

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 25, 2023. The meeting was called to order at 8:30 a.m. by Nicholas Smirensky, acting Chair.

The following individuals were in attendance:

Committee Members: Elizabeth Chetney, David Keefe, Christopher Morin-via WebEx, Nicholas Smirensky

Board Members: Juliet Benaquisto, Eric Iberger, Phyllis Harrington, Jennifer Longtin-via WebEx, Oliver Robinson

NYSTRS' Staff: Thomas Lee, Don Ampansiri, Margaret Andriola, Dave Gillan, Paul Cummins, Gerald Yahoudy, Vijay Madala, Michael Federici, Richard Young, Kathy Ebert, Miriam Dixon, Beth Dellea, Danny Malavé, Matt Albano, Emily Ekland, Han Yik, John Rosenburg, Matt Tice, Ryan Warren

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

Visitors via WebEx: Donna Martin; Cyril Espanol and Adam Rees, WithIntelligence; Bernard Tuchman, DivestNY, Christopher Albanese and Felipe Esguerra, BlackRock

The following items were discussed:

1. Approval of the minutes of October 26, 2022

Upon motion of D. Keefe, seconded by E. Chetney and unanimously carried, the meetings minutes of the October 26, 2022 were approved.

2. DFS and Grant Thornton Follow Up

M. Albano provided an update on recommendations and deliverables from the 2017 DFS examination. He also provided an update on the 2022 Grant Thornton enterprise risk management maturity assessment, highlighting recommendations and deliverables (Attachment A, pp. 3-20)

3. Compliance Program Update

M. Albano provided an update on the Compliance Program, highlighting the program's purpose, inventory and next steps (Attachment B, pp. 21-28)

4. Investment Risk Key Risk Indicators and Investment Risk Report

M. Albano reviewed the risk management key risk indicator dashboard and the investment risk report (Appendix C, pp. 29-40).

There being no further business, and with unanimous consent, the Committee adjourned at 9:00 a.m.

Respectfully submitted,

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Thomas K. Lee

# DFS & Grant Thornton Follow-up Risk Committee January 2023

Matt Albano, CFA, Risk Officer



# 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 1/2022	Status 1/2023	DFS Recommendation	Deliverable / Notes
Yellow	Green	G. Spreadsheet Management	<b>Completed:</b> Liquidity risk stress test spreadsheet has been secured.
			<b>Completed:</b> Department survey was sent out and spreadsheet inventory has been collected. Next steps include control analysis and maintenance.
Yellow	Yellow	H. Management Agreement Compliance Monitoring	<b>In Progress:</b> <b>1/2023 Update:</b> Implementation is complete and all internal and externally managed public market portfolios have been transitioned to the new system. Management agreement criteria have been coded for all internally managed portfolios. Externally managed portfolio management agreement criteria is in progress.

# DFS Management Letter Update

Status 1/2022	Status 1/2023	DFS Recommendation	Deliverable / Notes
		K. Internal Audit Coverage of the RM Department	<b>Complete:</b> Internal Audit selected a third party to perform a System wide Enterprise Risk Management maturity review. The review was completed and presented to the Audit Committee at the June 2022 meeting.

# 2022 Grant Thornton ERM Maturity Assessment Follow-up





# Grant Thornton Overview

## Assessment Recommendations:

- 7 Recommendations related to Risk Management
- 1 Completed; 6 outstanding

# Grant Thornton Update

Status 1/2023	Grant Thornton Recommendation	Deliverable / Notes
	1. Further expand upon and document the roles and responsibilities for all risk management stakeholders.	<b>In Progress:</b> Updates to the roles and responsibilities in the Risk Framework have been drafted. Additional updates will be made as we implement the Governance, Risk Management, 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).	<b>In Progress:</b> Risk Management selected a GRC vendor in 2022 and is working with their implementation team.



# Grant Thornton Update

Status 1/2023	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.	<b>In Progress:</b> Risk Management selected a GRC vendor in 2022 and is working with their implementation team.
	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.	<b>In Progress:</b> Risk Management selected a GRC vendor in 2022 and is working with their implementation team.



# Grant Thornton Update

Status 1/2023	Grant Thornton Recommendation	Deliverable / Notes
	5. Further embed Risk Management into the strategic planning process.	<b>Completed:</b> 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.	<b>In Progress:</b> Risk Management selected a GRC vendor in 2022 and is working with their implementation team.



# Grant Thornton Update

Status 1/2023	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.	<b>In Progress:</b> Training materials are in the process of being updated. Some Information Security training has been moved to the learning management system. The GRC software being implemented will enhance communication for enterprise wide ERM topics.



# Questions?



# Appendix



# Report on DFS Examination

Status 1/2022	Status 1/2023	DFS Recommendation	Deliverable / Notes
		NYSTRS to review its fidelity bond coverage and increase it accordingly.	<b>Completed:</b> NYSTRS increased its fidelity bond coverage in accordance with the DFS recommendation effective with the December 2017 insurance renewal.





# DFS Management Letter Update

Status 1/2022	Status 1/2023	DFS Recommendation	Deliverable / Notes
		A. Governance Structure: Risk Committee of the Board of Trustees	<b>Completed:</b> The Retirement Board formally established a Risk Committee of the Board its January 2020 meeting.
		B. Organizational Structure: Independence of the RM Department	<b>Completed:</b> Discussed at the summer 2019 Board retreat and at the April 2020 Risk Committee meeting. The Risk Management Department charter has been updated to include a provision for acting as a resource for and providing updates to the Risk Committee of the Board for NYSTRS' material enterprise, information security and investment risks. The Risk Management function will continue to report to the Executive Director and Chief Investment Officer.



# DFS Management Letter Update

Status 1/2022	Status 1/2023	DFS Recommendation	Deliverable / Notes
		C. Framework of Key Risk Indicators (KRI) and Tolerance Thresholds	<p><b>Completed:</b> Key risk indicators (KRI) for liquidity and asset allocation governance which measures market risk management, have been incorporated into quarterly Risk Committee reports. Each of the KRIs is reported alongside established appetite and tolerance levels. In addition to the KRIs recommended by DFS, KRIs for the ECR, ECR volatility, funded ratio, the valuation process, and information security have been presented and will be reported on an annual basis. Additional KRIs are being developed to address non-investment risks.</p> <p>DFS noted that NYSTRS did not have a KRI for Value at Risk (VaR). NYSTRS includes VaR measures in the quarterly investment risk report but has opted not to develop a formal KRI for VaR as the reporting is informational in nature.</p>



# DFS Management Letter Update

Status 1/2022	Status 1/2023	DFS Recommendation	Deliverable / Notes
		D. Market Risk Stress Testing	<b>Completed:</b> Four market risk scenarios were first presented to the Investment Committee of the Board in October 2017 and have been incorporated into the quarterly reporting package since January 2018.
		E. Model Validation	<b>Completed:</b> NYSTRS phased out the Barra Integrated Model (BIM) model in favor of the MSCI Multi Asset Class (MAC) model. Assessment of MSCI's validation process for the MAC risk model was completed in January 2020.
		F. Contingency Funding Plan ("CFP")	<b>Completed:</b> A formal Contingency Funding Plan (CFP) was put in place July 2017. The CFP considers key liquidity requirements and stress scenarios. NYSTRS has updated the CFP to incorporate DFS recommendations.

# DFS Management Letter Update

Status 1/2022	Status 1/2023	DFS Recommendation	Deliverable / Notes
		I. Risk Appetite Statement	<b>Completed:</b> A comprehensive set of risk appetite statements was presented to the Board's Risk Committee in July 2020 for review and discussion at the October 2020 Committee meeting.
		J. Risk Management Department Policies and Procedures Manual	<b>Completed:</b> The formal structure of the manual has been established and all completed items have been included.



# Compliance Program Update

Matt Albano, CFA, Risk Officer

Matthew Tice, Asst. Mgr., ERM and Compliance

Ryan Warren, Principal Analyst, ERM and Compliance



# Agenda

- Compliance Program Purpose
- Compliance Program Inventory
- Next steps



# Compliance Program Purpose

The purpose of the Compliance program is to provide assurance to management and the Retirement Board that NYSTRS observes applicable laws, regulations, and System policies.



# Compliance Program Inventory

- Develop a compliance inventory
  - Risk rank each of the items into one of three risk categories
    - 1 – Minor, Required/No legal/regulatory/Contractual Obligation with minor to moderate repercussion if not remediated
    - 2 – Moderate, Legal/Regulatory/Contractual Obligation with moderate to major repercussions, with time granted to remediate
    - 3 – Major, Legal/Regulatory/Contractual Obligation with major repercussions
  - Currently have 101 compliance items
    - 38 level 3
    - 51 level 2





# Inventory Examples

Risk Level	Business Area	Operation	Frequency	Compliance Activity
1	Administration	Vendor Gift Letter	Annually	Vendor No-Gift Policy Letter Mailing/Emails
1	Risk/Compliance	Self-Assessment	Annually	SEC Red Flags Review
2	Human Resources/Budget	Affordable Care Act	Annually	Annual Submission to IRS
2	Facilities Services	Boiler System	Annually	Inspection Albany Building
2	Risk/Compliance	Insurance Coverage	Annually	System Insurance Renewal
3	Facilities Services	Fire Sprinkler Backflow	Annually	Testing & Inspection Albany/Malta Building
3	Risk/Compliance	Investment Trade Monitoring	Daily	SEC Trade Compliance - Front Running, MNPI
3	Finance/Investments /Risk	OFAC/ALM (Office of Foreign Asset Control) and (Anti Money Laundering)	As Required	OFAC Screen of Controlling Person/s

# Compliance Program Next Steps

Develop transparency and awareness of compliance reporting and ownership:

- Compliance Reporting Calendar
- Escalation Process
- Policy Updates

# Compliance Program

Questions?



# Appendix – Existing Compliance Functions

- Personal Trade Monitoring
- Material Non-Public Information
- Conflicts of Interest
- OFAC (Office of Foreign Asset Control)
- Restricted and Divestment List Monitoring

# Investment Risk Update

## Risk Management

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**Risk Committee Meeting: January 2023**

**Matthew Albano, CFA, Risk Officer**

Public market data as of 11/30/2022; Private asset data as of 9/30/2022

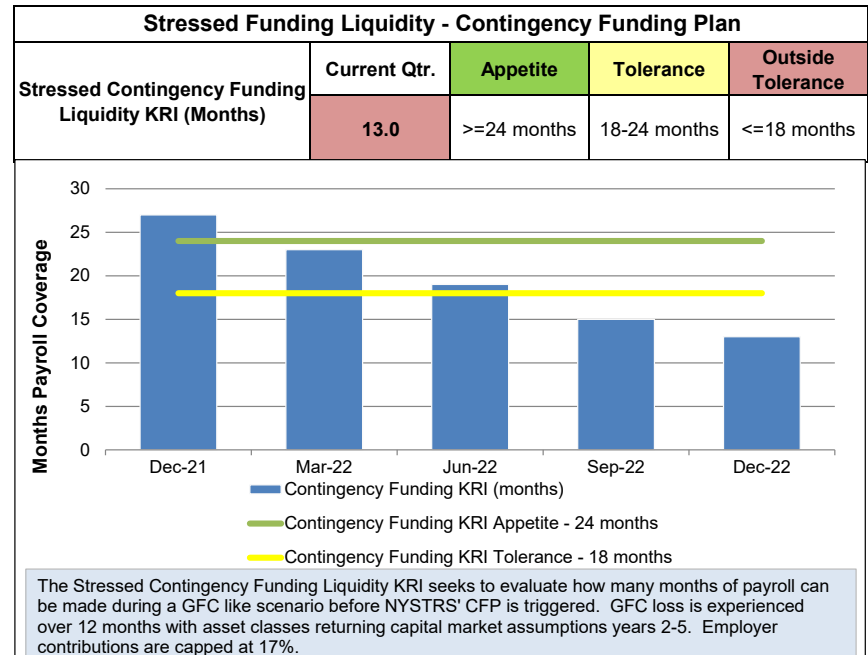
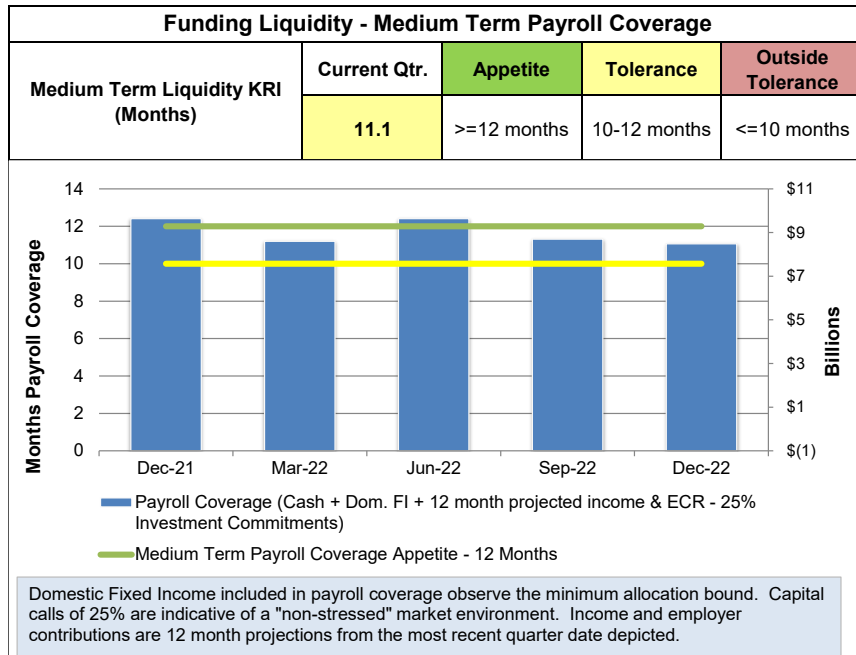
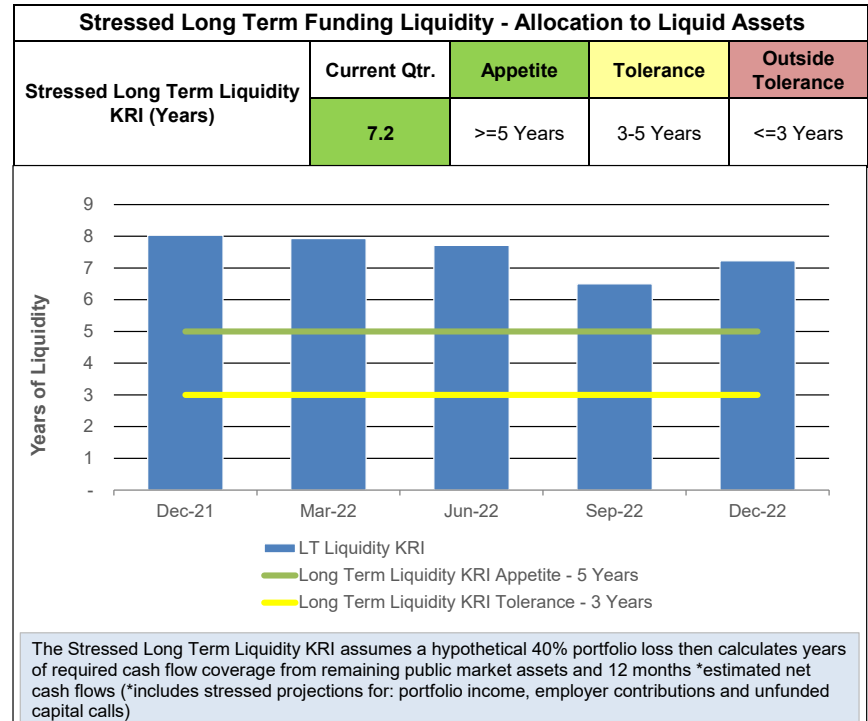
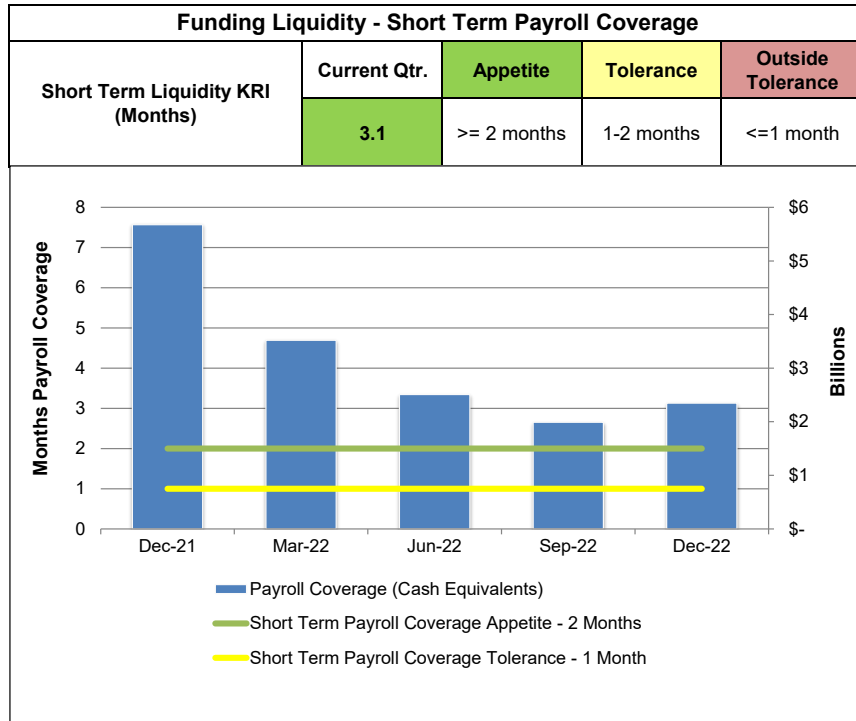


**Investment Risk - Key Risk Indicators**

**Updates:**

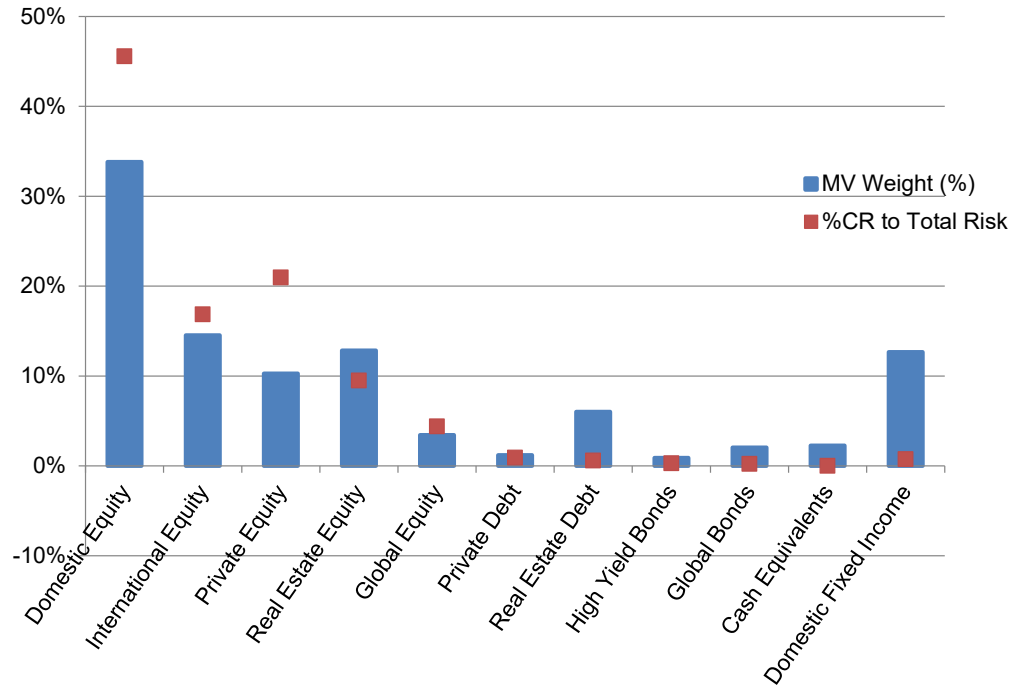
- The Stressed Contingency Funding Liquidity continues to be "Outside Tolerance" this quarter. Medium Term Liquidity continues to be within "Tolerance".
  - **Risk Mitigation**
    - Staff continues to meet weekly on asset allocation, monitoring current market volatility impacts on the KRIs
    - The Stressed Contingency Funding model assumes a GFC like scenario on the portfolio, beyond the current market volatility already experienced
- The plan Funded Ratio remains in "Tolerance" as of 6/30/2021 with an overfunded ratio of 113%
  - **Risk Mitigation**
    - Staff continues to engage with stakeholders and monitor legislature updates
- 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%	4.9%
Short Term Liquidity (Liquidity)	<= 1 Month	1 - 2 Months	>= 2 Months	3.1 Months
Medium Term Liquidity (Liquidity)	<= 10 Months	10 - 12 Months	>= 12 Months	11.1 Months
Stressed Contingency Funding Liquidity (Liquidity)	<= 18 Months	18 - 24 Months	>= 24 Months	13 Months
Stressed Long Term Liquidity (Liquidity)	<= 3 Years	3 - 5 Years	>= 5 Years	7.2 Years
Funded Ratio: Market Value of Total Plan Assets (Unfunded Liability)	<80% or >120%	80 - 90% or 110 - 120%	90 - 110%	113.0% (6/30/2021)
ECR Volatility (Unfunded Liability)	$\Delta$ +/- >3%	$\Delta$ +/- 2 - 3%	$\Delta$ +/- 2%	0.49% (6/30/2021)
ECR Level (Unfunded Liability)	<4% or >17%	4 - 6% or 12 - 17%	6 - 12%	10.29% (6/30/2021)
Actuarial Valuation: Quinquennial Full Scope Audit (Valuation Process)	Replicated Liabilities >4% of NYSTRS' Calculation	Replicated Liabilities 1 - 4% of NYSTRS' Calculation	Replicated Liabilities <=1% of NYSTRS' Calculation	0.04% (4/16/2019)
Actuarial Valuation: Annual Independent Review (Valuation Process)	Adverse Opinion	Modified Opinion	Unmodified Opinion	Unmodified Opinion (10/28/2021)



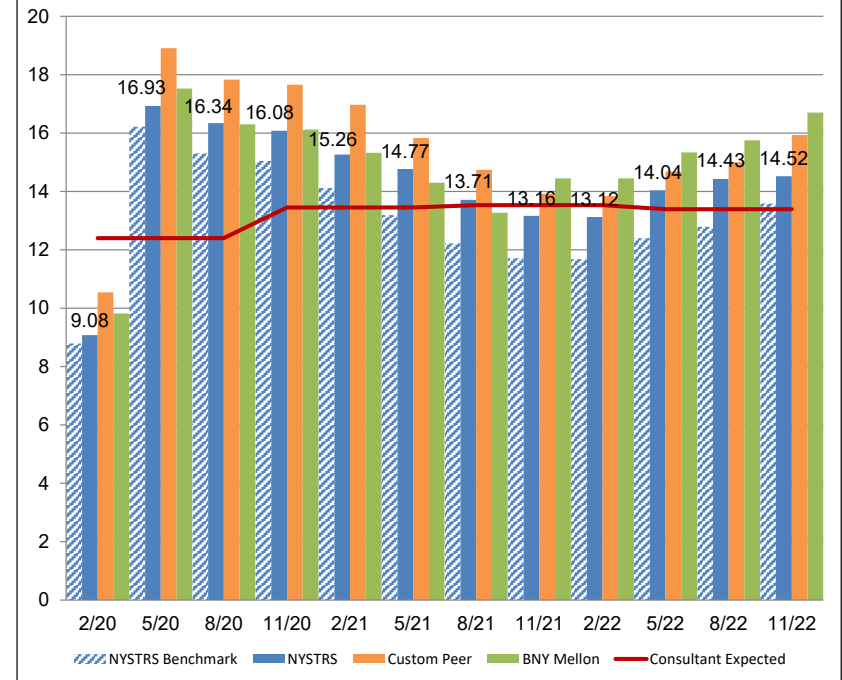
**Total Predicted Risk by Asset Class**

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



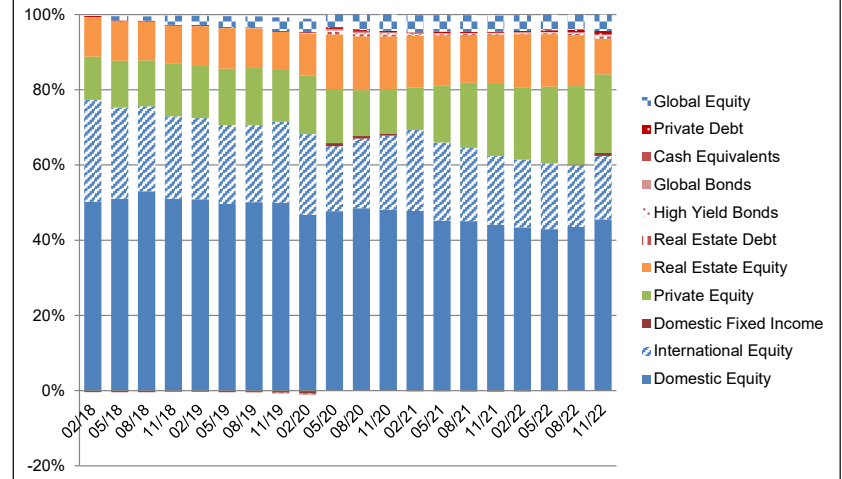
**Total Predicted Risk and Peer Comparison**

Long term expected risk target 13.39%; short term predicted risk 14.52%



Portfolio Name	Market Value (Millions \$)	Weight (%)	%CR to Total Risk	Total Plan Risk Cont.	Total Predicted Risk
<b>Total Portfolio</b>	<b>\$ 132,400</b>	<b>100%</b>	<b>100%</b>	<b>14.52</b>	<b>14.52</b>
Domestic Equity	\$ 44,781	33.82%	45.56%	6.62	20.21
International Equity	\$ 19,251	14.54%	16.86%	2.45	18.70
Private Equity	\$ 13,610	10.28%	20.96%	3.04	34.75
Real Estate Equity	\$ 17,008	12.85%	9.50%	1.38	13.16
Global Equity	\$ 4,550	3.44%	4.39%	0.64	19.07
Private Debt	\$ 1,577	1.19%	0.92%	0.13	12.99
Real Estate Debt	\$ 7,975	6.02%	0.58%	0.08	3.39
High Yield Bonds	\$ 1,176	0.89%	0.28%	0.04	6.36
Global Bonds	\$ 2,706	2.04%	0.21%	0.03	5.01
Cash Equivalents	\$ 2,996	2.26%	0.00%	0.00	0.08
Domestic Fixed Income	\$ 16,769	12.67%	0.75%	0.11	5.12

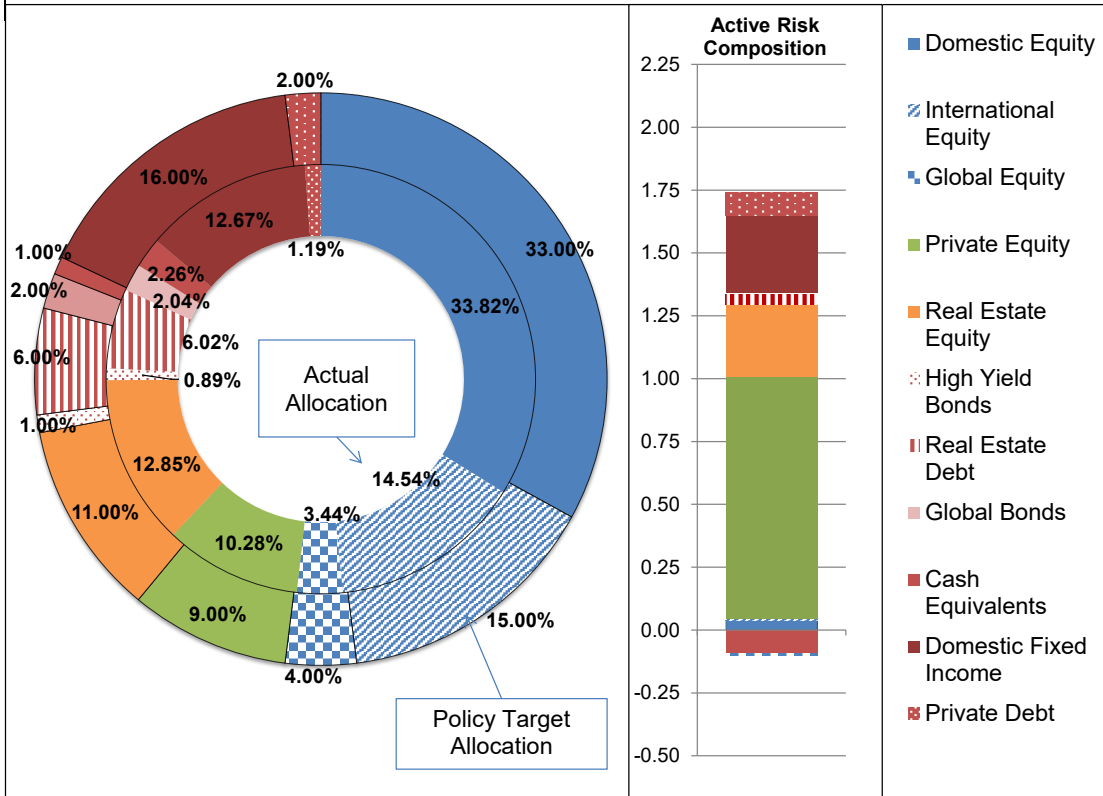
**Historical Total Predicted Risk Contribution**





Active Predicted Risk

Active predicted risk 1.64; a decrease of 31 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.

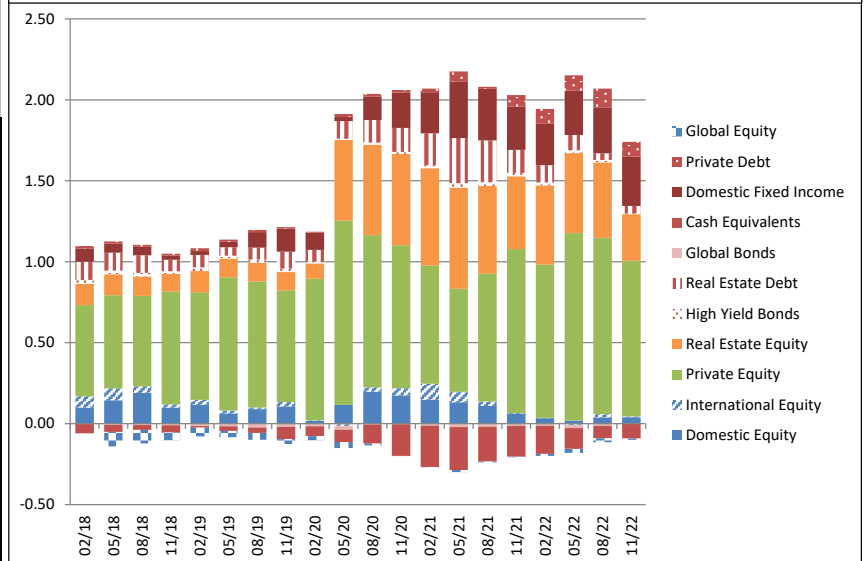
**Observations:**

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.

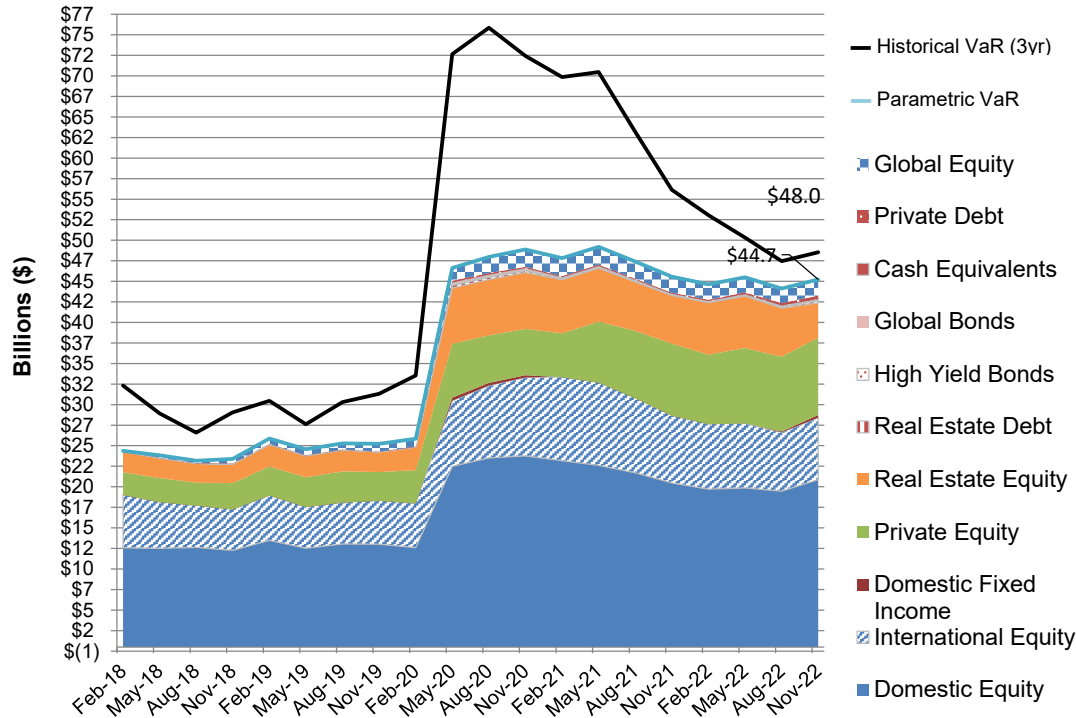
Portfolio Name	Weight (%)	BMK Weight (%)	Active Weight (%)	Active Risk Cont.	% CR to Active Risk	Active Predicted Risk
<b>Total Portfolio</b>	<b>100%</b>	<b>100%</b>	<b>0%</b>	<b>1.64</b>	<b>100%</b>	<b>1.64</b>
Domestic Equity	33.82%	33.00%	0.82%	0.04	2.5%	0.09
International Equity	14.54%	15.00%	-0.46%	0.00	0.3%	0.52
Global Equity	3.44%	4.00%	-0.56%	-0.01	-0.5%	2.18
Private Equity	10.28%	9.00%	1.28%	0.96	58.6%	9.74
Real Estate Equity	12.85%	11.00%	1.85%	0.29	17.5%	8.58
High Yield Bonds	0.89%	1.00%	-0.11%	0.01	0.4%	0.33
Real Estate Debt	6.02%	6.00%	0.02%	0.05	2.8%	2.24
Global Bonds	2.04%	2.00%	0.04%	0.00	-0.1%	0.36
Cash Equivalents	2.26%	1.00%	1.26%	-0.09	-5.6%	0.08
Domestic Fixed Income	12.67%	16.00%	-3.33%	0.30	18.5%	1.11
Private Debt	1.19%	2.00%	-0.81%	0.09	5.6%	8.19

**Historical Active Risk Contribution**



**Value at Risk Contribution by Asset Class**

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



Portfolio Name	Total Portfolio VaR	Diversification Benefit	\$ Contribution to VaR (millions)	%Contribution to VaR
<b>Total Portfolio</b>	<b>\$51,249</b>	<b>-\$6,525</b>	<b>\$44,724</b>	<b>100%</b>
Domestic Equity	\$21,049		\$20,375	45.56%
International Equity	\$8,375		\$7,540	16.86%
Private Equity	\$11,002		\$9,375	20.96%
Real Estate Equity	\$5,209		\$4,249	9.50%
High Yield Bonds	\$174		\$124	0.28%
Real Estate Debt	\$629		\$259	0.58%
Global Bonds	\$315		\$94	0.21%
Cash Equivalents	\$6		\$0	0.00%
Domestic Fixed Income	\$1,996		\$335	0.75%
Private Debt	\$477		\$410	0.92%
Global Equity	\$2,018		\$1,963	4.39%

**Value at Risk:**

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

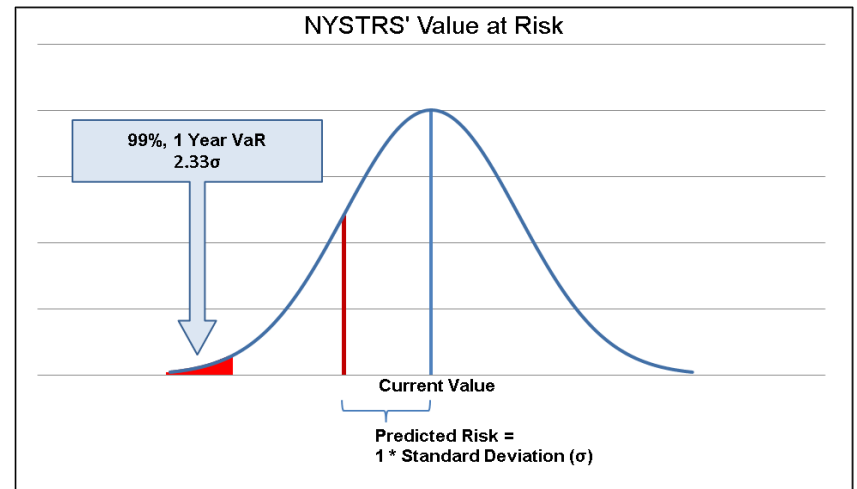
**Methods Used:**

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

**Drawbacks:**

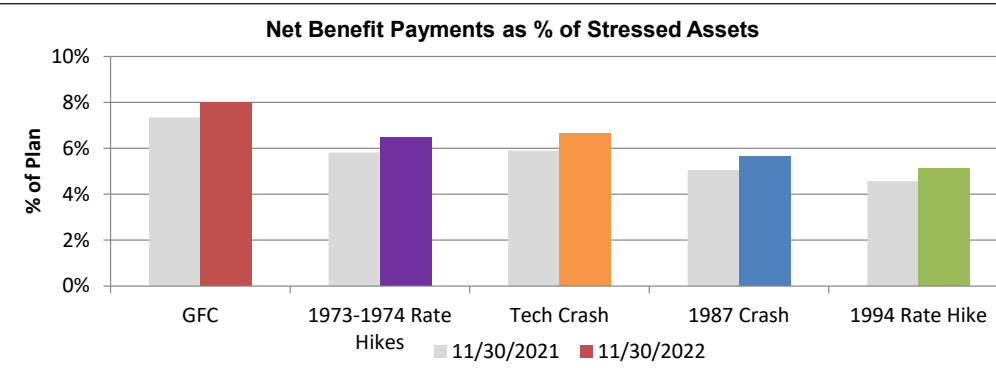
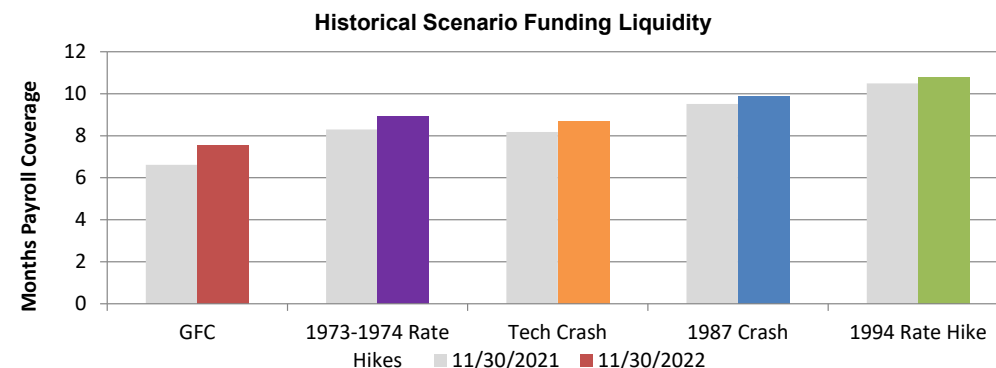
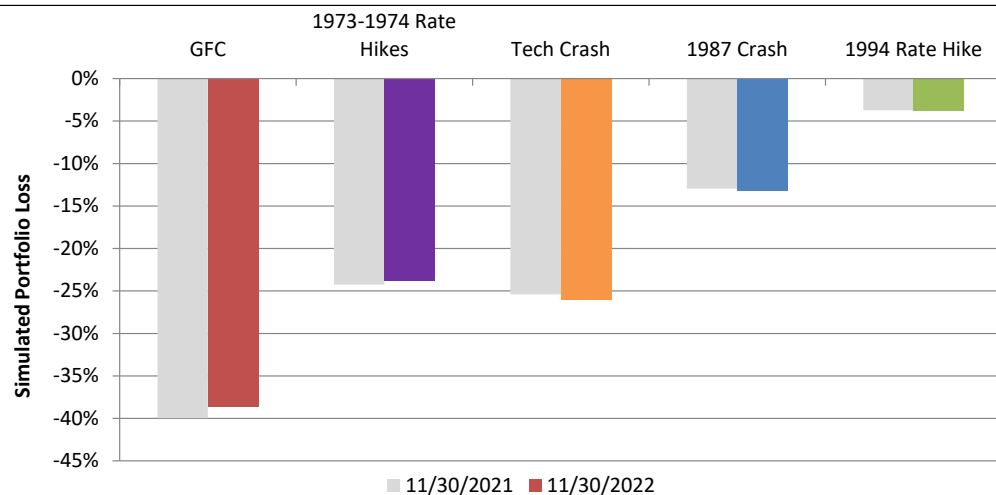
Parametric VaR assumes asset returns are normally distributed which may not be realistic. This could underestimate the VaR due to unfavorable asset returns having a higher chance of occurring in real life.

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



**Historical Scenario Analysis**

Scenario analysis is in line with expectations. Net Benefit Payments as a % of Assets in the most severe scenario is approximately 8%.



**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:

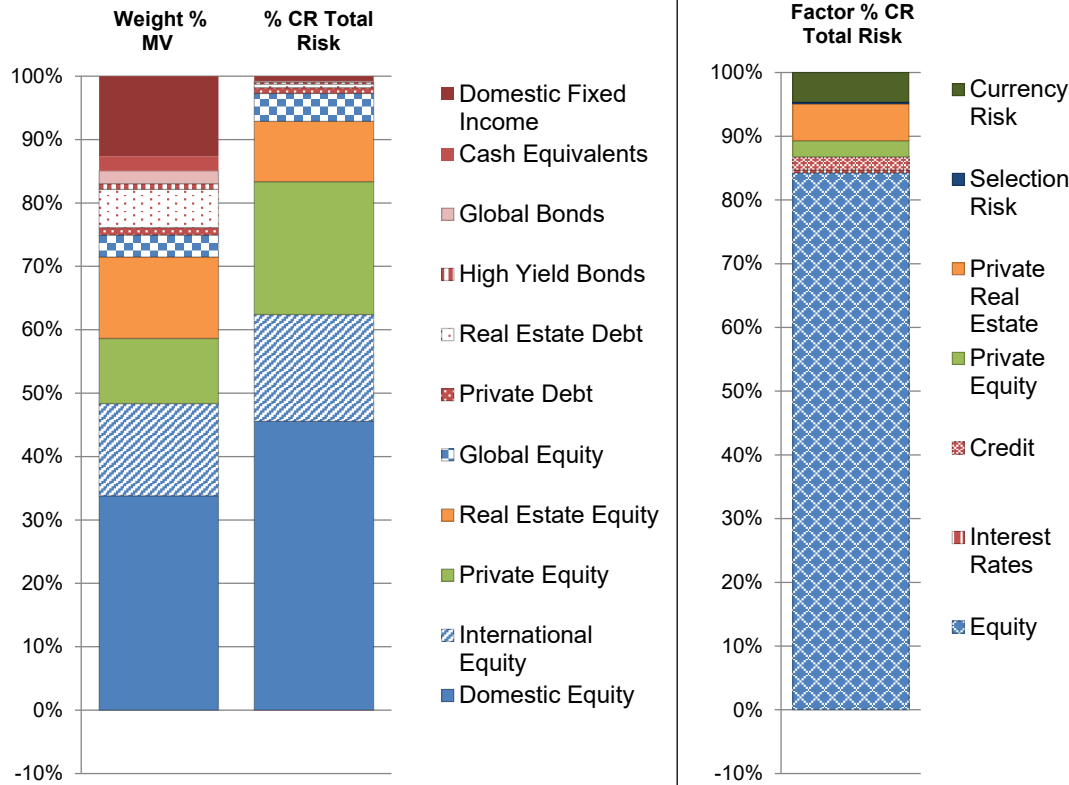
Funding Liquidity Assumptions	Months Coverage	
	11/30/2021	11/30/2022
Cash + Domestic Fixed Income	6.4 to 10.3	5.7 to 8.9
Portfolio Income/Maturities	7.1	8.2
Employer Contributions	2.6	2.9
Capital Calls	-9.5	-9.3
<b>Total Payroll Coverage</b>	<b>7 to 10</b>	<b>8 to 11</b>

**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.

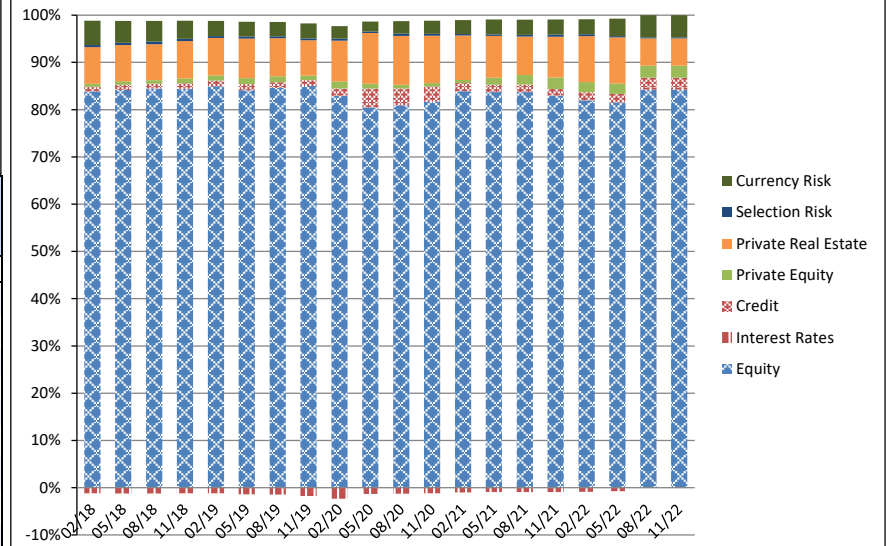
All of NYSTRS holdings are modeled according to their exposures to individual risk factors.

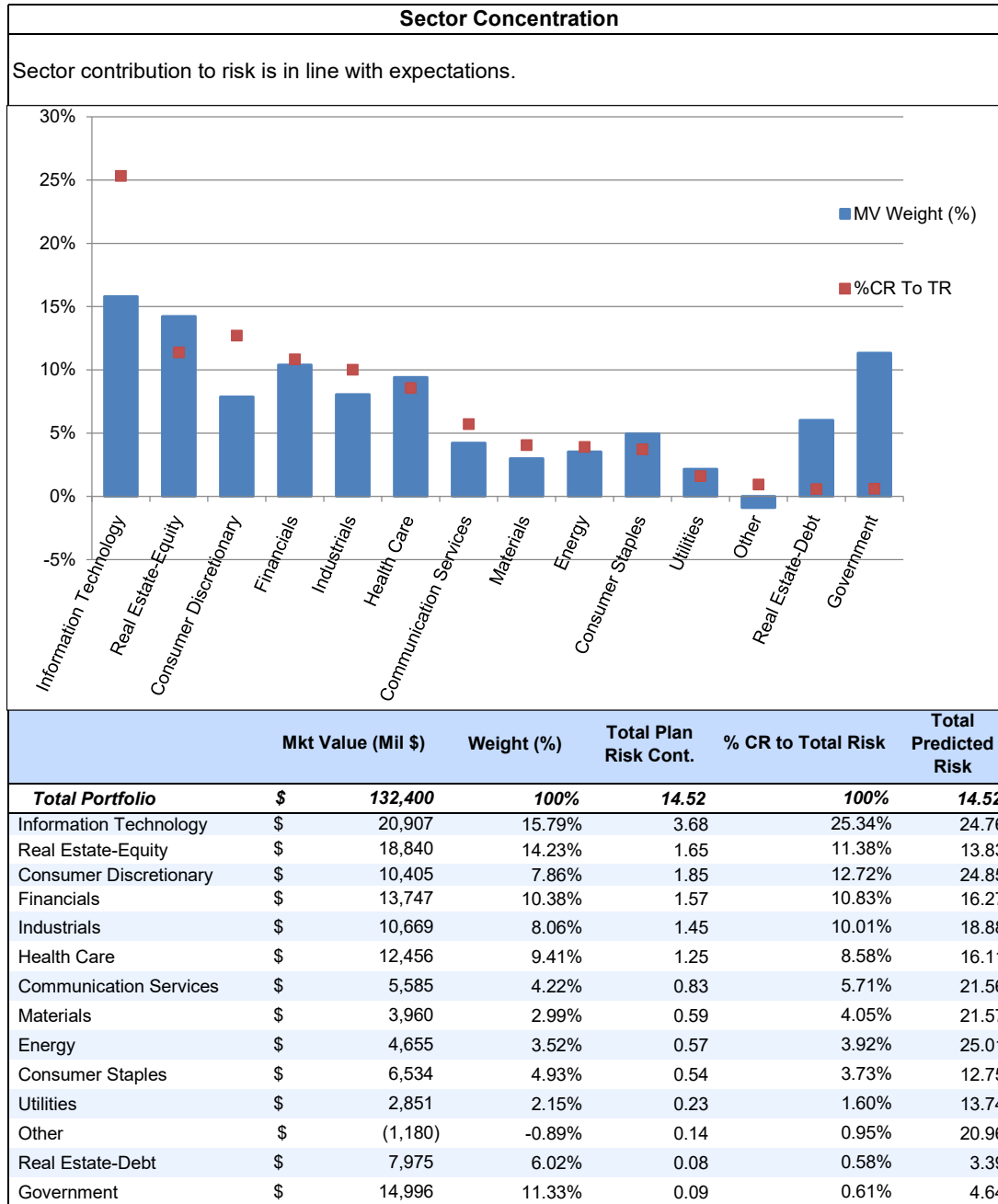
**Observations:**

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
<b>Total Risk</b>	<b>14.52</b>	<b>100%</b>	<b>13.59</b>	<b>100.00%</b>	<b>100%</b>
Local Market Risk	13.84	95.31%	12.98	95.54%	96.60%
Common Factor Risk	13.81	95.08%	12.92	95.12%	84.70%
Equity	12.24	84.27%	10.73	79.01%	57.52%
Interest Rates	0.06	0.43%	0.14	1.06%	6.85%
Credit	0.30	2.06%	0.39	2.85%	-2.58%
Private Equity	0.37	2.55%	0.17	1.24%	25.55%
Private Real Estate	0.84	5.76%	1.49	10.96%	-2.64%
Selection Risk	0.03	0.24%	0.06	0.42%	11.90%
Currency Risk	0.68	4.69%	0.61	4.46%	3.40%

**Historical Risk Factor Contribution to Total Risk**





**Sectors:**

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

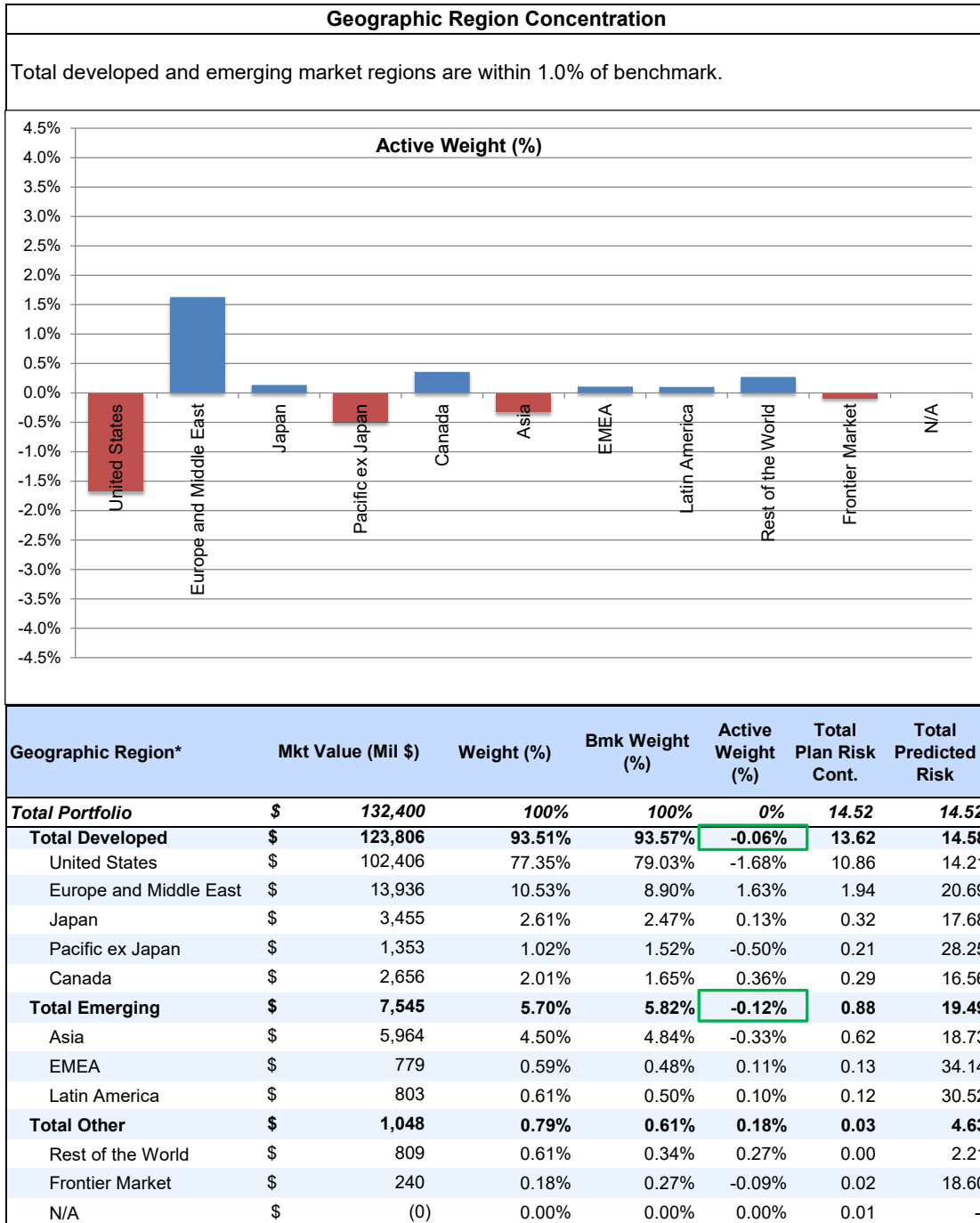
Five custom sectors were added to this base to accommodate the Fund's allocation to Government, Real Estate Debt, Real Estate Equity, Cash and "Other" investments.

Defensive sectors such as Utilities, and Consumer Staples tend to be more stable and less volatile regardless of the condition of the overall financial markets. Because these sectors are not highly correlated with the business cycle, they are also known as "non-cyclical". Cyclical sectors such as Consumer Discretionary and Materials tend to be correlated with the business cycle and can be more volatile than defensive sectors. <sup>1</sup>

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.

<sup>1</sup>Investopedia

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



**Observations:**

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

\*See appendix for countries included in each geographic region.

**Glossary:**

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

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

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

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

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

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

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

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

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

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

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

**Notes:**

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

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

NYSTRS Custom Peer Group Median: NYSTRS' custom peer group used during annual asset allocation study. Allocation data provided by Pension Fund Data 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 & CIS	Africa	Middle East	Asia
Canada	Austria	Australia	Argentina	Czech Republic	China	Croatia	Kenya	Bahrain	Bangladesh
United States	Belgium	Hong Kong	Brazil	Egypt	India	Estonia	Mauritius	Jordan	Sri Lanka
	Denmark	Japan	Chile	Greece	Indonesia	Lithuania	Morocco	Kuwait	Vietnam
	Finland	New Zealand	Colombia	Hungary	Korea	Kazakhstan	Nigeria	Lebanon	
	France	Singapore	Mexico	Poland	Malaysia	Romania	Tunisia	Oman	
	Germany		Peru	Qatar	Pakistan	Serbia	WAEMU <sup>2</sup>		
	Ireland			Russia	Philippines	Slovenia			
	Israel			Saudi Arabia	Taiwan				
	Italy			South Africa	Thailand				
	Netherlands			Turkey					
	Norway			United Arab Emirates					
	Portugal								
	Spain								
	Sweden								
	Switzerland								
	United Kingdom								
MSCI STANDALONE MARKET INDEXES <sup>1</sup>									
						Americas	Europe & CIS	Africa	Middle East
						Jamaica	Bosnia Herzegovina	Botswana	Palestine
						Panama	Bulgaria	Zimbabwe	
						Trinidad & Tobago	Malta		
							Iceland		
							Ukraine		

\*MSCI.com/market-classification



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 25, 2023. Nicholas Smirensky, Chair, called the meeting to order at 9:00 a.m.

ATTENDANCE

Investment Committee

Elizabeth Chetney, David Keefe, Jennifer Longtin-via WebEx, Christopher Morin-via WebEx, Nicholas Smirensky

Board Members

Juliet Benaquisto, Eric Iberger, Phyllis Harrington, 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, Ryan Ranado, Mike Morrell, Bruce Woolley, Brad Woolworth, Ben Keezer, Sam Silver, Bridget Seager, Jeff Schubert, Stacey Lesser Meehan

System Consultants

Callan: In person - Tom Shingler, Lauren Sertich  
Via WebEx - Millie Viqueria, Jay Kloepfer, Kevin Machiz, Jon Gould, Angel Haddad, Carlo Stadlinger, Sally Haskins

StepStone: Via WebEx – Jose Fernandez and Scott Schwind

Mercer: Via WebEx – Max Messervy

NYSTRS' Risk Advisor: Via WebEx – Peter Cosgrove

Visitors

Via WebEx: Donna Martin, Albany NY; Bernard Tuchman, DivestNY; Cyril Espanol and Adam Rees, WithIntelligence; Justin Mitchell, Fundfire; Gregg Gethard, PEI Media; Christopher Albanese, Felipe Esguerra and Luna Wang from BlackRock

## Approval of Minutes

### A. Approval of Minutes of October 26, 2022 Investment Committee Meeting

There being no additions or corrections to the minutes of the October 26, 2022 meeting, the minutes were approved with a motion made by D. Keefe, seconded by E. Chetney 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. 8-14)
2. Public Equities Update (Appendix B, p. 15)
3. Fixed Income Update (Appendix C, p. 16)
4. Real Estate Update (Appendix D, pp. 17-19)
5. Private Equity/Debt Update (Appendix E, p. 20)

## Presentations

### A. Consultant Update

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

### B. Oil Sands Industry Analysis

Pursuant to the Board approved climate action plan, P. Cummins and R. Ranado gave an overview of the System's due diligence on the oil sands industry, public policy and industry initiatives including the progress and pledges of the oil sands companies within the System's holdings towards reducing near-term carbon intensity and achieving net-zero greenhouse gas emissions from their operations by 2050, facilitated Board inquiries and discussions and provided a recommendation for continued ownership (subject to and within the System's Restricted List) and engagement of the oil sands companies within the System's holdings (Appendix F, pp. 21-24).

### C. Real Estate Direct Property Advisor Update

Upon motion of D. Keefe, seconded by E. Chetney and unanimously carried, the Committee went into Executive Session at 11:45 a.m. to hear an update on a Real Estate advisor and Separate Account manager.

Upon motion of D. Keefe, seconded by E. Chetney and unanimously carried, the Committee came out of Executive Session at 12:01 p.m.

### Policy Review and Action

#### 1. Consent Agenda Recommendation Items (Appendix G, pp. 25-26)

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 a and b) together with one motion.

Upon motion of E. Chetney, seconded by D. Keefe and unanimously carried by the Committee, the following consent agenda item resolutions were moved and unanimously recommended to the Retirement Board:

#### a. 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, 2023, (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 \$508,118; 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

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, 2023.

- 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, 2023.

- 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, 2023, to manage (i) a portion of the System's assets as an international equity manager benchmarked to the MSCI ACWI ex-US index, and (ii) a portion of the System's assets as a global equity manager benchmarked to the MSCI ACWI index.

- 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, 2023.

- 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, 2023.

- 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, 2023.

- 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, 2023.

- 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, 2023.

- 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, 2023

- 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, 2023.

- 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, 2023.

- 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, 2023.

## 2 Resolution to Transition Properties from Invesco

Upon motion of D. Keefe and seconded by E. Chetney, the members of the Investment Committee voted unanimously to recommend the following item to the Retirement Board:

RESOLVED, That the System's Executive Director and Chief Investment Officer, or his designees, is authorized to transition the directly owned industrial and multi-family properties currently in the separate account managed by Invesco Advisors, Inc to the separate accounts managed by Cabot Properties, LP and Sentinel Realty Advisors, Corp., respectively, and be it further

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

## 3. NYSTRS' Oil Sands Holdings

The Committee heard a presentation on Oil Sands earlier in the meeting and upon review of a draft resolution regarding NYSTRS' oil sands holdings, requested additional clarification of the resolution language and of staff recommendation and decided to reconvene January 26 to further review and consider staff recommendation and moving the resolution at that time.

Informational reports

- The Committee reviewed the following informational reports: EDCIO Investment Discretion Report (Appendix H, pp. 27-29) and Mail Vote Quarterly Board Report (Appendix I, p. 30).

There being no further business, the Committee adjourned at 12:06 p.m.

Respectfully submitted,



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Thomas K. Lee

# **Investment Committee Executive Summary**

## **Office of the CFO: Investment Operations Department**

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**Investment Committee Meeting: January 25, 2023**

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





## Investment Committee Executive Summary

### Market Value Summary ('000s)

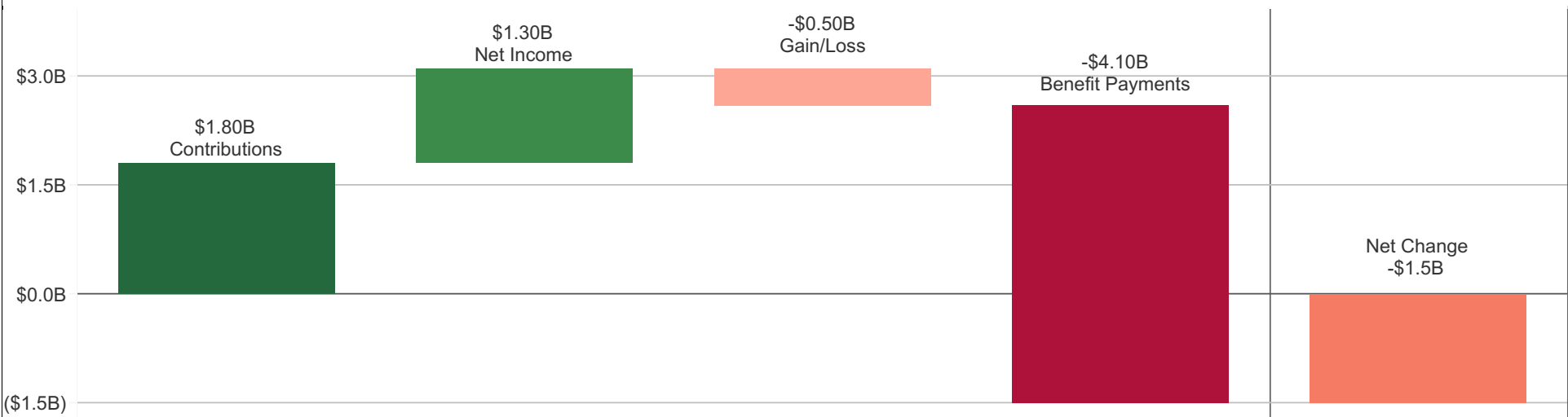
Asset Category	Asset Class	December 31, 2022		September 30, 2022		December 31, 2021	
		Net Asset Value	% Net Asset Value	Net Asset Value	% Net Asset Value	Net Asset Value	% Net Asset Value
Equity	Domestic Equity	\$41,899,700	32.6%	\$39,587,923	32.1%	\$53,046,331	35.0%
	International Equity	\$19,142,211	14.9%	\$17,648,892	14.3%	\$24,090,138	15.9%
	Global Equity	\$4,401,006	3.4%	\$3,909,635	3.2%	\$5,264,148	3.5%
	Real Estate Equity	\$16,786,954	13.1%	\$16,318,944	13.2%	\$16,387,778	10.8%
	Private Equity	\$13,715,149	10.7%	\$13,859,720	11.3%	\$14,203,217	9.4%
	<b>Asset Category Subtotal</b>	<b>\$95,945,019</b>	<b>74.7%</b>	<b>\$91,325,114</b>	<b>74.1%</b>	<b>\$112,991,612</b>	<b>74.7%</b>
Fixed Income	Domestic Fixed Income	\$16,725,931	13.0%	\$16,849,018	13.7%	\$20,062,181	13.3%
	Global Bonds	\$2,626,905	2.0%	\$2,592,643	2.1%	\$3,216,147	2.1%
	High Yield	\$1,169,505	0.9%	\$970,083	0.8%	\$1,041,419	0.7%
	Real Estate Debt	\$7,997,854	6.2%	\$8,061,632	6.5%	\$7,598,189	5.0%
	Private Debt	\$1,704,241	1.3%	\$1,537,395	1.2%	\$1,239,531	0.8%
	Cash & Short Term Debt	\$2,328,739	1.8%	\$1,860,009	1.5%	\$5,209,933	3.4%
<b>Asset Category Subtotal</b>	<b>\$32,553,174</b>	<b>25.3%</b>	<b>\$31,870,780</b>	<b>25.9%</b>	<b>\$38,367,399</b>	<b>25.3%</b>	
<b>Total Plan</b>		<b>\$128,498,194</b>	<b>100.0%</b>	<b>\$123,195,893</b>	<b>100.0%</b>	<b>\$151,359,011</b>	<b>100.0%</b>

Due to rounding, numbers may not sum to 100%

### Components of Change in Total Investments

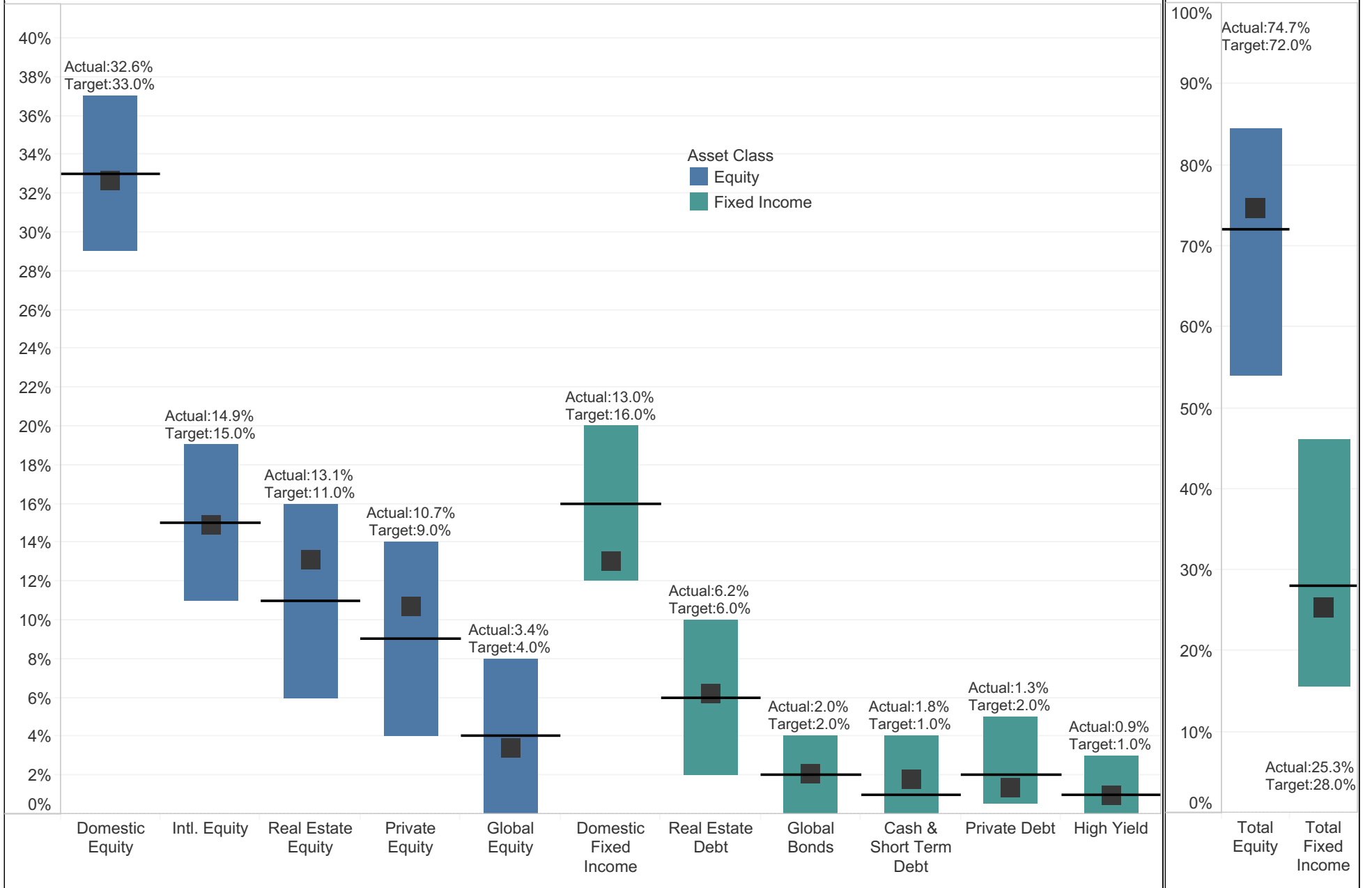
FYTD: 7/1/2022 to 12/31/2022

\$130.0B to \$128.5B



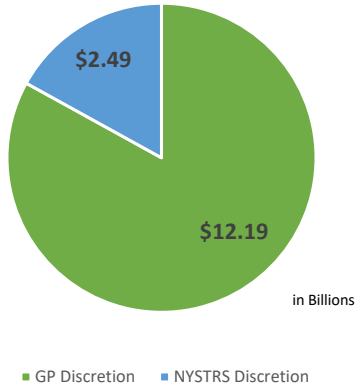
## NYSTRS' Asset Allocation: \$128.5B (December 31, 2022)

## Equity vs. Debt

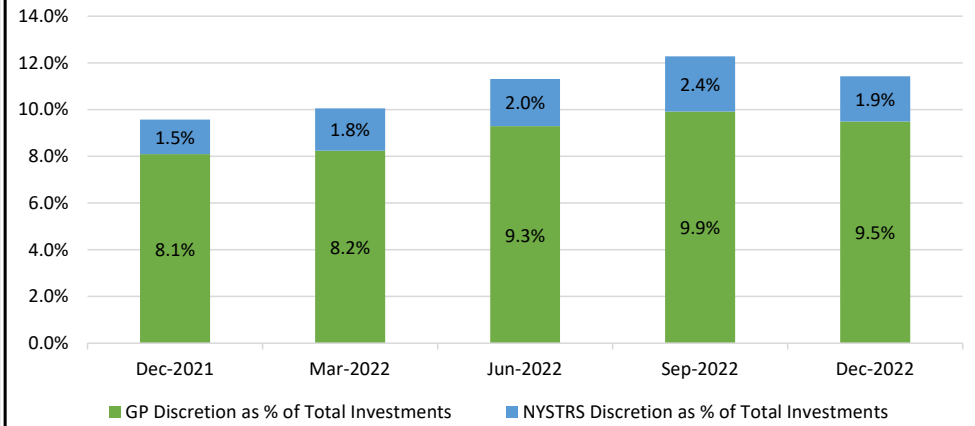


Unfunded Commitments - Private Assets

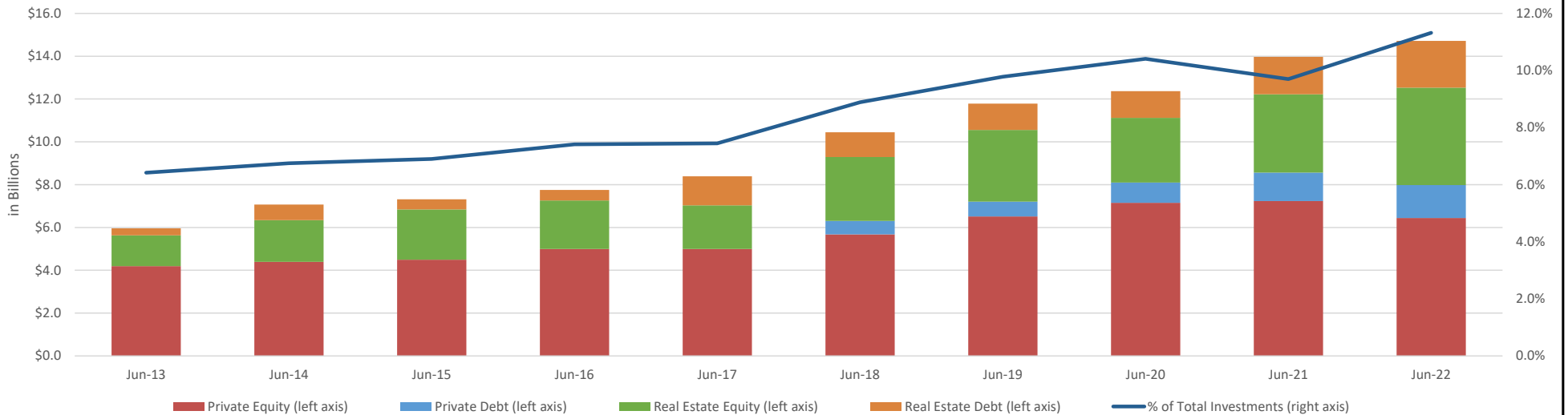
Total Unfunded Commitments at 12/31/2022 \$14.7B



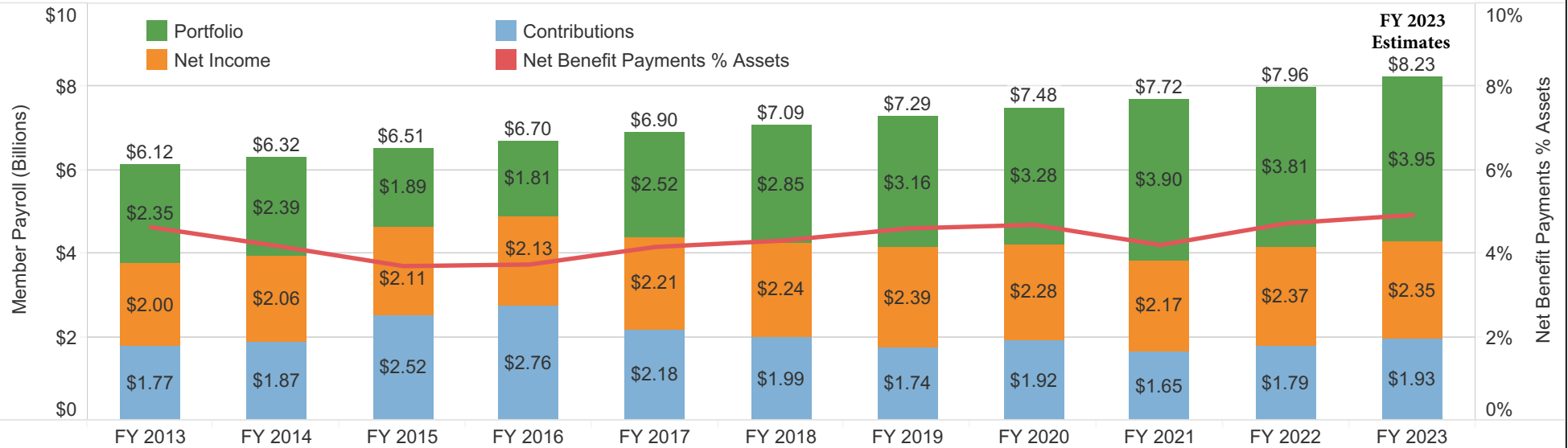
Unfunded Commitments - GP vs. NYSTRS Discretion



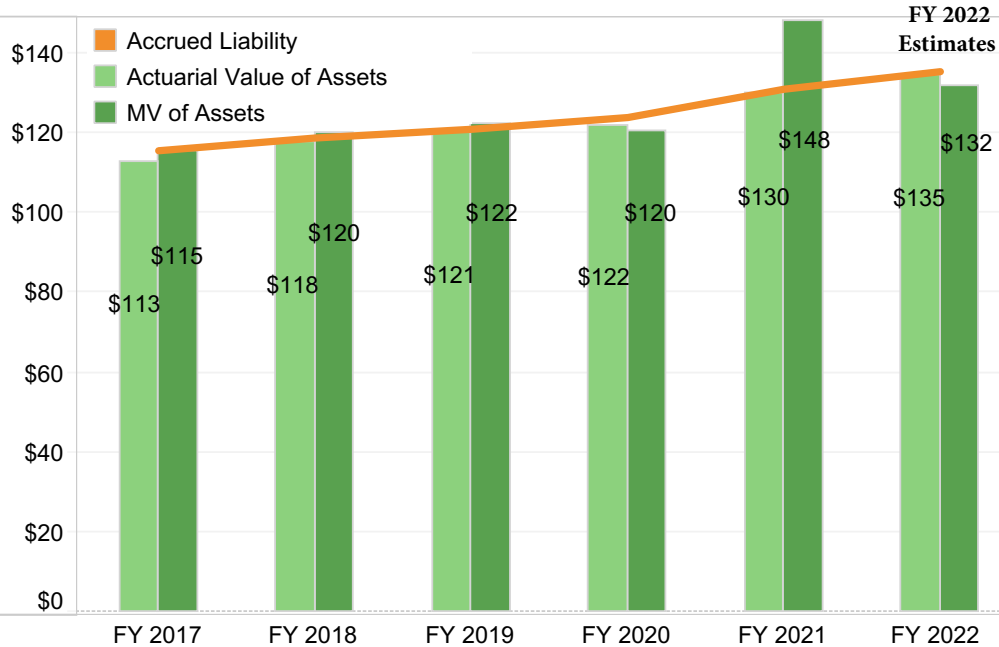
Unfunded Commitments - by Asset Class and % of Total Investments



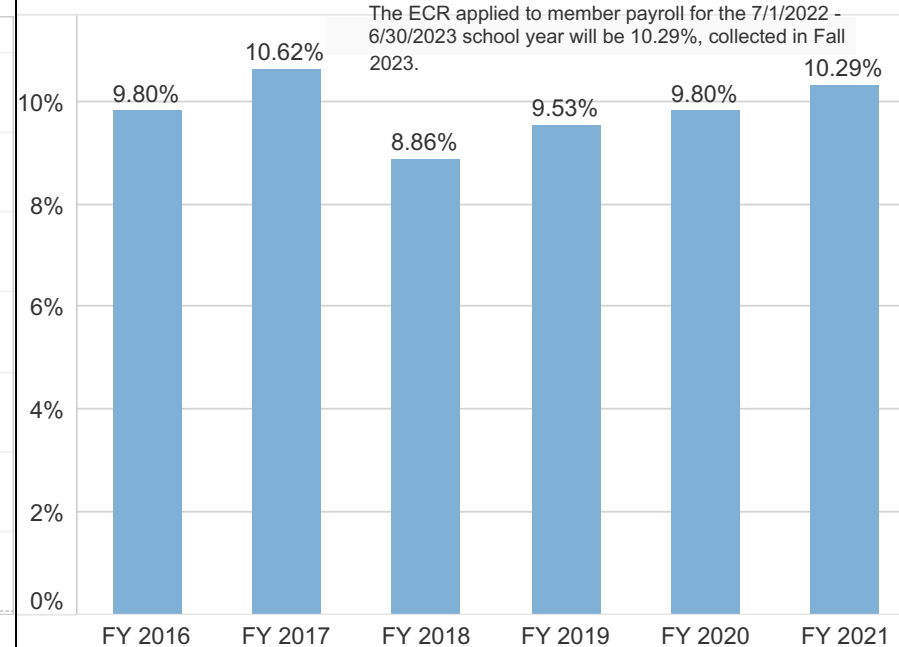
## Member Payroll Funding Sources



## Assets & Actuarial Accrued Liability



## Employer Contribution Rate



# Investment Committee Executive Summary

## Public Market Performance as of December 31, 2022

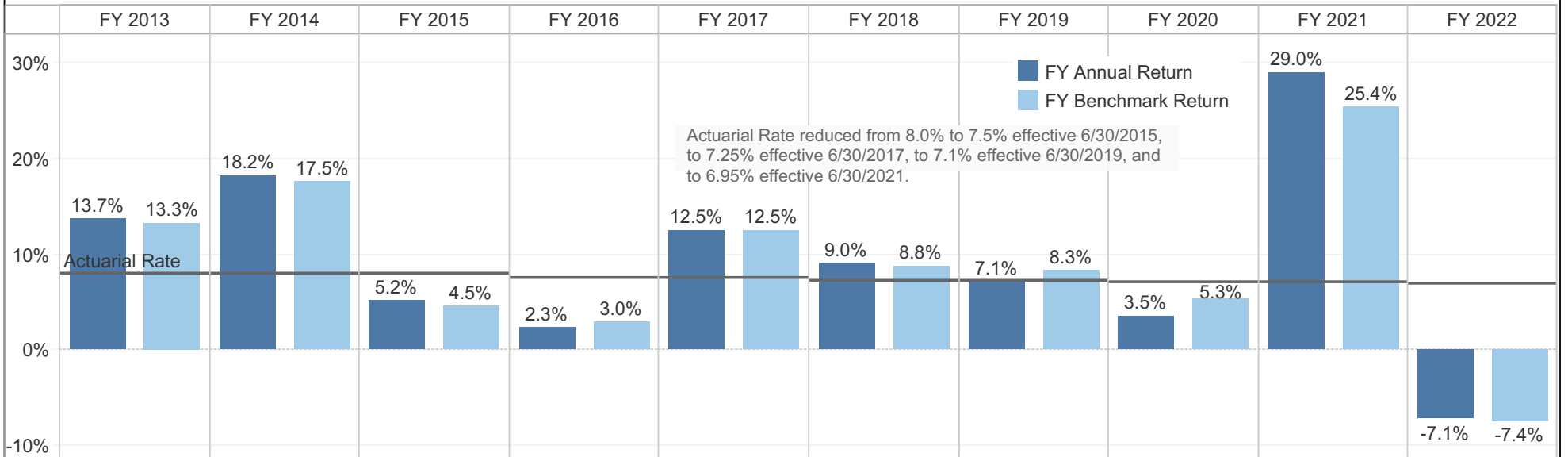
Asset Class	Current QTR	
	Net Return	Excess Return
Domestic Equity	7.7%	-0.1%
International Equity	14.4%	0.1%
Global Equity	12.5%	2.7%
Private Equity	N/A	N/A
Real Estate Equity	3.6%	-1.4%
Domestic Fixed Income	1.7%	-0.2%
Global Bonds	1.3%	0.2%
High Yield Bonds	4.4%	0.0%
Private Debt	N/A	N/A
Real Estate Debt	-0.4%	-1.1%
Short Term	0.9%	0.1%

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

## Total Fund Performance as of September 30, 2022

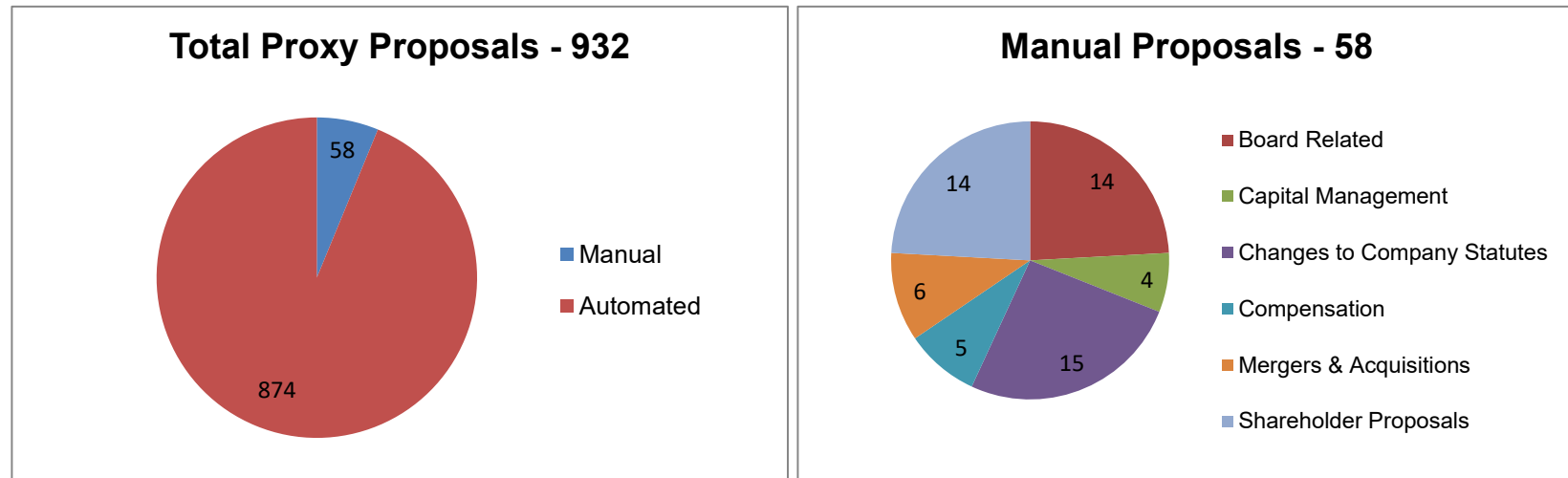
Asset Class	QTR		FYTD		10YR	
	Net Return	Excess Return	Net Return	Excess Return	Net Return	Excess Return
Domestic Equity	-4.7%	0.0%	-4.7%	0.0%	11.5%	-0.1%
International Equity	-10.0%	-0.1%	-10.0%	-0.1%	3.5%	0.4%
Global Equity	-7.6%	-0.8%	-7.6%	-0.8%	N/A	N/A
Private Equity	-2.3%	1.3%	-2.3%	1.3%	16.0%	-0.7%
Real Estate Equity	-2.8%	-3.1%	-2.8%	-3.1%	10.2%	0.1%
Domestic Fixed Income	-3.9%	0.8%	-3.9%	0.8%	0.9%	-0.1%
Global Bonds	-3.7%	0.2%	-3.7%	0.2%	N/A	N/A
High Yield Bonds	-0.5%	0.2%	-0.5%	0.2%	N/A	N/A
Private Debt	1.3%	-0.8%	1.3%	-0.8%	N/A	N/A
Real Estate Debt	-1.3%	2.9%	-1.3%	2.9%	3.8%	0.9%
Short Term	0.5%	0.1%	0.5%	0.1%	0.8%	0.3%
<b>Total Fund</b>	<b>-4.6%</b>	<b>0.0%</b>	<b>-4.6%</b>	<b>0.0%</b>	<b>7.9%</b>	<b>0.1%</b>

## Annual Performance



## Investment Committee Executive Summary

### Proxy Voting Summary: 10/1/2022 - 12/31/2022



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) - Environment: 3, Governance: 1, Other: 1, and Social: 9



# Public Equity MD Update

## Investment Committee January 25, 2023

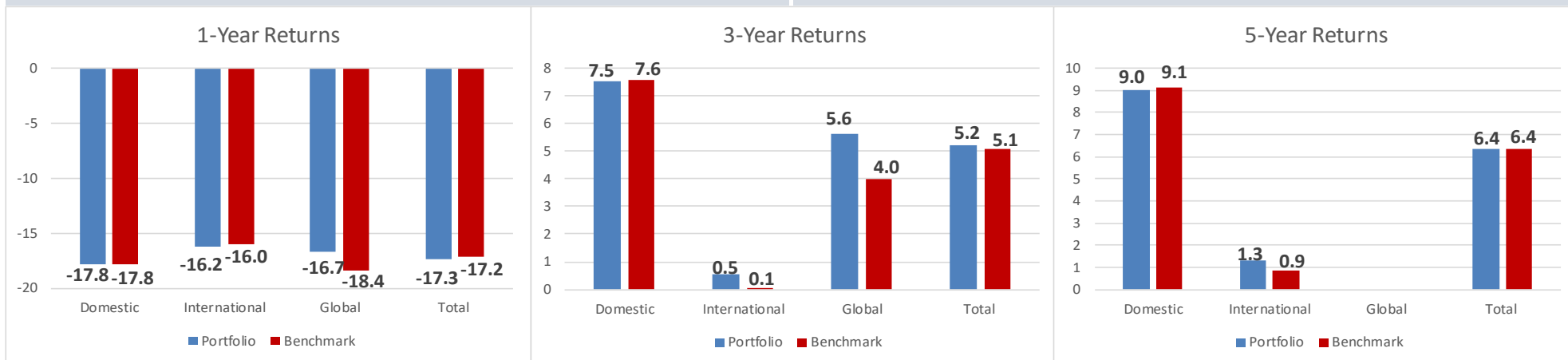
Portfolio Values				Asset Allocation			
Portfolio Values (000)	12/31/22	12/31/21	Difference	Asset Allocation	Range	Target	Actual 12/31/22
Domestic Equity	\$41,899,700	\$53,046,331	(\$11,146,631)	Domestic:	29-37%	33.0%	32.6%
International Equity	\$19,142,211	\$24,090,138	(\$4,947,927)	International:	11-19%	15.0%	14.9%
Global Equity	\$4,401,006	\$5,264,148	(\$863,142)	Global:	0-8%	4.0%	3.4%
<b>Total Public Equity</b>	<b>\$65,442,917</b>	<b>\$82,400,617</b>	<b>(\$16,957,700)</b>				

### Public Equity Portfolio Values:

- During the one-year period ended 12/31/22:
  - o \$1.6B (including dividends swept) was raised from domestic equities.
  - o \$1.0B was raised from international equities.
- Hence, the public equity portfolio decreased in value by \$14.4B for the one-year period.

### Asset Allocation

- Although modestly below target, public equities are well within asset allocation ranges.
- \$1.5B was raised from the domestic and international equities portfolios during the quarter.



### Commentary:

- All managers remain in good standing and are performing within our range of expectations.
- Positive quarter boosted by returns from international markets; strong overall relative performance for global strategies; continued style headwinds for growth managers.
- Funding of the GSAM India strategy was completed in December.



Investment Committee Meeting: January 25, 2023

	Sector/Portfolio	Mkt Val \$B	Asset Allocation %			Absolute Return %					Excess Return vs. Benchmark %				
			NAV	Target	Range	Qtr	FYTD	1-Yr	3-Yr	5-Yr	Qtr	FYTD	1-Yr	3-Yr	5-Yr
Internal	Dom. Fixed Income	16.73	13.0	16	12-20	1.68	-2.30	-10.01	-1.92	0.37	-0.18	0.61	3.06	0.76	0.31
	Short-Term Bond	2.33	1.8	1	0-4	0.93	1.47	1.72	0.83	1.37	0.11	0.21	0.35	0.27	0.36
External	Global Bonds	2.63	2.0	2	0-4	1.28	-2.46	-12.46	-2.34	0.59	0.24	0.43	0.51	0.80	0.52
	High Yield	1.17	0.9	1	0-3	4.36	3.82	-9.81	-0.29	2.14	0.04	0.28	0.78	0.09	-0.16

- All portfolios remain within asset allocation ranges; high yield nearing 1% target with additional fundings
- After declines in the 4 previous quarters, fixed income markets rallied as credit spreads declined and rates were little changed
- **Dom. Fixed Income:** Underperformed as negative from credit positioning outweighed positive from rates positioning<sup>1</sup>
- **Short-Term Bond:** Portfolio now yields over 4.2% as Fed rate hikes continue; remains diversified, high-quality and liquid
- **Global Bonds:** Outperformed largely due overweight in credit versus global treasuries
- **High Yield:** Slightly outperformed due to rates positioning and credit selection

Macroeconomic/Geopolitical Risks

- Markets reasonably expect rate hikes to end by summer, but are also pricing 2023-2024 rate cuts that the Fed does not forecast
- Inflation slowed as goods prices decline, but services remain high; central banks pushing back on easing financial conditions
- Forecasts for 2023 center around either very low growth or a recession for the US and world
- Growth and markets downside risks from the Russia/Ukraine war; upside risk from China's end of COVID shutdowns

<sup>1</sup>Domestic Fixed Income duration was -1.2 years vs. benchmark and -0.9 year excl. maturities under 1 year



<b>CRE Equity</b>	<b><u>12/31/22 Value</u></b>	<b><u>Target</u></b>	<b><u>Range</u></b>	<b><u>Actual</u></b>	<b><u>w/Commit</u></b>	
	<b>\$16,787</b>	<b>11%</b>	<b>6%-16%</b>	<b>13.1%</b>	<b>16.1%</b>	
<b>Performance for Periods Ended <u>September 30, 2022</u></b>						
<b>Strategy (Inception Date)</b>	<b>Net Asset Value</b>	<b>Current Quarter</b>	<b>1 Year</b>	<b>5 Year</b>	<b>10 Year</b>	<b>Since Inception</b>
Direct Properties (2/90)	\$6,506	0.4%	17.8%	9.1%	11.6%	9.9%
Core Funds (7/85)	\$1,920	-4.0%	9.7%	4.9%	7.2%	6.8%
Value Added (12/89)	\$1,440	-2.4%	19.6%	20.0%	18.4%	12.3%
Opportunistic (3/99)	\$2,748	-1.7%	13.3%	10.5%	11.3%	11.3%
U.S. RE Securities (7/95)	\$2,291	-8.5%	-15.7%	4.8%	7.2%	10.8%
Global RE Securities (9/17)	\$1,025	-11.1%	-21.7%	0.4%	-	0.2%
Timber (12/98)	\$284	0.7%	9.1%	5.6%	5.8%	4.4%
<b>Total CRE Equity Portfolio</b>	<b>\$16,214</b>	<b>-2.8%</b>	<b>6.1%</b>	<b>8.3%</b>	<b>10.2%</b>	<b>8.5%</b>
NCREIF-ODCE (Spliced)	-	0.3%	21.0%	9.9%	10.1%	7.0%

**Return Drivers:**

- The direct portfolio's one-year return continues to reflect the sell off in the public REIT markets that have experienced the same impact of an economic slowdown as the broader equity markets. Repricing in the private markets, driven by higher interest rates and limited debt availability, is now underway with cap rates across all property types rising back to pre-2020 levels. The office markets are of particular concern.

**Market Conditions**

- Transaction activity came to a halt in the fourth quarter with sellers not yet at a point where the need for liquidity outweighs the willingness to accept price discounts. Managers have been patient to invest over the last two quarters, waiting for opportunities to materialize.
- Strong demand fundamentals in industrial and multifamily have better positioned these sectors to withstand potential broader market turmoil, however after three years of unprecedented rent growth, expectations for continued market rent increases have moderated.

**Portfolio Focus:**

- Acquisitions is focused on maintaining vintage year diversification with high conviction managers in sectors with durable long term demand expectations such as industrial, multifamily, and necessity-based retail.

**Investment Activity:**

- The System closed on \$250 million of commitments to funds focused on investing in value-add multifamily and industrial strategies and recapitalized an £88 million position from an opportunistic European strategy into an open-end vehicle for continued growth of a studio infrastructure platform.



<b>CRE Debt</b>	<b>12/31/22 Value</b>	<b>Target</b>	<b>Range</b>	<b>Actual</b>	<b>w/Commit</b>	
	<b>\$7,998</b>	<b>6%</b>	<b>2%-10%</b>	<b>6.2%</b>	<b>7.5%</b>	
<b>Performance for Periods Ended September 30, 2022</b>						
<b>Strategy (Inception Date)</b>	<b>Net Asset Value</b>	<b>Current Quarter</b>	<b>1 Year</b>	<b>5 Years</b>	<b>10 Years</b>	<b>Since Inception</b>
First Mortgages (7/85)	\$3,237	-1.8%	-4.7%	2.6%	3.6%	7.8%
Commercial MBS (4/01)	\$2,317	-2.6%	-11.5%	1.0%	2.3%	4.3%
Core Plus Strategies (8/04)	\$1,848	0.5%	1.2%	4.1%	5.6%	4.6%
Opportunistic Debt (9/01)	\$588	1.5%	5.1%	5.9%	9.1%	0.9%
<b>Total CRE Debt Portfolio</b>	<b>\$7,990</b>	<b>-1.3%</b>	<b>-4.8%</b>	<b>2.8%</b>	<b>3.8%</b>	<b>7.7%</b>
Gilberto-Levy Custom Index (Spliced)	-	-4.2%	-10.1%	1.8%	2.9%	7.8%

**Return Drivers:**

- Negative performance for the current quarter and year was driven by a significant increase in lending rates, which primarily affected the System’s existing fixed rate portfolio that carried lower yields relative to the current market. Despite the markdowns in value, the System’s first mortgage portfolio is expected to be held to maturity and has a weighted average interest rate of 4.1%.

**Market Conditions:**

- 5-10 year first mortgages continue to provide an attractive risk adjusted return at interest rates in the 5.50%-5.75% range. However, overall transaction volume has significantly declined due to sellers not willing to adequately discount pricing in light of increased borrowing costs.
- Investment grade CMBS securities continue to provide yields in excess of 5.50%. However, consistent with first mortgages, new issuance and secondary transaction volumes have also significantly declined.
- Private senior mezzanine and bridge loans continue to provide net yields in excess of 7.50%.

**Portfolio Focus:**

- Core: Continue to pursue investment grade CMBS investments, and first mortgage investments on high quality, new vintage, stabilized assets.
- Non-Core: Focus on senior mezzanine and bridge lending opportunities that provide a strong risk adjusted return.
- Manage the \$1.2 billion of mortgage maturities on office properties in 2023.

**Investment Activity:**

- Invested over \$1.6 billion in real estate debt during 2022 consisting of approximately \$800 million in separate accounts/funds investing in mezzanine and bridge loans, \$700 million in CMBS, and \$130 million in first mortgages.



# Commercial Real Estate (CRE) Investments - Managing Director Update

Equity Real Estate Performance for Periods Ended September 30, 2022						
Strategy (Inception Date)	Net Asset Value	Current Quarter	1 Year	5 Year	10 Year	Since Inception
Direct Properties (2/90)	\$6,506	0.4%	17.8%	9.1%	11.6%	9.9%
Core Funds (7/85)	\$1,920	-4.0%	9.7%	4.9%	7.2%	6.8%
Value Added (12/89)	\$1,440	-2.4%	19.6%	20.0%	18.4%	12.3%
Opportunistic (3/99)	\$2,748	-1.7%	13.3%	10.5%	11.3%	11.3%
U.S. RE Securities (7/95)	\$2,291	-8.5%	-15.7%	4.8%	7.2%	10.8%
Global RE Securities (9/17)	\$1,025	-11.1%	-21.7%	0.4%	-	0.2%
Timber (12/98)	\$284	0.7%	9.1%	5.6%	5.8%	4.4%
<b>Total CRE Equity Portfolio</b>	<b>\$16,214</b>	<b>-2.8%</b>	<b>6.1%</b>	<b>8.3%</b>	<b>10.2%</b>	<b>8.5%</b>
<b>Blended Benchmark*</b>	<b>-</b>	<b>-2.1%</b>	<b>5.3%</b>	<b>6.6%</b>	<b>8.4%</b>	<b>6.6%</b>

Debt Real Estate Performance for Periods Ended September 30, 2022						
Strategy (Inception Date)	Net Asset Value	Current Quarter	1 Year	5 Years	10 Years	Since Inception
First Mortgages (7/85)	\$3,237	-1.8%	-4.7%	2.6%	3.6%	7.8%
Commercial MBS (4/01)	\$2,317	-2.6%	-11.5%	1.0%	2.3%	4.3%
Core Plus Strategies (8/04)	\$1,848	0.5%	1.2%	4.1%	5.6%	4.6%
Opportunistic Debt (9/01)	\$588	1.5%	5.1%	5.9%	9.1%	0.9%
<b>Total CRE Debt Portfolio</b>	<b>\$7,990</b>	<b>-1.3%</b>	<b>-4.8%</b>	<b>2.8%</b>	<b>3.8%</b>	<b>7.7%</b>
<b>Blended Benchmark*</b>	<b>-</b>	<b>-3.9%</b>	<b>-10.3%</b>	<b>1.7%</b>	<b>2.9%</b>	<b>7.8%</b>

\* 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.



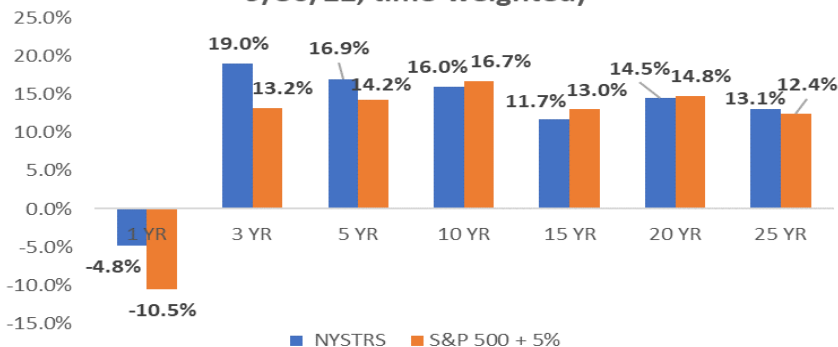
# Private Equity/Debt MD Update

## January 25, 2023

### Private Equity – 9% Target (4-14%)

- 12/31/22 - \$13.7bn or approx. 10.7% vs. target
- \$6.9bn unfunded

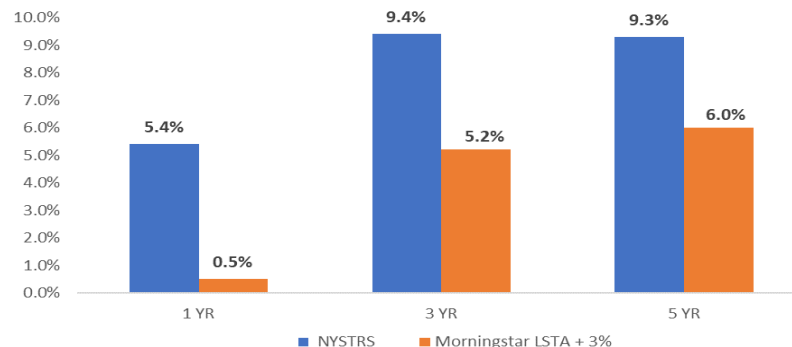
NYSTRS Private Equity Performance (as of 9/30/22, time-weighted)



### Private Debt – 2% Target (0.5-5%)

- 12/31/22 - \$1.7bn or approx. 1.3% vs. target
- \$1.4bn unfunded

NYSTRS Private Debt Performance (as of 9/30/22, time-weighted)



### Market Overview:

- Overall fundraising has slowed given investors are generally overallocated to private equity.
- PE deal activity has slowed due to market conditions; public to private & add on transactions majority of current activity.
- PE valuations continue to trend down; approximately 2% decline from 6/30/22. PD up; approx. 1.3% form 6/30/22.
- Private debt markets continue to take share as the slowdown in high-yield bond and leveraged loan issuance persists.

### Other Items:

- Team – new investment officer (entry level) starting early February; potential to add a second in the near term.

# Oil Sands Industry Analysis



Paul Cummins, CFA, CAIA

Ryan Ranado, CFA

January 25<sup>th</sup>, 2023

# Overview

- NYSTRS is a universal owner of the global public markets with a highly diversified long-term portfolio
  - NYSTRS believes markets are generally efficient, therefore;
  - For divestment to be considered there must be uncompensated risks that outweigh the diversification benefit of broad market ownership
- NYSTRS Responsible Stewardship policy contains two criteria to consider divestment:
  - Any company that fails to address identified risks after engagement steps have been taken; or
  - Has a quantifiable and material current and/or potential negative financial impact that cannot be resolved through engagement
- Focus on companies that derive greater than 10% of revenue from oil sands



# Public Policy and Industry Initiatives

- The Canadian government signed the Paris Agreement in 2015, and committed to achieving Net-Zero carbon emissions by 2050.
  - Canada has instituted a carbon tax above an allowable limit which was C\$50 per ton of CO<sub>2</sub> in 2022, rising C\$15 per year to C\$170 per ton in 2030.
  - Canada is also evaluating legislation which would impose a limit of 100 Megatonnes (Mt) per year on the oil sands industry.
- All five companies have joined the Pathways Alliance, a collaboration between the oil sands companies, the Alberta government, and the federal government.
  - By joining, all members have committed to achieving Net-Zero carbon emissions by 2050 from their operations.
  - The most notable action thus far is a major Carbon Capture and Storage (CCUS) project which would capture CO<sub>2</sub> before it is released, then transport and store it underground.



## Responsible Stewardship Policy Criteria for Divestment

Do the companies fail to address identified risk after engagement steps have been taken?

- Canadian government instituted a carbon tax and is evaluating legislation for a hard cap on emissions
- Companies have net-zero pledges by 2050
- Pathways Alliance has initiated major carbon capture storage project
- Companies have responded to NYSTRS engagement letters
- Favorable initial KPI assessment

Conclusion: The oil sands companies are addressing climate risk, and are responsive to initial engagement.

Does not meet this divestment criteria

Do the companies have quantifiable and material negative financial impacts that cannot be resolved through engagement?

- The oil sands companies trade at discounts relative to peers
- Canadian government oversight provides transparency reducing the likelihood of unexpected negative events
- Companies have low leverage, generate free cash flow, and pay dividends

Conclusion: There does not appear to be uncompensated risk associated with owning these oil sands companies.

Does not meet this divestment criteria

Staff recommends continued ownership and engagement of oil sands companies





## Appendix G

Investment Committee Meeting – Agenda pp 42-43

January 25, 2023

### COMMITTEE MEMBERS

Nicholas Smirensky, Chair

Elizabeth Chetney, David Keefe, Jennifer Longtin, Ruth Mahoney, Christopher Morin

### MINUTES

A. Approval of Minutes of October 26, 2022 Meeting pp. 44-52

### STAFF UPDATES

- |   |            |
|---|------------|
| A. Investment Comm Exec Summary – M. Andriola pp. 53-59 | 10 minutes |
| B. Public Equities Update – P. Cummins pp. 60-61        | 15 minutes |
| C. Fixed Income Update – M. Federici p. 62              | 15 minutes |
| E. Real Estate Update – D. Gillan pp. 63-65             | 15 minutes |
| F. Private Equity/Debt Update – G. Yahoudy p. 66        | 15 minutes |

### PRESENTATIONS

- A. General Consultant Update – Callan pp. 67-82
- B. Oil Sands Industry Analysis – P. Cummins, R. Ranado pp.83-86
- C. Real Estate Direct Property Advisor Update – D. Gillan pp. 87-90  
(motion for **Executive Session** pursuant to Open Meetings Law Section 105(f))

### INVESTMENT COMMITTEE ACTION REQUIRED

- A. **Consent Agenda Recommendation Item 1-2** pp. 91-103
  - 1. Renew Consultant
    - 1. Callan – General Investment Consultant p. 91
  - 2. Renew Managers:
    - a. AEW Capital Management p. 92
    - b. Ariel Investments LLC p. 93
    - c. Arrowstreet p. 94
    - d. Bank of New York Mellon (Securities Lending) p. 95
    - e. BlackRock Financial Management, Inc (CMBS) p. 96
    - f. Cohen & Steers Capital Mgt-Multi Strategy p. 97
    - g. Columbia Management Investment Advisers LLC p. 98
    - h. J.P. Morgan Investment Management Inc p. 99
    - i. Principal Real Estate Investors p. 100
    - j. Raith Capital Partners p. 101
    - k. RhumbLine Advisors LP p. 102
    - l. Xponance (f/k/a FIS Group) p. 103
  - 3. Resolution to Transition Properties from Invesco p. 104



**Informational Reports**

1. EDCIO Investment Discretion Report pp. 105-107
2. Mail Vote Quarterly Board Report p. 108



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

**TO:** Retirement Board Appendix H  
**FROM:** T. Lee  
**SUBJECT:** Quarterly Report of Executive Director and Chief Investment Officer Investment Discretion Exercised October – December 2022

**Fixed Income**

<b>Period</b>	<b>Action Taken</b>	<b>Amount</b>
Q/E 12/31/22	Net cash reallocated <b>out of</b> internally managed Long-Term Bonds	\$283.2M
Q/E 12/31/22	Net cash reallocated <b>into</b> High Yield	\$150.0M

**Public Equities**

<b>Period</b>	<b>Action Taken</b>	<b>Amount</b>
Q/E 12/31/2022	Net cash reallocated <b>out of</b> internally managed domestic equity portfolios	\$471.1M
Q/E 12/31/2022	Net cash reallocated <b>out of</b> externally managed international equity portfolios (BlackRock \$600M; SSgA \$500M)	\$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 2022

**Real Estate - New Commitments**

<b>Date of Internal Inv. Comm. Approval</b>	<b>Investment Name</b>	<b>Amount</b>	<b>New or Renew</b>
November 2 2022	Exeter VI	\$50M	Renew
November 2 2022	PGVSCSp	88GBP (approx. \$102M)	New

**Real Estate**

<b>Period</b>	<b>Action Taken</b>	<b>Amount</b>
Q/E 12/31/2022	Net cash reallocated <b>out of</b> Public REIT portfolios	\$125M



**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 2022

**Private Equity/Debt – New Commitments**

<b>Date of Internal Inv. Comm. Approval</b>	<b>Investment Name</b>	<b>Amount</b>	<b>New or Renew</b>
11-10-2022	Cressey & Co Fund VII	\$100M	Renew



**NEW YORK STATE  
TEACHERS' RETIREMENT SYSTEM**

**Board Mail Votes**

Appendix I

**TO:** Retirement Board  
**FROM:** T. Lee  
**SUBJECT:** Quarterly Board Report of Mail Votes<sup>i</sup> for the period October – December 2022

<b>Date</b>	<b>Type</b> (Full Board Vote or Investment Committee Vote)	<b>Transaction</b>
	- None -	

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

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

The Investment Committee of the Retirement Board reconvened at the System on January 26, 2023. Nicholas Smirensky, Chair, called the meeting to order at 8:30 a.m.

ATTENDANCE

Investment Committee

Elizabeth Chetney, David Keefe, Jennifer Longtin-via WebEx, Ruth Mahoney, Christopher Morin-via WebEx, Nicholas Smirensky

Board Members

Juliet Benaquisto, Eric Iberger, Phyllis Harrington, 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, Heidi Brennan, Ryan Ranado, Melody Prangle, Justin Milanese, Sam Silver, Bridget Seager, Jeff Schubert, Stacey Lesser Meehan

Visitors

Via WebEx: Pete Savage from NYSUT-via WebEx; Greg Berck from the NYSCOSS-via WebEx; Donna Martin from Albany-via WebEx; Christopher Albanese and Felipe Esguerra from BlackRock-via WebEx; Robert Steyer from Pensions&Investments-via WebEx

In Person: Edward Rezny, recently retired from NYSTRS

The Committee reconvened to further consider and hear additional information and clarification from H. Yik, Senior Adviser to EDCIO-Stewardship, P. Cummins and R. Ranado regarding NYSTRS' oil sands holdings.

1. Resolution Regarding NYSTRS' Oil Sands Holdings

Upon motion of E. Chetney and seconded by D. Keefe, the members of the Investment Committee voted unanimously to recommend the following item to the Board:

WHEREAS, The System is a long-term investor participating in broad global markets that are transitioning to a lower-carbon economy; and

WHEREAS, Consistent with its fiduciary duties, the Board is engaged in a comprehensive, deliberative due diligence process of evaluating the long-term economic impact of climate change on the System's investments; and

WHEREAS, The Board adopted a climate action plan at its December 2021 meeting with directive for staff to complete due diligence on the oil sands industry and provide recommendations regarding the System's oil sands holdings to the Board at its January 2023 meeting; and

WHEREAS, Throughout 2022, staff conducted their due diligence including meeting with industry experts, attending climate-related conferences, reviewing company specific documents, and reviewing government sponsored initiatives; and

WHEREAS, Staff presented an update to the Investment Committee at the January 2023 meeting with report that all oil sands companies held by the System are working with their respective federal and local governments and have made pledges and outlined plans to achieve net-zero greenhouse emissions from operations by 2050, as well as currently working towards a reduction in greenhouse gas emissions by 22Mt per year by 2030;

NOW THEREFORE, BE IT

RESOLVED, That the Investment Committee approves staff's recommendation for continued ownership and inclusion on the Restricted List of the System's oil sands company holdings,

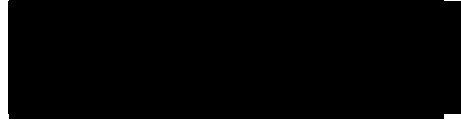
AND BE IT FUTHER



RESOLVED, That staff is directed to continue to conduct ongoing engagement, monitoring, and assessment of these oil sands companies and provide the Board with updates and recommendations as part of staff's annual Responsible Stewardship report.

There being no further business, the Committee adjourned at 8:48 a.m.

Respectfully submitted,

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

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Thomas K. Lee

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

Disability Review Committee Meeting

A meeting of the Disability Review Committee of the Retirement Board was held at the System on January 26, 2023. The meeting was called to order at 8:48 a.m. by Elizabeth Chetney, Chair.

The following individuals were in attendance:

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

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

Visitors

Via WebEx: Pete Savage from NYSUT-via WebEx; Greg Berck from the NYSCOSS-via WebEx; Donna Martin from Albany-via WebEx; Christopher Albanese and Felipe Esguerra from BlackRock-via WebEx; Robert Steyer from Pensions&Investments-via WebEx

In Person: Edward Rezny, recently retired from NYSTRS

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

E. Chetney, Chair, reported that the System's Medical Board had met monthly over the prior three months and that a disability denial resolution would be brought to the Board at its meeting on January 26.

There being no further business and with unanimous consent, the meeting adjourned at 8:49 a.m.

Respectfully submitted,

  
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 26, 2023.

The following individuals were in attendance:

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

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

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

Visitors during open session:

Via WebEx: Pete Savage from NYSUT-via WebEx; Greg Berck from the NYSCOSS-via WebEx; Donna Martin from Albany-via WebEx; Christopher Albanese and Felipe Esguerra from BlackRock-via WebEx; Robert Steyer from Pensions&Investments-via WebEx

In Person: Edward Rezny, recently retired from NYSTRS

The meeting was called to order by D. Keefe, Chair, at 8:49 a.m.

The following items were discussed:

1. Approval of minutes from October 27, 2022 meeting

Upon motion of P. Harrington, seconded by O. Robinson and unanimously carried, the minutes of the October 27, 2022 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. Legislative Update

D. Ampansiri and Y. Ruoso provided a recap of 2022 legislation affecting the System and provided next steps for carrying forward a remaining 2022 Program Bill into 2023, Appendix B, pp. 9-16.

#### a. Resolution Approving Addition to 2023 Legislative Program

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

WHEREAS, The 2023 Legislative Program, was presented to the Retirement Board by System staff at the October 2022 Retirement Board meeting, approved by the Executive Director and Chief Investment Officer, and adopted, as such, authorizing System staff to seek introduction of the proposal,

WHEREAS, The Retirement Board concurs with staff recommendation to now augment said 2023 Legislative Program by authorizing System staff to include and resubmit Program Bill 2022-6 from the 2022 Legislative Program for introduction and enactment,

NOW THEREFORE, BE IT

RESOLVED, That the Retirement Board approves the inclusion and resubmittal for introduction and enactment of Program Bill 2022-6 as part of the 2023 Legislative Program as Program Bill 2023-2.

### 4. Update Short Term Succession Plan

The Committee reviewed the updated short term succession plan, Appendix C, pp 17-19.

### 5. Business Continuity Plan Update and Disaster Response

Upon motion of P. Harrington, seconded by O Robinson and unanimously carried, the Committee went into Executive Session at 9:08 a.m. to hear Business Continuity Plan updates given by M. Dixon and V. Madala. The Committee was also updated on a personnel matter.

Upon motion of P. Harrington, seconded by O. Robinson and unanimously carried, the Committee came out of Executive Session at 9:34 a.m.

a. Resolution on Business Continuity Plan

Upon motion of O. Robinson, 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 2023 is approved and accepted.

Having no further business and with unanimous consent, the meeting adjourned at 9:35 a.m.

Respectfully submitted,

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

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Thomas K. Lee

NEW YORK STATE  
TEACHERS' RETIREMENT SYSTEM

MEMORANDUM

TO: T. Lee

FROM: Office of the CFO / Finance Department

DATE: January 26, 2023

SUBJECT: Retirement Board Package

Attached are the System's quarterly financial statements and related schedules for the quarters ended December 31, 2022 and 2021.

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, 2022 and 2021

<b>Assets</b>	<b>2022</b>	<b>2021</b>
Investments at fair value:		
Domestic equity	\$ 41,862,952,006	\$ 53,013,278,193
International equity	19,068,326,111	24,026,403,060
Global equity	4,382,723,603	5,251,981,689
Real estate equity	16,768,066,573	16,373,564,605
Private equity	13,715,148,932	14,203,216,518
Domestic fixed income	16,629,197,734	19,971,378,201
High-yield bonds	1,151,014,009	1,029,530,150
Global bonds	2,635,245,239	3,274,182,648
Real estate debt	7,988,763,462	7,592,725,026
Private debt	1,704,240,865	1,239,530,588
Cash equivalents	2,227,706,722	5,406,493,587
Total investments	<u>128,133,385,256</u>	<u>151,382,284,265</u>
Receivables:		
Employer	922,245,860	845,156,726
Member	84,380,849	68,432,451
Investment income	294,967,952	259,690,372
Investment sales	190,126,016	105,809,830
Total receivables	<u>1,491,720,677</u>	<u>1,279,089,379</u>
Other assets:		
Securities lending collateral, invested	568,663,189	415,304,873
Member loans	242,969,870	235,807,636
Net investment in capital assets	20,016,160	21,946,413
Miscellaneous assets	30,371,931	85,980,968
Total other assets	<u>862,021,150</u>	<u>759,039,890</u>
Total assets	<u>130,487,127,083</u>	<u>153,420,413,534</u>
Deferred outflows of resources:		
Changes in net OPEB liability	10,703,193	10,903,816
Changes in net pension liability	18,052,606	21,766,822
Total deferred outflows of resources	<u>28,755,799</u>	<u>32,670,638</u>
<b>Liabilities</b>		
Securities lending collateral, due to borrowers	566,656,847	413,454,360
Investment purchases payable	111,126,811	379,341,703
Mortgage escrows and deposits, net of investments	14,581,623	9,201,820
Net OPEB liability	34,792,089	47,187,493
Other liabilities	123,632,503	141,018,173
Total liabilities	<u>850,789,873</u>	<u>990,203,549</u>
Deferred inflows of resources:		
Changes in net OPEB liability	13,229,678	4,276,117
Changes in net pension liability	33,768,375	32,275,181
Total deferred inflows of resources	<u>46,998,053</u>	<u>36,551,298</u>
<b>Net position restricted for pensions</b>	<b><u>\$129,618,094,956</u></b>	<b><u>\$152,426,329,325</u></b>



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

For the six months ending December 31, 2022 and 2021

<b>Additions:</b>	<b><u>2022</u></b>	<b><u>2021</u></b>
Investment income:		
Net (decrease) increase in fair value of investments	\$ (419,487,932)	\$ 6,228,243,320
Interest	423,120,272	388,163,282
Dividends	661,436,070	663,964,028
Real estate, net operating income	285,543,889	258,198,123
Securities lending, gross earnings	9,417,309	1,725,431
Other (net)	2,835,169	7,242,098
	<u>962,864,777</u>	<u>7,547,536,282</u>
Less: Investment expenses	202,105,217	197,317,397
Securities lending:		
Broker rebates	6,291,715	(586,468)
Management fees	439,987	306,328
(Appreciation) on collateral	(66,200)	(18,727)
Net investment income	<u>754,094,058</u>	<u>7,350,517,752</u>
Contributions:		
Employer	958,029,775	876,296,426
Member	94,830,811	80,620,267
Transfers (to)/from other systems	5,632,964	2,829,988
Total contributions	<u>1,058,493,550</u>	<u>959,746,681</u>
Net additions	<u>1,812,587,608</u>	<u>8,310,264,433</u>
<b>Deductions:</b>		
Retirement benefit payments, periodic	4,071,923,208	3,951,745,267
Beneficiary payments	42,271,764	36,692,854
Return of contributions	10,597,521	9,813,706
Administrative expenses	35,107,969	34,140,644
Total deductions	<u>4,159,900,462</u>	<u>4,032,392,471</u>
<b>Net (decrease) increase in net position</b>	<b>(2,347,312,854)</b>	<b>4,277,871,962</b>
<b>Net position restricted for pensions, beginning of year</b>	<b><u>131,964,582,107</u></b>	<b><u>148,148,457,363</u></b>
<b>Net position restricted for pensions, end of period</b>	<b><u><u>\$129,617,269,253</u></u></b>	<b><u><u>\$152,426,329,325</u></u></b>





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

	Budget Appropriations 2022-2023	Expenses and Encumbrances YTD 12/31/2022	Remaining Balance 12/31/2022	Actual Expenses YTD 12/31/2022
<b>Salaries:</b>				
Salaries	\$ 40,145,057	\$ 17,218,610	\$ 22,926,447	\$ 17,218,610
Overtime salaries	65,000	19,131	45,869	19,131
Social Security	2,843,519	1,136,983	1,706,536	1,136,983
Subtotal Salaries	43,053,576	18,374,724	24,678,852	18,374,724
<b>Benefits</b>				
Employees retirement	5,265,599	1,970,071	3,295,528	1,970,071
Dental insurance	280,405	139,982	140,423	139,982
Health insurance	7,461,960	3,352,466	4,109,494	3,350,249
OPEB contribution	6,394,396	3,197,198	3,197,198	3,197,198
Civil service	60,000	28,500	31,500	28,500
Subtotal Benefits	19,462,360	8,688,217	10,774,143	8,686,000
Total salaries and benefits	62,515,936	27,062,941	35,452,995	27,060,724
<b>Building occupancy:</b>				
Building security and vending	376,473	344,189	32,284	145,136
Building supplies and expenses	136,000	69,202	66,798	69,202
Heat, light and power	370,000	205,692	164,308	205,692
Insurance	570,000	530,230	39,770	46,008
Municipal assessments	227,500	58,045	169,455	58,045
Office supplies and expenses	172,850	52,522	120,328	51,992
Storage	60,000	55,531	4,469	25,430
Telephone	615,000	347,456	267,544	275,931
Total building occupancy	2,527,823	1,662,867	864,956	877,436
<b>Computer:</b>				
IT Hardware Purchases	850,000	443,642	406,358	424,931
IT Software Purchases	535,000	433,666	101,334	428,600
Software and support services	4,669,955	2,881,777	1,788,178	1,886,167
Computer supplies	20,000	—	20,000	—
Total computer	6,074,955	3,759,085	2,315,870	2,739,698
<b>Personnel and meeting:</b>				
Board - meetings, travel and education	126,000	66,166	59,834	50,791
Delegates meeting	65,000	628,548	(563,548)	628,548
Dues	351,885	105,520	246,365	105,460



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

Compared to Budget Appropriations for 2022-2023

	Budget Appropriations 2022-2023	Expenses and Encumbrances YTD 12/31/2022	Remaining Balance 12/31/2022	Actual Expenses YTD 12/31/2022
<b>Personnel and meeting (continued):</b>				
Employee Engagement	\$ 28,950	\$ 5,232	\$ 23,718	\$ 5,232
Library	48,570	23,492	25,078	20,833
Overtime meals	2,150	341	1,809	341
Personnel expenses	83,000	103,262	(20,262)	83,241
Pre-retirement seminars	90,000	—	90,000	—
Staff schooling	601,045	222,011	379,034	174,186
Travel and automobile expense	187,050	84,665	102,385	84,665
Tuition assistance	50,000	17,627	32,373	17,627
Wellness fund	9,000	3,575	5,425	3,250
Total personnel and meeting	<u>1,642,650</u>	<u>1,260,439</u>	<u>382,211</u>	<u>1,174,174</u>
<b>Professional and governmental services:</b>				
Auditors - financial	420,000	323,730	96,270	267,230
Auditors - insurance department	160,000	508,810	(348,810)	—
Disability medical examinations	100,000	41,300	58,700	41,300
Postage and cartage	780,150	479,204	300,946	479,204
Professional fees and services	1,973,255	882,519	1,090,736	468,420
Publications	170,000	185,045	(15,045)	156,825
Statutory custodian charges	140,000	71,250	68,750	71,250
Total professional and governmental services	<u>3,743,405</u>	<u>2,491,858</u>	<u>1,251,547</u>	<u>1,484,229</u>
<b>Capital improvement program:</b>				
Depreciation - building and improvements	1,977,943	1,009,342	968,601	1,009,342
Depreciation - equipment	228,844	63,183	165,661	63,183
Amort./depreciation - computer micro	1,043,381	452,990	590,391	452,990
Building improvement expense	125,000	119,882	5,118	97,131
Building maintenance contracts	693,000	592,741	100,259	94,073
Equipment	121,000	23,178	97,822	23,178
Equipment maintenance	76,838	48,138	28,700	15,234
Computer equipment maintenance	387,788	—	387,788	—
Fleet maintenance	30,000	16,577	13,423	16,577
Capital contingency	566,206	—	566,206	—
Total capital improvement program	<u>5,250,000</u>	<u>2,326,031</u>	<u>2,923,969</u>	<u>1,771,708</u>
Total Administration Expenses	<u>\$ 81,754,769</u>	<u>\$ 38,563,221</u>	<u>\$ 43,191,548</u>	<u>\$ 35,107,969</u>



# Legislative Update

January 2023



# 2022 State Legislative Wrap-Up



## **Chapter 720 of the Laws of 2022 – Ordinary Death Benefits**

- Enacted into law December 16, 2022
- Effective date of April 1, 2023
- Retirement and Social Security Law §§448, 508 and 606 amended to update the age at which reductions to the ordinary death benefit commence for active members of NYSTRS and NYSLRS

## **Chapter 775 of the Laws of 2022 - Investments by Public Plans**

- Enacted into law and effective on December 23, 2022
- Retirement and Social Security Law §177 (subdivision 9) amended to increase to 35% from 25%
- Subdivision 9 → leeway or basket clause
- Last amended in 2006

## **Chapter 783 of the Laws of 2022 – COVID Accidental Death Benefit Extender**

- Enacted December 23, 2022
- Effective immediately and applicable back to March 1, 2020
- Extends this benefit to all those who die on or before December 31, 2024

# Veto 138

Omnibus veto of retirement legislation – 17 bills vetoed

Due to lack of “funding source or plan to cover costs”

NYSTRS program bill S9296/A7184-A included in veto message

Program bill amended the Education Law to allow a NYSTRS service retiree who returns to active service, suspends their pension benefit, and earns at least 2 years of service credit after their restoration to active service, to elect a full recalculation upon retiring again.

- A recalculation combines the service credit and salary they earned before their initial retirement with service credit and salary earned after restoration to active service.
- Recalculations require the return of the amount of pension previously received plus interest, either in a lump sum or by an actuarial reduction of their recalculated pension.
- With the veto, NYSTRS provisions remain unchanged and must continue to attain 5 years of service credit since restoration to active service to be eligible for a full recalculation.
- NYSLRS members, under RSSL §101, may avail themselves of a recalculation after 2 years of member service after restoration.

# 2023 Proposals & Next Steps

- October Board Meeting approved and authorized System staff to move forward with legislation seeking the return of the transfer of reserves for members transferring between state plans with 10 or more years of credited service.

Program bill 23-1 – no cost

- Next steps for vetoed legislation  
Reintroduce proposal
- Executive Budget Bills, end of January  
Staff will report to Retirement Board at the April Board Meeting

# Other 2023 Legislation

## S631

- Senator Comrie
- Relates to participation and contracting of NYS MWBE asset management and investment firms for state pension funds
- 20% of total assets under management

## A1083

- Assemblymember Paulin
- Adds a school business official to NYSTRS Board

## S899/A1101

- Senator Brisport and Assemblymember Kelles
- NYSTRS Fossil Fuel Divestment Act
- 24 Senate sponsors
- 54 Assembly sponsors

# SECURE 2.0

## Setting Every Community Up for Retirement Enhancement Act

- The Consolidated Appropriations Act was signed by the President on December 29, 2022 and included “SECURE 2.0” retirement reform legislation
- 90 separate provisions
- Some provisions took effect January 1, 2023
- Other provisions over the next few years



# SECURE 2.0

## **Mandatory**

### RMD for 401(a) DB plans

- Raises the RMD age to “applicable age”
- Age 73 on 1/1/2023
- Incremental increase to age 75 by 1/1/2033

## **Optional\***

Recovery of Overpayments – IRC amended to allow fiduciary discretion on inadvertent overpayments to members and beneficiaries

Expansion of EPCRS – allows broader self-correction  
(Employee Plans Compliance Resolution System)

Updating the dollar limit for mandatory distributions

**Staff are reviewing the optional provisions, consulting with other state pension plans and tax counsel and will return to the Retirement Board with a more detailed summary and recommendation on the application to defined benefit plans.**

\*The effective dates for optional provisions vary; staff is confirming with the Groom Law Group on applicability






**New York State Teachers' Retirement System**

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

**RETIREMENT BOARD**

David P. Keefe <i>President</i>	Hempstead
L. Oliver Robinson <i>Vice President</i>	Clifton Park
Juliet C. Benaquisto	Schenectady
Elizabeth A. Chetney	Baldwinsville
Phyllis S. Harrington	Oceanside
Eric J. Iberger	Bayport-Blue Point
Jennifer J. Longtin	Ballston Lake
Ruth Mahoney	Albany
Christopher Morin	Scarsdale
Nicholas Smirensky	Delmar

Thomas K. Lee, Executive Director & CIO

## Appendix C

### Annual Executive Director & Chief Investment Officer Short Term Succession Plan

Pursuant to Section 13 of the ED&CIO Charter, and as further set forth in the Short Term ED&CIO Succession Plan, I, Thomas K Lee, hereby name the following members of the executive staff to assume my duties in the event of an emergency where I cannot be reached, or in the event of a temporary incapacitation preventing me from fulfilling my responsibilities. The individuals designated below will assume respective ED and CIO responsibilities as indicated on the attached schedule A.

#### ED Responsibilities

Primary: Beth Dellea  
 Backup: Miriam Dixon

#### CIO Responsibilities

Primary: Dave Gillan  
 Backup: Gerald Yahoudy

These designations will remain in effect from January 4, 2023 - June 30, 2023, unless alternative names are submitted to the Board prior to the end of this period.

Thomas K. Lee

January 3, 2023

Date

### Charter for the Executive Director/Chief Investment Officer

Purpose and Responsibilities: The Executive Director/Chief Investment Officer is the chief executive officer of the System. The Executive Director/Chief Investment Officer has the following primary responsibilities:

1. Oversee the orderly and efficient operation of the System and ensure the System's business is conducted in accordance with applicable law and the System's Bylaws, Rules and Regulations, and established policies and procedures. **[ED]**
2. Oversee the preparation of the System's budget and presentation to the Retirement Board. **[ED]**
3. Oversee the Actuary's calculation of the employer contribution rate and recommendations for any changes in actuarial factors submitted to the Retirement Board for its approval. **[ED]**
4. Develop and recommend to the Retirement Board necessary investment policies and procedures and assure timely and proper implementation of policies and procedures approved by the Retirement Board. **[CIO]**
5. Oversee the investment of System assets in accordance with the directions and policies established by the Retirement Board, and monitor and report to the Retirement Board on the activities and performance of the System's internally managed investment portfolios and third-party investment managers. **[CIO]**
6. Oversee the administration and payment of System benefits and report to the Retirement Board on the significant activities of benefits staff. **[ED]**
7. Ensure an effective system of internal control is in place for financial reporting and risk management and oversee the work of the System's internal audit staff and external independent auditor. **[ED/CIO]**
8. Serve as the System's primary representative to constituent groups, industry organizations and all other interested parties and stakeholders. **[ED/CIO]**
9. Oversee the preparation and submission of the System's legislative program, the preparation of any necessary changes to the System's Rules and Regulations recommended for approval by the Retirement Board, and reporting on any litigation to which the System is a party. **[ED/CIO]**
10. Serve on the Ethics Committee of the Retirement Board. **[ED]**
11. Be available to discuss matters of importance with the Retirement Board and its Committees, and ensure the Board is informed regarding any matter of importance to the System. **[ED/CIO]**
12. Provide reports for the Retirement Board regarding succession planning, actual or impending vacancies among executive staff positions, evaluations of the executive staff, and status of the employee contract negotiations. **[ED/CIO]**

13. Ensure continuity of services by naming one or more executives to temporarily assume the Executive Director's duties in the event the Executive Director cannot be reached during an emergency or becomes temporarily incapacitated. If more than one executive is named, the specific responsibilities assigned to each executive will be clearly defined. **[ED]**

14. Coordinate the scheduling of meetings of the Retirement Board and Retirement Board Committees; coordinate the preparation of meeting agendas and the assembly of all documentation and presentations for such meetings; and cause minutes to be taken of all such meetings. **[ED]**

15. Perform such other duties as may be assigned by the Retirement Board. **[ED/CIO]**

The Board may, by resolution, authorize the Executive Director/Chief Investment Officer to delegate any or all of his/her duties.

*(Source: NYSTRS Bylaws)*

NEW YORK STATE  
TEACHERS' RETIREMENT SYSTEM  
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 26, 2023. The meeting was called to order by Ruth Mahoney, Chair, at 9:35 a.m.

The following individuals were in attendance:

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

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

NYSTRS Staff: Thomas Lee, Don Ampansiri, Matt Albano, Miriam Dixon

Also participating via WebEx: Attorney Ed Cleese, Reed-Smith

Visitors during open session:

Via WebEx: Pete Savage from NYSUT-via WebEx; Greg Berck from the NYSCOSS-via WebEx; Donna Martin from Albany-via WebEx; Christopher Albanese and Felipe Esguerra from BlackRock-via WebEx; Robert Steyer from Pensions&Investments-via WebEx

In Person: Edward Rezny, recently retired from NYSTRS

Upon motion of N. Smirensky, seconded by E. Chetney and unanimously carried, the minutes from the October 27, 2022 meeting were approved.

M. Albano provided an update and reported on the review and integration of NYSTRS' policies and procedures governing Conflicts of Interest, Appendix A.

The Committee went into Executive Session with a motion made by N. Smirensky, seconded by E. Chetney and unanimously carried at 9:42 a.m. to hear reports on Annual Disclosure Statements and EDCIO quarterly disclosures.

The meeting came out of Executive Session and, there being no further business, adjourned at 9:45 a.m.

Respectfully submitted,

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

---

Thomas K. Lee

# Managing and Reporting Conflicts of Interest Update

Ethics Committee, January 2023

Matt Albano, CFA, Risk Officer





# Purpose

Status update on the review and integration of NYSTRS' policies and procedures governing Conflicts of Interest (COI).



# Steering Committee

- Miriam Dixon, Managing Director of Administration
- Don Ampansiri, Deputy General Counsel
- Matt Albano, Risk Officer

# Accomplishments

- Outside counsel review and assessment of NYSTRS' conflict of interest and personal trading policies
- ED & CIO transparency and disclosure
- Internal Investment Committee conflict certification
- Personal trade monitoring
  - Conflict of interest certification questions
  - Consultation request
  - Communication



# Update

- Outside Affiliations Guidelines
  - Must preclear the outside affiliation if the affiliation creates a real or appearance of a conflict of interest
  - Proactive review prior to commitment

# Next Steps

- Formalize
  - Updates to investment restriction process
  - Process for escalation and review of compliance matters
  - Process for non-participation when a conflict exists
  - Review and integrate policies

# Managing and Reporting Conflicts of Interest Update

Questions?

**NEW YORK STATE  
TEACHERS' RETIREMENT SYSTEM**

**BOARD MEETING  
January 26, 2023**

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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 26, 2023. The meeting was called to order at 9:47 a.m. by President David Keefe. Phyllis Harrington led the group in the Pledge of Allegiance.

ATTENDANCE:

Present: Juliet Benaquisto, Elizabeth Chetney, Phyllis Harrington, Eric Iberger, David Keefe, Jennifer Longtin-via WebEx, Ruth Mahoney, Christopher Morin-via WebEx, Oliver Robinson, Nicholas Smirensky and Thomas Lee

A. Election of Retirement Board Officers

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

B. Introduction of Visitors

Pete Savage from NYSUT-via WebEx; Greg Berck from the NYSCOSS-via WebEx; Donna Martin from Albany-via WebEx; Christopher Albanese and Felipe Esguerra from BlackRock-via WebEx; Robert Steyer from Pensions&Investments-via WebEx; and Edward Rezny, in person, recently retired from NYSTRS.

C. Correspondence

None.

D. Approval of Board Minutes: October 27, 2022

There being no additions or corrections to the minutes of October 27, 2022, the minutes were approved with a motion made by N. Smirensky, seconded by O. Robinson and unanimously carried.

E. Resolution of Recognition – Edward Rezny (R1)

E. Chetney offered the following resolution, unanimously seconded and carried by the Board:

WHEREAS, Edward Rezny had a distinguished career in public service, more than 31 years of which were devoted to retirement security for educators, beginning in 1991 when he was appointed Manager of Communications for the Teachers' Retirement System of the City of New York;

WHEREAS, He later was instrumental as Deputy Director of Communications at TRS of New York City in keeping members informed and assisting the agency's return to normal operations after the Sept. 11, 2001 terror attacks;

WHEREAS, Mr. Rezny then joined the New York State Teachers' Retirement System in 2002, where he would ultimately serve with distinction for 20 years, beginning as a Communications Program Coordinator in the Public Information Office;

WHEREAS, He was promoted to Manager of the Information and Communication Center (ICC) in 2003, leading the team of ICC representatives until being promoted to Deputy Director of Member Relations in 2018;

WHEREAS, Mr. Rezny was later promoted to Chief Customer Officer in 2019 and worked diligently to ensure the Retirement System upholds its vision to be the model for pension fund excellence and exceptional customer service;

WHEREAS, He oversaw five departments in the Member Relations division dedicated to providing extraordinary quality in communications, customer service, and membership and benefits processing for the Retirement System's 442,000 members and beneficiaries, and 822 participating employers;

WHEREAS, He was passionate about serving our members, providing them with innovative retirement-planning tools throughout their career and into retirement, and expanding the System's educational offerings;

WHEREAS, Mr. Rezny was equally committed to ensuring System staff offered superior customer service to each other while fulfilling NYSTRS' mission to provide retirement security;

WHEREAS, He embodied the System's values – particularly integrity, excellence, respect, diligence and resourcefulness – and he was a well-respected mentor to his colleagues; be it

RESOLVED, that the New York State Teachers' Retirement System Board hereby acknowledges Edward Rezny for his distinguished career; be it further

RESOLVED, that the Retirement Board extends Mr. Rezny and his family its best wishes for a happy and healthy retirement; and be it further

RESOLVED, that a copy of this resolution be presented to Mr. Rezny and be included in the proceedings of the NYSTRS Board meeting held January 26, 2023.

Committee Reports/Action Items

A. Audit Committee

O. Robinson, Chair, reported that the Committee had last met on December 8, 2022 and reviewed KPMG, Plante Moran, CohnReznick and internal staff reports.

B. Disability Review Committee

1. Disability Denial Resolution (R2)

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

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

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



C. Executive Committee

1. Resolution Approving Addition to 2023 Legislative Program (R3)

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

WHEREAS, The 2023 Legislative Program, was presented to the Retirement Board by System staff at the October 2022 Retirement Board meeting, approved by the Executive Director and Chief Investment Officer, and adopted, as such, authorizing System staff to seek introduction of the proposal,

WHEREAS, The Retirement Board concurs with staff recommendation to now augment said 2023 Legislative Program by authorizing System staff to include and resubmit Program Bill 2022-6 from the 2022 Legislative Program for introduction and enactment,

NOW THEREFORE, BE IT

RESOLVED, That the Retirement Board approves the inclusion and resubmittal for introduction and enactment of Program Bill 2022-6 as part of the 2023 Legislative Program as Program Bill 2023-2.

2. Resolution on Business Continuity Plan (R4)

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

RESOLVED, That the Business Continuity Plan, as presented to the Retirement Board reflecting changes through January 2023 is approved and accepted.

3. Updated Short Term Succession Plan

The Board received copies of the updated Short Term Succession Plan (Appendix A, pp. 10-12)

D. Ethics Committee

R. Mahoney, Chair, reported that the Committee had met earlier in the day on January 26 to hear reports on annual disclosure statements.

E. Investment Committee

1. Consent Agenda Items A-B (Appendix B, pp. 13-14)

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.

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

A. Renew Consultants

- Callan – General Investment Consultant (R5)

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, 2023, (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 \$508,118; 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 (R6)

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, 2023.

- Ariel Investments LLC (R7)

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, 2023.

- Arrowstreet Capital LP (R8)

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, 2023, to manage (i) a portion of the System's assets as an international equity manager benchmarked to the MSCI ACWI ex-US index, and (ii) a portion of the System's assets as a global equity manager benchmarked to the MSCI ACWI index.

- Bank of NY Mellon (Securities Lending) (R9)

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, 2023

- Black Rock Financial Management, Inc. (CMBS) (R10)

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, 2023.

- Cohen & Steers Capital Mgt – Multi Strategy (R11)

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, 2023.

- Columbia Management Investment Advisers LLC (R12)

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, 2023.

- J.P. Morgan Investment Management Inc. (R13)

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, 2023.

- Principal Real Estate Investors (R14)

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, 2023

- Raith Capital Partners (R15)

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, 2023.

- RhumbLine Advisors (R16)

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, 2023.

- Xponance (f/k/a FIS Group) (R17)

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, 2023.

## 2. Resolution to Transition Properties from Invesco (R18)

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

and unanimously carried by the Board:

RESOLVED, That the System's Executive Director and Chief Investment Officer, or his designees, is authorized to transition the directly owned industrial and multi-family properties currently in the separate account managed by Invesco Advisors, Inc to the separate accounts managed by Cabot Properties, LP and Sentinel Realty Advisors, Corp., respectively, and be it further

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

## 3. Resolution Regarding NYSTRS' Oil Sands Holdings (R19)

R. Mahoney offered the following resolution, seconded by J. Benaquisto

and unanimously carried by the Board:

WHEREAS, The System is a long-term investor participating in broad global markets that are transitioning to a lower-carbon economy; and

WHEREAS, Consistent with its fiduciary duties, the Board is engaged in a comprehensive, deliberative due diligence process of evaluating the long-term economic impact of climate change on the System's investments; and

WHEREAS, The Board adopted a climate action plan at its December 2021 meeting with directive for staff to complete due diligence on the oil sands industry and provide recommendations regarding the System's oil sands holdings to the Board at its January 2023 meeting; and

WHEREAS, Throughout 2022, staff conducted their due diligence including meeting with industry experts, attending climate-related conferences, reviewing company specific documents, and reviewing government sponsored initiatives; and



WHEREAS, Staff presented an update to the Board at the January 2023 meeting with report that all oil sands companies held by the System are working with their respective federal and local governments and have made pledges and outlined plans to achieve net-zero greenhouse emissions from operations by 2050, as well as currently working towards a reduction in greenhouse gas emissions by 22Mt per year by 2030;

NOW THEREFORE, BE IT

RESOLVED, That the Board approves staff's recommendation for continued ownership and inclusion on the Restricted List of the System's oil sands company holdings,

AND BE IT FUTHER

RESOLVED, That staff is directed to continue to conduct ongoing engagement, monitoring, and assessment of these oil sands companies and provide the Board with updates and recommendations as part of staff's annual Responsible Stewardship report.

F. Risk Committee

C. Morin, Chair, reported that the Committee had met on January 25 and had heard reports on DFS and Grant Thornton follow up, Compliance Program update and key risk indicators and investment risk. examination.

Staff Reports

A. Old Business – none.

B. New Business

1. Litigation

D. Ampansiri reviewed the Litigation report (Appendix C, pp. 15-17).

2. Member Relations Update

B Dellea provided a Member Relations update and Shannon Bonesteel gave a quality assurance update, copies of which are attached as Appendix D, pp. 18-34.

3. DEI Strategic Plan Update

D Malavé provided an update on NYSTRS' DEI strategic planning

process (Appendix E, pp. 35-40).

4. Stewardship Update

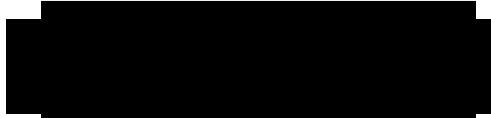
H. Yik provided the Board with an update on stewardship progress.

5. Estimated Employer Contribution Rate

R. Young and M. Prangle gave an update on the estimated Employer Contribution Rate, a copy of which is attached as Appendix F, pp. 41-58.

There being no further business and with unanimous consent, the Board meeting adjourned at 12:06 p.m.

Respectfully submitted,

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---

Thomas K. Lee


**New York State Teachers' Retirement System**

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

**RETIREMENT BOARD**

David P. Keefe <i>President</i>	Hempstead
L. Oliver Robinson <i>Vice President</i>	Clifton Park
Juliet C. Benaquisto	Schenectady
Elizabeth A. Chetney	Baldwinsville
Phyllis S. Harrington	Oceanside
Eric J. Iberger	Bayport-Blue Point
Jennifer J. Longtin	Ballston Lake
Ruth Mahoney	Albany
Christopher Morin	Scarsdale
Nicholas Smirensky	Delmar

Thomas K. Lee, Executive Director & CIO

## Annual Executive Director & Chief Investment Officer Short Term Succession Plan

Pursuant to Section 13 of the ED&CIO Charter, and as further set forth in the Short Term ED&CIO Succession Plan, I, Thomas K Lee, hereby name the following members of the executive staff to assume my duties in the event of an emergency where I cannot be reached, or in the event of a temporary incapacitation preventing me from fulfilling my responsibilities. The individuals designated below will assume respective ED and CIO responsibilities as indicated on the attached schedule A.

### ED Responsibilities

Primary: Beth Dellea  
 Backup: Miriam Dixon

### CIO Responsibilities

Primary: Dave Gillan  
 Backup: Gerald Yahoudy

These designations will remain in effect from January 4, 2023 - June 30, 2023, unless alternative names are submitted to the Board prior to the end of this period.

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

Thomas K. Lee

January 3, 2023

Date

### Charter for the Executive Director/Chief Investment Officer

Purpose and Responsibilities: The Executive Director/Chief Investment Officer is the chief executive officer of the System. The Executive Director/Chief Investment Officer has the following primary responsibilities:

1. Oversee the orderly and efficient operation of the System and ensure the System's business is conducted in accordance with applicable law and the System's Bylaws, Rules and Regulations, and established policies and procedures. **[ED]**
2. Oversee the preparation of the System's budget and presentation to the Retirement Board. **[ED]**
3. Oversee the Actuary's calculation of the employer contribution rate and recommendations for any changes in actuarial factors submitted to the Retirement Board for its approval. **[ED]**
4. Develop and recommend to the Retirement Board necessary investment policies and procedures and assure timely and proper implementation of policies and procedures approved by the Retirement Board. **[CIO]**
5. Oversee the investment of System assets in accordance with the directions and policies established by the Retirement Board, and monitor and report to the Retirement Board on the activities and performance of the System's internally managed investment portfolios and third-party investment managers. **[CIO]**
6. Oversee the administration and payment of System benefits and report to the Retirement Board on the significant activities of benefits staff. **[ED]**
7. Ensure an effective system of internal control is in place for financial reporting and risk management and oversee the work of the System's internal audit staff and external independent auditor. **[ED/CIO]**
8. Serve as the System's primary representative to constituent groups, industry organizations and all other interested parties and stakeholders. **[ED/CIO]**
9. Oversee the preparation and submission of the System's legislative program, the preparation of any necessary changes to the System's Rules and Regulations recommended for approval by the Retirement Board, and reporting on any litigation to which the System is a party. **[ED/CIO]**
10. Serve on the Ethics Committee of the Retirement Board. **[ED]**
11. Be available to discuss matters of importance with the Retirement Board and its Committees, and ensure the Board is informed regarding any matter of importance to the System. **[ED/CIO]**
12. Provide reports for the Retirement Board regarding succession planning, actual or impending vacancies among executive staff positions, evaluations of the executive staff, and status of the employee contract negotiations. **[ED/CIO]**

13. Ensure continuity of services by naming one or more executives to temporarily assume the Executive Director's duties in the event the Executive Director cannot be reached during an emergency or becomes temporarily incapacitated. If more than one executive is named, the specific responsibilities assigned to each executive will be clearly defined. **[ED]**

14. Coordinate the scheduling of meetings of the Retirement Board and Retirement Board Committees; coordinate the preparation of meeting agendas and the assembly of all documentation and presentations for such meetings; and cause minutes to be taken of all such meetings. **[ED]**

15. Perform such other duties as may be assigned by the Retirement Board. **[ED/CIO]**

The Board may, by resolution, authorize the Executive Director/Chief Investment Officer to delegate any or all of his/her duties.

*(Source: NYSTRS Bylaws)*



Annual Retirement Board Meeting – Agenda pp. 43-44

January 26, 2023

Call to Order by President

Appendix B

- A. Election of Officers
- B. Introduction of Visitors
- C. Correspondence - None
- D. Approval of Minutes of October 27, 2023 Meeting pp. 45-62
- E. Resolution of Recognition – Edward Rezny (R1, p. 63)

### **COMMITTEE REPORTS & ACTION ITEMS**

- A. Audit Committee – O. Robinson, Chair
  - 1. Chairman's Report
- B. Disability Review Committee – E. Chetney, Chair
  - 1. Disability Denial Resolution (R2, p. 64)
- C. Executive Committee – D. Keefe, Chair
  - 1. Resolution Approving Addition to 2023 Legislative Program (R3, p. 65)
  - 2. Resolution on Business Continuity Plan (R4, p. 66)
  - 3. Update Short Term Succession Plan pp. 67-69
- D. Ethics Committee – R. Mahoney, Chair
- E. Investment Committee – N. Smirensky, Chair
  - 1. **Consent Agenda Items A-B** pp. 70-82
    - A. Renew Consultant
      - 1. Callan – General Investment Consultant (R5, p. 70)
    - B. Renew Agreements:
      - 1. AEW Capital anagement (R6, p. 71)
      - 2. Ariel Investments LLC (R7, p. 72)
      - 3. Arrowstreet (R8, p. 73)
      - 4. Bank of New York Mellon (Securities Lending) (R9, p. 74)
      - 5. BlackRock Financial Management, Inc. (CMBS) (R10, p. 75)
      - 6. Cohen & Steers Capital Mgt-Multi Strategy (R11, p. 76)
      - 7. Columbia Management Investment Advisers LLC (R12, p. 77)
      - 8. J.P. Morgan Investment Management Inc. (R13 p. 78)
      - 9. Principal Real Estate Investors (R14, p. 79)
      - 10. Raith Capital Partners (R15, p. 80)
      - 11. RhumbLine Advisors LP (R16, p. 81)
      - 12. Xponance (f/k/a FIS Group) (R17, p. 82)
  - 2. Resolution to Transition Properties from Invesco (18, p. 83)
- F. Risk Committee – C. Morin, Chair
  - 1. Chairman's Report



**STAFF REPORTS**

- A. Old Business
- B. New Business
  - 1. Litigation – D. Ampansiri pp. 84-86
  - 2. Member Relations Update – B. Dellea pp. 87-92
    - a. Quality Assurance Update – S. Bonesteel pp. 93-103
  - 3. DEI Strategic Plan Update – D. Malavé pp. 104-109
  - 4. Stewardship Update – H. Yik
  - 5. Estimated Employer Contribution Rate Presentation – R. Young pp. 110-127

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

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

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**UPDATE ON PENDING LAWSUITS SINCE THE LAST REPORT****Bernice Curry-Malcolm v. New York State Teachers' Retirement System**

Action commenced: 10/28/19

Favorable Article 78 decision: 12/2/20

**U.S. Supreme Court dismissed petition: 10/31/22; Case Closed**

**CURRENT STATUS:** On February 4, 2022, the Appellate Division in the Fourth Department unanimously affirmed the decision of the Supreme Court to dismiss the petition against NYSTRS. On March 30, 2022, Petitioner filed an appeal directly to the Court of Appeals.

On April 7, 2022, the Attorney General responded on behalf of NYSTRS, stating that the appeal should be dismissed because there is no basis for an appeal as of right. The Fourth Department's decision did not include a two-justice dissent nor does the appeal raise a substantial constitutional question directly involved in these orders. We are awaiting the Court's decision.

On June 15, 2022, the Court of Appeals dismissed the appeal. Petitioner has until September 12, 2022, to ask the Court for permission to appeal.

On September 7, 2022, Petitioner filed a petition in the U.S. Supreme Court asking that the court hear her case. The Attorney General responded on behalf of NYSTRS. On October 31, 2022, the U.S. Supreme Court dismissed the petition, and the case is now closed.

*Summary of the case/background information:*



Petitioner, a Tier 4 member, challenged the System's determination that excluded for pension purposes all salary and service credit under a settlement agreement with Honeoye Falls-Lima School District as not pensionable (monies paid for time not worked), as well as excluding paid administrative leave from Rochester Central School District (leave tied to resignation).

*The decision:*

The Court noted the System relied on employer reports regarding Petitioner's earnings, her leave of absence and termination. The Court further noted the System relied on the terms of the settlement agreement entered into between Petitioner and the District. The Court found that "as the determinations made by NYSTRS were rational and not arbitrary or capricious, this Court finds no reason to disturb them."

**Andrea Loscalzo v. New York State Teachers' Retirement System**

Action commenced: 7/18/22

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

*Summary of the case/background information:*

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

**Michael Bellarosa v. New York State Teachers' Retirement System**

Action commenced: 9/8/22

**CURRENT STATUS: NYSTRS' staff reviewed the claims in the petition and received additional information from the district documenting that petitioner had a title change in the final year which resulted in a salary increase. NYSTRS revised the final determination to allow the salary raise that was tied to the new title with increased job responsibilities to be included in the pension calculation. The remaining payments are still being challenged under this lawsuit. The Attorney General is representing NYSTRS and working with staff to respond to the petition.**

*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, Vacation buyback, and payments in excess of the Annual Contract Salary from the Valley Central School District. The District converted the Technology/ Wellness/ Transportation Allowance and 10 vacation days into salary. The Technology/ Wellness/ Transportation Allowance is a considered a fringe benefit which is not includable in the pension calculation. Payments for unused vacation leave are not pensionable for Tier 4 members. Additionally, there was a small payment in excess of the contract salary for which the District is unable to provide an explanation, therefore it cannot be included in the pension calculation. 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 excluded these payments from the pension calculation.

**LAWSUITS COMMENCED SINCE THE LAST REPORT**

**NONE**

**LAWSUITS WITH NO UPDATES SINCE THE LAST REPORT**

**NONE**

## NEW YORK STATE TEACHERS' RETIREMENT SYSTEM

TO: Retirement Board

FROM: B. Dellea Appendix D

CC: T. Lee

SUBJECT: Retirement Summary Report

DATE: January 13, 2023

The following is a summary of actions of the Benefits Department since the last report to the Retirement Board.

Members for whom retirement processing was finalized, by category:

Service	1,658
Deferred	167
Disability	24
Total	1,849

Additional retirement allowances finalized with an Alternative Option: 34

Retirees paid a lump sum pursuant to Education Law §537 certified by the Actuary to be of actuarial equivalent value to their allowances in lieu of a retirement allowance: 27

Revision of retirement allowances and retroactive adjustments to date of retirement: 99

A list of each group of members and retirees is available upon request to members of the Retirement Board.



**NYSTRS**  
**INTEROFFICE MEMORANDUM**

**TO:** T. Lee

**FROM:** H. Travis

**DATE:** January 26, 2022

**SUBJECT:** Member and Employer Services - Materials for the January 26, 2023  
Retirement Board Meeting

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Attached is the summary of Member Loan information for the January 26, 2023, Retirement Board meeting.

If you need further information, please let me know.

*Heidi Travis*  
Heidi Travis, Manager  
Member & Employer Services



## New York State Teachers' Retirement System

**MEMORANDUM**

TO: Retirement Board  
 FROM: Thomas K. Lee  
 SUBJECT: Member Loans  
 DATE: January 26, 2023

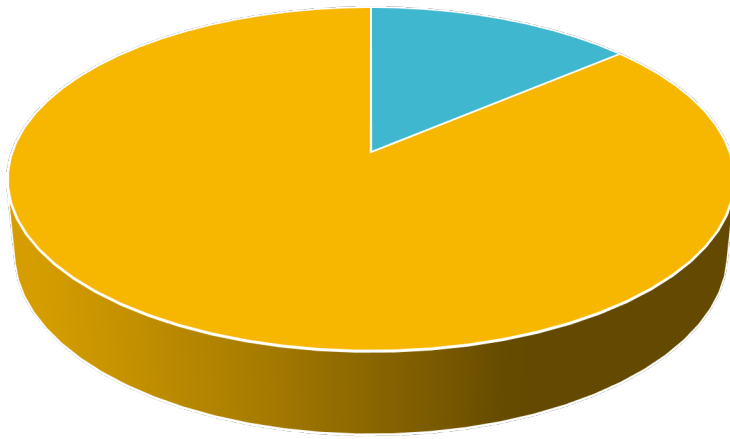
<u>Total Loans Outstanding</u>	<u>December 31, 2022</u>	<u>December 31, 2021</u>	<u>Increase(Decrease)</u>
Direct Payments	3,041	3,106	(65)
Payroll Deductions	<u>18,949</u>	<u>19,748</u>	<u>(799)</u>
<b>Total</b>	<b>21,990</b>	<b>22,854</b>	<b>(864)</b>
Direct Payments	\$ 35,290,525	\$ 34,036,895	\$1,253,630
Payroll Deductions	<u>207,704,445</u>	<u>201,624,814</u>	<u>6,079,631</u>
<b>Total</b>	<b>\$242,994,970</b>	<b>\$235,661,709</b>	<b>\$7,333,261</b>

<u>Delinquent Loans</u>	<u>No.</u>	<u>%</u>	<u>No.</u>	<u>%</u>
One Month	91	0.4	110	0.5
Two Months	43	0.2	52	0.2
Three Months	<u>26</u>	<u>0.1</u>	<u>22</u>	<u>0.1</u>
<b>Total</b>	<b>160</b>	<b>0.7</b>	<b>184</b>	<b>0.8</b>

<u>Loans Issued Annually</u>	<u>December 31, 2022</u>	<u>December 31, 2021</u>	<u>Increase(Decrease)</u>
Direct Payments	251	186	65
Payroll Deductions	<u>9,780</u>	<u>8,314</u>	<u>1,466</u>
<b>Total</b>	<b>10,031</b>	<b>8,500</b>	<b>1,531</b>
Direct Payments	\$ 2,367,053	\$ 1,522,507	\$ 844,546
Payroll Deductions	<u>83,844,669</u>	<u>67,513,161</u>	<u>16,331,508</u>
<b>Total</b>	<b>\$86,211,722</b>	<b>\$69,035,668</b>	<b>\$17,176,054</b>

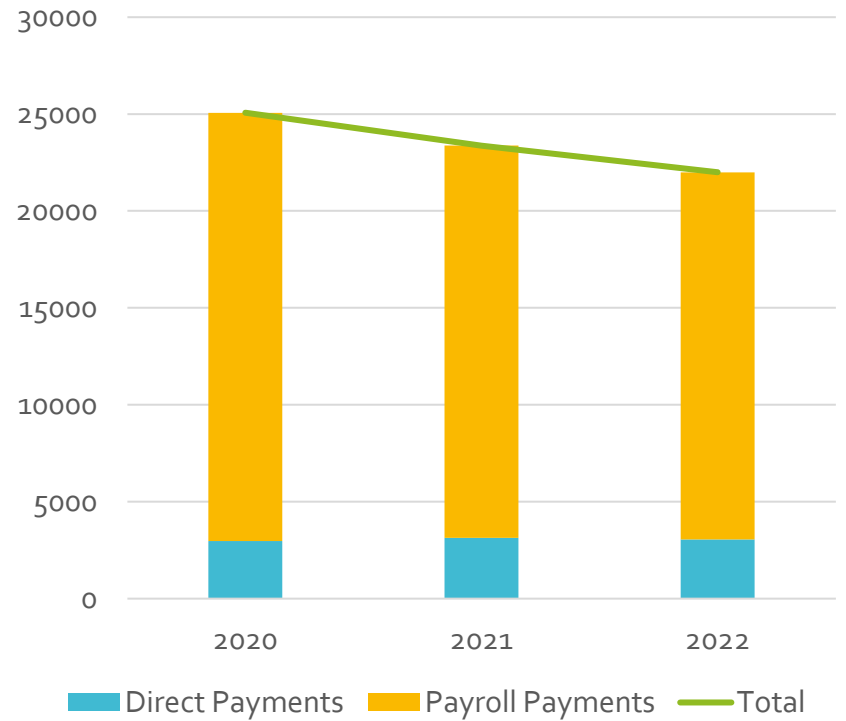
Member Loans December 31, 2022

### Member Loans Outstanding as of 12/31/2022 (\$242,994,970)

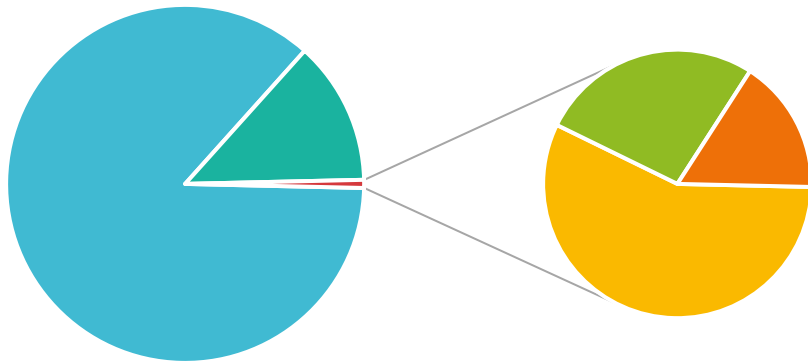


- Direct Payments (\$35,290,525)
- Payroll Deduction (\$207,704,445)

### Member Loans Outstanding 2020-2022

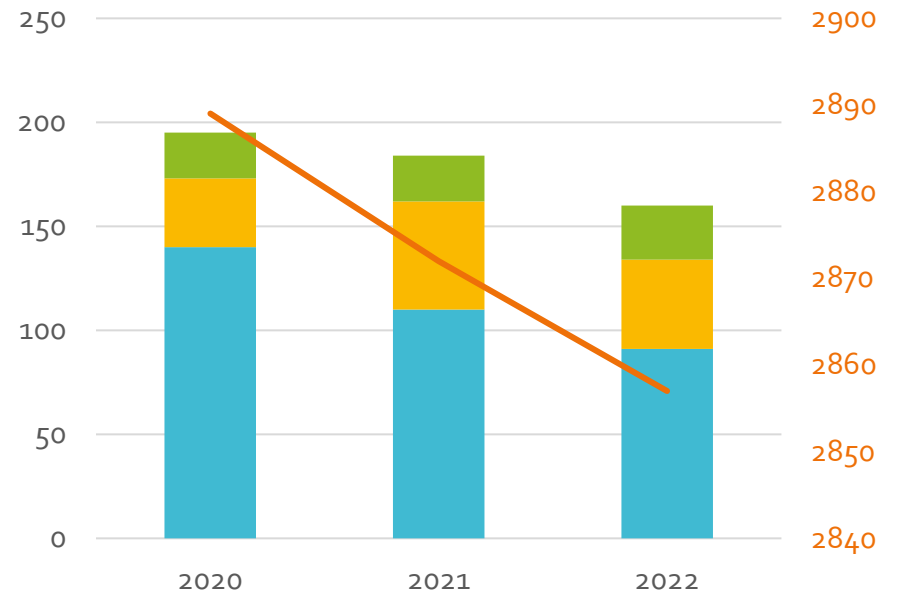


### Member Loan Repayment Status as of 12/31/2022



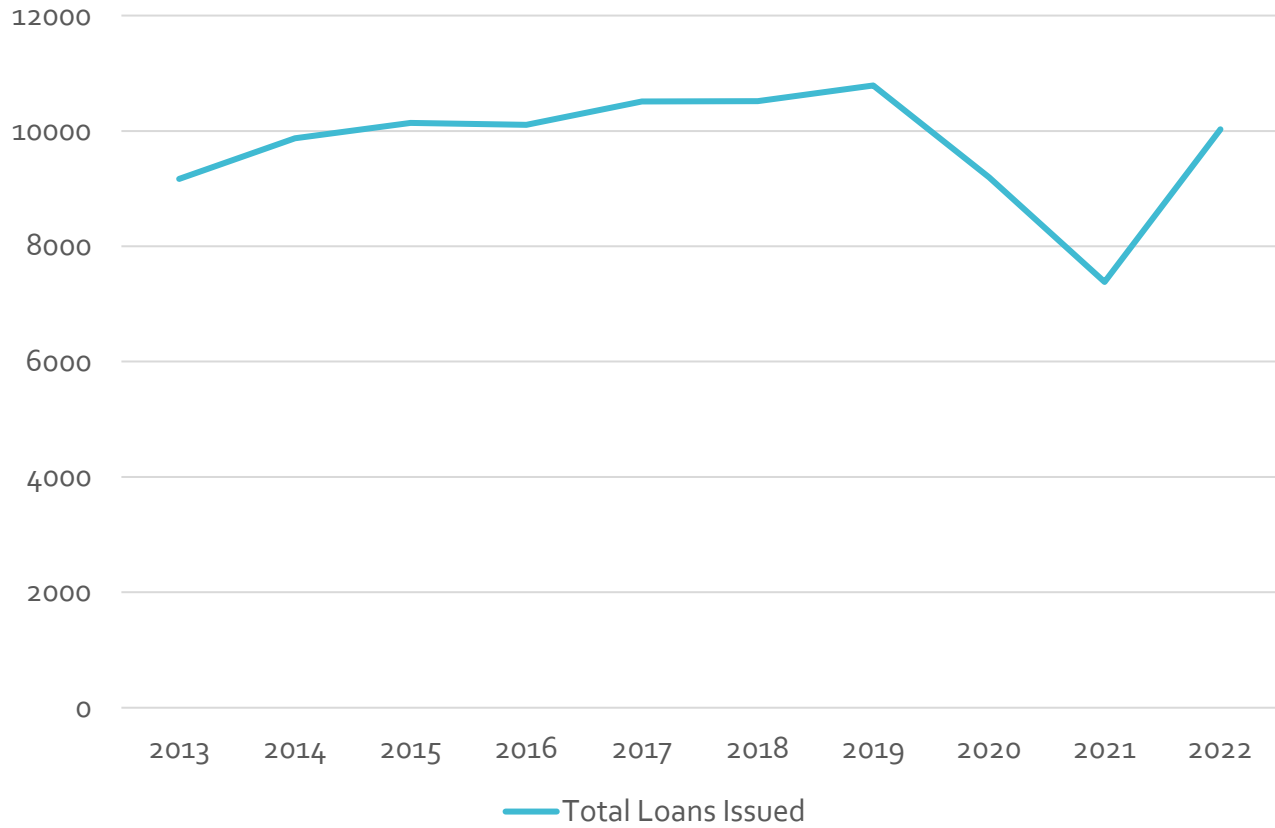
- Current (18,973)
- One Month Delinquent (91)
- Two Months Delinquent (43)
- Three Months Delinquent (26)
- Defaulted (2,857)

### Delinquent Member Loans 2020-2022



- Three Months Delinquent
- Two Months Delinquent
- One Month Delinquent
- Defaulted

### Total Loans Issued 2013-2022





# Quality Assurance Department Updates

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BOARD PRESENTATION JANUARY 2023

# Agenda

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Results of Quality Assurance Department  
Service Retirement Monthly Review



Items Reported to NYS Department of Financial Services (DFS)

# 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 – salary and service are more complex
  - ✓ 100% Lump-sum distributions – error in final payment makes a recovery difficult
  - ✓ After training period for new staff to the department – ensure their understanding of the process to create a benefit
- Random sample

# Service Retirement Monthly Review July – December 2022 Summary

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341

Files Completed July–December 2022

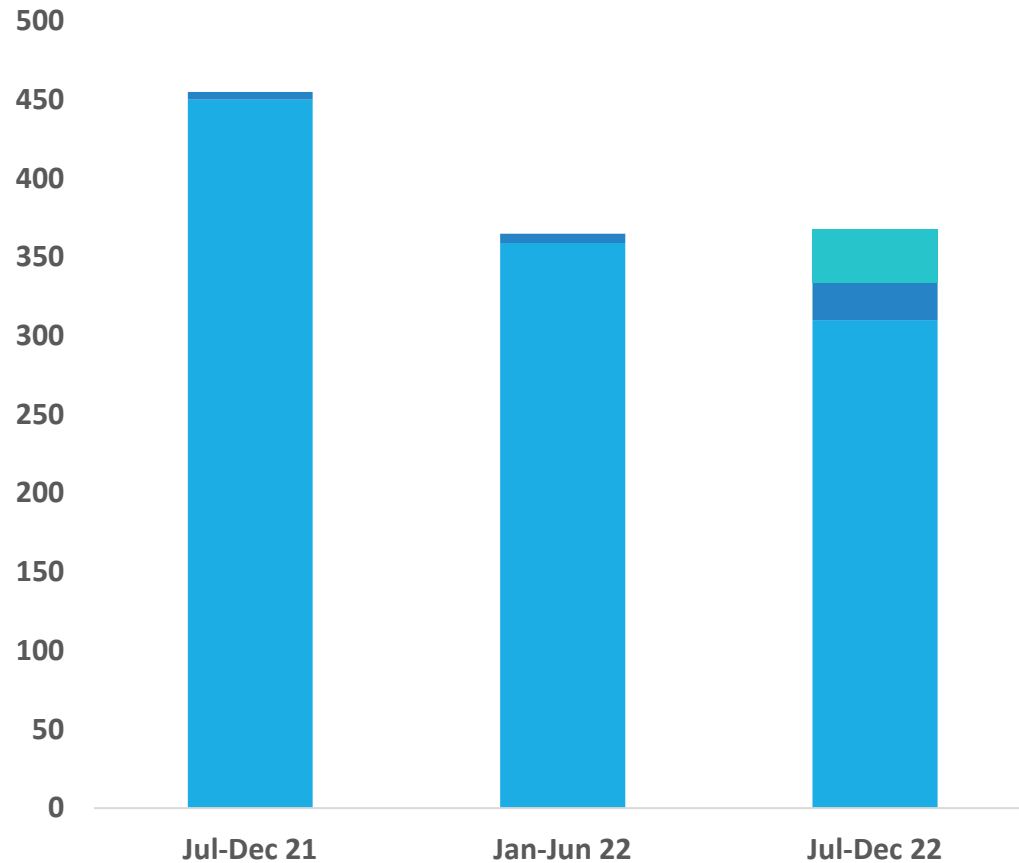
35

Files In Process as of December 31, 2022

34

Files Outstanding as of December 31, 2022

# Service Retirement Monthly Review Status by Closeout Date (as of December 31, 2022)

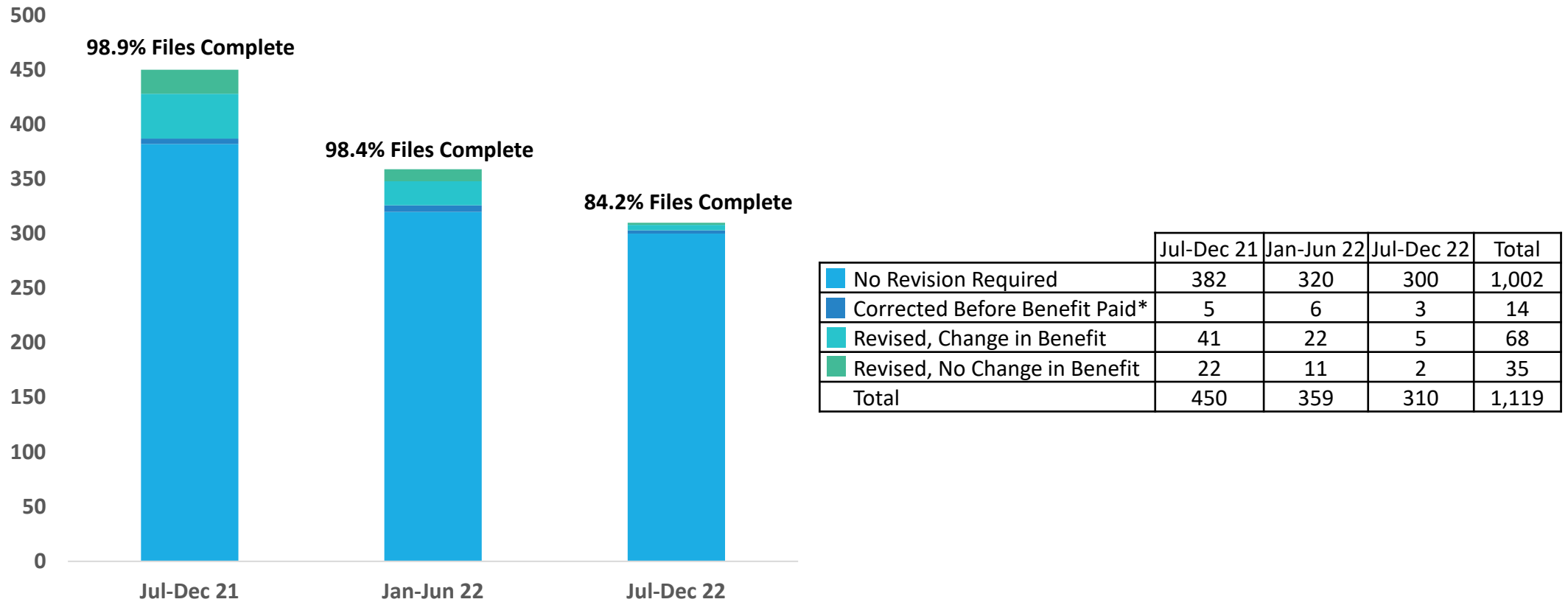


	Jul-Dec 21	Jan-Jun 22	July-Dec 22	Total
Completed	450	359	310	1,119
In Process*	5	6	24	35
Outstanding**	0	0	34	34
Total	455	365	368	1,188

\*In Process files include files waiting for review by other departments.

\*\*Outstanding indicates files where the review has not yet started.

# Outcome of Completed Files by Closeout Date (as of December 31, 2022)



\*Indicates a lump sum file where an issue impacting the member's benefit was identified and corrected during QA's pre-payment review.

# Items Reported to DFS July – December 2022

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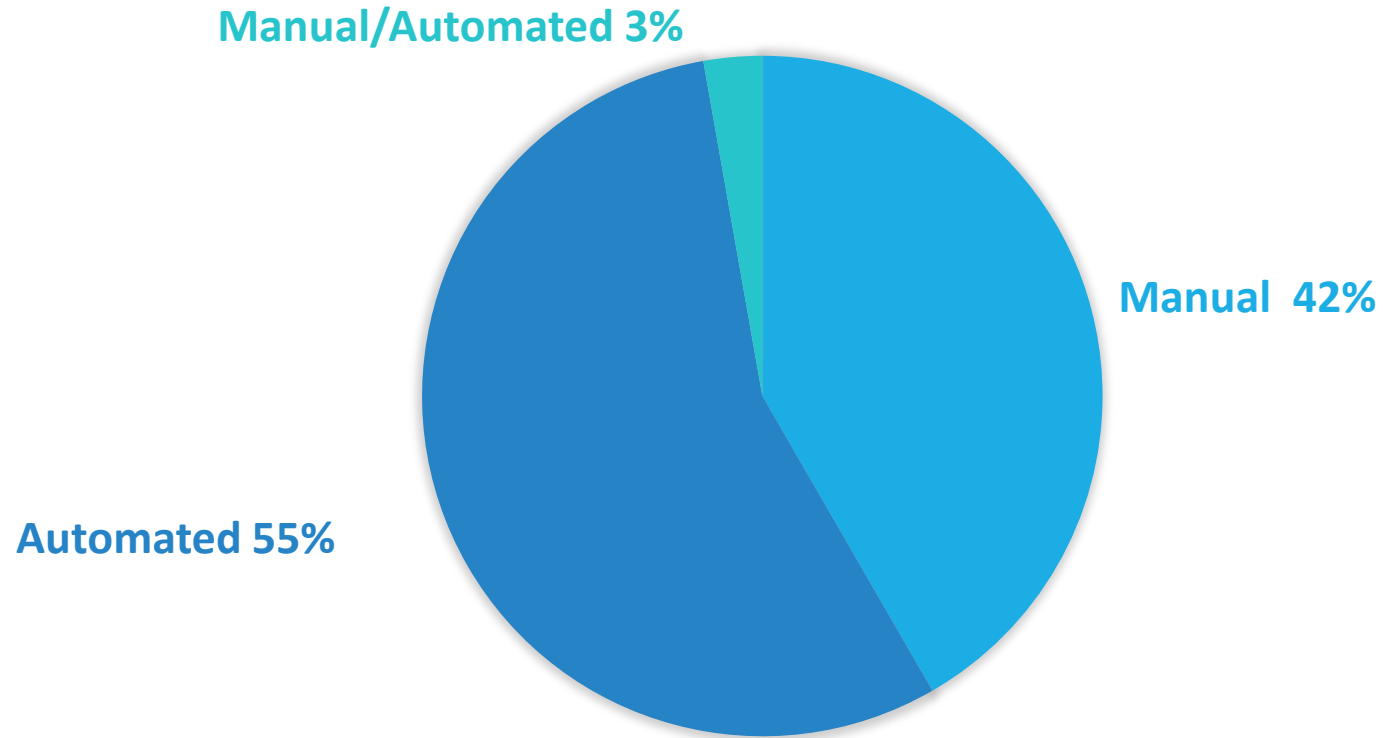
Administrative error – An error by the System (either manual or automated) that requires revision to finalized benefit payments. This would not include revisions to estimated benefits, errors or revisions made by participating employers, members or other parties.

July 2022*	3
August 2022	7
September 2022	2
October 2022	9
November 2022	6
December 2022	9
Total	36

\* Included in July 2022 Quality Assurance Department Updates

# July – December 2022 DFS Items by Error Type

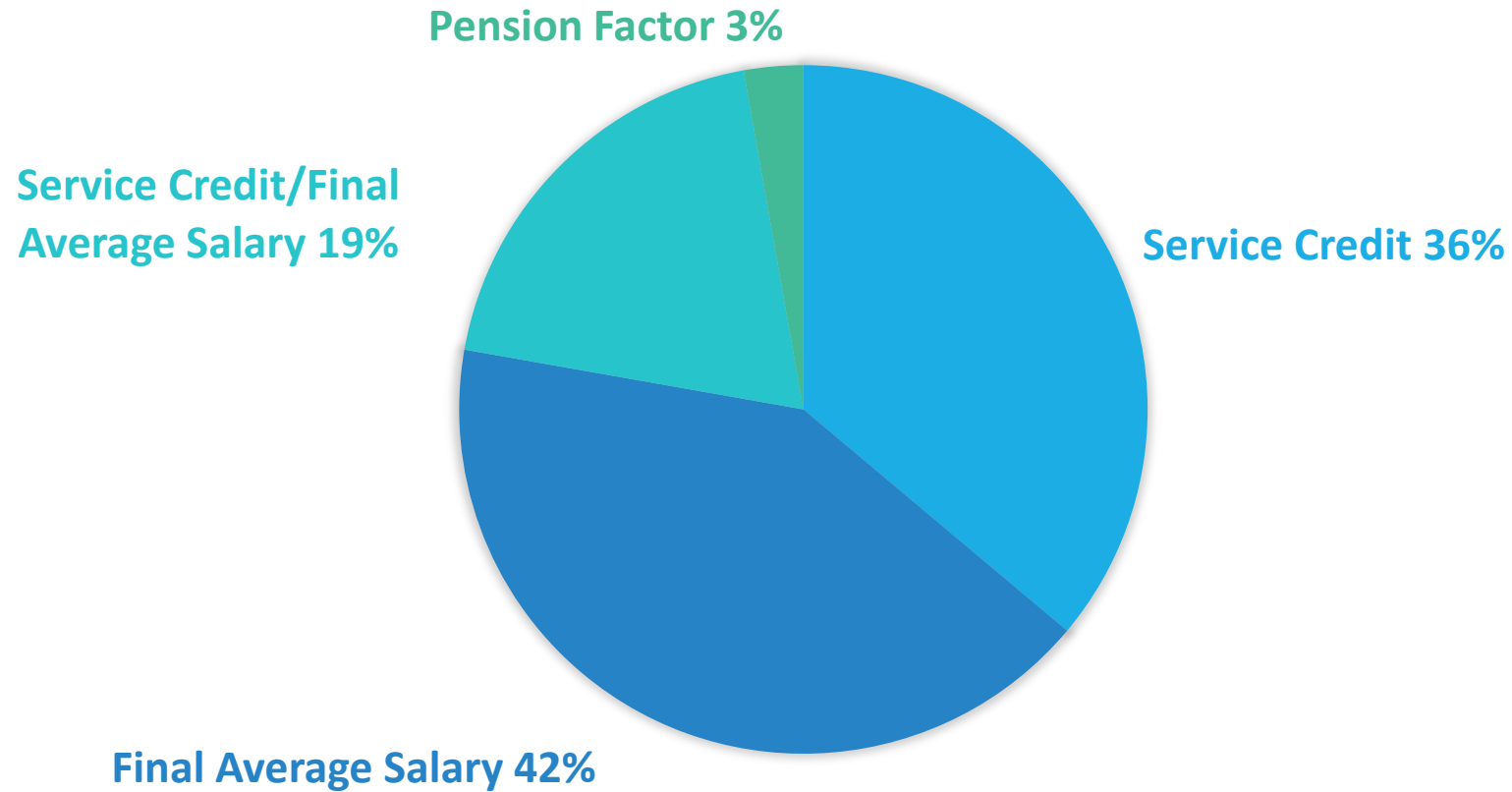
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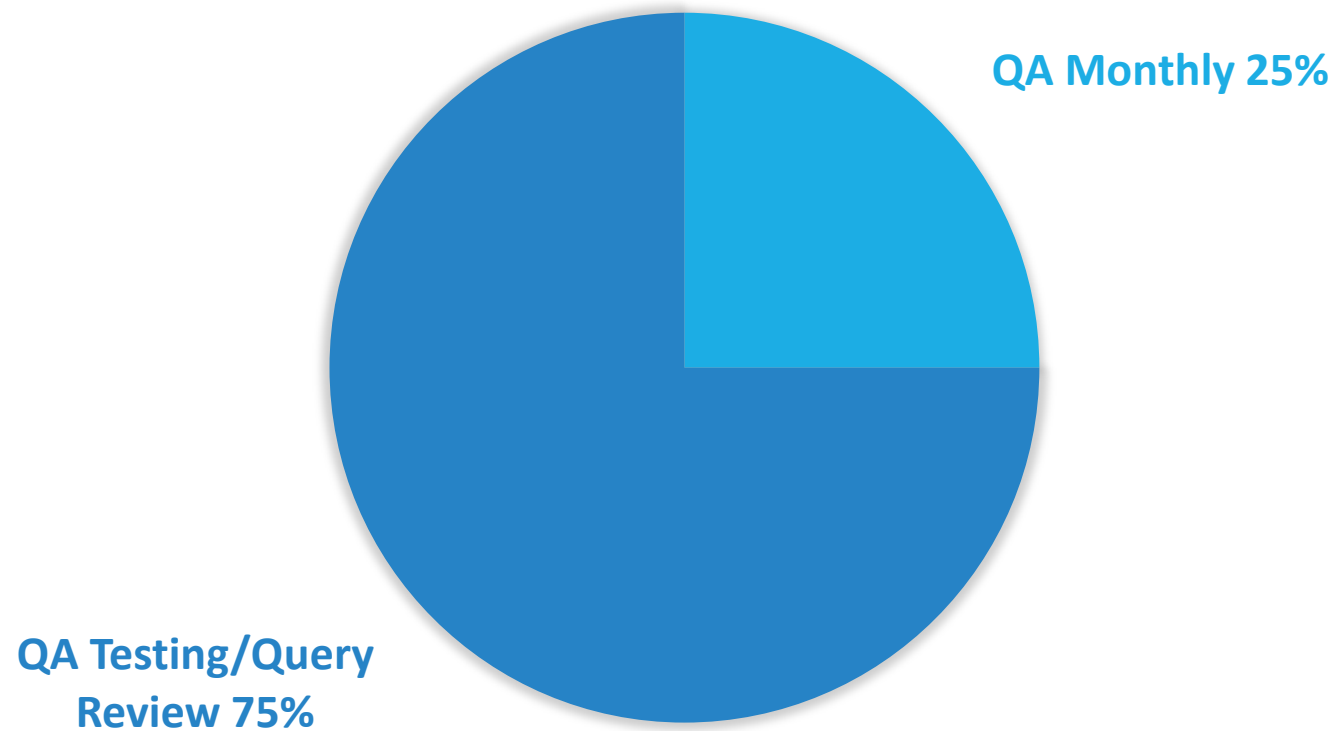
# July – December 2022 DFS Items by Error Category

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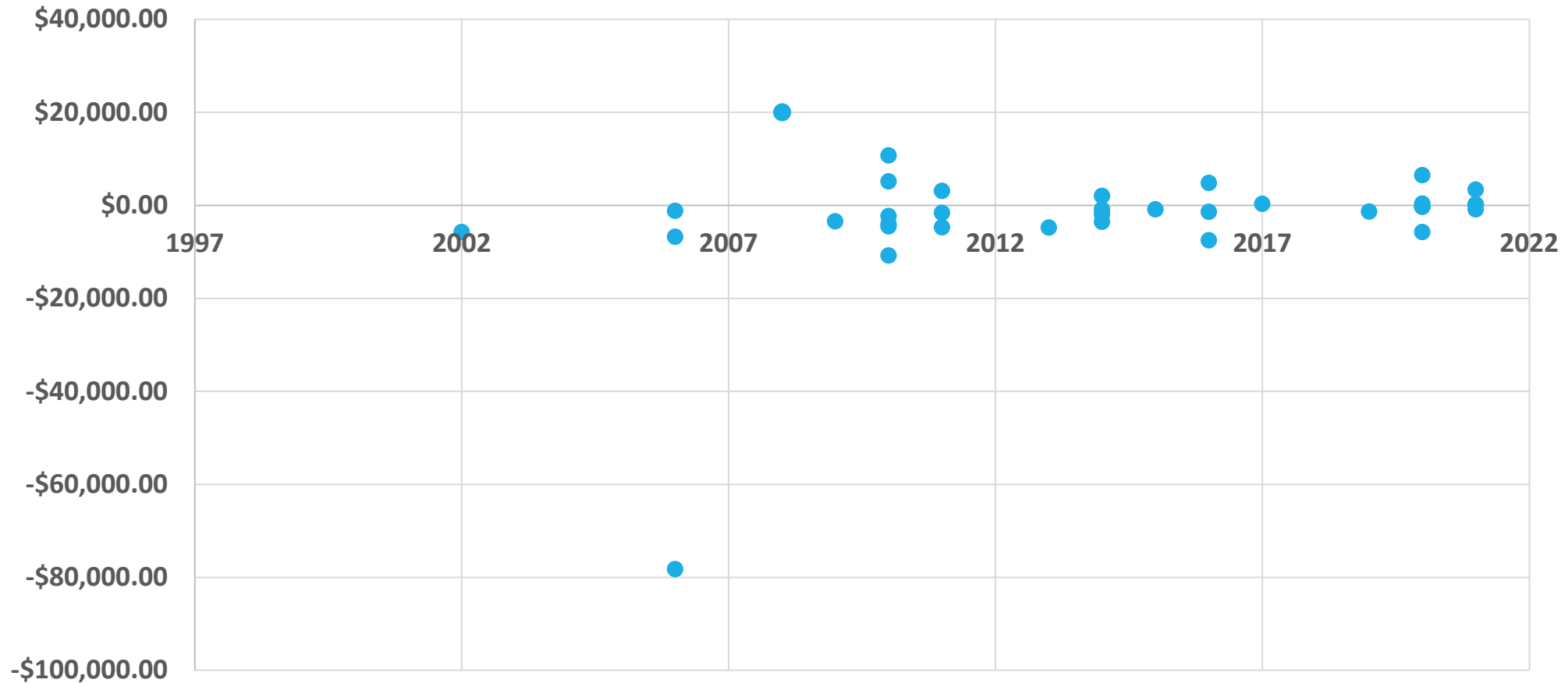
# July – December 2022 DFS Items by Reporting Department

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# July – December 2022 DFS Items

## Amount Underpaid/Overpaid by Calendar Year of Retirement





# Diversity, Equity, & Inclusion Division

## Appendix E Strategic Plan Update

January 25, 2023

**Diversity Commitment Priority** – Recruitment & Retention

- Job Applicant Demographic Insights
- Employee Mentorship Program (EMP) & Management Partners Program

**Inclusion Commitment Priority** – Workforce Trust

- Employee Network Group, Inclusion Council

**Equity Commitment Priority** – Equity of Opportunity

- 2023 MWBE Hybrid Conference

**Data Commitment Priority** – Demographic Instrument Alignment

- Instrument Refinement & Peoplesoft Reporting

**Transparency Commitment** – Standardize Inclusive Language

- Inclusive Language Adoption & System Norms

## Employee Education

- All Employee Annual DEI Training – 215 employees in FY'22-'23
- Annual DEI Search Committee Training – 52 employees in Q2
- Inclusive Leadership Management Series
- Monthly Voluntary Employee Education

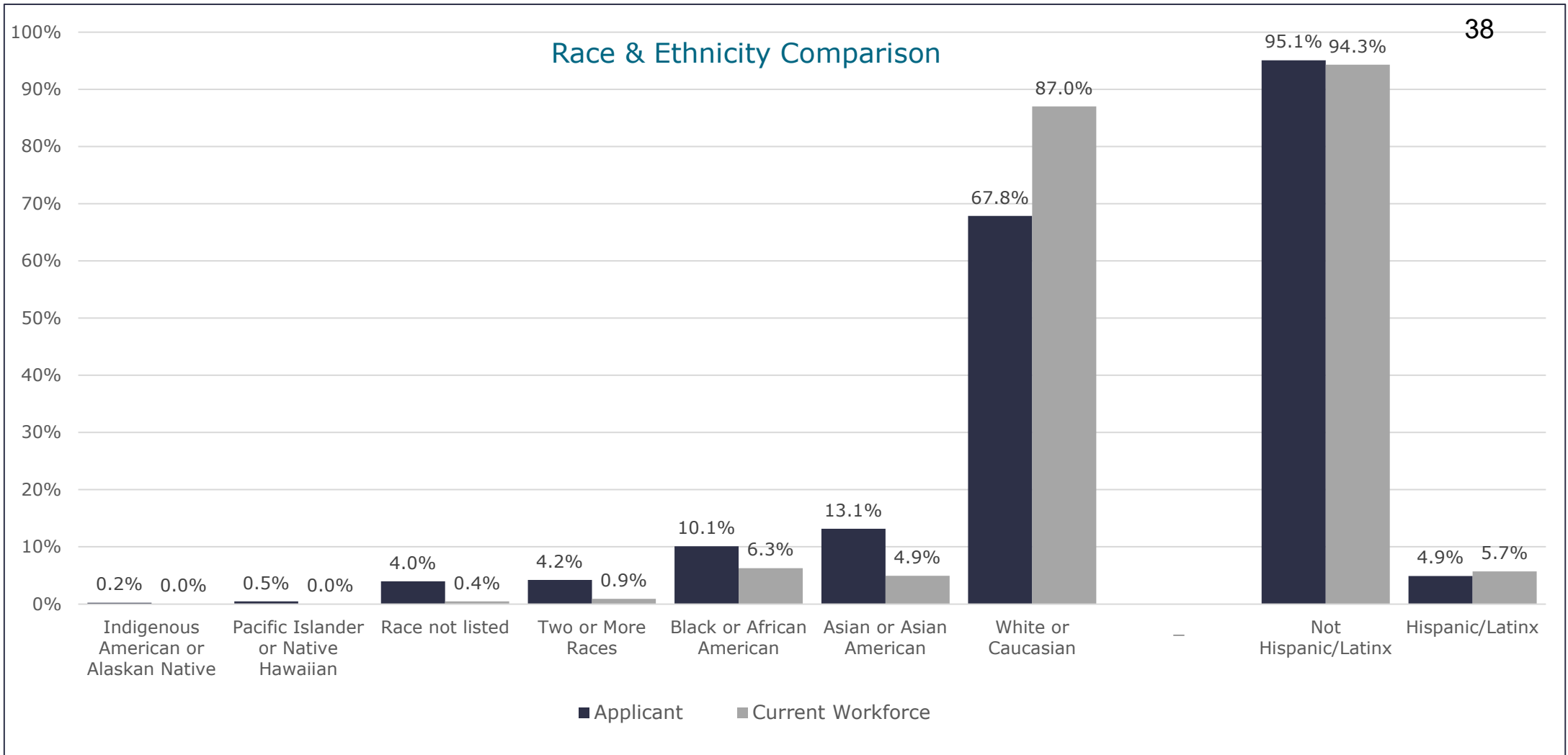
## Retention Programs

- Employee Mentorship Program (EMP)
- Management Peer Mentor Partners Program (Partners)
- Inclusion Council (Employee Network Group)

## Notable Initiatives

- Peer Pension Fund DEI Consortium

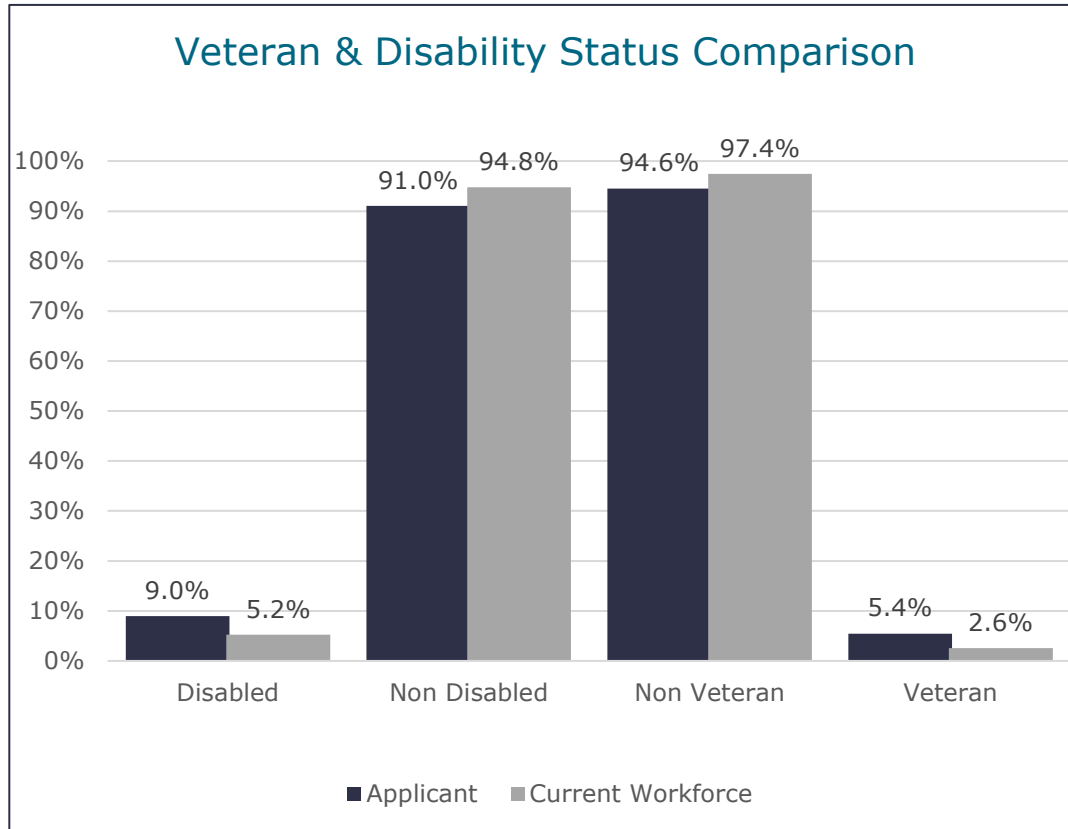




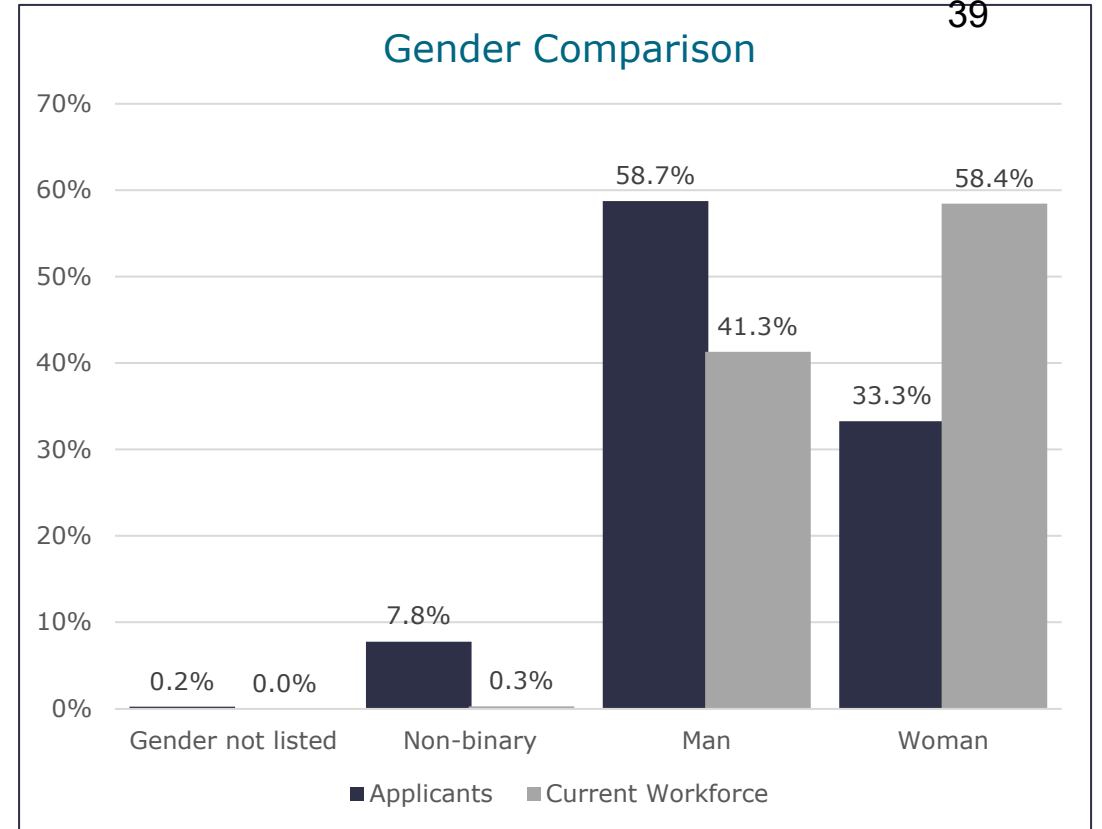
Applicant data collection 5/18/22-12/31/22  
54.6% of applicants did not disclose race data  
38.9% of current workforce did not disclose race data  
67.5% of applicants did not disclose ethnicity  
38.5% of current workforce did not disclose ethnicity

## DEI by Numbers: Recruitment

### Applicant & Current Workforce Demographic Comparison



Applicant data collection 5/18/22-12/31/22  
 67.9% of applicants did not disclose disability status  
 66.7% of applicants did not disclose veteran status  
 69.7% of current workforce did not disclose disability status  
 58.9% of current workforce did not disclose veteran status



Applicant data collection 5/18/22-12/31/22  
 56.1% of applicants did not disclose gender data  
 100% of current workforce did disclose gender data



## DEI by Numbers: Recruitment

### Applicant & Current Workforce Demographic Comparison



## Division Planning

- Staffing & Specialization
- MWBE Conference & Initiatives

## Enhanced Training & Engagement

- NYSTRS Voices

## Expanded Assessment Methods

- Working Groups (Accessibility)
- Inclusion Focus Groups
- DEI Competencies & Measurement Planning

*Presentation to the Retirement  
Board*

Appendix F

# The Estimated Employer Contribution Rate

**Richard A. Young**, Chief Actuary

**Melody Prangle**, Deputy Chief Actuary

**January 26, 2023**



# Estimated ECR

## June 30, 2022 Actuarial Valuation

9.76% of Pay

A decrease of approximately 5.2% over ECR of 10.29%



# Estimated ECR Components

Normal Rate	9.37%
Expense Rate*	0.26%
Group Life Rate	0.13%
Excess Benefit Plan Rate	0.00%
Estimated 6/30/2022 ECR	9.76%

\*estimated

## Year-to-Year ECR Comparison

	<b>6/30/2022</b>	<b>6/30/2021</b>	<b>Difference</b>
Normal Rate	9.37%	9.89%	-0.52%
Expense Rate	0.26%*	0.26%	0.00%
Group Life Rate	0.13%	0.13%	0.00%
<u>Excess Benefit Rate</u>	<u>0.00%</u>	<u>0.01%</u>	<u>-0.01%</u>
Total Rate (ECR)	9.76%*	10.29%	-0.53%

\* estimated

# When the 9.76% ECR Applies



- Will be multiplied by the 2023 – 2024 fiscal year salaries
- Will be collected in 2024 – 2025 fiscal year (September, October, November 2024)

## 2024

September

October

November

# Employer Contributions

Collection Date	Employer Contribution	ECR
Fall 2019	\$1.8 billion	10.62%
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%

\*estimated

# NYSTRS Funded Ratio History

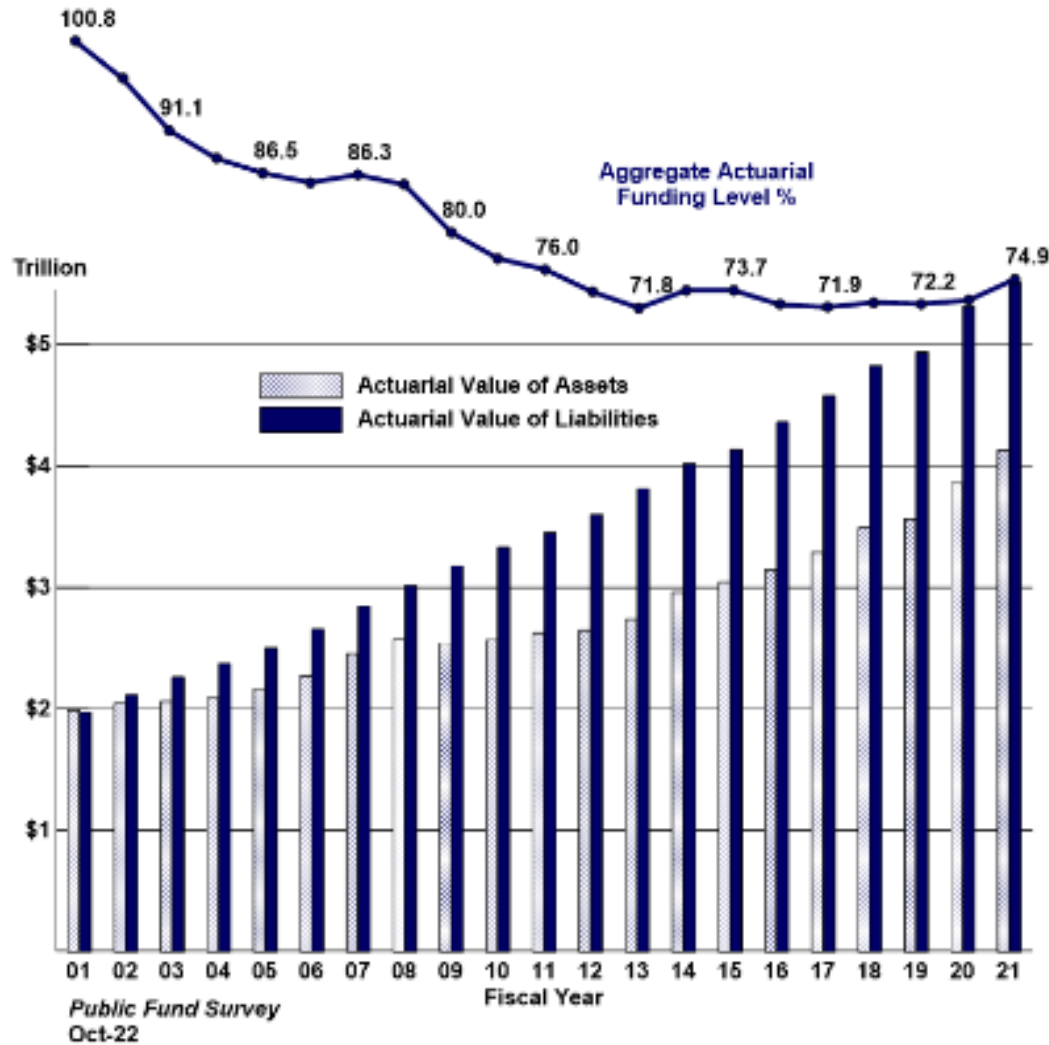
Funded Ratio is the ratio of plan assets to accrued liabilities

<b>FYE</b>	<b>Funded Ratio Based on MVA</b>	<b>Funded Ratio Based on AVA</b>
6/30/2017	99.8%	97.7%
6/30/2018	100.9%	99.2%
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%





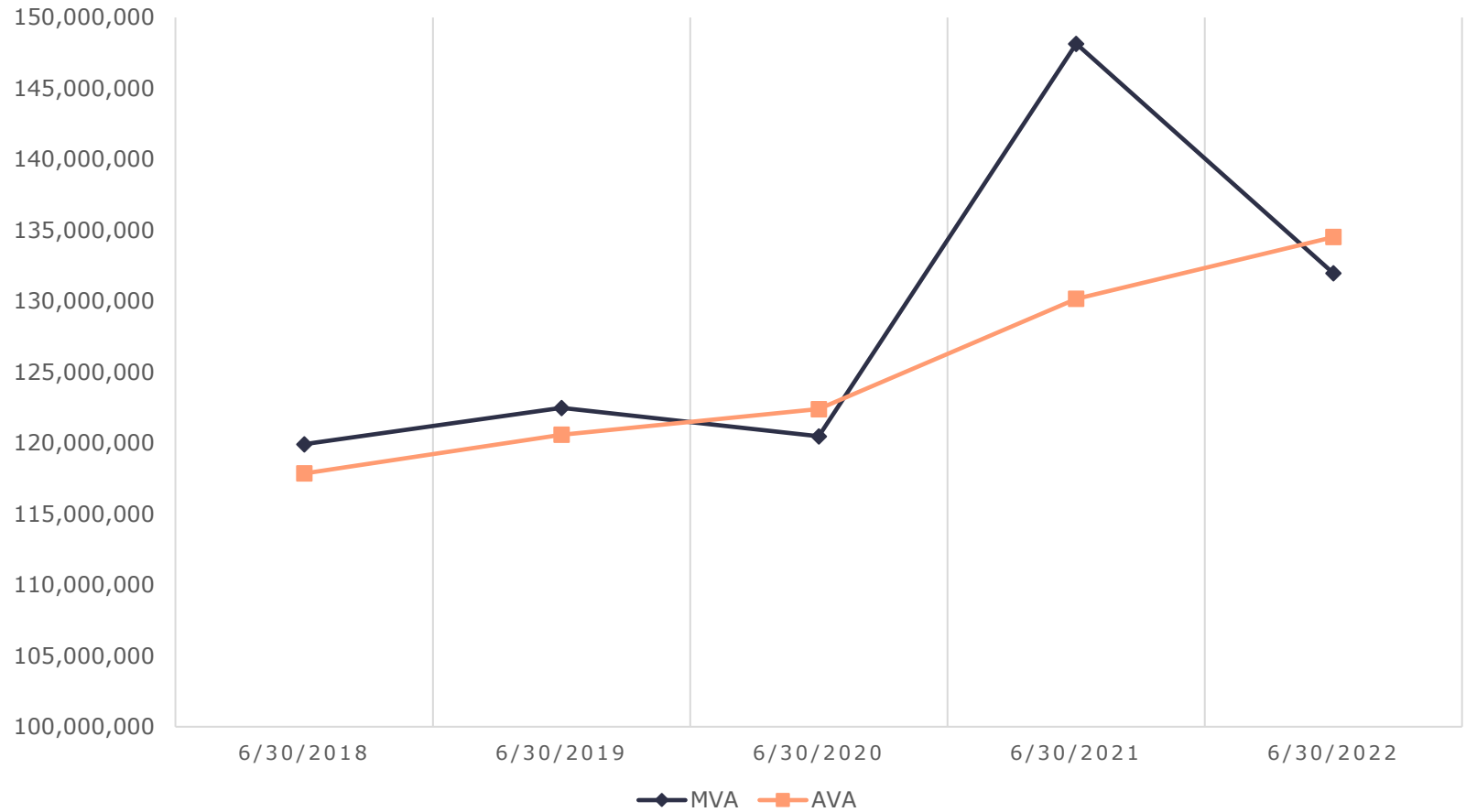
# Aggregate Public Plans Funded Level



NYSTRS 6/30/2021 funding level was 99.3% compared to the average funding level of 74.9%.



# Actuarial Value of Assets Development



# Rates of Return

Fiscal Year	Rate of Return (net of fees)
2017 – 2018	9.0%
2018 – 2019	7.1%
2019 – 2020	3.5%
2020 – 2021	29.0%
<b>2021 – 2022</b>	<b>-7.1%</b>
<b>5-year average:</b>	<b>7.7%</b>

5-year geometric average:  $[(1.09) \times (1.071) \times (1.035) \times (1.29) \times (0.929)]^{(1/5)} - 1 = 7.7\%$

## Long-Term Annualized Rates of Return as of June 30, 2022

Period	Rate of Return (net of fees)
1-Year	-7.1%
5-Year	7.7%
10-Year	8.9%
15-Year	6.3%
20-Year	7.7%
25-Year	7.3%
30-Year	8.5%



# ECR Actuarial Gain/Loss '21-'22

Previous 6/30/2021 ECR

52 **10.29%**

## Factors Which Increased the ECR (Actuarial Loss)

<b>Plan Formula and Assumptions</b>	Vesting and Death Benefit plan change Mortality improvement scale update	0.12%
<b>Salary/Service</b>	Salary/Service data coming in higher than expected with salary as the primary increase	0.49%
<b>COLA Payments</b>	Actual COLA higher than expected	0.22%
<b>Miscellaneous</b>	Net increase due to miscellaneous sources (e.g. data updates, tier reinstatements, transfers in/out, excess benefit rate change)	<u>0.04%</u>
Total Increase in ECR		0.87%

## Factors Which Decreased the ECR (Actuarial Gain)

<b>Net Investment Gain</b>	Investment return greater than expected (On the <u>Actuarial</u> Value of Assets)	-1.17%
<b>Mortality, Withdrawal and Retirement</b>	Experience different than assumptions	-0.02%
<b>New Entrants</b>	Tier 6 normal rate lower than current normal rate	-0.14%
<b>Pension Payments</b>	Actual payments different than expected	<u>-0.07%</u>
Total Decrease in ECR		-1.40%

**Overall Net Decrease in the ECR (Actuarial Gain) -0.53%**

Estimated 6/30/2022 ECR

**9.76%**

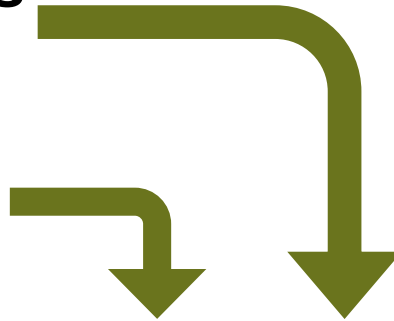
# Thirty Year Period 1992 – 2022

**Employer Contributions**  
**\$32.4 billion**

**Member Contributions**  
**\$4.7 billion**

**Investment Income**  
**\$207.4 billion**

**Benefit Payments and Expenses**  
**\$140.4 billion**



Market Value of Assets - 1992:	\$27.9 billion
Market Value of Assets - 2022:	\$132.0 billion

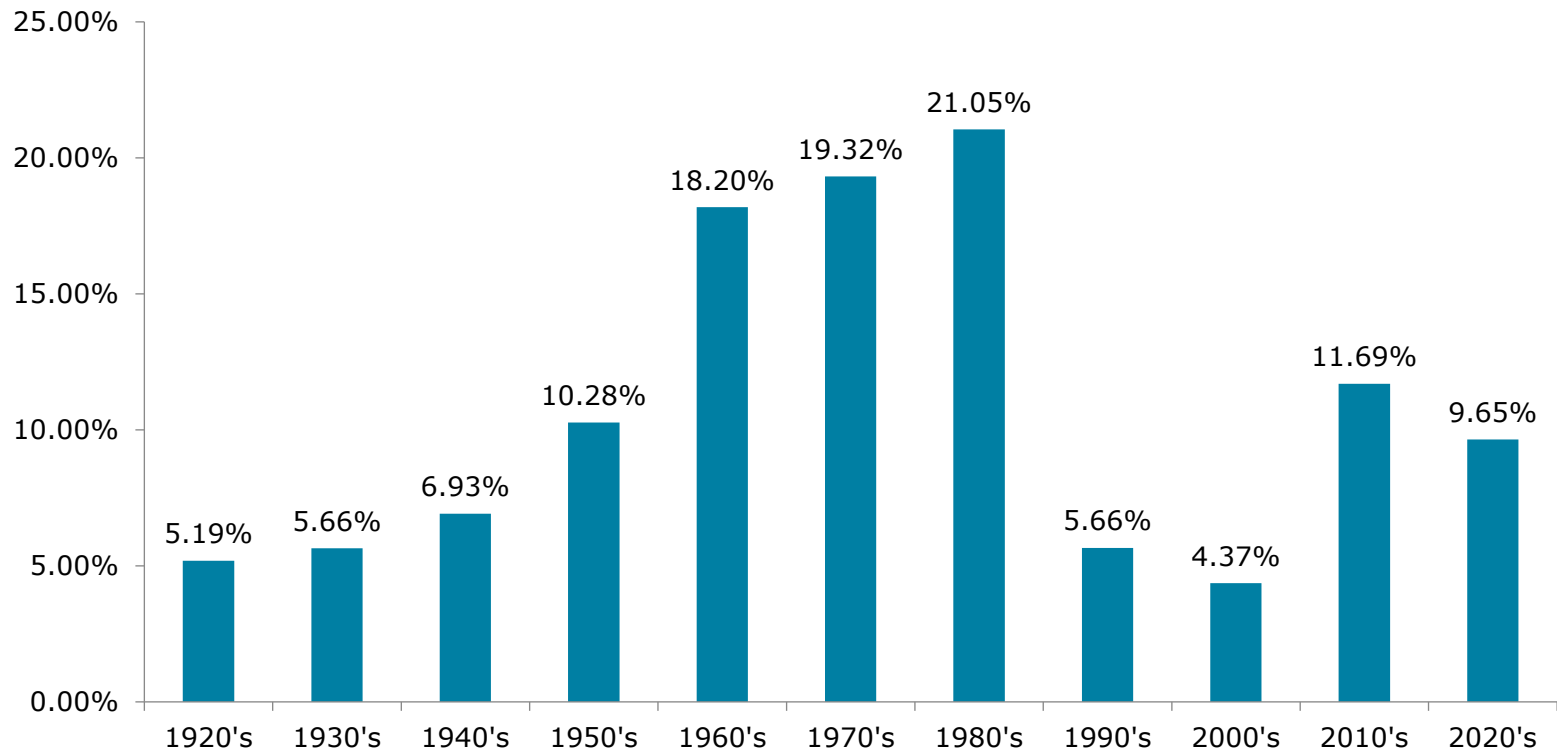
# Historic 50 Years of ECRs

'74 - '75	18.80%	'87 - '88	16.83%	'00 - '01	0.43%	'13 - '14	16.25%
'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%		
'86 - '87	18.80%	'99 - '00	1.43%	'12 - '13	11.84%		

\* estimated

# Average ECR's by Decade

Overall Average = 10.89%





# Peer Comparison

Retirement System	Employer Contribution Rate (ECR)
<b>NYSTRS</b>	<b>9.76%*</b>
NYS&L ERS	13.1%
NYS&L PFRS (Police/Fire)	27.8%
NYC ERS	23.1%
NYC TRS	27.0%
NYC Police	53.9%
NYC Fire	100.7%
NYC BERS (Board of Ed.)	16.0%

Based on the most recent information provided by the systems.

\* estimated



# ASOP 4 Update

- **Key Change** - An additional liability will be calculated - a "Low-Default-Risk Obligation Measure," (LDROM) which is the value of the liabilities using an interest rate assumption derived from low-default-risk fixed income securities (example, U.S. Treasury yields or yields on corporate bonds).
- This will likely result in a plan liability which is higher, and therefore a funded ratio which is lower, than what we currently report. This will NOT replace how we currently report our funded ratio. It will be an **additional** measurement to be included in the actuarial valuation report.
- It has no impact on plan funding or the ECR.
- It is first effective for NYSTRS with the 6/30/23 Actuarial Valuation Report which will be issued in July 2024.
- NYSTRS is participating in a joint task force with NASRA/NCPERS/NCTR/NIRS and other public retirement systems to develop best practices and draft communications and actuarial valuation report language to address the new disclosure.



# Questions?

58

I DON'T KNOW WHAT TO DO,  
THE MORE I RUN THE MORE  
WEIGHT I SEEM TO PUT ON

