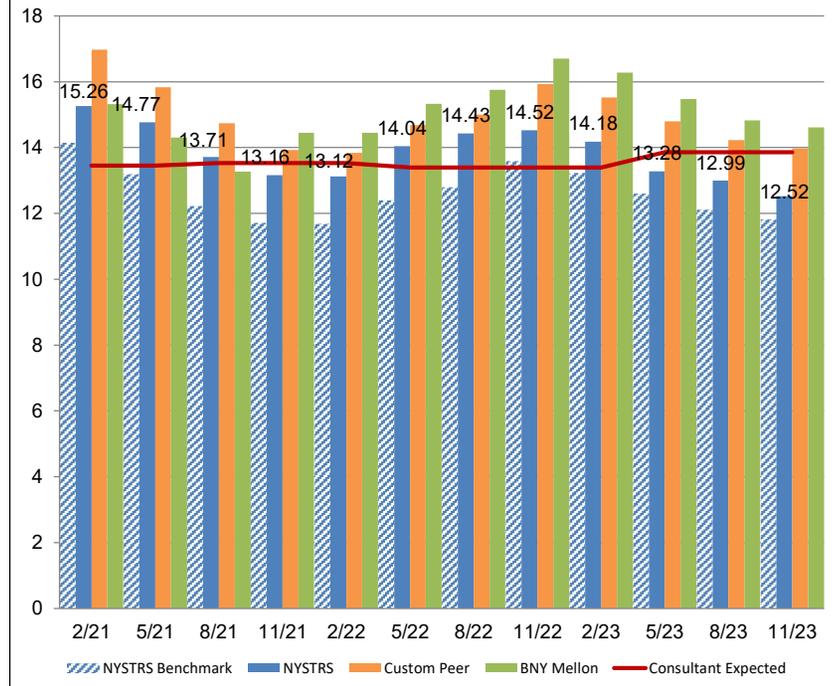
Asset class contributions to Total Predicted Risk are in line with expectations, with equity investments being the largest contributors.



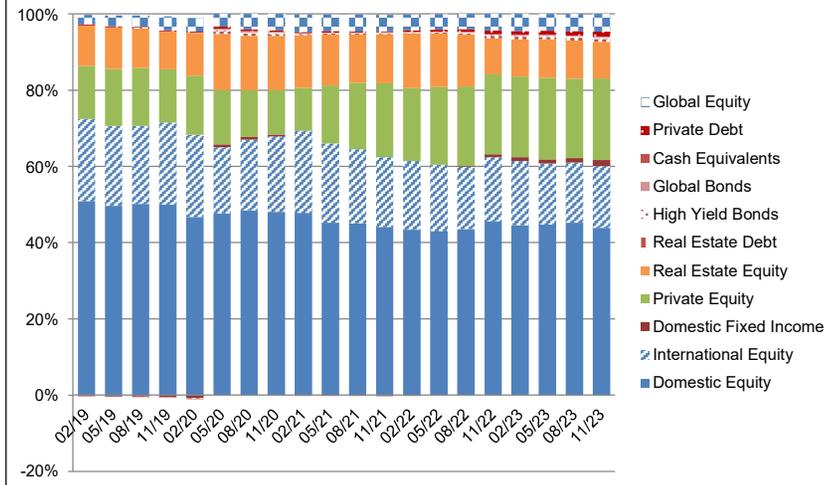
Portfolio Name	Market Value (Millions \$)	Weight (%)	%CR to Total Risk	Total Plan Risk Cont.	Total Predicted Risk
Total Portfolio	\$ 134,595	100%	100%	12.52	12.52
Domestic Equity	\$ 44,550	33.10%	43.87%	5.49	17.26
International Equity	\$ 18,398	13.67%	16.16%	2.02	16.41
Private Equity	\$ 15,531	11.54%	21.38%	2.68	27.46
Real Estate Equity	\$ 16,510	12.27%	9.64%	1.21	11.95
Global Equity	\$ 5,041	3.75%	4.64%	0.58	16.01
Private Debt	\$ 2,281	1.69%	1.27%	0.16	10.79
Real Estate Debt	\$ 7,030	5.22%	0.75%	0.09	3.62
High Yield Bonds	\$ 1,430	1.06%	0.36%	0.04	5.70
Global Bonds	\$ 2,568	1.91%	0.31%	0.04	5.57
Cash Equivalents	\$ 2,489	1.85%	0.00%	0.00	0.09
Domestic Fixed Income	\$ 18,767	13.94%	1.61%	0.20	5.66

Total Predicted Risk and Peer Comparison

Long term expected risk target 13.86%; short term predicted risk 12.52%

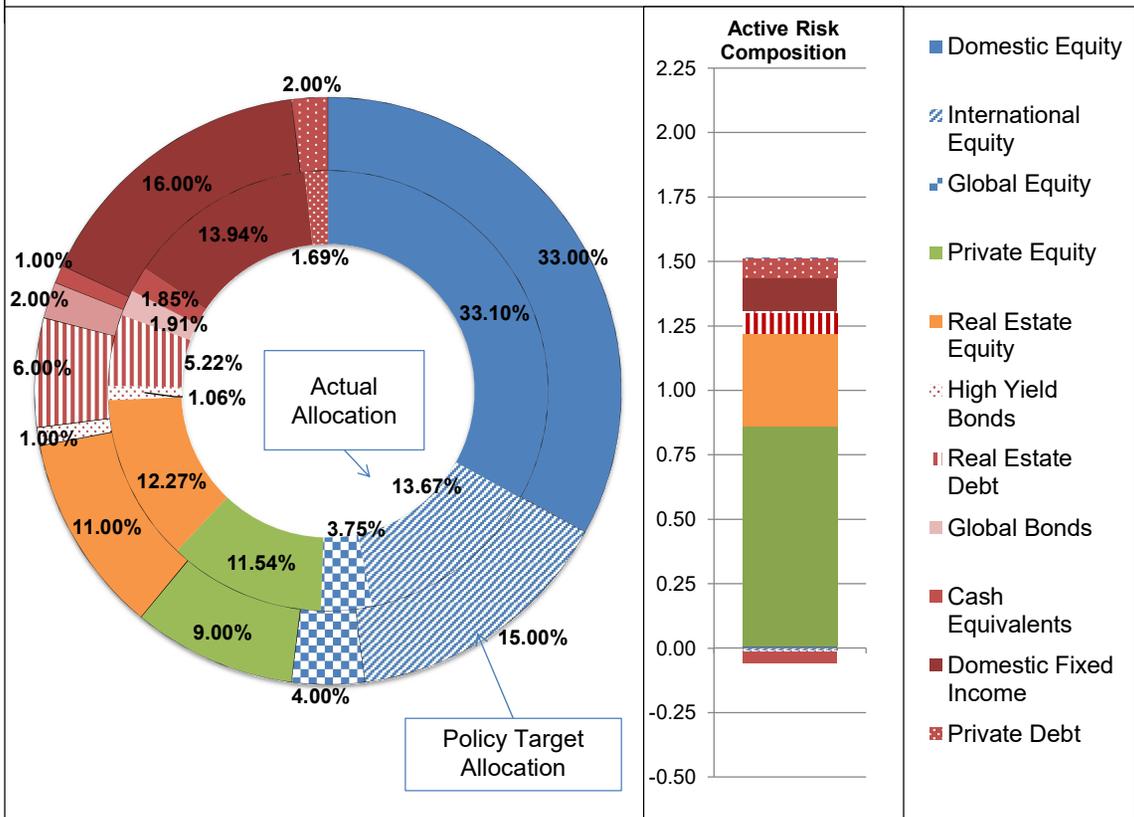


Historical Total Predicted Risk Contribution



Active Predicted Risk

Active predicted risk 1.46; a decrease of 4 bps from last quarter.



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.

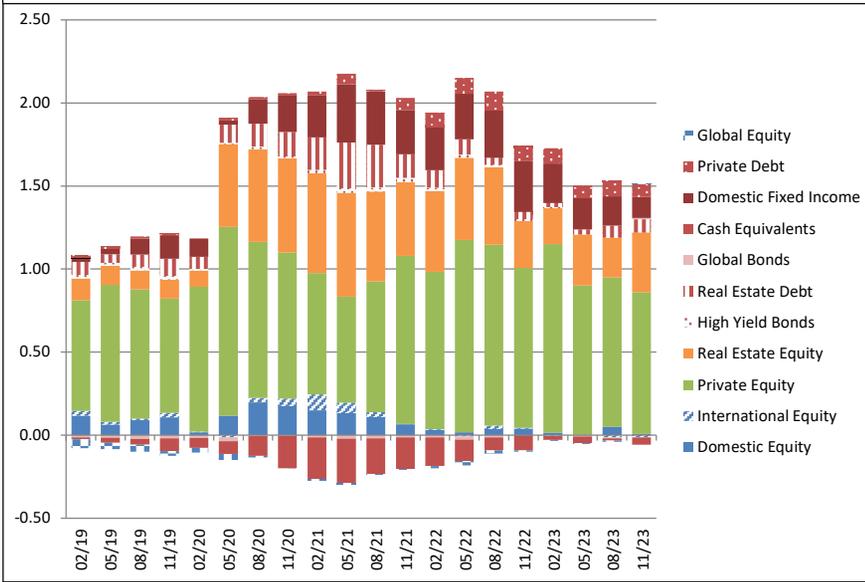
Observations:

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.

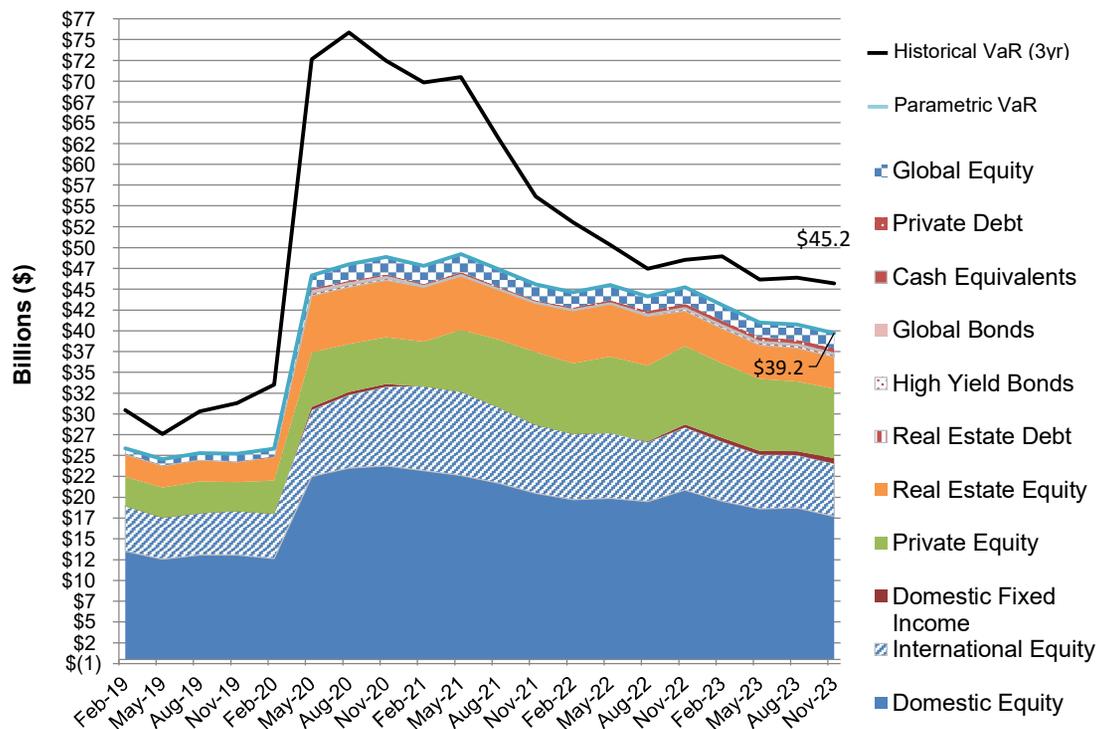
Portfolio Name	Weight (%)	BMK Weight (%)	Active Weight (%)	Active Risk Cont.	% CR to Active Risk	Active Predicted Risk
Total Portfolio	100%	100%	0%	1.46	100%	1.46
Domestic Equity	33.10%	33.00%	0.10%	0.01	0.5%	0.10
International Equity	13.67%	15.00%	-1.33%	-0.01	-0.8%	0.51
Global Equity	3.75%	4.00%	-0.25%	0.00	0.0%	1.91
Private Equity	11.54%	9.00%	2.54%	0.85	58.7%	6.27
Real Estate Equity	12.27%	11.00%	1.27%	0.36	24.7%	7.58
High Yield Bonds	1.06%	1.00%	0.06%	0.00	-0.2%	0.32
Real Estate Debt	5.22%	6.00%	-0.78%	0.08	5.4%	1.91
Global Bonds	1.91%	2.00%	-0.09%	0.01	0.4%	0.57
Cash Equivalents	1.85%	1.00%	0.85%	-0.04	-3.0%	0.09
Domestic Fixed Income	13.94%	16.00%	-2.06%	0.13	8.7%	0.63
Private Debt	1.69%	2.00%	-0.31%	0.08	5.5%	6.33

Historical Active Risk Contribution



Value at Risk Contribution by Asset Class

VaR metrics remain elevated as a result of recent market volatility, but have been slowly coming down. 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	\$45,470	-\$6,268	\$39,202	100%
Domestic Equity	\$17,892		\$17,199	43.87%
International Equity	\$7,023		\$6,337	16.16%
Private Equity	\$9,923		\$8,382	21.38%
Real Estate Equity	\$4,592		\$3,781	9.64%
High Yield Bonds	\$190		\$140	0.36%
Real Estate Debt	\$592		\$293	0.75%
Global Bonds	\$333		\$121	0.31%
Cash Equivalents	\$5		\$0	0.00%
Domestic Fixed Income	\$2,469		\$632	1.61%
Private Debt	\$573		\$498	1.27%
Global Equity	\$1,878		\$1,820	4.64%

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.

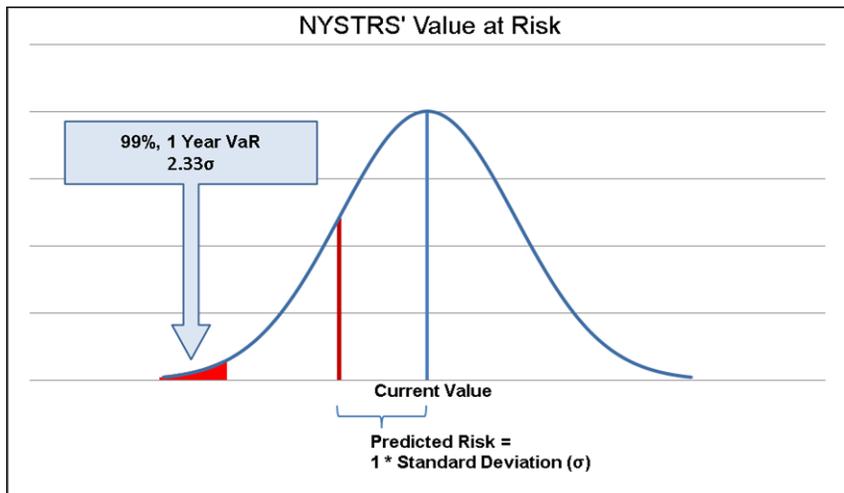
Methods Used:

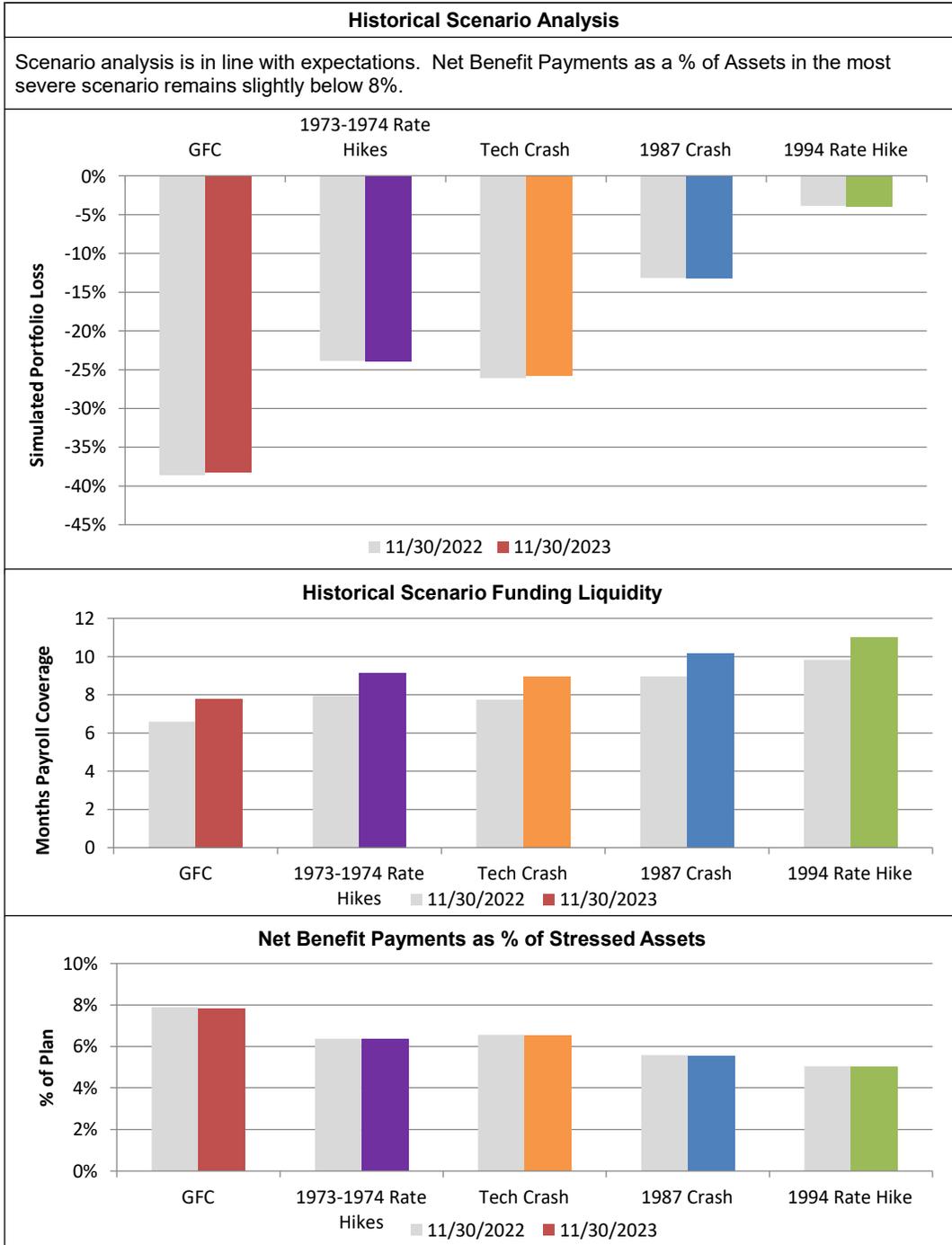
- ▶ *Parametric VaR*: $99\%VaR(\$) = 2.33\sigma * \text{Portfolio Market Value}$
- ▶ *Historical Simulation VaR*: 99%VaR(\$)= Simulated P&L of portfolio utilizing empirical daily risk factor/price changes. 3 year lookback period (756 trading days) observed.

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:

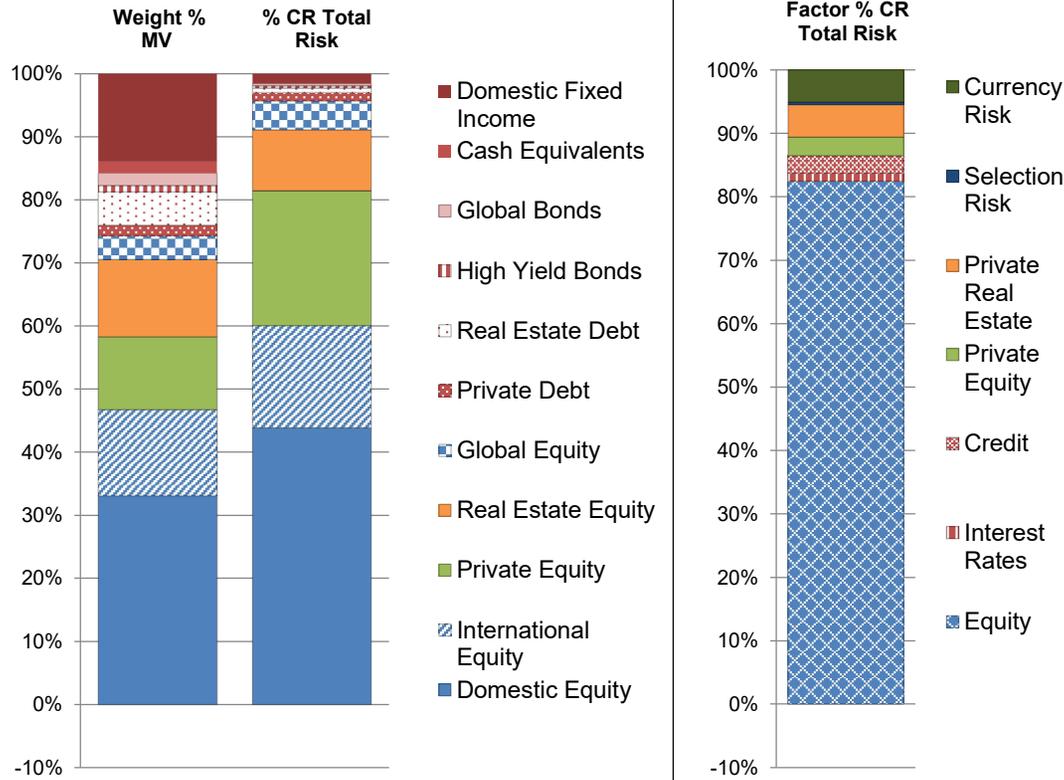
Funding Liquidity Assumptions	Months Coverage	
	11/30/2022	11/30/2023
Cash + Domestic Fixed Income	5.7 to 8.9	5.8 to 9
Portfolio Income/Maturities	7.2	6.9
Employer Contributions	3.0	2.9
Capital Calls	-9.3	-7.8
Total Payroll Coverage	7 to 10	8 to 11

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 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.

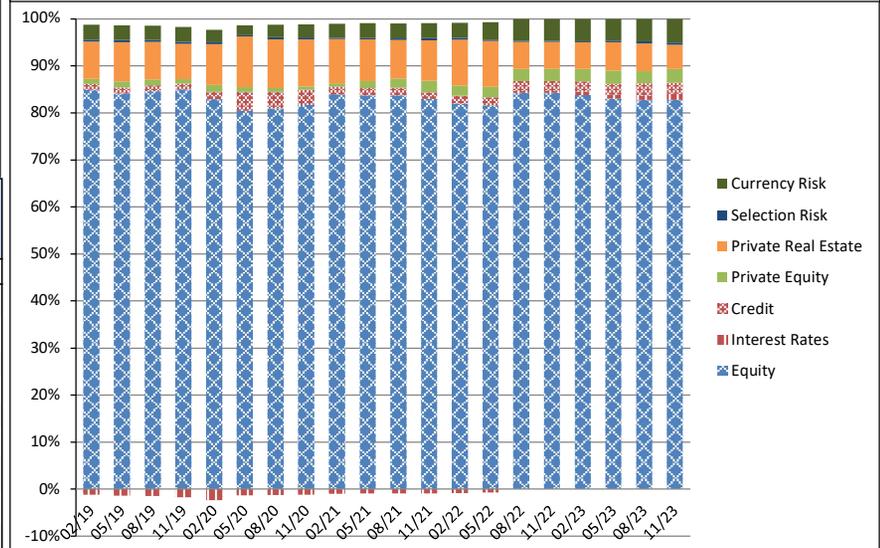
All of NYSTRS holdings are modeled according to their exposures to individual risk factors.

Observations:

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

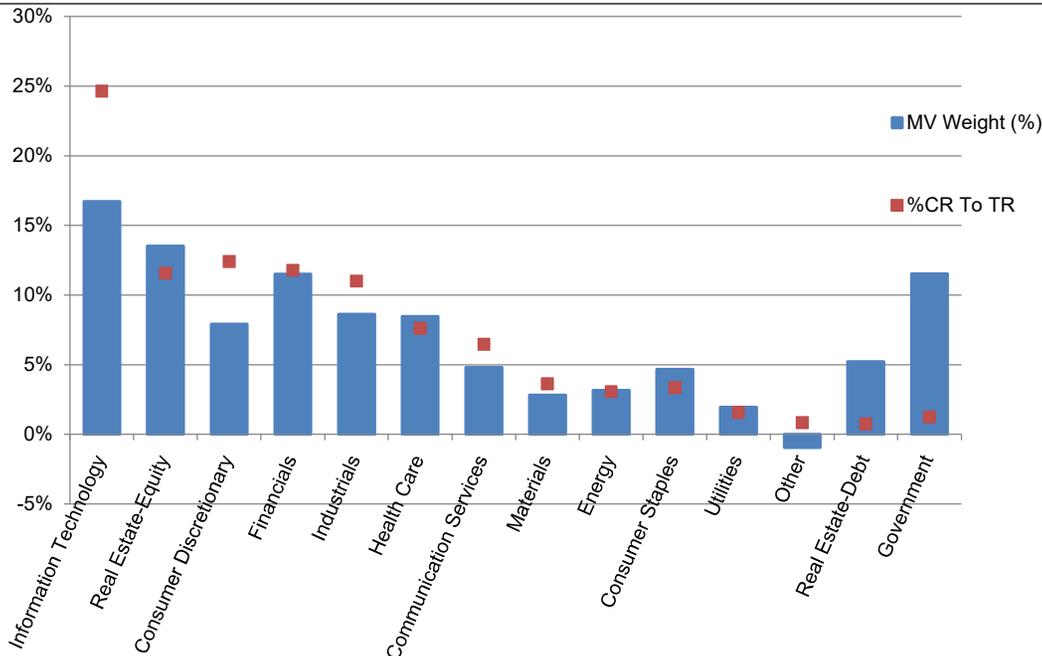
Risk Source	Total Plan Risk Cont.	%CR to Total Risk	BMK Risk Cont.	BMK %CR to Total Risk	% CR to Active Risk
Total Risk	12.52	100%	11.81	100.00%	100%
Local Market Risk	11.89	94.96%	11.23	95.07%	97.53%
Common Factor Risk	11.84	94.55%	11.16	94.50%	89.61%
Equity	10.33	82.49%	9.13	77.26%	44.84%
Interest Rates	0.16	1.25%	0.25	2.11%	4.25%
Credit	0.34	2.75%	0.37	3.11%	-0.51%
Private Equity	0.37	2.92%	0.14	1.16%	36.55%
Private Real Estate	0.64	5.14%	1.28	10.87%	4.48%
Selection Risk	0.05	0.41%	0.07	0.57%	7.92%
Currency Risk	0.63	5.04%	0.58	4.93%	2.47%

Historical Risk Factor Contribution to Total Risk



Sector Concentration

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



Sectors:

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

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

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.

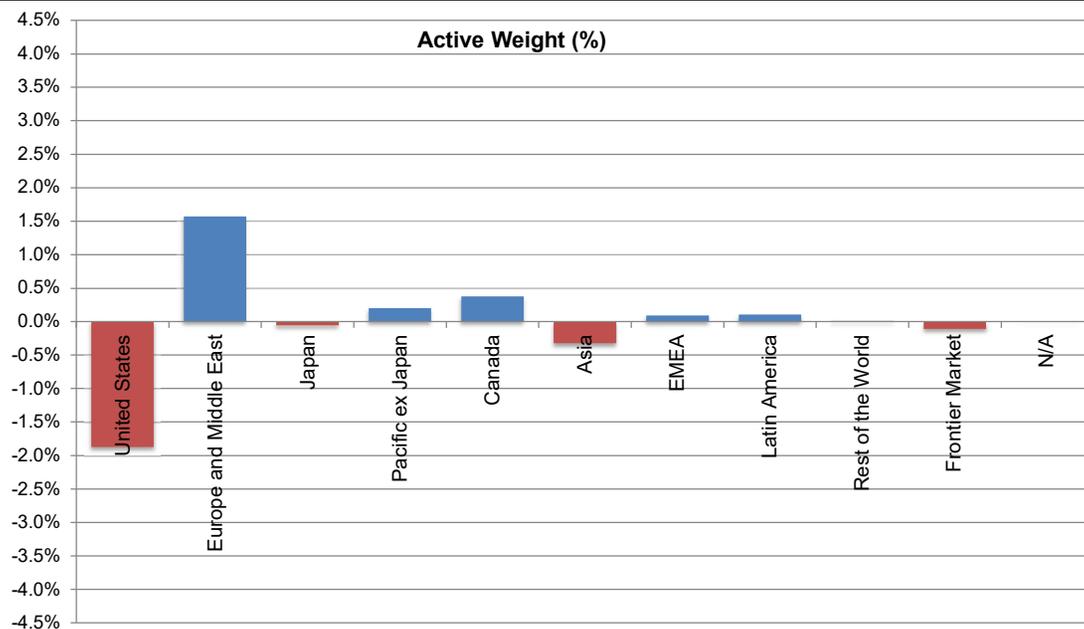
¹Investopedia

	Mkt Value (Mil \$)	Weight (%)	Total Plan Risk Cont.	% CR to Total Risk	Total Predicted Risk
Total Portfolio	\$ 134,595	100%	12.52	100%	12.52
Information Technology	\$ 22,509	16.72%	3.09	24.65%	20.24
Real Estate-Equity	\$ 18,194	13.52%	1.45	11.59%	12.66
Consumer Discretionary	\$ 10,669	7.93%	1.55	12.42%	20.91
Financials	\$ 15,489	11.51%	1.48	11.78%	13.97
Industrials	\$ 11,625	8.64%	1.38	11.01%	16.78
Health Care	\$ 11,405	8.47%	0.95	7.61%	13.86
Communication Services	\$ 6,480	4.81%	0.81	6.47%	18.98
Materials	\$ 3,792	2.82%	0.46	3.64%	17.69
Energy	\$ 4,273	3.17%	0.38	3.07%	19.50
Consumer Staples	\$ 6,276	4.66%	0.42	3.35%	10.91
Utilities	\$ 2,627	1.95%	0.20	1.58%	12.72
Other	\$ (1,284)	-0.95%	0.11	0.84%	14.76
Real Estate-Debt	\$ 7,030	5.22%	0.09	0.75%	3.62
Government	\$ 15,511	11.52%	0.16	1.24%	5.51

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

Geographic Region Concentration

Total developed and emerging market regions are within 1.0% of benchmark.



Observations:

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

Geographic Region*	Mkt Value (Mil \$)	Weight (%)	Bmk Weight (%)	Active Weight (%)	Total Plan Risk Cont.	Total Predicted Risk
Total Portfolio	\$ 134,595	100%	100%	0%	12.52	12.52
Total Developed	\$ 126,257	93.81%	93.58%	0.22%	11.73	12.52
United States	\$ 103,792	77.11%	78.99%	-1.87%	9.15	12.04
Europe and Middle East	\$ 14,283	10.61%	9.04%	1.57%	1.74	18.46
Japan	\$ 3,442	2.56%	2.61%	-0.05%	0.30	17.97
Pacific ex Japan	\$ 2,129	1.58%	1.38%	0.20%	0.27	20.77
Canada	\$ 2,611	1.94%	1.56%	0.38%	0.26	15.06
Total Emerging	\$ 7,641	5.68%	5.81%	-0.13%	0.77	16.78
Asia	\$ 6,039	4.49%	4.81%	-0.32%	0.55	16.44
EMEA	\$ 755	0.56%	0.47%	0.09%	0.10	25.35
Latin America	\$ 847	0.63%	0.52%	0.11%	0.11	26.67
Total Other	\$ 697	0.52%	0.61%	-0.09%	0.03	6.46
Rest of the World	\$ 489	0.36%	0.35%	0.01%	0.01	4.13
Frontier Market	\$ 208	0.15%	0.26%	-0.11%	0.01	18.17
N/A	\$ 0	0.00%	0.00%	0.00%	0.01	-

*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
Risk Committee Meeting January 24, 2024

**NEW YORK STATE
TEACHERS' RETIREMENT SYSTEM
INVESTMENT COMMITTEE MEETING
January 24, 2024**

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

A meeting of the Investment Committee of the Retirement Board was held at the System on January 24, 2024. Nicholas Smirensky, Chair, called the meeting to order at 9:03 a.m.

ATTENDANCE

Investment Committee

Elizabeth Chetney, Eric Iberger, David Keefe (via WebEx), Jennifer Longtin, Ruth Mahoney, Nicholas Smirensky

Board Members

Juliet Benaquisto (via WebEx), Paul Farfaglia, Phyllis Harrington (via WebEx), Oliver Robinson

Staff

Thomas Lee, Don Ampansiri, Dave Gillan, Kathy Ebert, Gerald Yahoudy, Miriam Dixon, Richard Young, Vijay Madala, Beth Dellea, Paul Cummins, Michael Federici, Danny Malavé, Matt Albano, Margaret Andriola, Emily Ekland, Han Yik, Chris Brown, Kevin Maloney, Heidi Brennan, Aaron VanDerwiel, Sarah Garrand, Matt Pinchinat, Binoop Uni, Bruce Woolley, Renee Ong, Ben Keezer, Wanette Alston, Jeff Schubert, Stacey Lesser Meehan

System Consultants

Callan: In person - Tom Shingler, Lauren Sertich
Via WebEx - Jay Kloepfer, Kevin Machiz

StepStone: Via WebEx – Scott Schwind

NYSTRS' Risk Advisor: Via WebEx – Peter Cosgrove

Visitors

In Person: Vik Sawhney - Blackstone
Kim Palermo and Anin Kofi-Addo – Omni Research

Via WebEx: McCyrl Espanol, WithIntelligence; Dorien Nunez, Omni Research; Gregg Gethard, PEI Media; Gar Chung, Financial Investment News; Alvaro Carrillo and Mitchell King - BlackRock

Approval of Minutes

A. Approval of Minutes of October 25, 2023 Investment Committee Meeting

There being no additions or corrections to the minutes of the October 25, 2023 meeting, the minutes were approved with a motion made by R. Mahoney, seconded by E. Iberger and unanimously carried.

The Committee heard reports and updates from staff and reviewed the following information regarding the System's investments and performance:

Review of Investments

1. Investment Committee Executive Summary (Appendix A, pp. 7-13)
2. Public Equities Update (Appendix B, p. 14)
3. Fixed Income Update (Appendix C, p. 15)
4. Real Estate Update (Appendix D, pp. 16-18)
5. Private Equity/Debt Update (Appendix E, p. 19)
6. Consultant Update

T. Shingler and J. Kloepfer from Callan gave an update on capital market projections and an update on the Callan organization.

Presentations

A. Real Estate Macro Markets Discussion

Vik Sawhney, Blackstone's Chief Administrative Officer and Global Head of Institutional Client Solutions, participated in a question and answer interview with Dave Gillan, from NYSTRS' Real Estate Department. Conversation covered Mr. Sawhney's views on economic conditions, credit markets, global

markets, geographic expectations and how culture is managed at Blackstone.

B. Emerging Market Debt

M. Federici and R. Ong gave a presentation on the evolution of and outlook for emerging markets.

Policy Review and Action

A. Consent Agenda Recommendation Items (Appendix F, pp. 20-21)

N. Smirensky 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 Recommendation items (#1-2) together with one motion.

Upon motion of J. Longtin, seconded by R. Mahoney and unanimously carried by the Committee, the following consent agenda item resolutions were moved and unanimously recommended to the Retirement Board:

1. Renew Consultant

- Callan – General Investment Consultant

RESOLVED, That the Executive Director and Chief Investment Officer, or designees, is authorized to renew the System's contract with Callan LLC for a period of one year, commencing May 1, 2024, (A) to act as a general investment consultant and (i) advise on asset allocation and manager research & monitoring, and (ii) provide Board & staff education, at an annual fee not to exceed \$523,362; and (B) if required by the System, to provide individual fund due diligence for alternative investments, including private equity and private debt, at fees not to exceed \$35,000 per domestic fund and \$45,000 per international fund.

2. Renew Managers

- AEW Capital Management

RESOLVED, That the System's Executive Director and Chief Investment Officer is authorized to renew the agreement with AEW Capital Management, LP 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 April 15, 2024.

- Ariel Investments LLC

RESOLVED, That the Executive Director and Chief Investment Officer is authorized to renew the agreement with Ariel Investments LLC to manage a portion of the System's assets as an MSCI ACWI ex-US international equity manager for a period of one year, effective April 10, 2024.

- Arrowstreet

WHEREAS, Arrowstreet Capital LP was hired as an international equity manager on July 18, 2017 and as a global equity manager on March 26, 2019; now be it therefore

RESOLVED, That, the Executive Director and Chief Investment Officer is authorized to renew the agreement with Arrowstreet Capital LP for a period of one year, effective March 26, 2024, 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.

- Bank of NY Mellon (Securities Lending)

RESOLVED, the Executive Director and Chief Investment Officer is authorized to renew the agreement with The Bank of New York Mellon to act as an agency securities lender for a portion of the System's public securities assets for a period of one year, effective March 17, 2024.

- Black Rock Financial Management, Inc. (CMBS)

RESOLVED, That the Executive Director and Chief Investment Officer is authorized to renew the agreement with Black Rock Financial Management, Inc. to manage a portion of the System's assets in Commercial Mortgage Backed Securities ("CMBS"), for a period of one year, effective April 3, 2024.

- Cohen & Steers Capital Mgt – Multi Strategy

RESOLVED, That the System's Executive Director and Chief Investment Officer is authorized to renew the agreement with Cohen & Steers Capital Management, Inc. 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 February 12, 2024.

- Columbia Management Investment Advisers LLC

RESOLVED, That the Executive Director and Chief Investment Officer is authorized to renew the agreement with Columbia Management Investment Advisers, LLC to manage a portion of the System's assets as an active U.S. high yield manager benchmarked to the ICE BofAML BB-B US High Yield Constrained Index (HUC4) (f/k/a Bank of America Merrill Lynch BB-B U.S. High Yield Constrained Index) for a period of one year, effective March 6, 2024.

- PGIM, Inc.

RESOLVED, That the Executive Director and Chief Investment Officer, or designee, is authorized to renew the agreement with PGIM, INC. to manage a portion of the System's assets as an active U.S. high yield manager benchmarked to the Bloomberg US High Yield 1% Issuer Capped Index (I09038US) for a period of one year, effective February 21, 2024.

- J.P. Morgan Investment Management Inc.

RESOLVED, That the Executive Director and Chief Investment Officer is authorized to renew the agreement with J.P. Morgan Investment Management Inc. to manage a portion of the System's assets as an active U.S. high yield manager benchmarked to the ICE BofAML BB-B US High Yield Constrained Index (HUC4) (f/k/a Bank of America Merrill Lynch BB-B U.S. High Yield Constrained Index) for a period of one year, effective March 5, 2024.

- Principal Real Estate Investors

RESOLVED, That the System's Executive Director and Chief Investment Officer is authorized to renew the agreement with Principal Real Estate Investors, 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 February 11, 2024

- Raith Capital Partners

RESOLVED, That the System's Executive Director and Chief Investment Officer is authorized to renew the agreement with Raith Capital Partners, LLC to act as a Debt separate account advisor and in such role to advise on the acquisition, management and exit of public and private opportunistic commercial real estate debt opportunities for a period of one year, effective February 7, 2024.

- RhumbLine Advisors

RESOLVED, That the Executive Director and Chief Investment Officer is authorized to renew the agreement with RhumbLine Advisors LP to manage a portion of the System's assets as a passive international equity manager, benchmarked to the MSCI ACWI ex-US Index, for a period of one year commencing March 30, 2024.

- Xponance (f/k/a FIS Group)

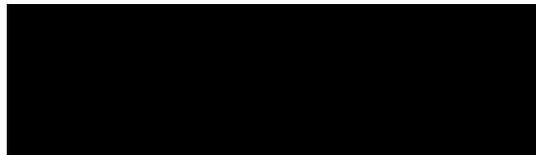
RESOLVED, That the Executive Director and Chief Investment Officer is authorized to renew the agreement with Xponance (formerly known as FIS Group, Inc. with a name change to Xponance effective 4/1/20) to manage a portion of the System's assets as a manager of international equity managers, benchmarked to the ACWI ex-US Index, for a period of one year commencing April 25, 2024.

Informational reports

- The Committee reviewed the following informational reports: EDCIO Investment Discretion Report (Appendix G, pp. 22-26) and Mail Vote Quarterly Board Report (Appendix H, p. 27).

There being no further business, and upon motion of J. Longtin, seconded by R. Mahoney and unanimously carried, the Committee adjourned at 12:05 p.m.

Respectfully submitted,



Thomas K. Lee

Investment Committee Executive Summary

Office of the CFO: Investment Operations Department

Investment Committee Meeting: January 24, 2024

Margaret Andriola, CIPM, CPA
Chief Financial Officer



Investment Committee Executive Summary

Market Value Summary ('000s)

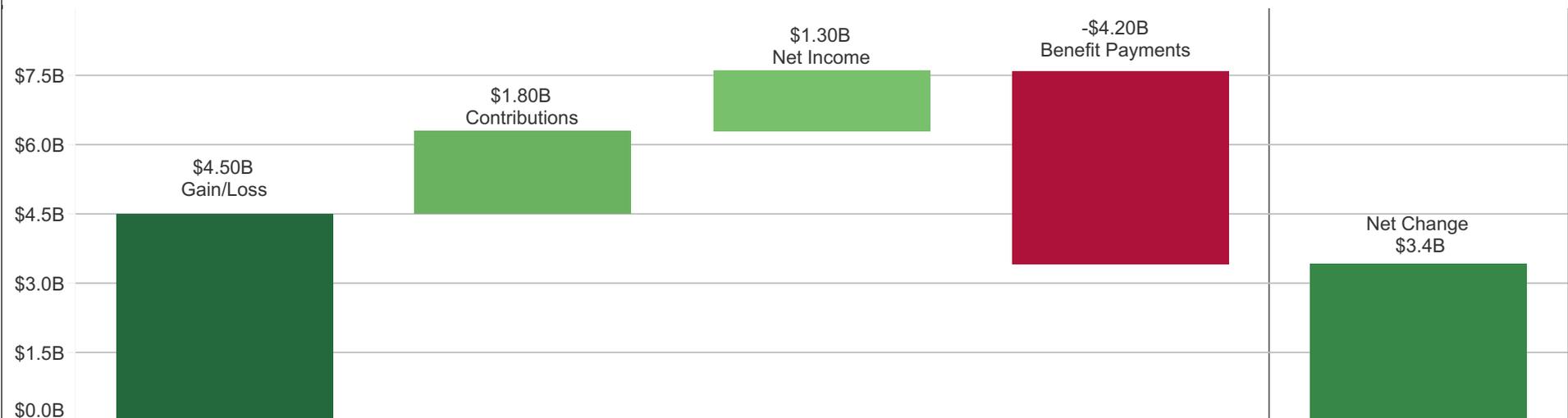
Asset Category	Asset Class	December 31, 2023		September 30, 2023		December 31, 2022	
		Net Asset Value	% Net Asset Value	Net Asset Value	% Net Asset Value	Net Asset Value	% Net Asset Value
Equity	Domestic Equity	\$46,352,658	33.5%	\$42,802,528	32.7%	\$41,899,700	32.6%
	International Equity	\$19,422,325	14.0%	\$17,694,716	13.5%	\$19,142,211	14.9%
	Global Equity	\$5,301,686	3.8%	\$4,810,378	3.7%	\$4,401,006	3.4%
	Real Estate Equity	\$16,782,617	12.1%	\$16,326,716	12.5%	\$16,786,954	13.1%
	Private Equity	\$13,166,925	9.5%	\$15,656,153	12.0%	\$13,715,149	10.7%
	Asset Category Subtotal	\$101,026,211	72.9%	\$97,290,491	74.4%	\$95,945,019	74.7%
Debt	Domestic Fixed Income	\$19,462,470	14.1%	\$18,186,385	13.9%	\$16,725,931	13.0%
	Global Bonds	\$2,814,976	2.0%	\$2,636,024	2.0%	\$2,626,905	2.0%
	High Yield	\$1,482,376	1.1%	\$1,387,676	1.1%	\$1,169,505	0.9%
	Real Estate Debt	\$7,443,472	5.4%	\$7,678,481	5.9%	\$7,997,854	6.2%
	Private Debt	\$2,189,990	1.6%	\$2,089,443	1.6%	\$1,704,241	1.3%
	Cash & Short Term Debt	\$4,079,787	2.9%	\$1,514,345	1.2%	\$2,328,739	1.8%
Asset Category Subtotal	\$37,473,070	27.1%	\$33,492,354	25.6%	\$32,553,174	25.3%	
Total Plan		\$138,499,280	100.0%	\$130,782,844	100.0%	\$128,498,194	100.0%

Due to rounding, numbers may not sum to 100%

Components of Change in Total Investments

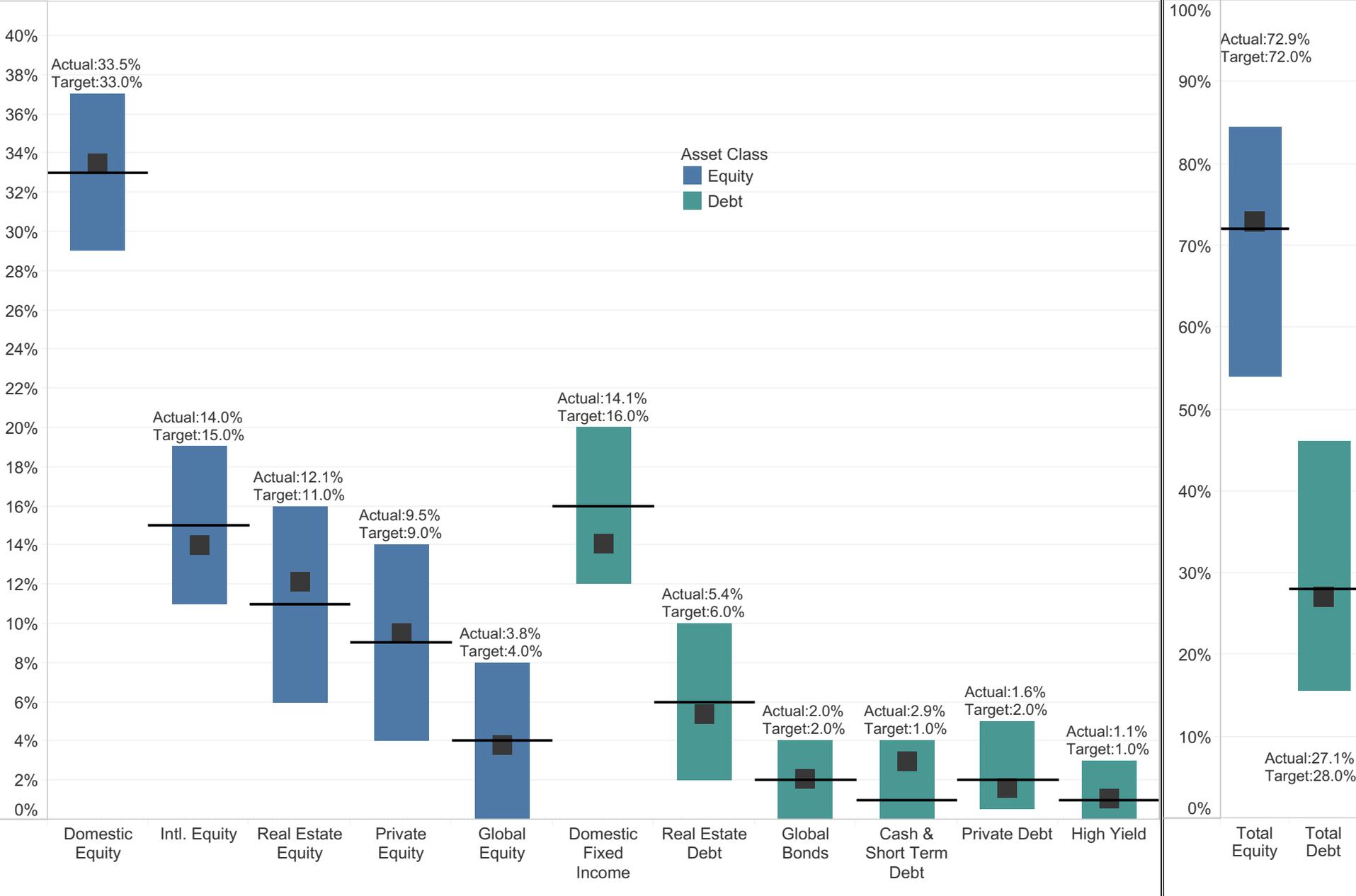
FYTD: 7/1/2023 to 12/31/2023

\$135.1B to \$138.5B



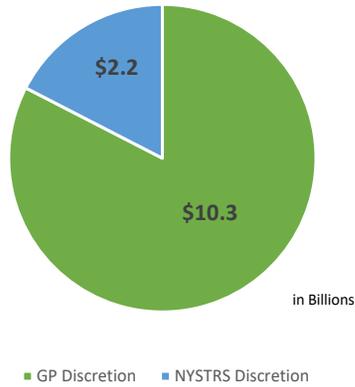
NYSTRS' Asset Allocation: \$138.5B (December 31, 2023)

Equity vs. Debt

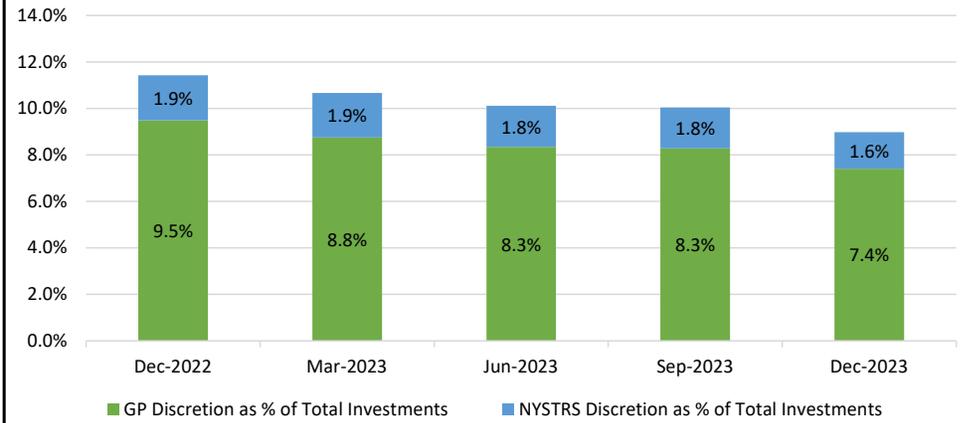


Unfunded Commitments - Private Assets

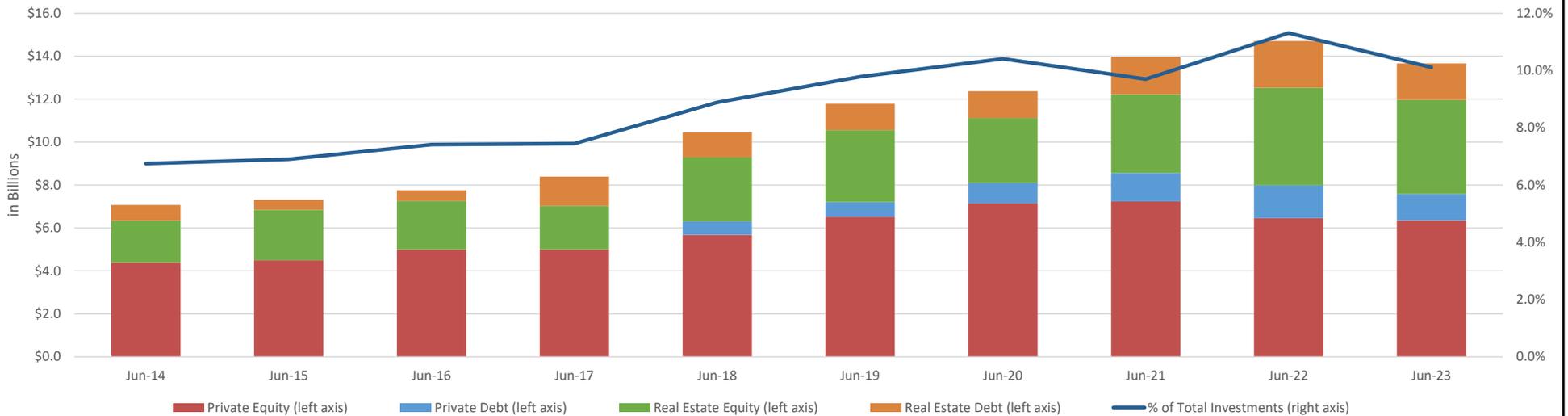
Total Unfunded Commitments at 12/31/2023 \$12.5B



Unfunded Commitments - GP vs. NYSTRS Discretion

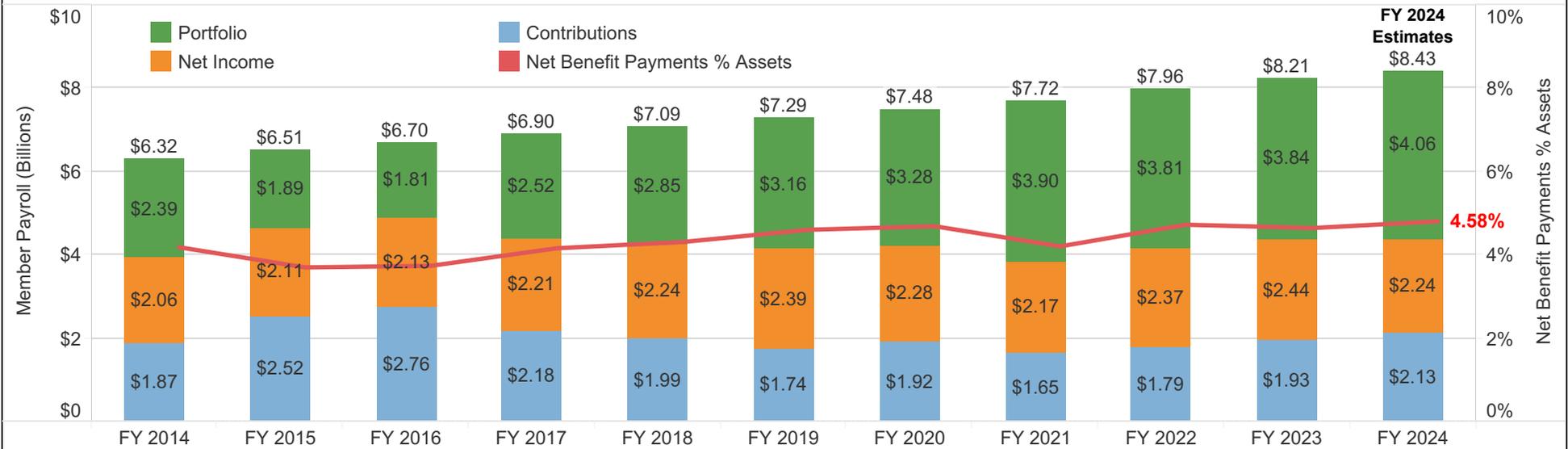


Unfunded Commitments - by Asset Class and % of Total Investments

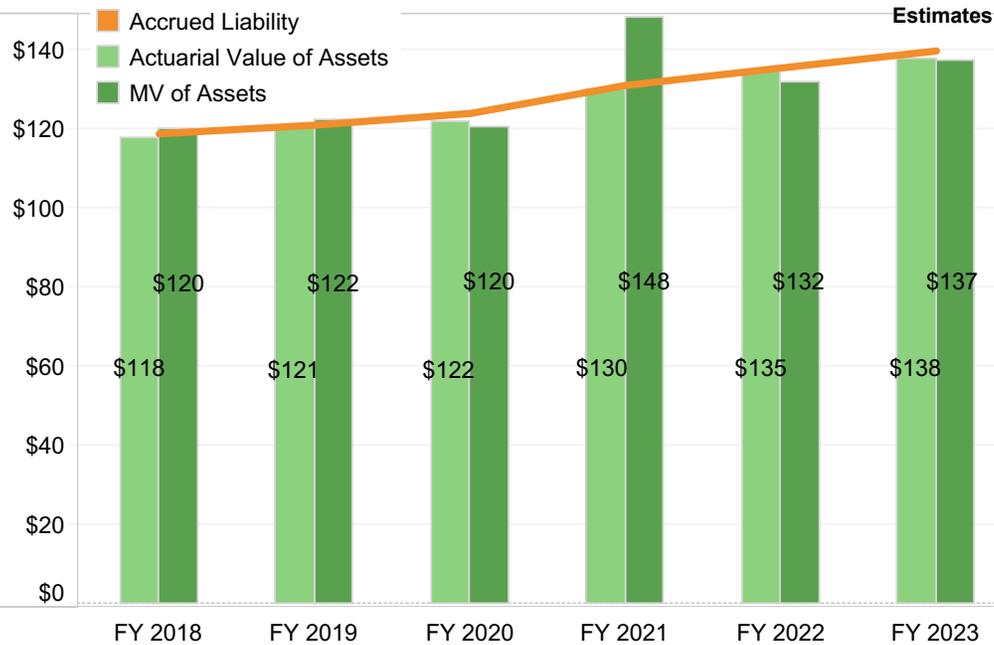


Investment Committee Executive Summary

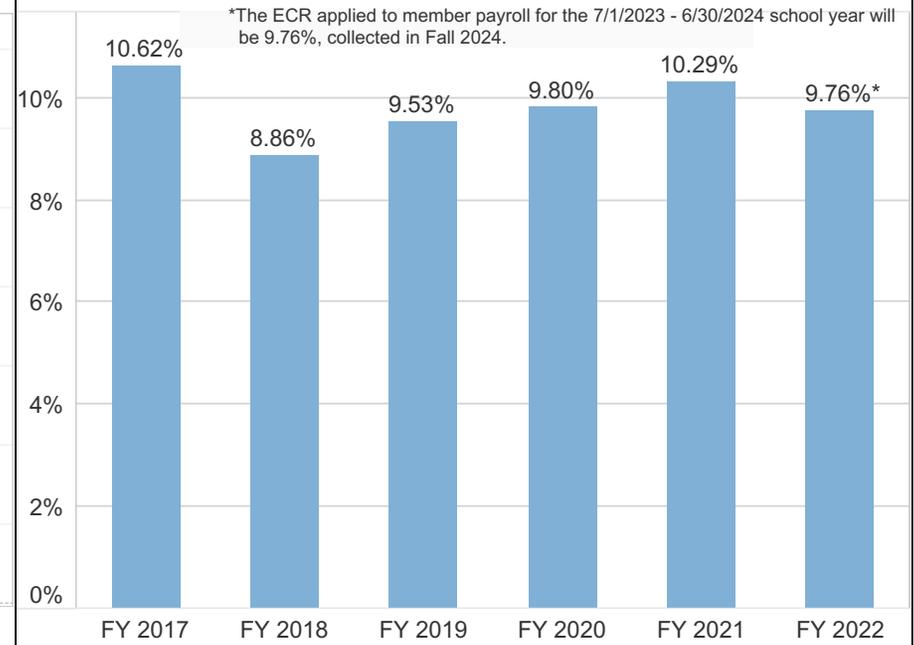
Member Payroll Funding Sources



Assets & Actuarial Accrued Liability



Employer Contribution Rate



Investment Committee Executive Summary

Public Market Performance as of December 31, 2023

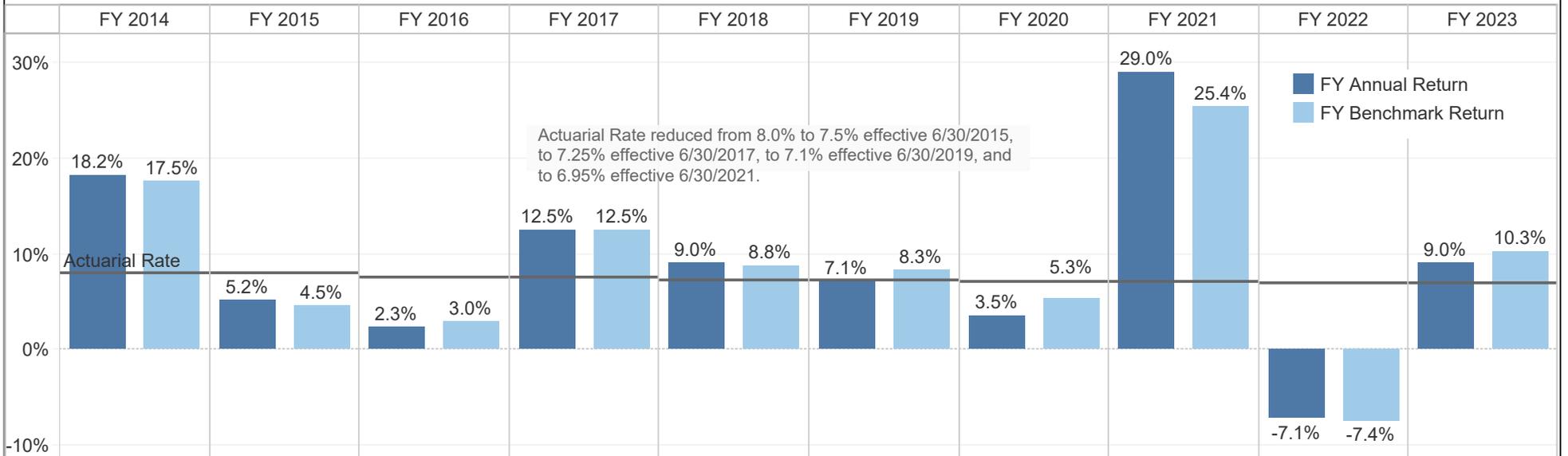
Asset Class	Current QTR	
	Net Return	Excess Return
Domestic Equity	11.8%	0.0%
International Equity	9.7%	0.0%
Global Equity	10.1%	-0.9%
Private Equity	N/A	N/A
Real Estate Equity	14.5%	-1.6%
Domestic Fixed Income	6.1%	-0.7%
Global Bonds	7.0%	0.4%
High Yield Bonds	6.7%	-0.4%
Private Debt	N/A	N/A
Real Estate Debt	4.0%	-0.9%
Short Term	1.4%	0.1%
Total Public Markets	9.6%	0.0%

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

Total Fund Performance as of September 30, 2023

Asset Class	QTR		FYTD		10YR	
	Net Return	Excess Return	Net Return	Excess Return	Net Return	Excess Return
Domestic Equity	-3.3%	0.1%	-3.3%	0.1%	11.5%	-0.1%
International Equity	-3.4%	0.3%	-3.4%	0.3%	3.8%	0.5%
Global Equity	-2.4%	1.0%	-2.4%	1.0%	N/A	N/A
Private Equity	-0.6%	1.4%	-0.6%	1.4%	15.2%	-1.7%
Real Estate Equity	-2.8%	-0.7%	-2.8%	-0.7%	8.4%	0.9%
Domestic Fixed Income	-2.4%	0.7%	-2.4%	0.7%	1.0%	-0.1%
Global Bonds	-2.3%	-0.1%	-2.3%	-0.1%	1.9%	0.2%
High Yield Bonds	0.4%	0.1%	0.4%	0.1%	N/A	N/A
Private Debt	2.6%	-1.6%	2.6%	-1.6%	N/A	N/A
Real Estate Debt	-0.2%	1.1%	-0.2%	1.1%	3.5%	0.6%
Short Term	1.3%	0.1%	1.3%	0.1%	1.2%	0.3%
Total Fund	-2.4%	0.3%	-2.4%	0.3%	7.7%	0.0%

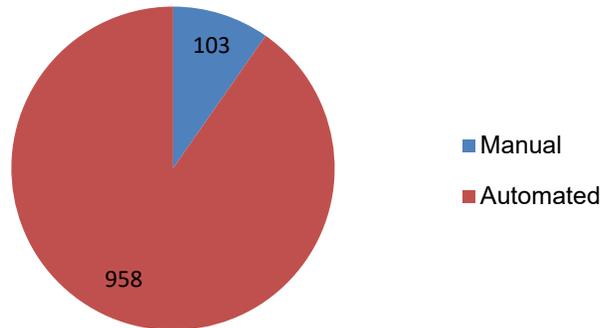
Annual Performance



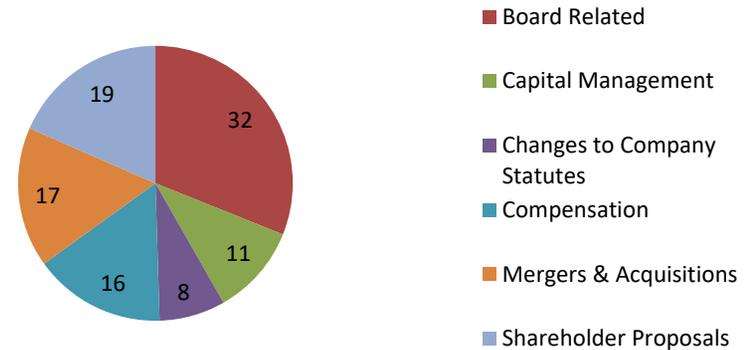
Investment Committee Executive Summary

Proxy Voting Summary: 10/1/2023 - 12/31/2023

Total Proxy Proposals - 1,061



Manual Proposals - 103



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.

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: 2, Social: 10, and Other: 4

Public Equity MD Update Investment Committee January 24, 2024

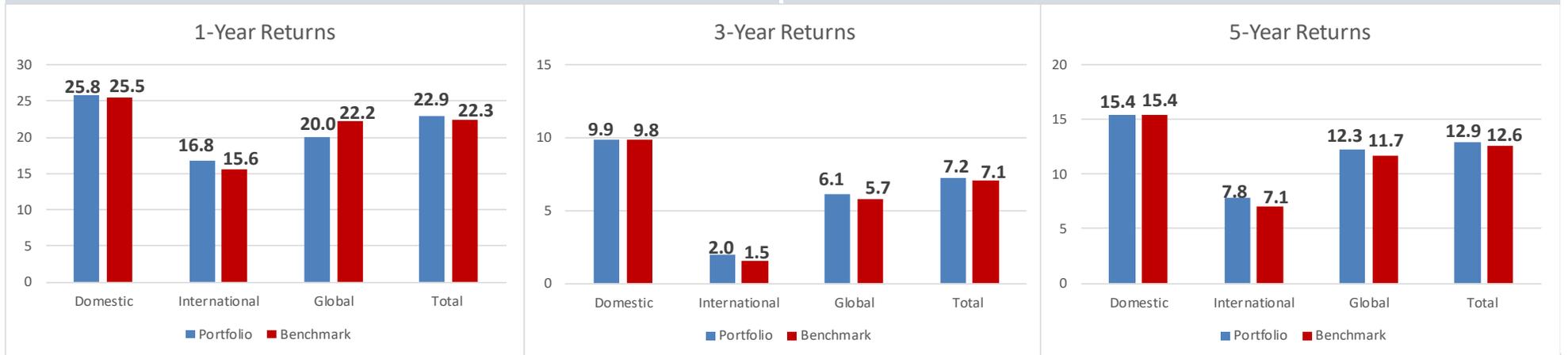
Portfolio Values				Asset Allocation			
Portfolio Values (000)	12/31/23	12/31/22	Difference	Asset Allocation	Range	Target	Actual 12/31/23
Domestic Equity	\$46,352,658	\$41,899,700	\$4,452,958	Domestic:	29-37%	33.0%	33.5%
International Equity	\$19,422,325	\$19,142,211	\$280,114	International:	11-19%	15.0%	14.0%
Global Equity	\$5,301,686	\$4,401,006	\$900,680	Global:	0-8%	4.0%	3.8%
Total Public Equity	\$71,076,669	\$65,442,917	\$5,633,752				

Public Equity Portfolio Values:

- During the one-year period:
 - o \$5.5B (including dividends swept) was raised from domestic equities.
 - o \$2.75B was raised from international equities.

Asset Allocation

- The public equities asset classes remain close to their respective targets and well within their asset allocation ranges.
- \$1.1B was raised from domestic equities during the quarter.



Commentary:

- Overall, the portfolio is performing consistent with our expectations.
- Our domestic and international active strategies collectively generated positive excess returns for the one-year period.
- We continue to closely monitor Ariel Investments for the change in lead portfolio manager.
- Deputy MD position has been filled. We are recruiting for our external strategies team.



Fixed Income MD Update

Investment Committee Meeting: January 24, 2024

	Sector/Portfolio	Mkt Val \$B	Asset Allocation %			Net Returns %					Excess Returns %				
			Actual	Target	Range	Qtr	FYTD	1Y	3Y Ann	5Y Ann	Qtr	FYTD	1Y	3Y Ann	5Y Ann
Internal	Dom. Fixed Income	19.5	14.1	16	12-20	6.07	3.53	5.69	-2.12	1.26	-0.65	0.13	0.09	1.21	0.09
	Short-Term Bond	4.1	2.9	1	0-4	1.40	2.77	5.26	2.33	2.00	0.12	0.21	0.45	0.28	0.34
External	Global Bonds	2.8	2.0	2	0-4	6.97	4.50	7.19	-2.75	1.66	0.42	0.26	-0.03	0.12	0.53
	High Yield	1.5	1.1	1	0-3	6.73	7.12	12.52	1.99	5.06	-0.39	-0.25	-0.06	0.26	-0.14

- **Market:** Global Treasury yields and credit spreads increased until mid-Oct and then decreased rapidly through year-end
 - **Allocation:** Purchased net \$313M in Domestic; weighted to Treasuries and Mortgages versus Corporates
 - **Dom. FI:** Strong net returns of 6.1%; underperformed by 65bp (duration -42bp; lower corporate bond risk -23bp)¹
 - **Short-Term:** High quality short maturities still returning over 5.5% annualized; elevated balance from Private Equity sale
 - **Global:** Outperformed from overweight to mortgages and corporates; Carbon Transition portfolios started late in quarter
 - **High Yield:** underperformed as negative from sector and security selection outweighed positive from duration positioning
-
- **Policy:** Fed Chair Powell strongly signaled a clear policy reversal—from “higher for longer” to rate cuts a “topic of discussion”
 - Market pricing March Fed rate cuts and 150bp of total cuts in 2024 seems aggressive; 6%+ deficits will strain markets
 - **Inflation:** Ex-food and energy (core) now under 4% y/y; expectations that housing costs decline with new apartment supply
 - **Growth:** After a healthy 2023 (2.4% est.), 2024-2025 growth is expected to be more trend-like at around 1.5%
 - **Credit:** Spreads declined to near post-covid lows on optimism of avoiding recession and relief from lower rates
-
- **Team:** Recruiting for 1 Investment Officer position (corporate bonds); Joe Wood promoted to Manager; 2 Investment Fellows

¹Domestic Fixed Income duration was -0.7 year vs. benchmark at the end of the quarter



CRE Equity	<u>12/31/23 Value</u> \$16,783	<u>Target</u> 11%	<u>Range</u> 6%-16%	<u>Actual</u> 12.1%	<u>w/Commit</u> 14.7%
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Performance for Periods Ended September 30, 2023						
Strategy (Inception Date)	Net Asset Value	Current Quarter	1 Year	5 Year	10 Year	Since Inception
Direct Properties (2/90)	\$6,533	-2.3%	-6.7%	6.0%	9.1%	9.4%
Core Funds (7/85)	\$1,600	-2.7%	-14.6%	0.9%	4.7%	6.2%
Value Added (12/89)	\$1,632	-3.1%	-4.2%	13.7%	16.3%	11.8%
Opportunistic (3/99)	\$3,053	-0.9%	0.9%	8.5%	9.8%	10.9%
U.S. RE Securities (7/95)	\$2,039	-6.0%	3.1%	4.5%	7.1%	10.6%
Global RE Securities (9/17)	\$907	-5.9%	2.6%	0.2%	-	0.6%
Timber (12/98)	\$253	0.1%	11.1%	7.3%	6.2%	4.7%
Total CRE Equity Portfolio	\$16,017	-2.8%	-3.9%	5.7%	8.4%	8.3%
NCREIF-ODCE (Spliced)	-	-2.1%	-12.9%	5.4%	7.5%	6.4%

Appendix D

Return Drivers:

- The increase in interest rates in the 3rd calendar quarter has resulted in higher return requirements for investors pushing property values down. While all property types have seen value declines, the lack of debt availability for office properties coupled with lower demand for space has resulted in much larger value declines for suburban as well as CBD office...particularly in the West coast markets. The return for Timber at 11.1% was a function of opportunistic sales made over the past year.

Market Conditions:

- From peak to trough (December 2021- early October 2023) public real estate securities were down 35.4% as measured by the MSCI US REIT index, whereas the private real estate NCREIF ODCE index was only down 15% from their peak in June of 2022,
- While the public and private markets continue to be highly correlated when adjusted for the appraisal lag, appraisers continue to look at historical market transactions, in the absence of current market trades. In the end public and private markets are expected to move closer towards parity. The question is how much of the current delta will come from the private vs. public markets. Beginning in mid October 2023, public REITs have rallied, up 22% through 1/12/24, while private markets are projecting another 5% loss for the last calendar quarter.
- From an operating fundamental standpoint, properties outside of office, remain healthy, recently bolstered by moderating interest rates and anemic forward-looking supply growth.
- Again, office markets remain the most challenged, with U.S. office vacancy rates at a record 13.6%, up from 9.4% at the end of 2019. CoStar estimates that many of these tenants will either vacate or give back a portion of their space upon renewal, pushing vacancy rates across the country up to 15.7% by the end of 2024.

Portfolio Focus:

- Department staff are focused on asset business plans to optimize earnings, lease-up of vacancy across directly held properties, as well as evaluating liquidity options within the existing portfolio. Acquisitions remains focused on only the highest conviction opportunities in sectors with durable long term demand drivers.
- The team remains focused on training newly hired analysts and managing the transition to StepStone and Meketa as our new real estate consultants effective February 1st.

Investment Activity:

- During the 4th calendar quarter, the System received \$12.9M from outstanding open-end commingled fund redemption requests.



Commercial Real Estate (CRE) Investments - Managing Director Update

CRE Debt	<u>12/31/23 Value</u>	<u>Target</u>	<u>Range</u>	<u>Actual</u>	<u>w/Commit</u>	
	\$7,443	6%	2%-10%	5.4%	6.4%	
Performance for Periods Ended September 30, 2023						
Strategy (Inception Date)	Net Asset Value	Current Quarter	1 Year	5 Years	10 Years	Since Inception
First Mortgages (7/85)	\$2,543	-0.3%	2.6%	3.1%	3.3%	7.7%
Commercial MBS (4/01)	\$2,439	0.5%	1.9%	1.3%	2.3%	4.2%
Core Plus Strategies (8/04)	\$1,962	-1.6%	-2.5%	2.8%	4.8%	3.3%
Opportunistic Debt (9/01)	\$677	1.4%	3.8%	5.3%	8.0%	1.1%
Total CRE Debt Portfolio	\$7,621	-0.2%	1.3%	2.8%	3.5%	7.6%
GL Custom Index (Spliced)	-	-1.3%	2.4%	2.2%	2.8%	7.6%

Return Drivers:

- For the year ended 9/30/23, performance was primarily impacted by markdowns on office loans in our core plus strategy. With declines in property values, the loan to value of our existing debt investments increased, resulting in mark downs as similar debt positions would have much higher credit spreads and all-in coupons in today's market.

Market Conditions:

- Interest rates were volatile during the 2023 calendar year. The 5-year U.S. Treasury yield ranged from 3.30% to 4.96% during 2023 with the yield declining 86 basis during the 4th quarter, ending the year at 3.85%. In addition, SOFR started the year at 4.36% and increased to 5.35% at calendar year-end.
- Owners and lenders will need to address a significant volume (approximately \$1.9 trillion) of U.S. mortgages maturing in the next two years.
- The following debt investments continue to provide an attractive risk adjusted return:
 - 5-10 year first mortgage coupons rates are currently in the 5.75%-6.00% range.
 - Investment grade CMBS securities provide yields in the 5.25%-7.00% range.
 - Private senior mezzanine and bridge loans provide net yields in excess of 8.00%.

Portfolio Focus:

- Pursue first mortgages on high-quality stabilized assets with longer terms to increase the duration of the portfolio as the System's CMBS and mezzanine positions focus on taking advantage of higher rates on the short end of the curve.
- Work through \$223.1 million of first mortgage maturities in 2024, which include an office property in Beverly Hills, as well as an apartment complex in Arlington, VA. The primary focus is to target material paydowns with modifications/extensions for the loans.

Investment Activity:

- During the 4th quarter, the System received a \$64.5 million loan payoff for the Sunset Galleria Mall in Henderson, NV. The loan was paid off at the full unpaid principal balance.



Commercial Real Estate (CRE) Investments - Managing Director Update

Performance Relative to Blended Benchmarks

Equity Real Estate Performance for Periods Ended September 30, 2023						
Strategy (Inception Date)	Net Asset Value	Current Quarter	1 Year	5 Year	10 Year	Since Inception
Direct Properties (2/90)	\$6,533	-2.3%	-6.7%	6.0%	9.1%	9.4%
Core Funds (7/85)	\$1,600	-2.7%	-14.6%	0.9%	4.7%	6.2%
Value Added (12/89)	\$1,632	-3.1%	-4.2%	13.7%	16.3%	11.8%
Opportunistic (3/99)	\$3,053	-0.9%	0.9%	8.5%	9.8%	10.9%
U.S. RE Securities (7/95)	\$2,039	-6.0%	3.1%	4.5%	7.1%	10.6%
Global RE Securities (9/17)	\$907	-5.9%	2.6%	0.2%	-	0.6%
Timber (12/98)	\$253	0.1%	11.1%	7.3%	6.2%	4.7%
Total CRE Equity Portfolio	\$16,017	-2.8%	-3.9%	5.7%	8.4%	8.3%
Blended Benchmark*	-	-2.6%	-8.8%	3.2%	6.4%	6.1%

Debt Real Estate Performance for Periods Ended September 30, 2023						
Strategy (Inception Date)	Net Asset Value	Current Quarter	1 Year	5 Years	10 Years	Since Inception
First Mortgages (7/85)	\$2,543	-0.3%	2.6%	3.1%	3.3%	7.7%
Commercial MBS (4/01)	\$2,439	0.5%	1.9%	1.3%	2.3%	4.2%
Core Plus Strategies (8/04)	\$1,962	-1.6%	-2.5%	2.8%	4.8%	3.3%
Opportunistic Debt (9/01)	\$677	1.4%	3.8%	5.3%	8.0%	1.1%
Total CRE Debt Portfolio	\$7,621	-0.2%	1.3%	2.8%	3.5%	7.6%
Blended Benchmark*	-	-1.3%	1.7%	1.9%	2.7%	7.6%

* 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

January 24, 2024

Appendix E

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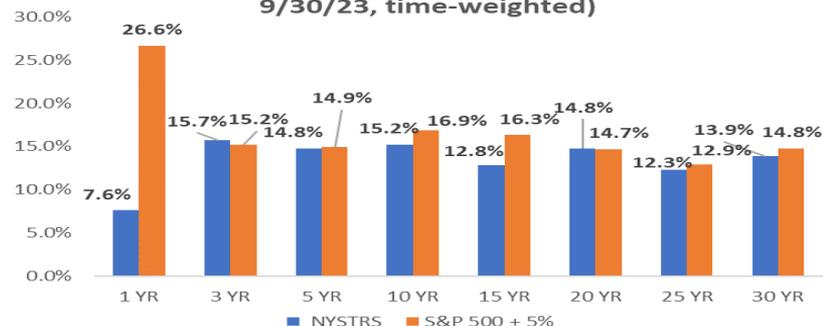
Private Equity – 9% Target (4-14%)

Private Debt – 2% Target (0.5-5%)

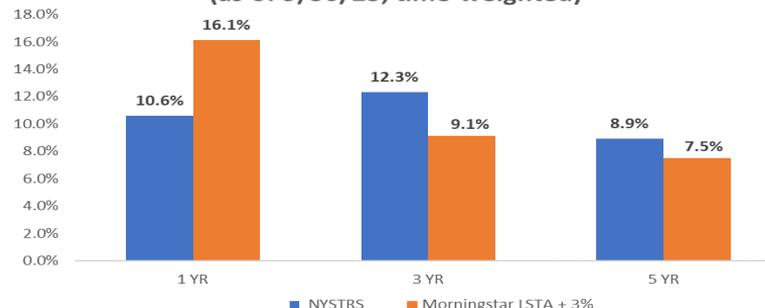
- 12/31/23 - \$13.2bn or approx. 9.5% vs. target
- \$5.3bn unfunded

- 12/31/23 - \$2.2bn or approx. 1.6% vs. target
- \$1.4bn unfunded

NYSTRS Private Equity Performance (as of 9/30/23, time-weighted)



NYSTRS Private Debt Performance (as of 9/30/23, time-weighted)



Market Overview:

- New commitments to PE continue to be focused on backing existing, highest conviction managers.
- PE deal activity has started to pick up pace but continues to be below average due to buyer/seller pricing expectations and higher financing costs.
- Private debt markets continue to be a major source of financing for buyouts vs. the public markets.
- NYSTRS Portfolio – 9/30 quarterly returns – PE was down .6% and PD was up 2.6% from 6/30.

Other Items:

- Investment Fellows – Rotation occurred this month and a second fellow expected to join early February.



Appendix F

Investment Committee Meeting – Agenda pp. 36-37

January 24, 2024

COMMITTEE MEMBERS

Nicholas Smirensky, Chair

Elizabeth Chetney, Eric Iberger, David Keefe, Jennifer Longtin, Ruth Mahoney

MINUTES

- A. Approval of Minutes of October 25, 2023 Meeting pp. 38-46

UPDATES

- A. Investment Comm Exec Summary – M. Andriola pp. 47-53
- B. Public Equities Update – P. Cummins pp. 54
- C. Fixed Income Update – M. Federici p. 55
- D. Real Estate Update – D. Gillan pp. 56-58
- E. Private Equity/Debt Update – G. Yahoudy p. 59
- F. General Consultant Update – Callan pp. 60-79

PRESENTATIONS

- A. Real Estate Macro Markets Discussion – Vik Sawhney from Blackstone pp. 80-83
- B. Emerging Market Debt – M. Federici, R. Ong pp. 84-119

INVESTMENT COMMITTEE ACTION REQUIRED

- A. **Consent Agenda Recommendation Items A 1-2** pp. 120-133
 - 1. Renew Consultant
 - 1. Callan – General Investment Consultant p. 120
 - 2. Renew Managers:
 - a. AEW Capital Management p. 121
 - b. Ariel Investments (Active Int'l Equity) LLC p. 122
 - c. Arrowstreet (Active Int'l Equity) p. 123
 - d. Bank of New York Mellon (Securities Lending) p. 124
 - e. BlackRock Financial Management, Inc (CMBS) p. 125
 - f. Cohen & Steers Capital Mgt-Multi Strategy p. 126
 - g. Columbia Management Investment Advisers (High Yield) LLC p. 127
 - h. PGIM (High Yield) p. 128
 - i. J.P. Morgan Investment Management Inc p. 129
 - j. Principal Real Estate Investors p. 130
 - k. Raith Capital Partners p. 131
 - l. RhumbLine Advisors LP (Passive Int'l Equity) p. 132
 - m. Xponance (f/k/a FIS Group) (Active Int'l Equity) p. 133



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

Informational Reports

1. EDCIO Investment Discretion Report pp. 134-138
2. Mail Vote Quarterly Board Report p. 139



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

TO: Retirement Board
FROM: T. Lee
SUBJECT: Quarterly Report of Executive Director and Chief Investment Officer Investment Discretion Exercised October - December 2023

Fixed Income

Period	Action Taken	Amount
Q/E 12/31/23	Net cash reallocated into internally managed Long-Term Bonds	\$313.5 M

Public Equities

Period	Action Taken	Amount
Q/E 12/31/2023	Net cash reallocated out of internally managed domestic equity portfolios	\$1.1B



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

SUBJECT: Quarterly Report of Executive Director and Chief Investment Officer Investment Discretion Exercised October - December 2023

Real Estate - New Commitments

Date of Internal Inv. Comm. Approval	Investment Name	Amount	New or Renew
	- NONE -		

Real Estate

Period	Action Taken	Amount
	- None -	



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

SUBJECT: Quarterly Report of Executive Director and Chief Investment Officer Investment Discretion Exercised October - December 2023

Private Equity/Debt – New Commitments

Date of Internal Inv. Comm. Approval	Investment Name	Amount	New or Renew
Oct 10 2023	Hahn & Co IV and Hahn & Co IV-S	\$150M	Renew
November 21 2023	Peninsula VIII	\$100M	Renew
November 29 2023	OIC Credit Opportunities Fund IV	\$300M	Renew
December 14 2023	Cortec Group Fund VIII	Addtl \$50M	Renew
December 14 2023	A&M Capital Partners III	Addtl \$50M	Renew
December 14 2023	A&M Capital Strategic Investments	\$80M	New
December 14 2023	AMCSI Co-Investment Partnership	\$100M	New



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

SUBJECT: Quarterly Report of Executive Director and Chief Investment Officer Investment Discretion Exercised October - December 2023

Private Equity – Liquidations (100% unless otherwise noted)

Date Originally Approved	Fund Name	Original Commitment	Liquidation Date
November 20, 2018	ABRY Partners IX, L.P.	\$100M	12/29/23
January 28, 2009	Hellman & Friedman VII, L.P.	\$200M (Sold 50%)	12/29/23
September 10, 2014	Hellman & Friedman VIII, L.P.	\$200M (Sold 50%)	12/29/23
July 10, 2018	Hellman & Friedman IX, L.P.	\$300M	12/29/23
March 19, 2021	Hellman & Friedman X, L.P.	\$300M	12/29/23
December 1, 2017	Sycamore Partners III, L.P.	\$100M	12/29/23
March 27, 2019	Pacific Equity Partners VI, L.P.	AUD 200M	12/29/23
November 27, 2018	Astorg VII, L.P.	€80.7M	12/29/23
July 17, 2001	The Third Cinven Fund, L.P.	€150M	12/29/23
January 26, 2006	The Fourth Cinven Fund, L.P.	€100M	12/29/23
October 26, 2011	The Fifth Cinven Fund, L.P.	€100M (Sold 50%)	12/29/23
January 28, 2016	The Sixth Cinven Fund, L.P.	€110M	12/29/23
April 1, 2019	The Seventh Cinven VII, L.P.	€150M	12/29/23
January 7, 2021	The Cinven Strategic Financials Fund, L.P.	€100M	12/29/23
January 7, 2021	Cinven SFF Co-Invest, L.P.	€26.8M	12/29/23
January 30, 2008	CVC V, L.P.	€100M	12/29/23
April 24, 2013	CVC VI, L.P.	€200M	12/29/23
November 22, 2016	TDR Capital IV, LP	€70M	12/29/23
September 22, 2014	Inflexion Buyout Fund IV, L.P.	£26M	12/29/23
February 21, 2018	Inflexion Buyout Fund V, L.P.	£65M	12/29/23
May 9, 2016	Inflexion Enterprise Fund IV, L.P.	£12M	12/29/23

March 26, 2019	Inflexion Enterprise Fund V, L.P.	£23.1M	12/29/23
September 22, 2014	Inflexion Partnership Capital Fund, L.P.	£16M	12/29/23
February 21, 2018	Inflexion Partnership Capital Fund II	£65M	12/29/23
May 9, 2016	Inflexion Supplemental Fund IV	£17M	12/29/23
March 26, 2019	Inflexion Supplemental Fund V	£45M	12/29/23
October 26, 2005	Aisling Capital Fund II	\$25M	12/29/23
July 31, 2008	Aisling Capital Fund III	\$40M	12/29/23
January 26, 2006	Apex VI	\$35M	12/29/23
July 29, 1999	CD&R VI	\$200M	12/29/23
January 25, 2006	Madison Dearborn Capital Partners V	\$100M	12/29/23
July 25, 2007	Industrial Kapital 2007 Fund	€37M	12/29/23
April 27, 2006	StepStone Pioneer Capital Europe I	€30M	12/29/23
May 20, 2021	ABRY Senior Equity VI, LP	\$100M	12/29/23



**NEW YORK STATE
TEACHERS' RETIREMENT SYSTEM
Board Mail Votes**

TO: Retirement Board
FROM: T. Lee
SUBJECT: Quarterly Board Report of Mail Votesⁱ for the period October – December 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

Compensation Committee Meeting

A meeting of the Compensation Committee of the Retirement Board was held at the System on January 24, 2024. The meeting was called to order at 1:00 p.m. by Phyllis Harrington, Chair.

Committee Members: Phyllis Harrington (via WebEx), Ruth Mahoney, Oliver Robinson, Nicholas Smirensky

Board Members: Juliet Benaquisto (via WebEx), Elizabeth Chetney, Paul Farfaglia, Eric Iberger, David Keefe (via WebEx), Jennifer Longtin

NYSTRS Staff: Thomas K. Lee, Miriam Dixon

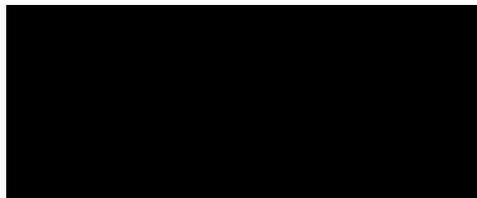
1. Approval of Minutes from October 26, 2023

Upon motion of N. Smirensky, seconded by R. Mahoney and unanimously carried, the meeting minutes from October 26, 2023 were approved.

Upon motion of R. Mahoney, seconded by O. Robinson and unanimously carried, the meeting went into Executive Session at 1:01 p.m. for a Collective Bargaining Agreement update.

With unanimous consent, the meeting came out of Executive Session and adjourned at 1:59 p.m.

Respectfully submitted,

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

Thomas K. Lee

NEW YORK STATE
TEACHERS' RETIREMENT SYSTEM
Audit Committee Meeting

A meeting of the Audit Committee of the New York State Teachers' Retirement System was held at the System on January 24, 2024.

Committee Members: Juliet Benaquisto (via WebEx), Phyllis Harrington (via WebEx), Eric Iberger, Jennifer Longtin, Oliver Robinson

Board Members: Elizabeth Chetney, Paul Farfaglia, David Keefe (via WebEx), Nicholas Smirensky

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

Audit Committee Advisor: Sue Landauer (via WebEx)

Visitor During Open Session: Anin Kofi-Addo, Omni Research

O. Robinson, Chair, called the meeting to order at 1:59 p.m.

1. Approval of Minutes from December 13, 2023

Upon motion of J. Longtin seconded by J. Benaquisto and unanimously carried, the Committee approved the minutes of the December 13, 2023 meeting.

2. Interim Internal Audit Report for the period July 1, 2023 to December 31, 2023

K. Ebert and B. Woolley reviewed the interim Internal Audit report.

3. Internal Audit Plan for the year ending December 31, 2024

K. Ebert presented the Internal Audit plan for the audit of the year ending December 31, 2024.

4. Resolution to Approve the Internal Audit Plan

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

carried, the Audit Committee approved the following resolution:

WHEREAS, System staff has presented to the Audit Committee of the Retirement Board a proposed internal audit plan for the year ending December 31, 2024, a copy of which is annexed hereto and made a part hereof as Appendix A, attached; be it

RESOLVED, That the Internal Audit Plan for the year ending December 31, 2024 is approved as presented.

5. Executive Session

Upon motion of J. Longtin, seconded by E. Iberger and unanimously carried, the Committee went into Executive Session at 2:37 p.m. to discuss personnel matters. With unanimous consent, the Committee came out of Executive Session at 2:54 p.m.

There being no further business, and with unanimous consent, the meeting adjourned at 2:54 p.m.

Respectfully submitted,

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

Thomas K. Lee

Appendix: 2024 Proposed Audit Plan

Appendix A

	Type	Auditable Entity	Audit Objective
			To provide reasonable assurance that controls are designed effectively and efficiently and functioning as intended
1	AM	CRE Asset Management	Management & monitoring of directly owned RE properties are in accordance with the System's Investment Policy Manual and Real Estate Department
2	AM	Performance Calculations and Oversight	Calculate and report investment rates of return contains appropriate controls
3	AM	Manage Long-Term Fixed Income	Managing and accounting for the Domestic Fixed Income Portfolio
4	AM	CRE External Fund Management	Selecting and monitoring real estate external fund managers
5	AM	Asset Management Fee	Pay investment fees in compliance with respective agreements and to report accurate and complete information on the Schedule of Investment Fees
6	GA	Accounts Receivable	Proper financial management, compliance, and risk mitigation in accounts receivable collection and write offs
7	GA	ISO Security Administration	ISO evaluation based on the NIST framework are appropriate
8	GA	Payroll	Employee payroll is recorded accurately and timely
9	IT	IT General Controls	Vulnerability Assessment and Penetration Testing - outsourced
10	IT	IT General Controls	Perform regular back-ups, test the process and ensure data is securely stored
11	IT	Application Controls	Ensure critical Excel applications contain appropriate input, output and processing controls to meet business objectives
12	RA	Employer Reporting	Participating Employer annual audit (verify salary and service)
13	RA	Member Administration	Eligible beneficiary changes are recorded accurately and timely
14	RA	Employer Reporting	Changes made to monthly payroll information received from participating employers is appropriate and accurate
15	RA	Abandoned Accounts	Abandoned member accounts are recorded accurately and according to statute, and payments are made to eligible recipients
16	AM	Mortgage Servicing	Managing internal debt
17	GA	Project Management	Review how projects are identified, prioritized and approved
18	GA	Contract Management	Managing procurement of goods and services are in place and working effectively
19	GA	Employee Benefits	Ensure deductions for health insurance are recorded accurately and timely
20	GA	Business Continuity	Maintaining an up-to-date and effective business continuity plan in compliance with industry best practices
21	GA	Recruitment	The recruitment process in accordance with procedures
22	GA	Accounts Payable	Employee travel vouchers are authorized and recorded accurately and timely
23	RA	Billing to Participating Employers	Annual bill to participating employers is recorded accurately and timely
24	RA	Refunds	Active member request to withdraw their membership and receive a return of their contributions is recorded accurately and timely
25	RA	Death Benefit	Eligible retired member receive a death benefit that is recorded accurately and timely
26	RA	MR Benefit Administration	Ability to identify unreported deaths exist to prevent overpayments
27	RA	Estimates	How member information is reviewed to determine if the estimate for a retirement benefit appears reasonable

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 January 25, 2024. The meeting was called to order at 8:30 a.m. by Elizabeth Chetney, Chair.

The following individuals were in attendance:

Committee Members: Juliet Benaquisto (via WebEx), Elizabeth Chetney, Paul Farfaglia, Eric Iberger, David Keefe (via WebEx), Ruth Mahoney, Oliver Robinson

Board Members: Jennifer Longtin, Phyllis Harrington (via WebEx), Nicholas Smirensky

Upon motion of E. Iberger, seconded by R. Mahoney and unanimously carried, the meeting minutes of October 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 and a disability rescission resolution would be brought to the Board at the Board meeting on January 25, 2024.

There being no further business, and upon motion of P. Farfaglia, seconded by R. Mahoney and unanimously carried, the Committee adjourned at 8:31 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

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 January 25, 2024.

The following individuals were in attendance:

Committee Members: Elizabeth Chetney, David Keefe (via WebEx), Phyllis Harrington (via WebEx), Oliver Robinson

Board Members: Juliet Benaquisto (via WebEx), Paul Farfaglia, Eric Iberger, Jennifer Longtin, Ruth Mahoney, Nicholas Smirensky

NYSTRS' Staff: Thomas K. Lee, Don Ampansiri, Yiselle Ruoso, Miriam Dixon, Vijay Madala

Visitors during open session:

Via WebEx: McCyril Espanol, WithIntelligence; Maxine Brisport, NYSUT Peer Support Program

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

The following items were discussed:

1. Approval of minutes from October 26, 2023 meeting

Upon motion of E. Chetney, seconded by P. Harrington and unanimously carried, the minutes of the October 26, 2023 meeting were approved.

2. Finance Reports

The Committee members reviewed the Statement of Fiduciary Net Position, Statement of Changes in Fiduciary Net Position and Schedule of Administrative Expenses, a copy of which is annexed hereto and made a part hereof as Appendix A, pp. 4-8.

3. Updated Board Reimbursement of Expenses Policy

- a. The Committee reviewed the updated policy and agreed to approve it with additional revisions requested by D. Keefe.
- b. Resolution on Board Reimbursement of Expenses Policy

Upon motion of P. Harrington, seconded by E. Chetney and unanimously carried, the Committee moved the following resolution:

WHEREAS, The Retirement Board adopted a Policy for Reimbursement of Expenses for Board Members at its regular meeting on April 23, 1992 as the policy of the Retirement Board with respect to the matters contained therein; and

WHEREAS, The Retirement Board amended said Policy at its regular meetings on April 28, 1998 and September 15, 2003; and

WHEREAS, Subsequent experience in implementation and administration of the Policy in conjunction with NYSTRS' transition to a new expense reimbursement software suggests the desirability of amending and clarifying said Policy in certain respects; now, therefore, be it

RESOLVED, That the Executive Committee accepts and recommends to the Retirement Board the approval and adoption of the amendments to said policy as set forth in Appendix B, pp. 9-16, as the policy of the Retirement Board with respect to the matters stated therein.

4. Business Continuity Plan Update and Disaster Response

Upon motion of E. Chetney, seconded by P. Harrington and unanimously carried, the Committee went into Executive Session at 8:39 a.m. to hear Business Continuity Plan updates given by M. Dixon and V. Madala.

Upon motion of E. Chetney, seconded by P. Harrington and unanimously carried, the Committee came out of Executive Session at 9:01 a.m.

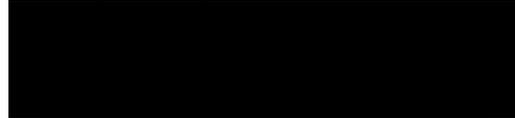
a. Resolution on Business Continuity Plan

Upon motion of E. Chetney, seconded by P. Harrington and unanimously carried, the Committee voted to recommend the following resolution to the Board:

RESOLVED, That the Business Continuity Plan, as presented to the Retirement Board reflecting changes through January 2024 is approved and accepted.

Having no further business and upon motion of P. Harrington, seconded by E. Chetney and unanimously carried, the Committee meeting adjourned at 9:02 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

MEMORANDUM

TO: T. Lee

FROM: Office of the CFO / Finance Department

DATE: January 25, 2024

SUBJECT: Retirement Board Package

Attached are the System's quarterly financial statements and related schedules for the quarters ended December 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)

5

December 31, 2023 and 2022

Assets	2023	2022
Investments at fair value:		
Domestic equity	\$ 46,308,255,702	\$ 41,862,952,006
International equity	19,321,945,291	19,068,326,111
Global equity	5,298,450,582	4,382,723,603
Real estate equity	16,765,720,409	16,768,066,573
Private equity	13,166,925,476	13,715,148,932
Domestic fixed income	19,338,897,434	16,629,197,734
High-yield bonds	1,459,089,036	1,151,014,009
Global bonds	2,734,745,611	2,635,245,239
Real estate debt	7,433,620,635	7,988,763,462
Private debt	2,189,989,787	1,704,240,865
Cash equivalents	4,381,464,256	2,227,706,722
Total investments	<u>138,399,104,219</u>	<u>128,133,385,256</u>
Receivables:		
Employer	912,096,004	922,245,860
Member	99,678,631	84,380,849
Investment income	357,929,208	294,967,952
Investment sales	236,219,320	190,126,016
Total receivables	<u>1,605,923,163</u>	<u>1,491,720,677</u>
Other assets:		
Securities lending collateral, invested	407,414,507	568,663,189
Member loans	266,562,870	242,969,870
Net investment in capital assets	23,004,387	20,016,160
Miscellaneous assets	5,797,027	30,371,931
Total other assets	<u>702,778,791</u>	<u>862,021,150</u>
Total assets	<u>140,707,806,173</u>	<u>130,487,127,083</u>
Deferred outflows of resources:		
Changes in net OPEB liability	15,103,133	10,703,193
Changes in net pension liability	15,366,904	18,052,606
Total deferred outflows of resources	<u>30,470,037</u>	<u>28,755,799</u>
Liabilities		
Securities lending collateral, due to borrowers	405,855,799	566,656,847
Investment purchases payable	485,457,202	111,126,811
Mortgage escrows and deposits, net of investments	2,072,379	14,581,623
Net OPEB liability	48,846,994	34,792,089
Other liabilities	157,862,038	124,858,274
Total liabilities	<u>1,100,094,412</u>	<u>852,015,644</u>
Deferred inflows of resources:		
Changes in net OPEB liability	2,249,463	13,229,678
Changes in net pension liability	1,305,207	33,768,375
Total deferred inflows of resources	<u>3,554,670</u>	<u>46,998,053</u>
Net position restricted for pensions	<u>\$139,634,627,128</u>	<u>\$129,616,869,185</u>



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

For the six months ending December 31, 2023 and 2022

Additions:	<u>2023</u>	<u>2022</u>
Investment income:		
Net increase (decrease) in fair value of investments	\$ 4,486,715,173	\$ (419,487,932)
Interest	511,055,086	423,120,272
Dividends	610,953,627	661,436,070
Real estate, net operating income	243,836,287	285,543,889
Securities lending, gross earnings	11,605,257	9,417,309
Other (net)	2,516,271	2,435,101
	<u>5,866,681,701</u>	<u>962,464,709</u>
Less: Investment expenses	249,155,204	202,105,217
Securities lending:		
Broker rebates	8,998,573	6,291,715
Management fees	382,133	439,987
Depreciation (appreciation) on collateral	242,699	(66,200)
Net investment income	<u>5,607,903,092</u>	<u>753,693,990</u>
Contributions:		
Employer	950,085,055	958,029,775
Member	111,441,512	94,830,811
Transfers (to)/from other systems	7,920,768	5,632,964
Total contributions	<u>1,069,447,335</u>	<u>1,058,493,550</u>
Net additions	<u>6,677,350,427</u>	<u>1,812,187,540</u>
Deductions:		
Retirement benefit payments, periodic	4,181,378,399	4,071,923,208
Beneficiary payments	31,347,209	42,271,764
Return of contributions	11,859,659	10,597,521
Administrative expenses	39,674,974	35,107,969
Total deductions	<u>4,264,260,241</u>	<u>4,159,900,462</u>
Net increase (decrease) in net position	2,413,090,186	(2,347,712,922)
Net position restricted for pensions, beginning of year	<u>137,221,536,942</u>	<u>131,964,582,107</u>
Net position restricted for pensions, end of period	<u>\$139,634,627,128</u>	<u>\$129,616,869,185</u>



NEW YORK STATE TEACHERS' RETIREMENT SYSTEM
Schedule of Administrative Expenses (Unaudited)
Compared to Budget Appropriations for 2023-2024

	Budget Appropriations 2023-2024	Expenses and Encumbrances YTD 12/31/2023	Remaining Balance 12/31/2023	Actual Expenses YTD 12/31/2023
Salaries:				
Salaries	\$ 41,425,284	\$ 18,534,465	\$ 22,890,819	\$ 18,534,465
Overtime salaries	60,021	30,015	30,006	30,015
Social Security	3,002,604	1,254,849	1,747,755	1,254,849
Subtotal Salaries	44,487,909	19,819,329	24,668,580	19,819,329
Benefits				
Employees retirement	5,126,948	2,850,786	2,276,162	2,850,786
Dental insurance	330,054	151,462	178,592	151,462
Health insurance	8,303,808	3,722,300	4,581,508	3,717,670
OPEB contribution	6,910,000	3,455,000	3,455,000	3,455,000
Civil service	61,800	27,500	34,300	27,500
Subtotal Benefits	20,732,610	10,207,048	10,525,562	10,202,418
Total salaries and benefits	65,220,519	30,026,377	35,194,142	30,021,747
Building occupancy:				
Building security and vending	325,000	345,332	(20,332)	148,176
Building supplies and expenses	148,000	50,035	97,965	50,035
Heat, light and power	593,836	147,140	446,696	147,140
Insurance	569,844	475,328	94,516	473,800
Municipal assessments	196,100	111,940	84,160	111,940
Office supplies and expenses	151,050	55,248	95,802	55,248
Storage	64,000	50,262	13,738	28,967
Telephone	585,000	365,836	219,164	245,076
Total building occupancy	2,632,830	1,601,121	1,031,709	1,260,382
Computer:				
IT Hardware Purchases	525,000	545,278	(20,278)	373,108
IT Software Purchases	449,000	93,998	355,002	86,546
Software and support services	4,455,197	4,166,017	289,180	3,177,931
Computer supplies	—	—	—	—
Total computer	6,000,197	4,805,293	1,194,904	3,637,585
Personnel and meeting:				
Board - meetings, travel and education	129,800	38,238	91,562	38,238
Delegates meeting	65,000	96,077	(31,077)	84,734
Dues	322,025	144,063	177,962	144,063



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

Compared to Budget Appropriations for 2023-2024

	Budget Appropriations 2023-2024	Expenses and Encumbrances YTD 12/31/2023	Remaining Balance 12/31/2023	Actual Expenses YTD 12/31/2023
Personnel and meeting (continued):				
Employee Engagement	\$ 51,225	\$ 16,673	\$ 34,552	\$ 16,673
Library	39,223	39,777	(554)	39,777
Overtime meals	2,017	1,433	584	1,433
Personnel expenses	224,800	83,740	141,060	73,485
Pre-retirement seminars	35,000	21,485	13,515	21,485
Staff schooling	726,828	275,438	451,390	215,229
Travel and automobile expense	321,684	99,057	222,627	92,195
Tuition assistance	55,000	1,410	53,590	1,410
Wellness fund	9,000	6,705	2,295	2,730
Total personnel and meeting	<u>1,981,602</u>	<u>824,096</u>	<u>1,157,506</u>	<u>731,452</u>
Professional and governmental services:				
Auditors - financial	420,000	259,410	160,590	192,960
Auditors - insurance department	—	25,428	(25,428)	—
Disability medical examinations	100,000	41,425	58,575	41,425
Postage and cartage	828,200	595,491	232,709	595,491
Professional fees and services	1,642,390	1,495,371	147,019	614,207
Publications	195,000	155,626	39,374	155,626
Statutory custodian charges	145,000	73,750	71,250	73,750
Total professional and governmental services	<u>6,193,490</u>	<u>3,864,627</u>	<u>2,328,863</u>	<u>1,905,458</u>
Capital improvement program:				
Depreciation - building and improvements	2,013,623	951,419	1,062,204	951,419
Depreciation - equipment	380,528	51,514	329,014	51,514
Amort./depreciation - computer micro	1,299,809	374,904	924,905	374,904
Building improvement expense	318,500	413,523	(95,023)	133,203
Building maintenance contracts	797,174	576,464	220,710	430,538
Equipment	217,000	243,206	(26,206)	185,883
Equipment maintenance	50,000	(6,617)	56,617	(23,766)
Computer equipment maintenance	125,000	—	125,000	—
Fleet maintenance	40,000	14,655	25,345	14,655
Capital contingency	8,366	—	8,366	—
Total capital improvement program	<u>5,250,000</u>	<u>2,619,068</u>	<u>2,630,932</u>	<u>2,118,350</u>
Total Administration Expenses	<u>\$ 87,278,638</u>	<u>\$ 43,740,582</u>	<u>\$ 43,538,056</u>	<u>\$ 39,674,974</u>





**NEW YORK STATE
TEACHERS' RETIREMENT SYSTEM**

MEMORANDUM

DATE: January 25, 2024
TO: Retirement Board
FROM: T. Lee
SUBJECT: Updated Board Reimbursement of Expenses Policy

Based upon experience administering the existing Reimbursement of Expenses Policy for Retirement Board members (found in the Board Governance Manual) and the System's recent transition to a new expense reimbursement software, staff recommend certain amendments and clarification to the Policy as summarized below. A redline version and a clean copy of the updated Policy are attached.

In summary, portions regarding certain forms, vouchers and certifications, and the current submission and approval process that are or will no longer be applicable, are replaced and substituted with new guidance and updated clarification. Material changes are as follows:

1. Expense reimbursement requests and supporting documentation are to be submitted to the Executive Assistant to the Executive Director and Chief Investment Officer, or their designee, to whom the Retirement Board grants authority to submit and process their reimbursement requests through NYSTRS' electronic travel reimbursement system.
2. The \$75 threshold for case-by-case review of meal expenses is replaced by a reasonableness threshold which may vary by location and will be determined at the discretion of the Executive Director and Chief Investment Officer.
3. The Retirement Board President and Executive Director and Chief Investment Officer will review and approve as reasonable and appropriate reimbursement requests that are not covered by these guidelines.
4. The Executive Assistant to the Executive Director and Chief Investment Officer, or their designee, replaces the Manager and Assistant Manager of Finance as the Retirement Board's initial and primary point of contact for all expense reimbursement related questions.

Retirement Board Expense Reimbursement

Reimbursement will be provided by the System for expenses incurred in connection with attendance at Retirement Board meetings, Retirement Board committee meetings, meetings of the System's Advisory Committees and the Medical Board, the Annual Delegates Meeting, approved educational conferences and seminars, and other member/retiree related functions as approved by the Retirement Board.

In accordance with the Ethics Policy, all travel and educational expenses will be paid by the System. Retirement Board members may not accept payment, directly or indirectly, for travel or other expenses associated with speaking engagements while holding themselves out as or being represented as members of the Retirement Board.

Reimbursable Expenses: Actual and necessary expenses incurred by members of the Retirement Board in connection with System business will be reimbursed according to the following guidelines.

1. Transportation
 - a. Air Transportation ~~by common carrier~~ will be reimbursed at coach or economy rates, except for flight segments greater than six hours which will be reimbursed at business class rates.
 - b. Train tickets will be reimbursed at coach or economy rates.
 - ~~b.c.~~ Personal automobile mileage will be reimbursed at the ~~current~~ IRS rate as of the date of travel.
 - ~~e.d.~~ Automobile ~~r~~Rental ~~car~~ costs will be reimbursed when considered necessary to conduct System business ~~sufficiently justified.~~
2. Lodging
 - a. Permitted the night before an event when departure is necessary ~~would have been~~ before 7:30 AM the morning of the event.
 - b. Permitted the night after an event when arrival home would have been after 6:00 PM.
 - c. Rooms should be reserved at the lower of the government rate or published conference hotel rate when possible.
 - ~~d.~~ ~~When attending conferences, Retirement Board members will be reimbursed up to published conference hotel rates.~~
 - ~~e.d.~~ The System is exempt from NYS sales tax. To avoid these sales tax charges, form ST-129 (Tax on Occupancy of Hotel Rooms) must be provided to the hotel upon check in. Utilize the appropriate Tax Exemption Certificate to avoid tax charges within NYS.
3. Meals
 - a. Reasonable meal expenses incurred while traveling for System business will

~~be reimbursed. What constitutes reasonable may vary based on location and is at the discretion of the Executive Director and Chief Investment Officer, cost of meals.~~

~~b. Meals exceeding \$75.00 will be reviewed on a case by case basis.~~

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~~b. If the meal expense is for more than one eligible person, the names of each person must be indicated on receipt.~~

~~c. Alcohol is not a reimbursable expense, nor are meal expenses for Board member spouses, guests, or other attendees who are not Retirement Board members or System staff.~~

~~4. Incidental items (i.e., tips, cab fare, parking, tolls, etc.) will be reimbursed.~~

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~~4.a. Receipts should be submitted with the reimbursement request. Fuel expenses for rental cars will be reimbursed. If a personal vehicle is used, fuel is included as part of the IRS mileage rate and will therefore not be reimbursed separately.~~

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~~5. IRS guidelines provide that reimbursed travel lodging and meals are deemed taxable unless an overnight stay is necessary, certain expenses are deemed taxable as follows:~~

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~~a. Lodging is taxable unless an overnight stay is necessary per the IRS guidelines.~~

~~b. Meals are taxable unless an overnight stay is necessary per the IRS guidelines.~~

~~c. Unreceipted meals in excess of \$75.00 are taxable. System form FIN 140.4 Certificate of Expenditure is not considered a receipt for IRS purposes.~~

~~d. Telephone calls are taxable if not directly related to System business.~~

~~e.b. While in daily travel status and leaving before 7:30 AM and/or arriving after 6:00 PM, meals will be reimbursed and if above current IRS threshold, will be reported as non-employee compensation on IRS Form 1099 MISC. in accordance with IRS regulations.~~

Non-Reimbursable Expenses

~~1. Alcohol~~

~~2. Expenses of Retirement Board member's spouse or guest~~

Travel Expense Forms and Supporting Documentation

~~1. Travel Expense Forms and Purpose~~

~~a. FIN 140.1 Board Member Travel Voucher summarized claim of travel expenses~~

- ~~b. FIN 140.3 Statement of Automobile Travel — mileage claim for personal vehicle use~~
- ~~e. FIN 140.4 Certificate of Expenditure — to replace unavailable or misplaced receipts~~
- ~~d. ST 129 Tax Exemption Certificate — to exclude state and local hotel occupancy taxes~~
- ~~e. FIN 216 NYSTRS Tax Exemption Certificate — to exclude taxes on purchases~~

~~2.~~ Supporting Documentation

- a. Receipts for the following items, if applicable, must accompany the submission for reimbursement ~~travel voucher~~:
 - i. Original lodging receipts
 - ii. Transportation ticket stubs or receipts
 - iii. Airfare itinerary
 - iv. Meals in excess of \$25.00
 - v. Incidental expenses
- b. If a receipt was not available or misplaced for an expense in excess of \$25.00, a “Missing Receipt Affidavit ~~Certification of Expenditure~~” (Form ~~FIN-9140.4~~) must be submitted ~~with the voucher~~.
- c. Executive Director and Chief Investment Officer’s approval to attend a conference not on the approved conference list must be attached to the submission for reimbursement ~~voucher~~.

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Travel Expense Process and Approvals

1. The complete travel expense ~~voucher~~ package (including all required forms and supporting documentation) should be submitted promptly at the conclusion of each trip to the Executive Assistant to the Executive Director and Chief Investment Officer or their designee.
- ~~2. A travel expense voucher should contain reimbursement for a single travel trip.~~
- ~~3. The Retirement Board Member must sign the payee’s certification section of the Board Member Travel Voucher form indicating that expenses are just, true, and correct.~~
- ~~4.2. The Executive Assistant to the Executive Director and Chief Investment Officer or their designee is hereby authorized to will submit the travel expense reimbursement request on the Retirement Board Members’ behalf via the System’s travel expense reimbursement system. Expense vouchers are to be submitted to the Finance Department for review and approval.~~

~~5.3.~~ Executive Director and Chief Investment Officer approves the travel expense reimbursement in the system voucher.

~~6.4.~~ The travel expense reimbursement request is processed by the Finance Department and can be paid via ACH or check, ~~offers reimbursement of expenses by both check and ACH.~~

Other Procedures

1. Retirement Board Members may make travel arrangements directly with the System's designated travel agent and have the cost of airline and train tickets billed directly to TRS. Arrangements may also be made by contacting Travel@nystrs.org or the Executive Assistant to the Executive Director and Chief Investment Officer.

~~Appropriate charges will be deducted from the Retirement Board member's allocation for travel.~~

2. When possible, cConference fees ~~should~~may be paid directly by the System NYSTRS based on requests and/or documentation properly completed registration forms submitted by the Retirement Board member to the Executive Assistant to the Executive Director and Chief Investment Officer or their designee. If paid by the Retirement Board member a receipt will be ~~required~~submitted when reimbursement is requested.

3. The Retirement Board President and Executive Director and Chief Investment Officer Retirement Board President will review and approve as appropriate Retirement Board member requests for reimbursement that are not covered by outside these guidelines ~~prior to reimbursement~~.

Contacts

~~1.~~ For all travel expense related questions, including appropriate forms, please contact:

~~a.~~ Manager of Finance

~~b.~~ Assistant Manager of Finance

~~2.1.~~ For additional travel expense forms, please contact the ~~Executive Assistant to the Executive Director and Chief Investment Officer~~ or their designee.

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Retirement Board Expense Reimbursement

Reimbursement will be provided by the System for expenses incurred in connection with attendance at Retirement Board meetings, Retirement Board committee meetings, meetings of the System's Advisory Committees and the Medical Board, the Annual Delegates Meeting, approved educational conferences and seminars, and other member/retiree related functions as approved by the Retirement Board.

In accordance with the Ethics Policy, all travel and educational expenses will be paid by the System. Retirement Board members may not accept payment, directly or indirectly, for travel or other expenses associated with speaking engagements while holding themselves out as or being represented as members of the Retirement Board.

Reimbursable Expenses: Actual and necessary expenses incurred by members of the Retirement Board in connection with System business will be reimbursed according to the following guidelines.

1. Transportation
 - a. Air Transportation will be reimbursed at coach or economy rates, except for flight segments greater than six hours which will be reimbursed at business class rates.
 - b. Train tickets will be reimbursed at coach or economy rates.
 - c. Personal automobile mileage will be reimbursed at the IRS rate as of the date of travel.
 - d. Rental car costs will be reimbursed when considered necessary to conduct System business.
2. Lodging
 - a. Permitted the night before an event when departure is necessary before 7:30 AM the morning of the event.
 - b. Permitted the night after an event when arrival home would have been after 6:00 PM.
 - c. Rooms should be reserved at the lower of the government rate or published conference hotel rate when possible.
 - d. The System is exempt from NYS sales tax. To avoid these sales tax charges, form ST-129 (Tax on Occupancy of Hotel Rooms) must be provided to the hotel upon check in.
3. Meals
 - a. Reasonable meal expenses incurred while traveling for System business will be reimbursed. What constitutes reasonable may vary based on location and is at the discretion of the Executive Director and Chief Investment Officer.

- b. If the meal expense is for more than one eligible person, the names of each person must be indicated on receipt.
 - c. Alcohol is not a reimbursable expense, nor are meal expenses for Board member spouses, guests, or other attendees who are not Retirement Board members or System staff.
4. Incidental items (i.e., tips, cab fare, parking, tolls, etc.)
- a. Receipts should be submitted with the reimbursement request. Fuel expenses for rental cars will be reimbursed. If a personal vehicle is used, fuel is included as part of the IRS mileage rate and will therefore not be reimbursed separately.

IRS guidelines provide that reimbursed travel lodging and meals are deemed taxable unless an overnight stay is necessary.

- b. While in daily travel status and leaving before 7:30 AM and/or arriving after 6:00 PM, meals will be reimbursed and if above current IRS threshold, will be reported as non-employee compensation on IRS Form 1099 MISC. in accordance with IRS regulations.

Supporting Documentation

- a. Receipts for the following items, if applicable, must accompany the submission for reimbursement:
 - i. Original lodging receipts
 - ii. Transportation ticket stubs or receipts
 - iii. Airfare itinerary
 - iv. Meals in excess of \$25.00
 - v. Incidental expenses
- b. If a receipt was not available or misplaced for an expense in excess of \$25.00, a “Missing Receipt Affidavit” (Form FIN-9) must be submitted.
- c. Executive Director and Chief Investment Officer’s approval to attend a conference not on the approved conference list must be attached to the submission for reimbursement.

Travel Expense Process and Approvals

1. The complete travel expense package (including all required forms and supporting documentation) should be submitted promptly at the conclusion of each trip to the Executive Assistant to the Executive Director and Chief Investment Officer or their designee.
2. The Executive Assistant to the Executive Director and Chief Investment Officer or

their designee is hereby authorized to submit the travel expense reimbursement request on the Retirement Board Members' behalf via the System's travel expense reimbursement system.

3. Executive Director and Chief Investment Officer approves the travel expense reimbursement in the system.
4. The travel expense reimbursement request is processed by the Finance Department and can be paid via ACH or check.

Other Procedures

1. Retirement Board Members may make travel arrangements directly with the System's designated travel agent and have the cost of airline and train tickets billed directly to TRS. Arrangements may also be made by contacting Travel@nystrs.org or the Executive Assistant to the Executive Director and Chief Investment Officer.
2. When possible, conference fees should be paid directly by the System based on requests and/or documentation submitted by the Retirement Board member to the Executive Assistant to the Executive Director and Chief Investment Officer or their designee. If paid by the Retirement Board member a receipt will be required when reimbursement is requested.
3. The Retirement Board President and Executive Director and Chief Investment Officer will review and approve as appropriate Retirement Board member requests for reimbursement that are not covered by these guidelines.

Contacts

1. For all travel expense related questions, including appropriate forms, please contact the Executive Assistant to the Executive Director and Chief Investment Officer or their designee.

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 January 25, 2024. The meeting was called to order by Jennifer Longtin, Chair, at 9:02 a.m.

The following individuals were in attendance:

Committee Members: Phyllis Harrington (via WebEx), Eric Iberger, Jennifer Longtin, Thomas Lee, Don Ampansiri

Board Members: Juliet Benaquisto (via WebEx), Elizabeth Chetney, Paul Farfaglia, David Keefe (via WebEx), Ruth Mahoney, Oliver Robinson, Nicholas Smirensky

NYSTRS Staff: Miriam Dixon

Upon motion of E. Iberger, seconded by P. Harrington and unanimously carried, the minutes from the October 26, 2023 meeting were approved.

The Committee went into Executive Session with a motion made by E. Iberger, seconded by P. Harrington and unanimously carried at 9:03 a.m. to hear reports on Annual Disclosure Statements and EDCIO quarterly disclosures.

The meeting came out of Executive Session with a motion made by E. Iberger, seconded by P. Harrington and unanimously carried at 9:05 a.m.

There being no further business, and with unanimous consent, the meeting adjourned at 9:05 a.m.

Respectfully submitted,

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

Thomas K. Lee

**NEW YORK STATE
TEACHERS' RETIREMENT SYSTEM**

**BOARD MEETING
January 25, 2024**

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

THE ANNUAL MEETING OF THE NEW YORK STATE TEACHERS' RETIREMENT BOARD was held at the System on January 25, 2024. The meeting was called to order at 9:06 a.m. by President David Keefe. Elizabeth Chetney led the group in the Pledge of Allegiance.

ATTENDANCE:

Present: Juliet Benaquisto (via WebEx), Elizabeth Chetney, Paul Farfaglia, Phyllis Harrington (via WebEx), Eric Iberger, David Keefe (via WebEx), Jennifer Longtin, Ruth Mahoney, Oliver Robinson, Nicholas Smirensky and Thomas Lee

A. Election of Retirement Board Officers

P. Farfaglia nominated D. Keefe for President and O. Robinson for Vice-President. There were no further nominations. Upon motion of P. Farfaglia, seconded by N. Smirensky and unanimously carried, D. Keefe and O. Robinson were elected as President and Vice President of the Board.

B. Introduction of Visitors

T. Lee introduced the following visitors: Steve Greenberg, Greenberg PR; John Daley, NYSSBA; Pete Savage, NYSUT (via WebEx); McCyril Espanol, WithIntelligence (via WebEx); Maxine Brisport, NYSUT Peer Support Program (via WebEx); Max Messervy, Mercer (via WebEx).

C. Correspondence

None.

D. Approval of Board Minutes: October 26, 2023

D. Keefe advised the group that while reading the materials, he discovered a name error in the Board minutes on page nine, number two under the approval of the Meketa resolution. "E. Longtin" was typed instead of "E. Iberger".

With corrections to the minutes of October 26, 2023, the minutes were approved with a motion made by N. Smirensky, seconded by J. Longtin and unanimously carried.

Committee Reports/Action Items

A. Audit Committee

O. Robinson, Chair, reported that the Committee had met on December 13, 2023 and reviewed a Plante Moran report and discussed the status of the Internal Audit Plan. The Committee also approved an updated Internal Audit Charter.

1. Resolution on Audit Committee Charter (R1)

N. Smirensky offered the following resolution, seconded by E. Iberger and unanimously carried by the Board:

RESOLVED, That the amended Audit Committee Charter, as presented to and reviewed by the Retirement Board, is hereby approved and adopted as the charter of the Retirement System's Audit Committee.

2. Resolution on Internal Audit Plan 2024 (R2)

N. Smirensky offered the following resolution, seconded by E. Iberger and unanimously carried by the Board:

WHEREAS, System staff has presented to the Audit Committee of the Retirement Board a proposed internal audit plan for the year ending December 31, 2024, a copy of which is annexed hereto and made a part hereof as Appendix A p. 9; be it

RESOLVED, That the Internal Audit Plan for the year ending December 31, 2024 is approved as presented.

B. Disability Review Committee

1. Disability Denial Resolution (R3)

P. Farfaglia offered the following resolution, seconded by P. Harrington 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:



2. Disability Rescission Resolution (R4)

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

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

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

<u>EmpID</u>	<u>Date Retired</u>	<u>Date Restored</u>
	06/26/2021	01/26/2024
	07/27/2022	12/15/2023

C. Executive Committee

1. Resolution on Board Travel Reimbursement Policy (R5)

After including some additional revisions, requested by D. Keefe, E. Chetney offered the following resolution, seconded by N. Smirensky and unanimously carried by the Board:

WHEREAS, The Retirement Board adopted a Policy for Reimbursement of Expenses for Board Members at its regular meeting on April 23, 1992 as the policy of the Retirement Board with respect to the matters contained therein; and

WHEREAS, The Retirement Board amended said Policy at its regular meeting on April 28, 1998 and September 15, 2003; and

WHEREAS, Upon the recommendation of the Executive Committee, the Retirement Board desires to amend said Policy in certain respects; now, therefore, be it

RESOLVED, That the Retirement Board adopts and approves the amendments to said policy as set forth in Appendix B, pp. 10-17 and adopts said policy as so amended as the policy of the Retirement Board with respect to the matters stated therein.

2. Resolution on Business Continuity Plan (R6)

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

RESOLVED, That the Business Continuity Plan, as presented to the Retirement Board reflecting changes through January 2024 is approved and accepted.

D. Ethics Committee

J. Longtin, Chair, reported that the Committee had met earlier in the day on January 25 to hear reports on annual disclosure statements and EDCIO quarterly disclosures.

E. Investment Committee

1. Consent Agenda Items A-B (Appendix C, pp. 18-19)

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 #1 A-B together with one motion.

J. Longtin offered the following consent agenda resolutions, seconded by P. Farfaglia and unanimously carried by the Board:

A. Renew Consultants

- Callan – General Investment Consultant (R7)

RESOLVED, That the Executive Director and Chief Investment Officer, or designees, is authorized to renew the System's contract with Callan LLC for a period of one year, commencing May 1, 2024, (A) to act as a general investment consultant and (i) advise on asset allocation and manager research & monitoring, and (ii) provide Board & staff education, at an annual fee not to exceed \$523,362; and (B) if required by the System, to provide individual fund due diligence for alternative investments, including private equity and private debt, at fees not to exceed \$35,000 per domestic fund and \$45,000 per international fund.

B. Renew Managers

- AEW Capital Management (R8)

RESOLVED, That the System's Executive Director and Chief Investment Officer is authorized to renew the agreement with AEW Capital Management, LP 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 April 15, 2024.

- Ariel Investments LLC (R9)

RESOLVED, That the Executive Director and Chief Investment Officer is authorized to renew the agreement with Ariel Investments LLC to manage a portion of the System's assets as an MSCI ACWI ex-US international equity manager for a period of one year, effective April 10, 2024.

- Arrowstreet Capital LP (R10)

WHEREAS, Arrowstreet Capital LP was hired as an international equity manager on July 18, 2017 and as a global equity manager on March 26, 2019; now be it therefore

RESOLVED, That, the Executive Director and Chief Investment Officer is authorized to renew the agreement with Arrowstreet Capital LP for a period of one year, effective March 26, 2024, 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.

- Bank of NY Mellon (Securities Lending) (R11)

RESOLVED, the Executive Director and Chief Investment Officer is authorized to renew the agreement with The Bank of New York Mellon to act as an agency securities lender for a portion of the System's public securities assets for a period of one year, effective March 17, 2024.

- Black Rock Financial Management, Inc. (CMBS) (R12)

RESOLVED, That the Executive Director and Chief Investment Officer is authorized to renew the agreement with Black Rock Financial Management, Inc. to manage a portion of the System's assets in Commercial Mortgage Backed Securities ("CMBS"), for a period of one year, effective April 3, 2024.

- Cohen & Steers Capital Mgt – Multi Strategy (R13)

RESOLVED, That the System's Executive Director and Chief Investment Officer is authorized to renew the agreement with Cohen & Steers Capital Management, Inc. 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 February 12, 2024.

- Columbia Management Investment Advisers LLC (R14)

RESOLVED, That the Executive Director and Chief Investment Officer is authorized to renew the agreement with Columbia Management Investment Advisers, LLC to manage a portion of the System’s assets as an active U.S. high yield manager benchmarked to the ICE BofAML BB-B US High Yield Constrained Index (HUC4) (f/k/a Bank of America Merrill Lynch BB-B U.S. High Yield Constrained Index) for a period of one year, effective March 6, 2024.

- J.P. Morgan Investment Management Inc. (R15)

RESOLVED, That the Executive Director and Chief Investment Officer is authorized to renew the agreement with J.P. Morgan Investment Management Inc. to manage a portion of the System’s assets as an active U.S. high yield manager benchmarked to the ICE BofAML BB-B US High Yield Constrained Index (HUC4) (f/k/a Bank of America Merrill Lynch BB-B U.S. High Yield Constrained Index) for a period of one year, effective March 5, 2024.

- PGIM, Inc. (R16)

RESOLVED, That the Executive Director and Chief Investment Officer, or designee, is authorized to renew the agreement with PGIM, INC. to manage a portion of the System’s assets as an active U.S. high yield manager benchmarked to the Bloomberg US High Yield 1% Issuer Capped Index (I09038US) for a period of one year, effective February 21, 2024.

- Principal Real Estate Investors (R17)

RESOLVED, That the System’s Executive Director and Chief Investment Officer is authorized to renew the agreement with Principal Real Estate Investors, 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 February 11, 2024.

- Raith Capital Partners (R18)

RESOLVED, That the System’s Executive Director and Chief Investment Officer is authorized to renew the agreement with Raith Capital Partners, LLC to act as a Debt separate account advisor and in such role to advise on the acquisition, management and exit of public and private opportunistic commercial real estate debt opportunities for a period of one year, effective February 7, 2024.

- RhumbLine Advisors (R19)

RESOLVED, That the Executive Director and Chief Investment Officer is authorized to renew the agreement with RhumbLine Advisors LP to manage a portion of the System's assets as a passive international equity manager, benchmarked to the MSCI ACWI ex-US Index, for a period of one year commencing March 30, 2024.

- Xponance (f/k/a FIS Group) (R20)

RESOLVED, That the Executive Director and Chief Investment Officer is authorized to renew the agreement with Xponance (formerly known as FIS Group, Inc. with a name change to Xponance effective 4/1/20) to manage a portion of the System's assets as a manager of international equity managers, benchmarked to the ACWI ex-US Index, for a period of one year commencing April 25, 2024.

F. Risk Committee

R. Mahoney, Chair, reported that the Committee had met on January 25 and had heard an information security update and reports on key risk indicators and investment risk.

Staff Reports

A. Old Business – none.

B. New Business

1. Litigation

Don Ampansiri reviewed the Litigation report (Appendix D, pp. 20-21).

2. Member Relations Update

Beth Dellea provided a Member Relations update and Shannon Bonesteel gave a quality assurance update, copies of which are attached as Appendix E, pp. 22-30.

3. DEI Strategic Plan Update

Danny Malavé and Matt Pinchinat provided an update on NYSTRS' DEI strategic plan update (Appendix F, pp. 31-33).

4. Stewardship Update

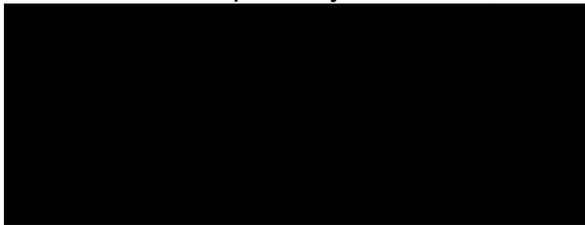
Han Yik provided the Board with an update on stewardship progress.

5. Estimated Employer Contribution Rate

Richard Young and Melody Prangle gave an update on the estimated Employer Contribution Rate, a copy of which is attached as Appendix G, pp. 34-51.

There being no further business and with unanimous consent, the Board meeting adjourned at 10:57 a.m.

Respectfully submitted,



Thomas K. Lee

Appendix: 2024 Proposed Audit Plan

		Audit Objective	
Type	Auditable Entity	To provide reasonable assurance that controls are designed effectively and efficiently and functioning as intended	
1	AM	CRE Asset Management	Management & monitoring of directly owned RE properties are in accordance with the System's Investment Policy Manual and Real Estate Department
2	AM	Performance Calculations and Oversight	Calculate and report investment rates of return contains appropriate controls
3	AM	Manage Long-Term Fixed Income	Managing and accounting for the Domestic Fixed Income Portfolio
4	AM	CRE External Fund Management	Selecting and monitoring real estate external fund managers
5	AM	Asset Management Fee	Pay investment fees in compliance with respective agreements and to report accurate and complete information on the Schedule of Investment Fees
6	GA	Accounts Receivable	Proper financial management, compliance, and risk mitigation in accounts receivable collection and write offs
7	GA	ISO Security Administration	ISO evaluation based on the NIST framework are appropriate
8	GA	Payroll	Employee payroll is recorded accurately and timely
9	IT	IT General Controls	Vulnerability Assessment and Penetration Testing - outsourced
10	IT	IT General Controls	Perform regular back-ups, test the process and ensure data is securely stored
11	IT	Application Controls	Ensure critical Excel applications contain appropriate input, output and processing controls to meet business objectives
12	RA	Employer Reporting	Participating Employer annual audit (verify salary and service)
13	RA	Member Administration	Eligible beneficiary changes are recorded accurately and timely
14	RA	Employer Reporting	Changes made to monthly payroll information received from participating employers is appropriate and accurate
15	RA	Abandoned Accounts	Abandoned member accounts are recorded accurately and according to statute, and payments are made to eligible recipients
16	AM	Mortgage Servicing	Managing internal debt
17	GA	Project Management	Review how projects are identified, prioritized and approved
18	GA	Contract Management	Managing procurement of goods and services are in place and working effectively
19	GA	Employee Benefits	Ensure deductions for health insurance are recorded accurately and timely
20	GA	Business Continuity	Maintaining an up-to-date and effective business continuity plan in compliance with industry best practices
21	GA	Recruitment	The recruitment process in accordance with procedures
22	GA	Accounts Payable	Employee travel vouchers are authorized and recorded accurately and timely
23	RA	Billing to Participating Employers	Annual bill to participating employers is recorded accurately and timely
24	RA	Refunds	Active member request to withdraw their membership and receive a return of their contributions is recorded accurately and timely
25	RA	Death Benefit	Eligible retired member receive a death benefit that is recorded accurately and timely
26	RA	MR Benefit Administration	Ability to identify unreported deaths exist to prevent overpayments
27	RA	Estimates	How member information is reviewed to determine if the estimate for a retirement benefit appears reasonable



**NEW YORK STATE
TEACHERS' RETIREMENT SYSTEM**

MEMORANDUM

DATE: January 25, 2024 Appendix B

TO: Retirement Board

FROM: T. Lee

SUBJECT: Updated Board Reimbursement of Expenses Policy

Based upon experience administering the existing Reimbursement of Expenses Policy for Retirement Board members (found in the Board Governance Manual) and the System's recent transition to a new expense reimbursement software, staff recommend certain amendments and clarification to the Policy as summarized below. A redline version and a clean copy of the updated Policy are attached.

In summary, portions regarding certain forms, vouchers and certifications, and the current submission and approval process that are or will no longer be applicable, are replaced and substituted with new guidance and updated clarification. Material changes are as follows:

1. Expense reimbursement requests and supporting documentation are to be submitted to the Executive Assistant to the Executive Director and Chief Investment Officer, or their designee, to whom the Retirement Board grants authority to submit and process their reimbursement requests through NYSTRS' electronic travel reimbursement system.
2. The \$75 threshold for case-by-case review of meal expenses is replaced by a reasonableness threshold which may vary by location and will be determined at the discretion of the Executive Director and Chief Investment Officer.
3. The Retirement Board President and Executive Director and Chief Investment Officer will review and approve as reasonable and appropriate reimbursement requests that are not covered by these guidelines.
4. The Executive Assistant to the Executive Director and Chief Investment Officer, or their designee, replaces the Manager and Assistant Manager of Finance as the Retirement Board's initial and primary point of contact for all expense reimbursement related questions.

Retirement Board Expense Reimbursement

Reimbursement will be provided by the System for expenses incurred in connection with attendance at Retirement Board meetings, Retirement Board committee meetings, meetings of the System's Advisory Committees and the Medical Board, the Annual Delegates Meeting, approved educational conferences and seminars, and other member/retiree related functions as approved by the Retirement Board.

In accordance with the Ethics Policy, all travel and educational expenses will be paid by the System. Retirement Board members may not accept payment, directly or indirectly, for travel or other expenses associated with speaking engagements while holding themselves out as or being represented as members of the Retirement Board.

Reimbursable Expenses: Actual and necessary expenses incurred by members of the Retirement Board in connection with System business will be reimbursed according to the following guidelines.

1. Transportation
 - a. Air Transportation ~~by common carrier~~ will be reimbursed at coach or economy rates, except for flight segments greater than six hours which will be reimbursed at business class rates.
 - b. Train tickets will be reimbursed at coach or economy rates.
 - ~~b.c.~~ Personal automobile mileage will be reimbursed at the ~~current~~ IRS rate as of the date of travel.
 - ~~e.d.~~ Automobile Rental car costs will be reimbursed when considered necessary to conduct System business sufficiently justified.
2. Lodging
 - a. Permitted the night before an event when departure is necessary ~~would have been~~ before 7:30 AM the morning of the event.
 - b. Permitted the night after an event when arrival home would have been after 6:00 PM.
 - c. Rooms should be reserved at the lower of the government rate or published conference hotel rate when possible.
 - ~~d.~~ When attending conferences, Retirement Board members will be reimbursed up to published conference hotel rates.
 - ~~e.d.~~ The System is exempt from NYS sales tax. To avoid these sales tax charges, form ST-129 (Tax on Occupancy of Hotel Rooms) must be provided to the hotel upon check in. Utilize the appropriate Tax Exemption Certificate to avoid tax charges within NYS.
3. Meals
 - a. Reasonable meal expenses incurred while traveling for System business will

be reimbursed. What constitutes reasonable may vary based on location and is at the discretion of the Executive Director and Chief Investment Officer, cost of meals.

~~b. Meals exceeding \$75.00 will be reviewed on a case by case basis.~~

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b. If the meal expense is for more than one eligible person, the names of each person must be indicated on receipt.

c. Alcohol is not a reimbursable expense, nor are meal expenses for Board member spouses, guests, or other attendees who are not Retirement Board members or System staff.

4. Incidental items (i.e., tips, cab fare, parking, tolls, etc.) will be reimbursed.

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~~4.a. Receipts should be submitted with the reimbursement request. Fuel expenses for rental cars will be reimbursed. If a personal vehicle is used, fuel is included as part of the IRS mileage rate and will therefore not be reimbursed separately.~~

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~~5. IRS guidelines provide that reimbursed travel lodging and meals are deemed taxable unless an overnight stay is necessary. certain expenses are deemed taxable as follows:~~

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~~a. Lodging is taxable unless an overnight stay is necessary per the IRS guidelines.~~

~~b. Meals are taxable unless an overnight stay is necessary per the IRS guidelines.~~

~~c. Unreceipted meals in excess of \$75.00 are taxable. System form FIN 140.4 Certificate of Expenditure is not considered a receipt for IRS purposes.~~

~~d. Telephone calls are taxable if not directly related to System business.~~

~~e.b. While in daily travel status and leaving before 7:30 AM and/or arriving after 6:00 PM, meals will be reimbursed and if above current IRS threshold, will be reported as non-employee compensation on IRS Form 1099 MISC. in accordance with IRS regulations.~~

Non-Reimbursable Expenses

1. Alcohol

2. Expenses of Retirement Board member's spouse or guest

Travel Expense Forms and Supporting Documentation

1. Travel Expense Forms and Purpose

a. ~~FIN 140.1 Board Member Travel Voucher summarized claim of travel expenses~~

- b. ~~FIN 140.3 Statement of Automobile Travel~~ — mileage claim for personal vehicle use
- e. ~~FIN 140.4 Certificate of Expenditure~~ — to replace unavailable or misplaced receipts
- d. ~~ST 129 Tax Exemption Certificate~~ — to exclude state and local hotel occupancy taxes
- e. ~~FIN 216 NYSTRS Tax Exemption Certificate~~ — to exclude taxes on purchases

~~2.~~ Supporting Documentation

- a. Receipts for the following items, if applicable, must accompany the submission for reimbursement ~~travel voucher~~:
 - i. Original lodging receipts
 - ii. Transportation ticket stubs or receipts
 - iii. Airfare itinerary
 - iv. Meals in excess of \$25.00
 - v. Incidental expenses
- b. If a receipt was not available or misplaced for an expense in excess of \$25.00, a "Missing Receipt Affidavit ~~Certificate of Expenditure~~" (Form ~~FIN-9140.4~~) must be submitted ~~with the voucher~~.
- c. Executive Director and Chief Investment Officer's approval to attend a conference not on the approved conference list must be attached to the submission for reimbursement ~~voucher~~.

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Travel Expense Process and Approvals

1. The complete travel expense ~~voucher~~ package (including all required forms and supporting documentation) should be submitted promptly at the conclusion of each trip to the Executive Assistant to the Executive Director and Chief Investment Officer or their designee.
- ~~2.~~ A travel expense voucher should contain reimbursement for a single travel trip.
- ~~3.~~ The Retirement Board Member must sign the payee's certification section of the Board Member Travel Voucher form indicating that expenses are just, true, and correct.
- ~~4.~~ 2. The Executive Assistant to the Executive Director and Chief Investment Officer or their designee is hereby authorized to will submit the travel expense reimbursement request on the Retirement Board Members' behalf via the System's travel expense reimbursement system. ~~Expense vouchers are to be submitted to the Finance Department for review and approval.~~

~~5.3.~~ Executive Director and Chief Investment Officer approves the travel expense reimbursement in the system voucher.

~~6.4.~~ The travel expense reimbursement request is processed by the Finance Department and can be paid via ACH or check, ~~offers reimbursement of expenses by both check and ACH.~~

Other Procedures

1. Retirement Board Members may make travel arrangements directly with the System's designated travel agent and have the cost of airline and train tickets billed directly to TRS. Arrangements may also be made by contacting Travel@nystrs.org or the Executive Assistant to the Executive Director and Chief Investment Officer.

~~Appropriate charges will be deducted from the Retirement Board member's allocation for travel.~~

2. ~~When possible, c~~Conference fees ~~should~~may be paid directly by ~~the System~~NYSTRS based on requests and/or documentation properly completed registration forms submitted by the Retirement Board member to the Executive Assistant to the Executive Director and Chief Investment Officer or their designee. If paid by the Retirement Board member a receipt will be ~~required~~submitted when reimbursement is requested.

3. The Retirement Board President and Executive Director and Chief Investment Officer ~~Retirement Board President~~ will review and approve as appropriate Retirement Board member requests for reimbursement that are not covered by outside these guidelines ~~prior to reimbursement~~.

Contacts

~~1.~~ For all travel expense related questions, including appropriate forms, please contact:

~~a.~~ Manager of Finance

~~b.~~ Assistant Manager of Finance

~~2.1.~~ For additional travel expense forms, please contact the ~~Executive Assistant to the Executive Director and Chief Investment Officer~~ or their designee.

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Retirement Board Expense Reimbursement

Reimbursement will be provided by the System for expenses incurred in connection with attendance at Retirement Board meetings, Retirement Board committee meetings, meetings of the System's Advisory Committees and the Medical Board, the Annual Delegates Meeting, approved educational conferences and seminars, and other member/retiree related functions as approved by the Retirement Board.

In accordance with the Ethics Policy, all travel and educational expenses will be paid by the System. Retirement Board members may not accept payment, directly or indirectly, for travel or other expenses associated with speaking engagements while holding themselves out as or being represented as members of the Retirement Board.

Reimbursable Expenses: Actual and necessary expenses incurred by members of the Retirement Board in connection with System business will be reimbursed according to the following guidelines.

1. Transportation
 - a. Air Transportation will be reimbursed at coach or economy rates, except for flight segments greater than six hours which will be reimbursed at business class rates.
 - b. Train tickets will be reimbursed at coach or economy rates.
 - c. Personal automobile mileage will be reimbursed at the IRS rate as of the date of travel.
 - d. Rental car costs will be reimbursed when considered necessary to conduct System business.
2. Lodging
 - a. Permitted the night before an event when departure is necessary before 7:30 AM the morning of the event.
 - b. Permitted the night after an event when arrival home would have been after 6:00 PM.
 - c. Rooms should be reserved at the lower of the government rate or published conference hotel rate when possible.
 - d. The System is exempt from NYS sales tax. To avoid these sales tax charges, form ST-129 (Tax on Occupancy of Hotel Rooms) must be provided to the hotel upon check in.
3. Meals
 - a. Reasonable meal expenses incurred while traveling for System business will be reimbursed. What constitutes reasonable may vary based on location and is at the discretion of the Executive Director and Chief Investment Officer.

- b. If the meal expense is for more than one eligible person, the names of each person must be indicated on receipt.
 - c. Alcohol is not a reimbursable expense, nor are meal expenses for Board member spouses, guests, or other attendees who are not Retirement Board members or System staff.
4. Incidental items (i.e., tips, cab fare, parking, tolls, etc.)
- a. Receipts should be submitted with the reimbursement request. Fuel expenses for rental cars will be reimbursed. If a personal vehicle is used, fuel is included as part of the IRS mileage rate and will therefore not be reimbursed separately.

IRS guidelines provide that reimbursed travel lodging and meals are deemed taxable unless an overnight stay is necessary.

- b. While in daily travel status and leaving before 7:30 AM and/or arriving after 6:00 PM, meals will be reimbursed and if above current IRS threshold, will be reported as non-employee compensation on IRS Form 1099 MISC. in accordance with IRS regulations.

Supporting Documentation

- a. Receipts for the following items, if applicable, must accompany the submission for reimbursement:
 - i. Original lodging receipts
 - ii. Transportation ticket stubs or receipts
 - iii. Airfare itinerary
 - iv. Meals in excess of \$25.00
 - v. Incidental expenses
- b. If a receipt was not available or misplaced for an expense in excess of \$25.00, a “Missing Receipt Affidavit” (Form FIN-9) must be submitted.
- c. Executive Director and Chief Investment Officer’s approval to attend a conference not on the approved conference list must be attached to the submission for reimbursement.

Travel Expense Process and Approvals

1. The complete travel expense package (including all required forms and supporting documentation) should be submitted promptly at the conclusion of each trip to the Executive Assistant to the Executive Director and Chief Investment Officer or their designee.
2. The Executive Assistant to the Executive Director and Chief Investment Officer or

their designee is hereby authorized to submit the travel expense reimbursement request on the Retirement Board Members' behalf via the System's travel expense reimbursement system.

3. Executive Director and Chief Investment Officer approves the travel expense reimbursement in the system.
4. The travel expense reimbursement request is processed by the Finance Department and can be paid via ACH or check.

Other Procedures

1. Retirement Board Members may make travel arrangements directly with the System's designated travel agent and have the cost of airline and train tickets billed directly to TRS. Arrangements may also be made by contacting Travel@nystrs.org or the Executive Assistant to the Executive Director and Chief Investment Officer.
2. When possible, conference fees should be paid directly by the System based on requests and/or documentation submitted by the Retirement Board member to the Executive Assistant to the Executive Director and Chief Investment Officer or their designee. If paid by the Retirement Board member a receipt will be required when reimbursement is requested.
3. The Retirement Board President and Executive Director and Chief Investment Officer will review and approve as appropriate Retirement Board member requests for reimbursement that are not covered by these guidelines.

Contacts

1. For all travel expense related questions, including appropriate forms, please contact the Executive Assistant to the Executive Director and Chief Investment Officer or their designee.



Annual Retirement Board Meeting – Agenda pp. 158-159

January 25, 2024

Call to Order by President

Appendix C

- A. Election of Officers
- B. Introduction of Visitors
- C. Correspondence - None
- D. Approval of Minutes of October 26, 2023 Meeting pp. 160-173

COMMITTEE REPORTS & ACTION ITEMS

- A. Audit Committee – O. Robinson, Chair
 - 1. Chair's Report
 - 2. Resolution on Audit Committee Charter (R1, p. 174)
 - 3. Resolution on Internal Audit Plan 2024 (R2, pp. 175-176)
- B. Disability Review Committee – E. Chetney, Chair
 - 1. Disability Denial Resolution (R3, p. 177)
 - 2. Disability Rescission Resolution (R4, p. 178)
- C. Executive Committee – D. Keefe, Chair
 - 1. Resolution on Board Travel Reimbursement Policy (R5, p. 179)
 - 2. Resolution Accepting Changes to Business Continuity Plan (R6, p. 180)
- D. Ethics Committee – J. Longtin, Chair
- E. Investment Committee – N. Smirensky, Chair
 - 1. **Consent Agenda Items A-B** pp. 181-194
 - A. Renew Consultant
 - 1. Callan – General Investment Consultant (R7, p. 181)
 - B. Renew Agreements:
 - 1. AEW Capital Management (R8, p. 182)
 - 2. Ariel Investments LLC (R9, p. 183)
 - 3. Arrowstreet (R10, p. 184)
 - 4. Bank of New York Mellon (Securities Lending) (R11, p. 185)
 - 5. BlackRock Financial Management, Inc. (CMBS) (R12, p. 186)
 - 6. Cohen & Steers Capital Mgt-Multi Strategy (R13, p. 187)
 - 7. Columbia Management Investment Advisers LLC (R14, p. 188)
 - 8. J.P. Morgan Investment Management Inc. (R15, p. 189)
 - 9. PGIM (R16, p. 190)
 - 10. Principal Real Estate Investors (R17, p. 191)
 - 11. Raith Capital Partners (R18, p. 192)
 - 12. RhumbLine Advisors LP (R19, p. 193)
 - 13. Xponance (f/k/a FIS Group) (R20, p. 194)
- F. Risk Committee – R. Mahoney, Chair
 - 1. Chair's Report



STAFF REPORTS

- A. Old Business
- B. New Business
 - 1. Litigation – D. Ampansiri pp. 195-196
 - 2. Member Relations Update – B. Dellea pp. 197-201
 - a. Quality Assurance Update – S. Bonesteel pp. 202-210
 - 3. DEI Strategic Plan Update – D. Malavé, M. Pinchinat pp. 211-213
 - 4. Stewardship Update – H. Yik
 - 5. Estimated Employer Contribution Rate Presentation – R. Young, M. Prangley pp. 214-231

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

TO: Retirement Board
FROM: Don Ampansiri, Jr., Janet A. Graham
RE: Status of System Litigation as of January 16, 2024
DATE: January 16, 2024
CC: T. Lee, Y. Ruoso

Appendix D

UPDATE ON PENDING LAWSUITS SINCE THE LAST REPORT**Michael Bellarosa v. New York State Teachers' Retirement System**

Action commenced: 9/8/2022
Favorable Article 78 decision: 5/12/2023
Appeal filed: 12/14/2023

CURRENT STATUS: May 12, 2023, the Court found in favor of the System and dismissed the petition. Petitioner filed an appeal on December 14, 2023. The Attorney General's office is working on the response and will continue to represent the System in the appeal.

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.

Audra Schmitt v. New York State Teachers' Retirement System

Action commenced: 4/4/2023

Favorable Article 78 decision: 12/15/2023

CURRENT STATUS: December 15, 2023, the Court found in favor of the System and dismissed the petition. Petitioner has until January 18, 2024, to file a Notice of Appeal.

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.

LAWSUITS COMMENCED SINCE THE LAST REPORT

Veronica Pietromonaco v. New York State Teachers' Retirement System

Action commenced: 12/27/2023

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 Lawrence Union School District (the District) because it exceeded the provisions of the collective bargaining agreement. Petitioner has since submitted an amended agreement with the District that provided additional information and clarification for further consideration. NYSTRS and Petitioner have agreed to an adjournment to allow additional time to review the new information.

Quality Assurance Department Updates

Appendix E

BOARD PRESENTATION JANUARY 2024

Agenda



What's new in Quality Assurance



Results of Quality Assurance Department
Service Retirement Monthly Review



Items Reported to NYS Department of Financial
Services (DFS)

QA Accomplishments

- Expanded the department to include Document and Office Services Support (DOSS) and Resource.
- Completed four topic-specific knowledge articles.
- Implemented an updated division procedure oversight plan to ensure day-to-day procedures are up to date.
- Began implementing monthly reviews of several queries to proactively identify potential issues.
- Completed reviews on 368 service retirement closeout files.

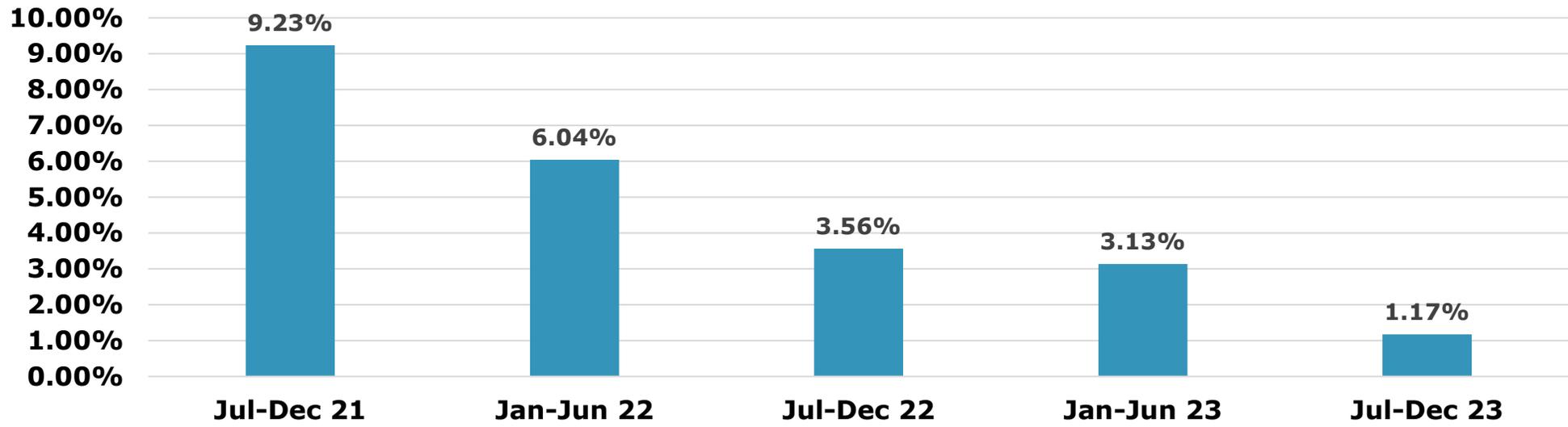


QA Service Retirement Monthly Review

Review a total of 10% of final service retirement benefits created in a month:

- High risk areas discussed with management from Member Benefits
 - ✓ 100% of Tier 1 members
 - ✓ 100% of Lump-sum distributions
 - ✓ After training period for new staff to ensure understanding of the process to create a benefit
- Random sample

Percentage of Completed Files Resulting in Revision, Change in Benefits*



	Jul-Dec 21	Jan-Jun 22	Jul-Dec 22	Jan-Jun 23	Jul-Dec 23
Service Retirement Closeouts	4,218	3,594	3,637	4,171	3,291
Files Selected for QA Review	455	365	368	425	416
Percent QA Review Complete	100.00%	99.73%	99.18%	97.65%	82.21%
Revised, Change in Benefit	42	22	13	13	4

*As of December 31, 2023



Items Reported to DFS July-December 2023

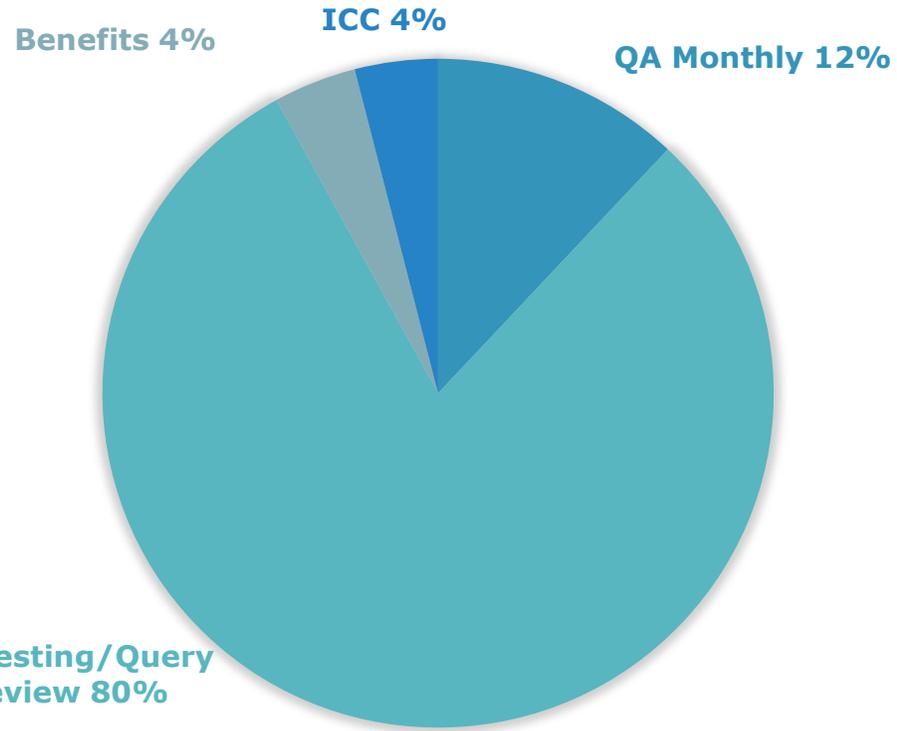
Administrative error – An error by the System (either manual or automated) that requires revision to finalized benefit payments. This would not include revisions to estimated benefits, errors or revisions made by participating employers, members or other parties.

July 2023	5
August 2023	7
September 2023	3
October 2023	5
November 2023	0
December 2023	5
<hr/> Total	25

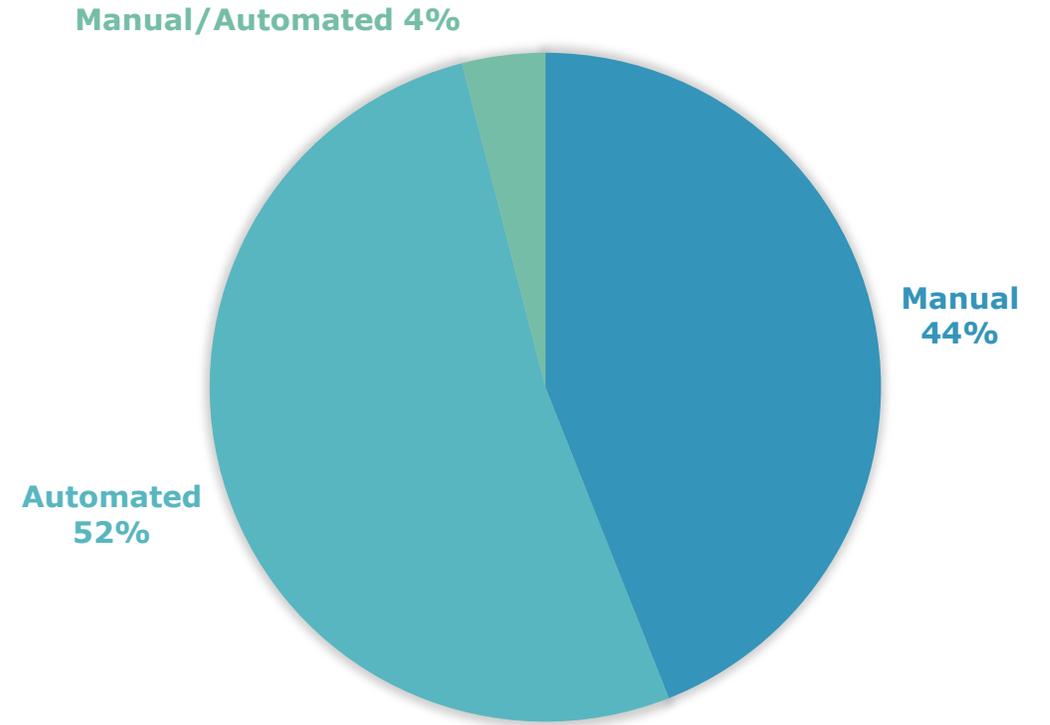


July-December 2023 DFS Items

REPORTING DEPARTMENT

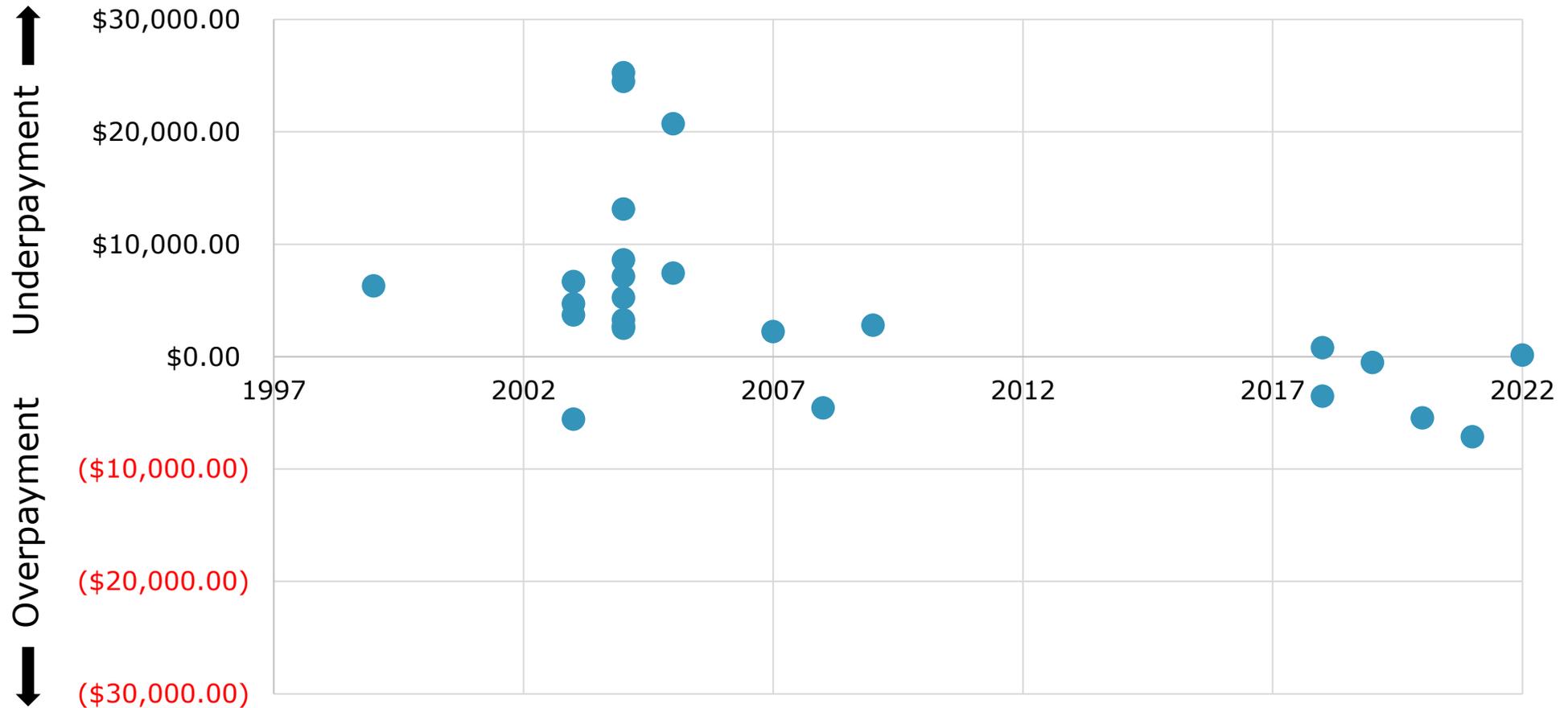


ERROR TYPE



July-December 2023 DFS Items

Amount Underpaid/Overpaid by Calendar Year of Retirement



Questions?





Appendix F

Diversity, Equity, & Inclusion Division

Strategic Plan Update

January 25, 2024



Training & Programming Review

- Semi-annual Performance Metric Update
- Broadening workforce development offerings & use educational technology
- Implementation of passive learning strategies

2024 MWBE Conference – February 15, 2024

- New Location & Partnership – University at Albany
- Agenda – Restructured agenda and programmatic updates
- Incorporation of Career-Pathways – Purposeful expansion through addition of student-centered program

Division Update

- Administrative Support
- Expansion of DEI Internship



Diversity, Equity, & Inclusion Division
Quarter in Review

Diversity Commitment Priority – Analytical Insights

- Expansion of technologies and attendee analytics in DEI/MWBE initiatives

Inclusion Commitment Priority – Inclusion Insights & Customer Service

- Commence annual workforce focus groups to further All-Employee training program outcomes

Equity Commitment Priority – Workplace Equity

- Deployment of *Inclusion & Equity Survey*

Data Commitment Priority – Continued Enhancement to Infrastructure

- Development of MWBE outreach and industry engagement partnerships with peer funds

Communication Commitment Priority – MWBE Report

- Commence project to enhance *NYSTRS MWBE Report* in alignment with DEI strategic plan



Presentation to the Retirement Board

Estimated Employer Contribution Rate

Richard A. Young, Chief Actuary

Melody Prangley, Deputy Chief Actuary

January 25, 2024



Estimated ECR

June 30, 2023 Actuarial Valuation

10.02% of Pay

An increase of approximately 2.7% over the current ECR of 9.76%



Estimated ECR Components

Normal Rate	9.63%
Expense Rate*	0.26%
Group Life Rate	0.13%
Excess Benefit Plan Rate	0.00%
Estimated June 30, 2023 ECR	10.02%

*estimated

Year-to-Year
ECR
Comparison

	6/30/2023	6/30/2022	Difference
Normal Rate	9.63%	9.37%	0.26%
Expense Rate	0.26%*	0.26%	0.00%
Group Life Rate	0.13%	0.13%	0.00%
Excess Benefit Rate	<u>0.00%</u>	<u>0.00%</u>	<u>0.00%</u>
Total Rate (ECR)	10.02%*	9.76%	0.26%

* estimated

When the 10.02% ECR Applies

- Will be multiplied by the 2024 – 2025 fiscal year salaries
- Will be collected in 2025 – 2026 fiscal year (September, October, November 2025)



2025

September

October

November

Employer Contributions

Collection Date	Employer Contribution	ECR
Fall 2020	\$1.5 billion	8.86%
Fall 2021	\$1.6 billion	9.53%
Fall 2022	\$1.7 billion	9.80%
Fall 2023	\$1.9 billion	10.29%
Fall 2024	\$1.8 billion*	9.76%
Fall 2025	\$1.9 billion*	10.02%

**estimated*

NYSTRS Funded Ratio History

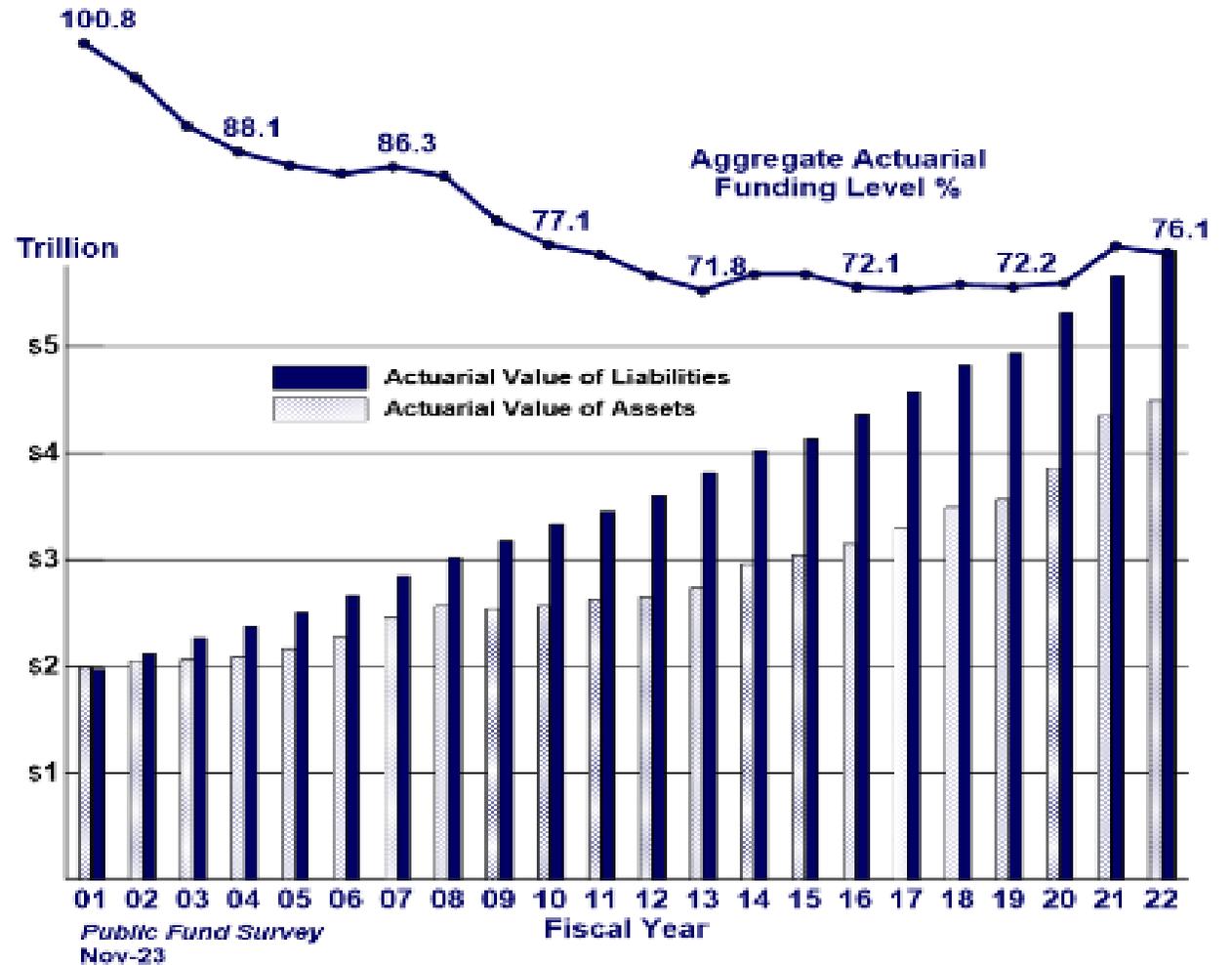
Funded Ratio is the ratio of plan assets to accrued liabilities

FYE	Funded Ratio Based on MVA	Funded Ratio Based on AVA
6/30/2019	101.2%	99.6%
6/30/2020	97.3%	98.9%
6/30/2021	113.0%	99.3%
6/30/2022	97.4%	99.3%
6/30/2023	98.2%	98.6%

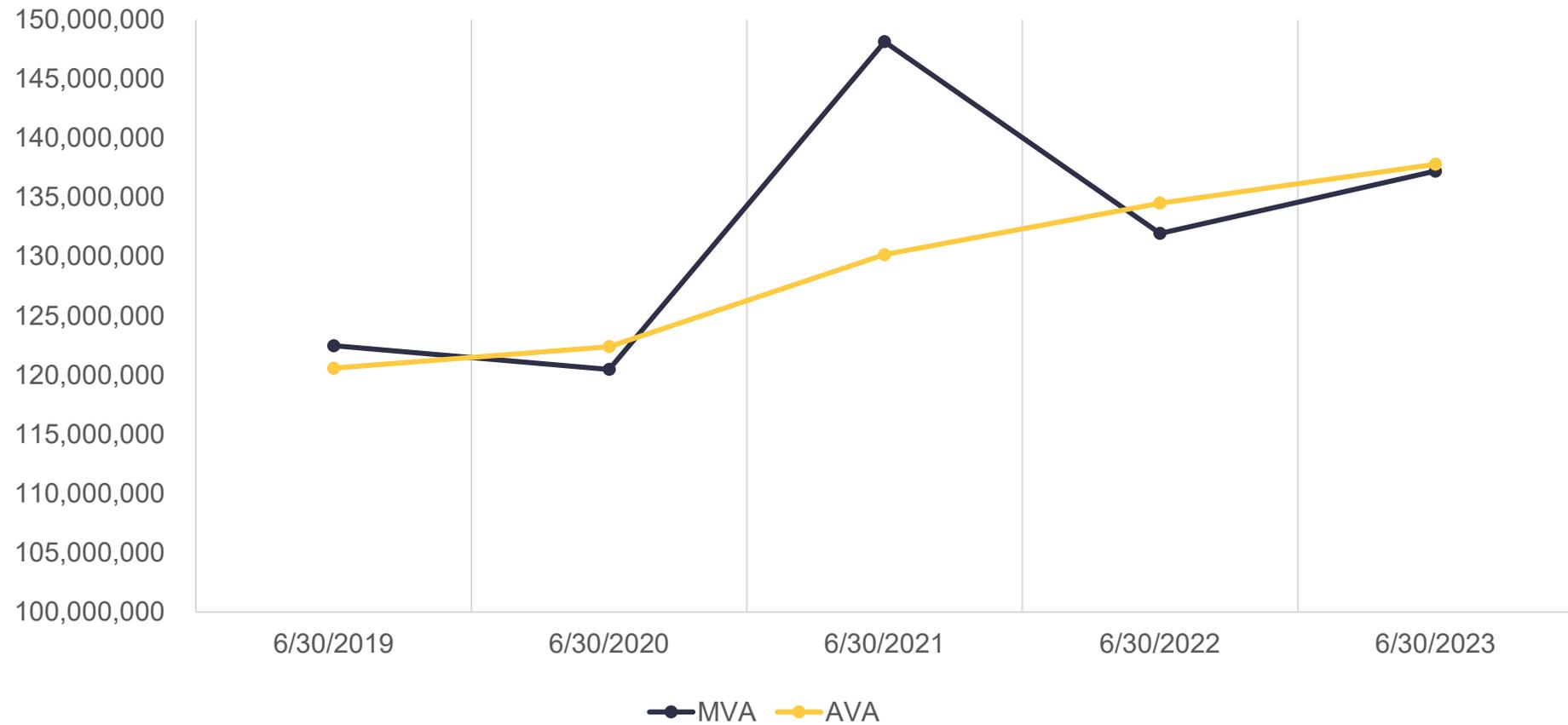


Aggregate Public Plans Funded Level

NYSTRS 6/30/2022 funded ratio based on AVA was 99.3% compared to the average funded ratio of 76.1%.



Actuarial Value of Assets Development



Investment Rates of Return

Fiscal Year	Market Value Rate of Return (net of fees)
2018 – 2019	7.1%
2019 – 2020	3.5%
2020 – 2021	29.0%
2021 – 2022	-7.1%
2022 – 2023	9.0%
5-year average:	7.6%

5-year geometric average: $[(1.071) \times (1.035) \times (1.29) \times (0.929) \times (1.09)]^{(1/5)} - 1 = 7.6\%$

**Long-Term
Annualized
Rates of
Return as of
June 30, 2023**

Period	Rate of Return (net of fees)
1-Year	9.0%
5-Year	7.6%
10-Year	8.5%
15-Year	7.4%
20-Year	8.0%
25-Year	6.8%
30-Year	8.3%

ECR Actuarial Gain/Loss '22-'23

Previous Year 6/30/2022 ECR		9.76%
Factors Which Increased the ECR (Actuarial Loss)		
Salary	Salary increases higher than expected.	0.29%
COLA Payments	Actual COLA of 2.5% higher than assumption of 1.3%.	0.17%
Miscellaneous	Net increase due to miscellaneous sources (e.g. data updates, tier reinstatements, return to active service, transfers in/out, finalized contribution).	<u>0.40%</u>
Total Increase in ECR		0.86%
Factors Which Decreased the ECR (Actuarial Gain)		
Net Investment Gain	Investment return greater than expected.	-0.45%
Mortality, Withdrawal and Retirement	Experience different than assumptions.	-0.03%
New Entrants	Tier 6 normal rate lower than current normal rate.	<u>-0.12%</u>
Total Decrease in ECR		-0.60%
Overall Net Increase in the ECR (Actuarial Loss)		0.26%
Estimated 6/30/2023 ECR		10.02%

Thirty Year Period 1993 – 2023

Employer Contributions
\$33.6 billion

Member Contributions
\$4.8 billion

Investment Income
\$216.7 billion

Benefit Payments and Expenses
\$147.4 billion



Market Value of Assets - 1993:

\$29.5 billion

Market Value of Assets - 2023:

\$137.2 billion



Historic 50 Years of ECRs

'75 – '76	19.40%	'88 – '89	14.79%	'01 – '02	0.36%	'14 – '15	17.53%
'76 – '77	19.40%	'89 – '90	6.87%	'02 – '03	0.36%	'15 – '16	13.26%
'77 – '78	20.40%	'90 – '91	6.84%	'03 – '04	2.52%	'16 – '17	11.72%
'78 – '79	21.40%	'91 – '92	6.64%	'04 – '05	5.63%	'17 – '18	9.80%
'79 – '80	22.49%	'92 – '93	8.00%	'05 – '06	7.97%	'18 – '19	10.62%
'80 – '81	23.49%	'93 – '94	8.41%	'06 – '07	8.60%	'19 – '20	8.86%
'81 – '82	23.49%	'94 – '95	7.24%	'07 – '08	8.73%	'20 – '21	9.53%
'82 – '83	23.49%	'95 – '96	6.37%	'08 – '09	7.63%	'21 – '22	9.80%
'83 – '84	22.90%	'96 – '97	3.57%	'09 – '10	6.19%	'22 – '23	10.29%
'84 – '85	22.80%	'97 – '98	1.25%	'10 – '11	8.62%	'23 – '24	9.76%
'85 – '86	21.40%	'98 – '99	1.42%	'11 – '12	11.11%	'24 – '25	10.02%*
'86 – '87	18.80%	'99 – '00	1.43%	'12 – '13	11.84%		
'87 – '88	16.83%	'00 – '01	0.43%	'13 – '14	16.25%		

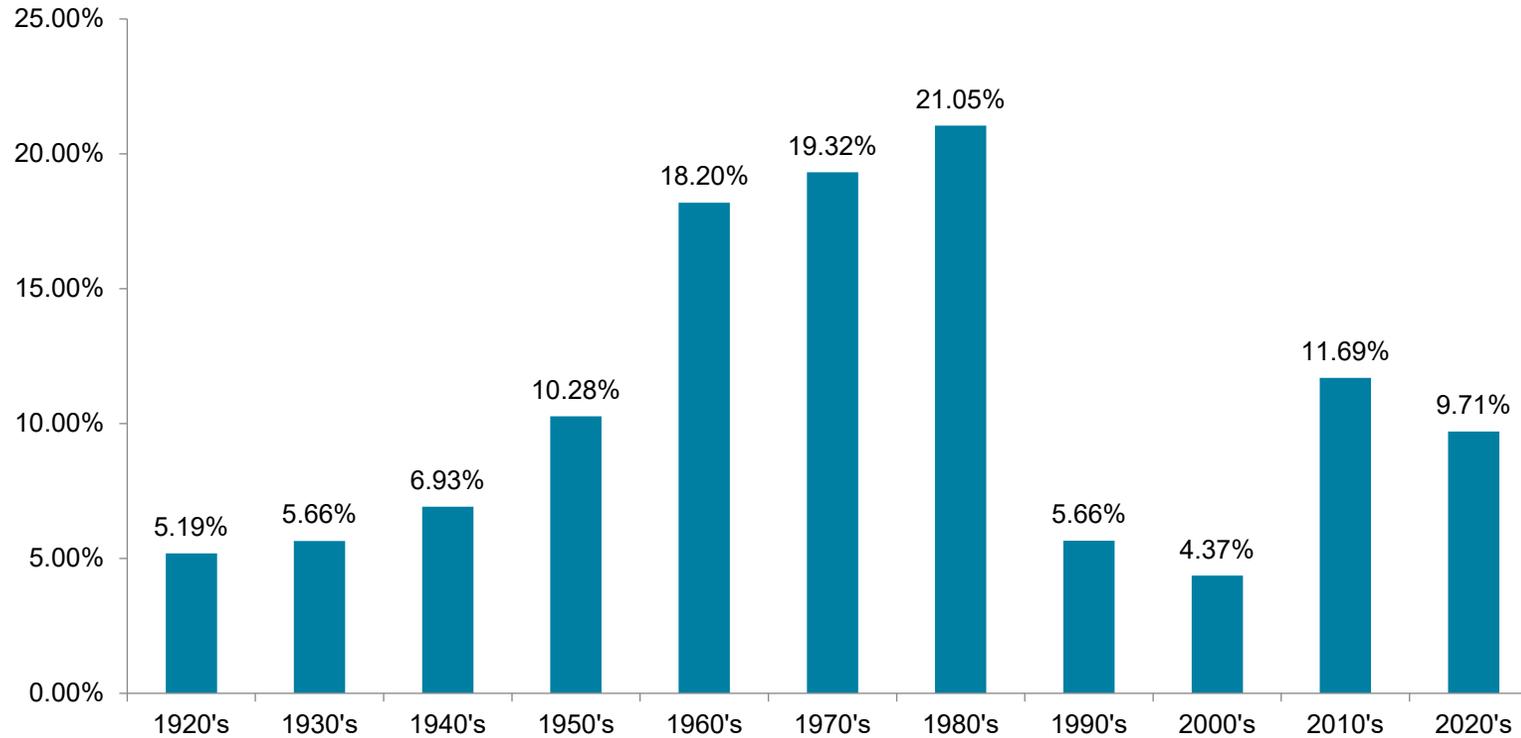
**50-Year
Average ECR
= 11.33%**

* estimated



Average ECR's by Decade

Overall Average = 10.88%



New Legislation: Transfer of Reserves (Chapter 717 of the Laws of 2023)

Requires the transfer of employer pension reserves between retirement systems as a step in completing a transfer of membership between New York state public retirement systems for members with **ten or more years of credited service**.

This law requires the actuaries to compute the actuarial reserve for each membership being transferred involving ten or more years of service, and to transfer this reserve in addition to the member's own contributions and interest.

This law applies to any membership transfer initiated on or after December 8, 2023.

Over the last decade, NYSTRS has averaged:

- 155 yearly transfers **into** NYSTRS with 10+ years of service (15% of all transfers-in)
- 140 yearly transfers **out** of NYSTRS with 10+ years of service (19% of all transfers-out)



ASOP 4 Update

- A new risk measure will be included in the June 30, 2023 actuarial valuation report (to be issued in July 2024) – the Low-Default Risk Obligation Measure (LDROM).
- This will **NOT** replace or change how we currently report or calculate our funded ratio or ECR. This will be an **additional** risk measurement.

	Current Measure	LDROM
Interest Rate	Based on the long-term assumed rate of return for valuation purposes (6.95%)	Based on high quality bond yields - FTSE liability index of hypothetical AA zero coupon bonds (4.92%)
Funded Ratio Based on MVA	98.2%	77.6%*
Funded Ratio Based on AVA	98.6%	78.0%*

*estimated



Questions?

