



MainePERS

PUBLIC EMPLOYEES RETIREMENT SYSTEM

Board of Trustees

Public Meeting Packet

September 14, 2023

**MainePERS Board of Trustees
September 14, 2023
139 Capitol Street, Augusta**

AGENDA

9:00 a.m. ¹		CALL TO ORDER		Brian Noyes
9:00 – 9:05 a.m.	1.	<u>CONSIDERATION OF CONSENT CALENDAR</u> <ul style="list-style-type: none">Minutes of August 10, 2023Consideration of Items Removed	ACTION	Brian Noyes
9:05 – 9:15 a.m.	2.	<u>PRIVATE MARKET ACTION</u> <ul style="list-style-type: none">Executive Session pursuant to 1 M.R.S. §405(6)(F); 5 M.R.S. §17057(4) <p><i>Board moves out of executive session.</i></p> <ul style="list-style-type: none">FORT Global Contrarian	ACTION	Brian Noyes
9:15 - 9:25 a.m.	3.	<u>PRIVATE MARKETS REVIEW</u> <ul style="list-style-type: none">Private Markets Activity		James Bennett
9:25 – 9:55 a.m.	4.	<u>INVESTMENT REVIEW</u> <ul style="list-style-type: none">Investment Monthly ReviewQuarterly Comprehensive Reports		James Bennett Brian McDonnell, Cambridge Assocs.
9:55 – 10:40 a.m.	5.	<u>QUARTERLY INVESTMENT EDUCATION</u> <ul style="list-style-type: none">Private Equity		James Bennett Tom Lynch, George Bumeder, Cliffwater
10:40 – 10:55 a.m.		<u>BREAK</u>		
10:55 – 11:55 p.m.	6.	<u>ACTUARIAL EDUCATION</u>		Gene Kalwarski, Bonnie Rightnour, Cheiron
11:55 – 12:25 p.m.	7.	<u>BOARD POLICY 2.1-B – RHIT AND GLI INVESTMENT POLICY STATEMENTS</u>		James Bennett Michael Colleran Brian McDonnell, Cambridge Assocs.
12:25 – 12:55 p.m.		<u>LUNCH</u>		

¹ All times are estimated based upon the anticipated length of each presentation, hearing, discussion, and action. The presiding officer may take agenda items out of order for more efficient or effective conduct of the meeting.

12:55 – 1:15 p.m.	8.	<u>CEO REPORT</u> <ul style="list-style-type: none">2023 Board Education Plan		Dr. Rebecca M. Wyke
1:15 – 1:30 p.m.	9.	<u>MaineSTART QUARTERLY REPORT</u>		Michael Colleran Chip Gavin
1:30 – 1:50 p.m.	10.	<u>MEMBER SERVICES, FINANCE, AND OPERATIONS REPORT</u>		Chip Gavin Sherry Vandrell Michael Colleran
1:50 – 2:20 p.m.	11.	<u>PERSONNEL</u> <ul style="list-style-type: none">Executive Session pursuant to 1 M.R.S. §405(6)(A) <p><i>Board moves out of executive session.</i></p>	ACTION	Brian Noyes
2:20 – 2:30 p.m.	12.	<u>CEO ANNUAL EVALUATION</u> <ul style="list-style-type: none">Establishment of CEO Review Committee	ACTION	Brian Noyes
2:25 p.m.		<u>ADJOURNMENT</u>		Brian Noyes

MAINE PUBLIC EMPLOYEES RETIREMENT SYSTEM

Minutes

Board of Trustees
Board Meeting
August 10, 2023

MainePERS
Augusta
9:00 a.m.

The Board of Trustees met at MainePERS, 139 Capitol Street, Augusta, ME 04332 at 9:00 a.m. on August 10, 2023. Brian Noyes, Chair, presided. Other Trustees participating were: Dick Metivier, Vice Chair; Henry Beck, State Treasurer; John Beliveau; Shirrin Blaisdell; Mark Brunton; John Kimball; Greg Olson, Deputy State Treasurer; and Ken Williams. Joining the Trustees were Dr. Rebecca Wyke, Chief Executive Officer; Michael Colleran, Chief Operating Officer and General Counsel; James Bennett, Chief Investment Officer; Sherry Vandrell, Chief Financial Officer; Chip Gavin, Chief Services Officer; Monica Gorman, Secretary to the Board of Trustees; and Betsy Stivers, Assistant Attorney General and Board Counsel. The Board also was joined for select portions of the meeting by Bartley Parker, Managing Director, Investments; Kathy Morin, Director of Actuarial and Legislative Affairs; Valerie Scott, Director of Special Projects; Mara McGowen, Assistant Director of Member Services; Stuart Cameron, Cambridge Associates; Tom Lynch and George Bumeder, Cliffwater; William Greenwood and Jennifer Yeung, Albourne; and Amy McDuffee, Mosaic.

Brian Noyes called the meeting to order at 9:00 a.m.

CONSIDERATION OF THE CONSENT CALENDAR

The presiding officer called for consideration of the Consent Calendar. The action items on the Consent Calendar were:

- Minutes of July 13, 2023
- Action. Dick Metivier made the motion, seconded by Shirrin Blaisdell, to approve the Consent Calendar. Voted unanimously by eight Trustees (Beck, Beliveau, Blaisdell, Brunton, Kimball, Metivier, Noyes, and Williams).

CEO REPORT

Dr. Rebecca Wyke shared that August was the one year anniversary of the Strategic Plan. She will provide an update to the Board on the Strategic Plan and key performance and risk measures adopted as part of the plan at the October meeting. Dr. Wyke reported the Organizational Values Steering Committee is taking charge in making our values visible throughout the organization.

Dr. Wyke stated that Amy McDuffee, Mosaic Governance Advisors, will be providing the Investment Team and other key staff with a fiduciary and ethics education session.

Dr. Wyke provided an overview of the results of the employer satisfaction survey conducted in July. The overall results were positive.

Dr. Wyke shared that Focus Fridays continue to be very successful in addressing backlogs. This practice will continue for the next six months, and we will provide the Board an update at that time.

Dr. Wyke added that Nate Burnett, Trustee-elect, has been meeting with senior managers for orientation sessions. Nate has received information regarding MainePERS and his role as a Trustee and has been observing the monthly Board meetings.

Chip Gavin, Valerie Scott, and Mara McGowen provided the Trustees with a presentation on development of the Member Portal. Chip, Val, and Mara answered questions from the Trustees.

PRIVATE MARKET REVIEW

Private Markets Activity

Jim Bennett reviewed the table of private market funds and co-investments that had closed during the past 12 months. Jim shared there are no manager meetings scheduled for July.

Co-Investment Additional Reporting

Jim Bennett provided the Trustees with an update on the co-investment program and additional reporting for the period ending June 30, 2023. Jim answered questions from the Trustees.

Albourne Quarterly Review

Jennifer Yeung and William Greenwood shared an update on the Infrastructure, Natural Resources, and Real Estate portfolios as of March 31, 2023. Jennifer and Will answered questions from the Trustees.

Cliffwater Quarterly Review

Tom Lynch and George Bumeder provided an overview of the Private Equity and Alternative Credit Portfolios as of March 31, 2023. Tom and George answered questions from the Trustees.

Henry Beck left the meeting at 9:45 a.m. Greg Olson joined the meeting at 9:45 a.m.

INVESTMENT REVIEW

Investment Monthly Review

Jim Bennett reported that as of July 31, 2023 the MainePERS fund had a preliminary market value of \$18.9 billion, the preliminary return for the month was 1.0%, and the preliminary calendar year-to-date return was 5.7%.

Quarterly Rebalancing Report

Jim Bennett reviewed a summary of rebalancing activity as of June 30th. Jim answered questions from the Trustees.

Investment Quarterly Review

Stuart Cameron presented the Investment Quarterly Review report for the period ending June 30, 2023 to the Trustees. Stuart answered various questions from the Trustees.

Risk Diversifiers Quarterly Review

Stuart Cameron reviewed the risk diversifier quarterly report with the Trustees.

COST OF LIVING ADJUSTMENT (COLA)

Dr. Rebecca Wyke reported that the CPI-U as of June 30, 2023 was 3.0. The COLA for the State-sponsored plans is capped at 3% of the first \$24,911.84 of benefits. The increase for the PLD Consolidated Plan is capped at 2.5% of the total benefit. The cap for withdrawn PLDs is 4%, which means the COLA awarded is 3% of the total benefit.

- **Action**. Dick Metivier made a motion, seconded by Mark Brunton, to adopt cost-of-living adjustments of 3% of the COLA base for the State-sponsored plans, 2.5% for the PLD Consolidated Plan, and 3% for withdrawn PLDs, effective September of 2023. Voted unanimously by eight Trustees (Beliveau, Blaisdell, Brunton, Kimball, Metivier, Noyes, Olson, and Williams).

FINANCE AND AUDIT COMMITTEE UPDATE

Shirrin Blaisdell stated the Finance and Audit Committee reviewed the Administrative and Investment financial statements for the end of the year. She shared both accounts ended with surpluses. Shirrin shared the Committee was provided a presentation from the external auditors, BerryDunn, who reviewed their agenda for the audit. Shirrin answered questions from the Trustees.

MEMBER SERVICES, FINANCE, AND OPERATIONS REPORT

Chip Gavin shared that work has begun with Linea Solutions to begin the process for updating or replacing the current pension administration software. Chip stated Focus Fridays continues to have an impact on reducing backlogs and they will continue for the next six months.

Sherry Vandrell shared five employer audits were opened in July and one completed.

Michael Colleran shared retention and recruitment continues to be a major focus. He stated there were four new hires in July and four others in August.

Chip, Sherry, and Mike answered questions from the Trustees. The Trustees thanked the group for their continued hard work.

LEGISLATIVE UPDATE

Kathy Morin shared this will be the last legislative update for this session. Kathy answered questions from the Trustees.

Dr. Rebecca Wyke thanked Kathy for her great work throughout the session.

GOVERNANCE

- Action. Mark Brunton made the motion, seconded by Ken Williams, that the Board enter into executive session pursuant to 1 M.R.S. §405(6)(A) to discuss evaluation of public officials. Voted unanimously by eight Trustees (Beliveau, Blaisdell, Brunton, Kimball, Metivier, Noyes, Olson, and Williams).

The Board moved out of executive session.

John Beliveau left the meeting at 12:30 p.m.

PERSONNEL

- Action. Ken Williams made the motion, seconded by Shirrin Blaisdell, that the Board enter into executive session pursuant to 1 M.R.S. §405(6)(A) to discuss compensation of an employee. Voted unanimously by seven Trustees (Blaisdell, Brunton, Kimball, Metivier, Noyes, Olson, and Williams).

The Board moved out of executive session.

ADJOURNMENT

- Action. Dick Metivier made the motion, seconded by Shirrin Blaisdell to adjourn the August meeting of the Board of Trustees. Unanimously voted by seven Trustees (Blaisdell, Brunton, Kimball, Metivier, Noyes, Olson, and Williams).

The meeting adjourned at approximately 12:45 p.m.

9/14/23

Date Approved by the Board

Dr. Rebecca M. Wyke, Chief Executive Officer

Date Signed

MAINEPERS

BOARD OF TRUSTEES INVESTMENTS MEMORANDUM

TO: BOARD MEMBERS
FROM: JAMES BENNETT, CHIEF INVESTMENT OFFICER
SUBJECT: MONTHLY INVESTMENT REVIEW
DATE: SEPTEMBER 6, 2023

Following this memo are the Investment Monthly Review for August as well as the quarterly comprehensive reports for the Defined Benefit, GLI, OPEB, and RHIPB assets.

POLICY REFERENCE

[Board Policy 2.1 – Investment Policy Statement](#)

[Board Policy 4.5 – Board/Staff Relations](#)

[Board Policy 4.6 – Communication and Support to the Board](#)

MONTHLY INVESTMENT REVIEW: HIGHLIGHTS AND OBSERVATIONS

Preliminary Fund results for the month include:

- Month-end fund value of \$18.7 billion.
- Monthly return of -0.9%.
- Calendar year-to-date return of 4.9%.
- Fiscal year-to-date return of 0.2%.



MainePERS
PUBLIC EMPLOYEES RETIREMENT SYSTEM

Investment Review

September 14, 2023

Investment Policy Objective

Investment Objective

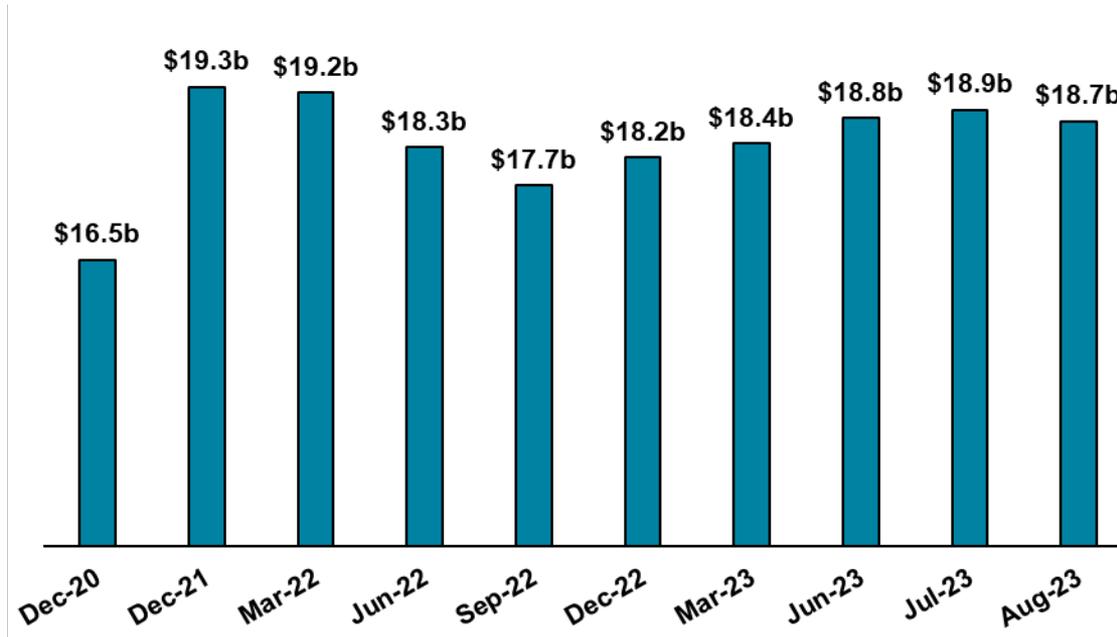
MainePERS' investment objectives balance the System's twin goals of generating investment returns (to ensure growth of the trust funds) and minimizing investment risks (loss of capital and cash flow shortfalls).

The Board recognizes and accepts that these goals are in opposition, and that a trade-off exists between expected risk and return. The Board balances these goals by seeking to optimize portfolio returns consistent with an established targeted portfolio risk level.

Additionally, by optimizing investment returns on trust assets, rather than attempting to maximize them, the Board seeks to maintain contribution rate and funding level volatility at acceptable levels that have been determined from time to time during strategic asset allocation planning and asset/liability reviews.

August 2023 Performance (Preliminary)

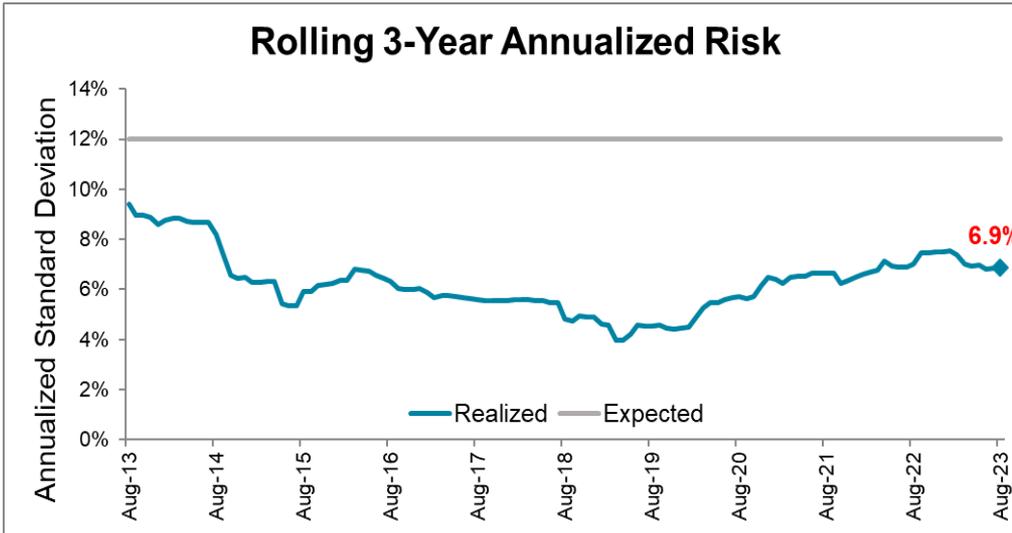
The **preliminary** fund value at the end of August is \$18.7 billion.



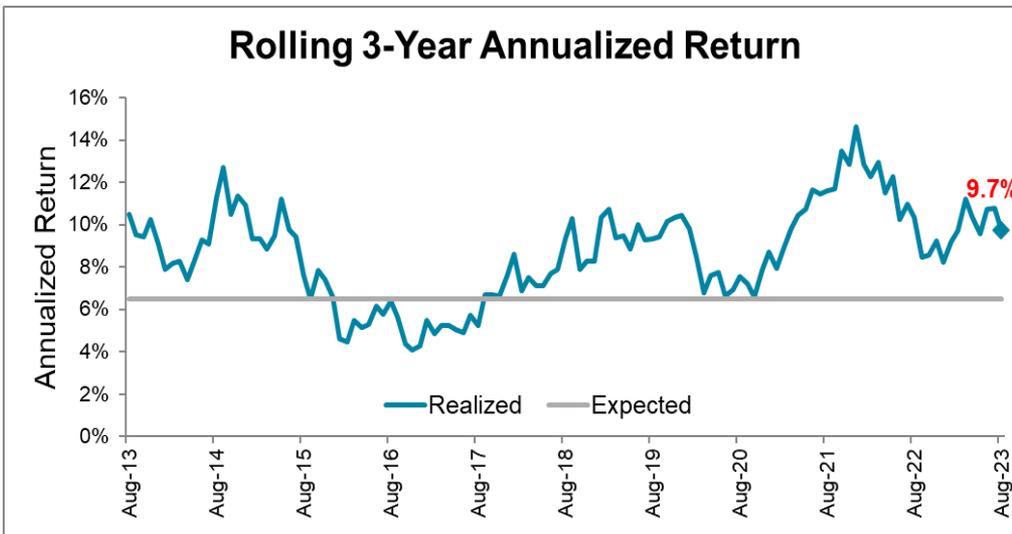
Fund and Benchmark Returns

	Aug-23	CYTD 2023	FYTD 2024
Total Fund	-0.9%	4.9%	0.2%
Russell 3000	-1.9%	18.0%	1.6%
MSCI ACWI ex-USA	-4.5%	8.8%	-0.6%
Bloomberg US Aggregate	-0.6%	1.4%	-0.7%

Investment Objective Measurement: Risk and Return



Despite heightened volatility in 2022, observed risk at the Fund level remains below targeted risk on a rolling 3-year annualized basis.



On a rolling 3-year annualized basis, investment returns have exceeded expected values and the System's discount rate.

Note: Rolling 3-year return and standard deviation are calculated at each point in time based on returns over prior 36 months. All figures are annualized.

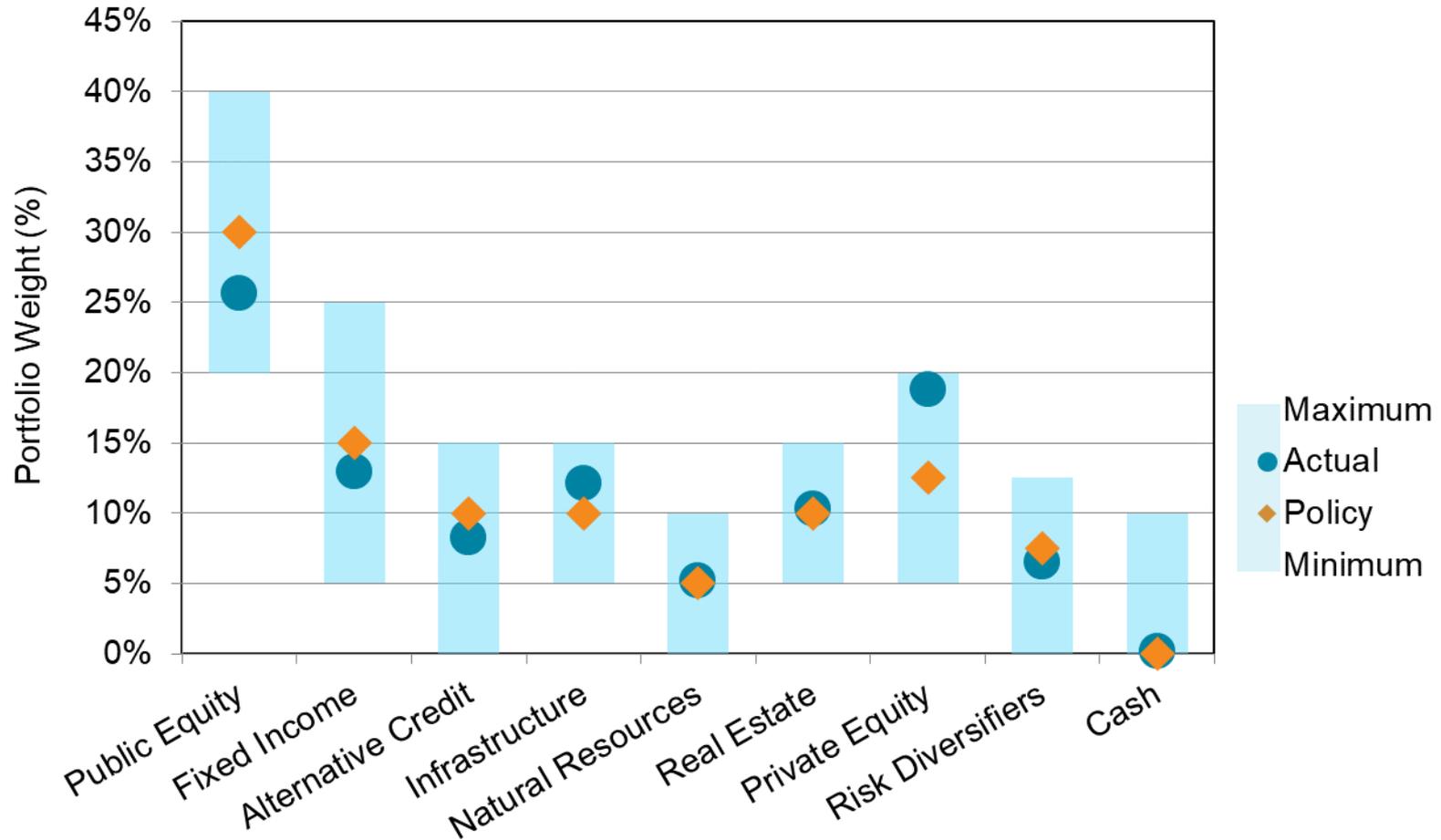
August 2023 Asset Allocation (Preliminary)

Assets (Millions)	Value	% of Fund	Policy %
MainePERS Portfolio	\$ 18,737	100.0%	100.0%
Domestic Equity	\$ 3,024	16.1%	18.6%
International Equity	\$ 1,789	9.5%	11.4%
Fixed Income	\$ 2,421	12.9%	15.0%
Alternative Credit	\$ 1,547	8.3%	10.0%
Infrastructure	\$ 2,268	12.1%	10.0%
Natural Resources	\$ 968	5.2%	5.0%
Private Equity	\$ 3,530	18.8%	12.5%
Real Estate	\$ 1,937	10.3%	10.0%
Risk Diversifiers	\$ 1,225	6.5%	7.5%
Cash	\$ 30	0.2%	0.0%

Portfolio weights for most asset classes remain near MainePERS Investment Policy asset allocation weights.

Private equity remains overweight at ~19% of Fund value, and private markets assets in aggregate comprise 54.7% of the overall portfolio, above the 47.5% policy weight.

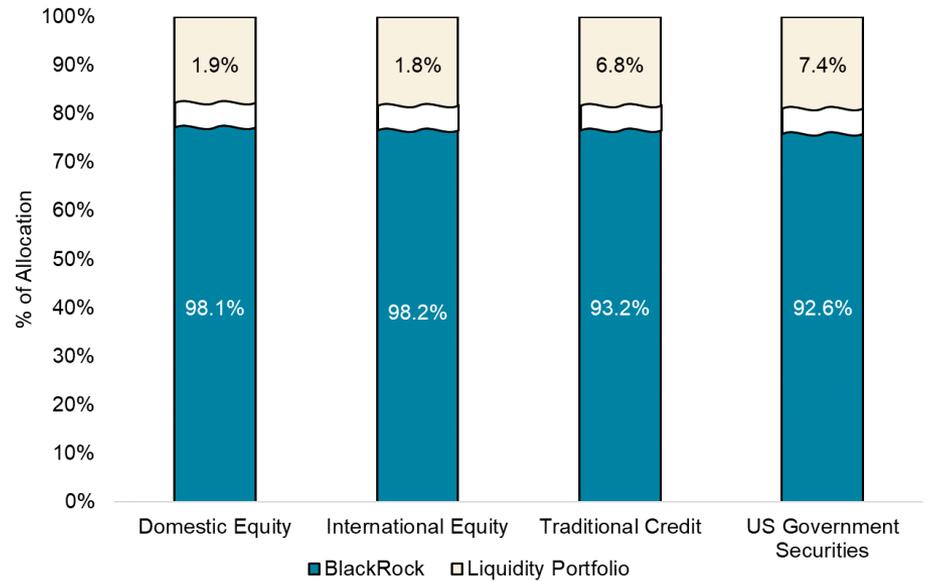
August 2023 Asset Allocation (Preliminary)



Public Securities: Liquidity Portfolio

At the end of August, 1.4% of Fund assets were invested via ETFs and futures contracts in an account managed by Parametric Associates.

The Liquidity Portfolio accounts for 3.6% of MainePERS' total exposure to public securities.



MainePERS Liquidity Portfolio	Market Value (Millions)	Exposure Type
Parametric Domestic Equity	\$57.8	Futures
Parametric International Equity	\$32.3	Futures
Parametric Traditional Credit	\$54.5	ETFs
Parametric US Government Securities	\$119.0	Futures
Total Liquidity Portfolio	\$263.7	

Derivatives and Leverage

MainePERS has **exposure to derivatives** in the following areas:

- Public Equities, Public Fixed Income, and Risk Diversifiers

MainePERS has **financial leverage** (borrowing and investing) in the following areas:

- BlackRock – Financial leverage in securities lending
- JP Morgan – Financial leverage in securities lending
- Alternative Credit
- Infrastructure
- Natural Resources
- Private Equity
- Real Estate

Investment Related Fees: August 2023

Description	FYTD 24	FY 23	FY 22	FY 21	FY 20
Investment Mgmt. Fees	\$22,059,612	\$132,357,668	\$130,884,088	\$120,429,567	\$122,567,451
Securities Lending Fees ¹	126,341	1,303,543	1,744,317	1,653,172	2,239,396
Consulting Fees	202,500	1,193,543	1,120,000	1,120,000	1,120,000
Broker Commissions ²	8,610	136,039	77,558	52,364	37,461
Placement Agent Fees	0	0	0	0	0
Total	\$22,397,063	\$134,990,793	\$133,825,963	\$123,255,103	\$125,964,308
Percentage of Fund ³	0.72%	0.72%	0.73%	0.68%	0.86%

1. Securities Lending Fees are through 7/31/2023
2. Actual paid commissions reported by JP Morgan
3. For FY24: Total fees projected for the full fiscal year divided by current Fund value.
For prior FY: Total fees divided by FYE Fund value.

Securities Lending: July 2023

	Average Lendable Assets	Average Assets On Loan	Total Sec Lending Revenue	Revenue Split	MainePERS Net Income	MainePERS Net Income, FYTD
BlackRock						
Fixed Income	\$1,881,942,021	\$1,270,031,506	\$203,974	60%/40%	\$122,384	\$122,384
Total Equity	\$1,672,921,922	\$186,495,508	\$107,544	60%/40%	\$70,427	\$70,427
Total Blackrock	\$3,554,863,943	\$1,456,527,014	\$311,518		\$192,811	\$192,811
JP Morgan						
Domestic Equities	\$2,771,356,671	\$118,405,028	\$50,943	85%/15%	\$43,308	\$43,308
Total JP Morgan	\$2,771,356,671	\$118,405,028	\$50,943		\$43,308	\$43,308
Total	\$6,326,220,614	\$1,574,932,042	\$362,461		\$236,119	\$236,119
Total Annualized Securities Lending Income, FY 2024:				\$2,833,429 (0.02%, or 1.5 bps)		
Total Actual Securities Lending Income, FY 2023:				\$2,557,153 (0.01%, or 1.4 bps)		

Liquidity Schedule: August 2023

Term	Market Value	Percent of Portfolio
Liquid ¹	\$7,263m	38.8%
Semi-Liquid ²	\$2,511m	13.4%
Illiquid ³	\$8,963m	47.8%
Total	\$18,737m	100.0%

Sources and Uses of Liquidity

	Last 12 Months Actual	Next 12 Months Projection
Private Markets Activity		
Capital Contributions	-\$1,436m	-\$800m
Distributions	\$1,070m	\$1,820m
Net Private Markets Activity	-\$366m	\$1,020m
Benefit Payments	-\$415m	-\$420m
Net Cash Flows	-\$781m	\$600m

¹Liquid assets includes public equities and public fixed income

²Semi-liquid assets includes risk diversifiers, open-end real estate investments, and listed alternative credit funds

³Illiquid assets includes closed-end alternative credit, infrastructure, natural resources, private equity, and real estate funds

MainePERS Alternative Investments Summary

<i>as of 08/31/2023</i>	# of Funds	# of GP Relationships
Alternative Credit	25	13
Infrastructure	35	11
Natural Resources	16	10
Private Equity	124	34
Real Estate	33	18
Risk Diversifiers	11	10
Total*	244	87

*GP Total may not add due to overlapping relationships

Currently, MainePERS is invested in 244 funds,
and has 87 distinct manager relationships.

MainePERS Alternative Investments Summary

<i>(in \$millions)</i> as of 08/31/2023	<u>Current Market Value</u>			<u>Unfunded Commitment</u>	
	Dollars	% of Fund	Policy %*	Dollars	% of Fund
Alternative Credit	\$ 1,547	8.3%	10.0%	\$ 771	4.1%
Infrastructure	\$ 2,268	12.1%	10.0%	\$ 566	3.0%
Natural Resources	\$ 968	5.2%	5.0%	\$ 213	1.1%
Private Equity	\$ 3,530	18.8%	12.5%	\$ 1,088	5.8%
Real Estate	\$ 1,937	10.3%	10.0%	\$ 405	2.2%
Risk Diversifiers	\$ 1,225	6.5%	7.5%	\$ 105	0.6%
Total Alternatives	\$ 11,475	61.2%	55.0%	\$ 3,148	16.8%

For more details please see Private Markets Investment Summary at <http://www.maineper.org/Investments/>

*Investment Policy weights approved by the Board of Trustees effective May 2022

Note: Market values shown above are preliminary estimates. Private market asset values are based on 3/31/2023 values, adjusted for subsequent cash flows.

<i>(in \$millions)</i> as of 08/31/2023	<u>Private Market Commitments by Vintage Year</u>				<u>3-Year</u>
	2020	2021	2022	2023	Average ¹
Alternative Credit	\$ 275	\$ 410	\$ 550	\$ 180	\$ 412
Infrastructure	\$ 235	\$ 180	\$ 200	\$ 50	\$ 205
Natural Resources	\$ -	\$ -	\$ 30	\$ 40	\$ 10
Private Equity	\$ 276	\$ 438	\$ 218	\$ 130	\$ 311
Real Estate	\$ 80	\$ 285	\$ 180	\$ 15	\$ 182
Total Commitments	\$ 866	\$ 1,313	\$ 1,178	\$ 415	\$ 1,119

¹3-Year Average: 2020-2022

MainePERS Private Market Investments Summary: 03/31/2023

Asset Class Summary	Commitment (A)	Amount Contributed (B)	Total Distributions (C)	Current Market Value (D)	Total Value (C+D)	Interim Net IRR
Alternative Credit	\$ 2,377,474	\$ 1,822,916	\$ 614,344	\$ 1,497,101	\$ 2,111,446	7.1%
Infrastructure	\$ 3,380,645	\$ 3,391,735	\$ 2,718,400	\$ 2,205,312	\$ 4,923,712	11.5%
Natural Resources	\$ 1,020,500	\$ 1,071,949	\$ 434,442	\$ 961,235	\$ 1,395,677	6.6%
Private Equity	\$ 4,890,769	\$ 4,682,319	\$ 3,946,791	\$ 3,646,334	\$ 7,593,125	16.1%
Real Estate	\$ 2,742,523	\$ 2,608,169	\$ 1,884,318	\$ 1,855,527	\$ 3,739,845	7.1%
Total	\$ 14,411,911	\$ 13,577,088	\$ 9,598,295	\$ 10,165,510	\$ 19,763,805	10.6%

Note: This Asset Class Summary table includes all private market investments: both fund investments and co-investments.

Co-Investment Summary	Commitment (A)	# of Co- Investments	Amount Contributed (B)	Total Distributions (C)	Current Market Value (D)	Total Value (C+D)	Interim Net IRR
Alternative Credit Co-Investments	\$ 253,700	35	\$ 253,930	\$ 75,902	\$ 208,822	\$ 284,724	8.8%
Infrastructure Co-Investments	\$ 208,828	10	\$ 204,942	\$ 248,647	\$ 122,480	\$ 371,127	14.8%
Natural Resources Co-Investments	\$ 32,500	2	\$ 31,155	-	\$ 48,031	\$ 48,031	12.5%
Private Equity Co-Investments	\$ 377,777	32	\$ 364,933	\$ 310,156	\$ 257,288	\$ 567,444	14.0%
Real Estate Co-Investments	\$ 66,951	5	\$ 58,551	\$ 5,898	\$ 45,665	\$ 51,563	-5.0%
Total	\$ 939,756	84	\$ 913,512	\$ 640,604	\$ 682,286	\$ 1,322,890	13.1%

Note: This table contains values for the co-investment portion of the private market portfolio.

MainePERS Private Market Investments Summary: 03/31/2023

Alternative Credit

Fund Name	Commitment (A)	Date of Commitment	Amount Contributed (B)	Total Distributions (C)	Current Market Value (D)	Total Value (C+D)	Interim Net IRR
Angelo Gordon Direct Lending Fund II	\$ 25,000	3/31/2020	\$ 23,749	\$ 20,605	\$ 12,370	\$ 32,975	19.0%
Angelo Gordon Direct Lending Fund III	\$ 100,000	7/20/2018	\$ 101,649	\$ 66,896	\$ 70,704	\$ 137,601	10.7%
Participation Agreement #1	\$ 7,500	10/11/2019	\$ 7,484	\$ 2,054	\$ 7,045	\$ 9,099	8.1%
Participation Agreement #2	\$ 5,000	10/11/2019	\$ 4,994	\$ 5,422	\$ -	\$ 5,422	8.8%
Participation Agreement #3	\$ 5,000	10/11/2019	\$ 5,000	\$ 5,700	\$ -	\$ 5,700	7.3%
Participation Agreement #4	\$ 10,000	10/18/2019	\$ 9,915	\$ 2,082	\$ 9,591	\$ 11,674	8.3%
Participation Agreement #5	\$ 5,000	12/6/2019	\$ 5,000	\$ 2,213	\$ 4,147	\$ 6,360	9.3%
Participation Agreement #6	\$ 10,000	12/6/2019	\$ 9,991	\$ 1,940	\$ 9,768	\$ 11,708	8.7%
Participation Agreement #7	\$ 5,000	12/11/2019	\$ 5,000	\$ 1,573	\$ 4,730	\$ 6,302	8.3%
Participation Agreement #8	\$ 5,000	8/13/2020	\$ 4,914	\$ 1,153	\$ 4,827	\$ 5,980	8.5%
Participation Agreement #9	\$ 7,500	4/9/2021	\$ 7,425	\$ 1,241	\$ 7,347	\$ 8,588	NM
Participation Agreement #10	\$ 5,000	4/20/2021	\$ 5,007	\$ 1,235	\$ 4,557	\$ 5,791	NM
Participation Agreement #11	\$ 5,000	5/5/2021	\$ 5,000	\$ 855	\$ 4,743	\$ 5,598	NM
Angelo Gordon Direct Lending Fund IV	\$ 100,000	1/24/2020	\$ 90,000	\$ 10,288	\$ 99,758	\$ 110,046	12.3%
Participation Agreement #1	\$ 5,000	10/23/2020	\$ 4,913	\$ 1,421	\$ 4,380	\$ 5,801	8.2%
Participation Agreement #2	\$ 12,500	8/17/2021	\$ 12,295	\$ 1,462	\$ 12,261	\$ 13,723	NM
Participation Agreement #3	\$ 7,500	10/5/2021	\$ 7,500	\$ 7,913	\$ -	\$ 7,913	NM
Participation Agreement #4	\$ 5,000	12/21/2021	\$ 4,925	\$ 599	\$ 4,888	\$ 5,487	NM
Participation Agreement #5	\$ 5,000	12/21/2021	\$ 4,925	\$ 762	\$ 4,705	\$ 5,467	NM
Participation Agreement #6	\$ 5,000	1/12/2022	\$ 4,925	\$ 591	\$ 4,878	\$ 5,469	NM
Participation Agreement #7	\$ 7,500	1/12/2022	\$ 7,388	\$ 663	\$ 7,297	\$ 7,960	NM
Participation Agreement #8	\$ 12,500	6/16/2022	\$ 12,406	\$ 1,038	\$ 12,276	\$ 13,313	NM
Angelo Gordon Direct Lending Fund IV Annex	\$ 50,000	11/18/2021	\$ 47,500	\$ 2,198	\$ 49,767	\$ 51,965	NM
Angelo Gordon Direct Lending Fund V	\$ 125,000	8/3/2022	\$ 53,125	\$ -	\$ 57,195	\$ 57,195	NM
Participation Agreement #1	\$ 7,500	9/1/2022	\$ 7,388	\$ 456	\$ 7,339	\$ 7,796	NM
Participation Agreement #2	\$ 12,500	10/7/2022	\$ 12,263	\$ 275	\$ 12,297	\$ 12,572	NM
Participation Agreement #3	\$ 10,000	10/19/2022	\$ 9,850	\$ 518	\$ 9,787	\$ 10,305	NM
Participation Agreement #4	\$ 10,000	10/27/2022	\$ 9,800	\$ 499	\$ 9,733	\$ 10,232	NM
Participation Agreement #5	\$ 10,000	2/27/2023	\$ 9,821	\$ 125	\$ 9,800	\$ 9,925	NM
Ares Capital Europe IV	\$ 122,000	4/30/2018	\$ 96,890	\$ 23,187	\$ 88,538	\$ 111,724	4.7%
Ares Capital Europe V	\$ 122,000	9/4/2020	\$ 89,007	\$ 3,430	\$ 91,610	\$ 95,041	6.8%
Ares Capital Europe VI	\$ 82,500	3/17/2023	\$ -	\$ -	\$ -	\$ -	NM
Ares Senior Direct Lending Fund II	\$ 100,000	12/10/2021	\$ 45,930	\$ 3,921	\$ 46,315	\$ 50,236	NM
Audax Senior Debt (MP), LLC	\$ 100,000	6/30/2017	\$ 100,000	\$ 20,800	\$ 107,363	\$ 128,163	4.8%

MainePERS Private Market Investments Summary: 03/31/2023

Alternative Credit

Fund Name	Commitment (A)	Date of Commitment	Amount Contributed (B)	Total Distributions (C)	Current Market Value (D)	Total Value (C+D)	Interim Net IRR
Brookfield Infrastructure Debt Fund III	\$ 100,000	7/15/2022	\$ 33,938	\$ 4,045	\$ 30,275	\$ 34,319	NM
Comvest Credit Partners VI	\$ 125,000	5/20/2022	\$ 50,000	\$ -	\$ 51,106	\$ 51,106	NM
Deerpath Capital VI	\$ 75,000	9/30/2021	\$ 54,590	\$ 4,527	\$ 55,583	\$ 60,110	NM
Global Infrastructure Partners Spectrum	\$ 100,000	2/20/2019	\$ 72,619	\$ 27,581	\$ 50,762	\$ 78,343	7.3%
Mesa West Core Lending Fund	\$ 100,000	6/18/2013	\$ 125,399	\$ 59,841	\$ 115,726	\$ 175,567	5.7%
Owl Rock Capital Corporation	\$ 100,000	3/10/2017	\$ 116,571	\$ 47,065	\$ 97,115	\$ 144,180	5.8%
Participation Agreement #1	\$ 5,000	5/7/2018	\$ 4,851	\$ 5,499	\$ -	\$ 5,499	12.7%
Participation Agreement #2	\$ 6,185	7/31/2018	\$ 6,196	\$ 7,745	\$ -	\$ 7,745	9.9%
Participation Agreement #3	\$ 5,000	8/7/2018	\$ 4,938	\$ 5,634	\$ -	\$ 5,634	7.9%
Participation Agreement #4	\$ 5,000	8/20/2018	\$ 4,566	\$ 5,835	\$ -	\$ 5,835	8.1%
Participation Agreement #5	\$ 5,000	12/21/2018	\$ 4,826	\$ 1,714	\$ 4,476	\$ 6,191	7.1%
Participation Agreement #6	\$ 7,500	8/7/2020	\$ 8,905	\$ 3,280	\$ 7,316	\$ 10,596	9.2%
Participation Agreement #7	\$ 7,500	7/26/2021	\$ 6,560	\$ 1,026	\$ 6,452	\$ 7,478	NM
Participation Agreement #8	\$ 12,500	6/17/2022	\$ 12,778	\$ 1,171	\$ 12,415	\$ 13,586	NM
Participation Agreement #9	\$ 7,500	9/26/2022	\$ 7,388	\$ 450	\$ 7,369	\$ 7,819	NM
Owl Rock Capital Corporation III	\$ 100,000	6/19/2020	\$ 114,983	\$ 14,983	\$ 117,916	\$ 132,899	9.5%
Pathlight Capital Fund II	\$ 75,000	4/22/2021	\$ 104,980	\$ 49,120	\$ 64,117	\$ 113,238	NM
Participation Agreement #1	\$ 7,500	4/1/2022	\$ 7,368	\$ 1,106	\$ 7,001	\$ 8,107	NM
Participation Agreement #2	\$ 7,500	4/1/2022	\$ 7,429	\$ 653	\$ 7,397	\$ 8,050	NM
Pathlight Capital Fund III	\$ 75,000	6/24/2022	\$ 40,736	\$ 8,438	\$ 29,845	\$ 38,283	NM
Solar Capital Private Corporate Lending Fund	\$ 50,000	6/26/2019	\$ 40,188	\$ 5,718	\$ 41,860	\$ 47,578	11.4%
Solar Capital Debt Fund	\$ 50,000	6/26/2019	\$ 25,000	\$ 1,395	\$ 26,385	\$ 27,780	12.2%
SLR Private Corporate Lending Fund II	\$ 125,000	12/23/2022	\$ -	\$ -	\$ -	\$ -	NM
Silver Point Specialty Credit II	\$ 50,000	1/31/2020	\$ 57,821	\$ 24,957	\$ 39,554	\$ 64,511	9.6%
Tennenbaum Direct Lending VIII	\$ 100,000	11/30/2017	\$ 100,883	\$ 80,962	\$ 41,529	\$ 122,490	6.2%

MainePERS Private Market Investments Summary: 03/31/2023

Infrastructure

Fund Name	Commitment		Amount	Total	Current	Total Value (C+D)	Interim Net IRR
	(A)	Date of Commitment	Contributed (B)	Distributions (C)	Market Value (D)		
Alinda Infrastructure Fund II	\$ 50,000	9/17/2009	\$ 68,297	\$ 74,099	\$ 216	\$ 74,315	1.9%
ArcLight Energy V	\$ 75,000	10/28/2011	\$ 76,031	\$ 103,624	\$ -	\$ 103,624	8.0%
Shore Co-Investment Holdings II	\$ 20,000	1/30/2014	\$ 17,709	\$ 19,737	\$ -	\$ 19,737	8.4%
ArcLight Energy VI	\$ 150,000	11/25/2014	\$ 159,687	\$ 127,354	\$ 61,914	\$ 189,269	4.2%
Great River Hydro Partners	\$ 12,000	6/17/2017	\$ 10,718	\$ 44,535	\$ 36,079	\$ 80,614	40.2%
Brookfield Infrastructure Fund II	\$ 100,000	6/28/2013	\$ 116,690	\$ 103,388	\$ 90,532	\$ 193,920	9.7%
Brookfield Infrastructure Fund III	\$ 100,000	4/15/2016	\$ 108,389	\$ 52,139	\$ 106,343	\$ 158,482	12.0%
Co-Investment #1	\$ 20,000	3/31/2017	\$ 15,947	\$ 19,216	\$ 18,201	\$ 37,418	28.1%
Carlyle Global Infrastructure Opportunity Fund	\$ 100,000	5/1/2019	\$ 85,007	\$ 16,111	\$ 83,893	\$ 100,004	11.1%
Carlyle Infrastructure Partners	\$ 50,000	11/2/2007	\$ 57,366	\$ 64,289	\$ 370	\$ 64,659	2.5%
Carlyle Power Partners II	\$ 50,000	11/19/2015	\$ 62,562	\$ 31,374	\$ 57,493	\$ 88,867	10.7%
Cube Infrastructure	\$ 45,000	4/16/2010	\$ 60,063	\$ 96,665	\$ 422	\$ 97,087	8.0%
Cube Infrastructure II	\$ 90,000	9/11/2018	\$ 73,467	\$ 5,744	\$ 67,110	\$ 72,854	-0.3%
Cube Infrastructure III	\$ 90,000	8/16/2021	\$ 40,821	\$ -	\$ 40,451	\$ 40,451	NM
EQT Infrastructure III	\$ 68,000	12/3/2016	\$ 97,262	\$ 129,417	\$ 42,038	\$ 171,455	20.8%
EQT Infrastructure IV	\$ 100,000	12/17/2018	\$ 93,463	\$ 17,140	\$ 103,126	\$ 120,266	11.3%
EQT Infrastructure V	\$ 75,000	12/8/2020	\$ 54,818	\$ 6,451	\$ 52,429	\$ 58,880	8.1%
First Reserve Energy Infrastructure Fund	\$ 50,000	6/30/2010	\$ 59,778	\$ 52,172	\$ 4,822	\$ 56,994	-1.3%
First Reserve Energy Infrastructure Fund II	\$ 100,000	10/21/2013	\$ 127,939	\$ 127,177	\$ 33,451	\$ 160,628	13.9%
Global Infrastructure Partners Sonic	\$ 30,000	7/31/2020	\$ 32,521	\$ -	\$ 20,769	\$ 20,769	-16.4%
Global Infrastructure Partners	\$ 75,000	3/31/2008	\$ 101,173	\$ 205,062	\$ 718	\$ 205,780	17.2%
Global Infrastructure Partners II	\$ 75,000	12/3/2011	\$ 104,944	\$ 143,984	\$ 37,810	\$ 181,793	15.9%
Global Infrastructure Partners III	\$ 150,000	4/15/2016	\$ 183,878	\$ 103,211	\$ 155,781	\$ 258,991	10.6%
Co-Investment #1	\$ 29,000	2/28/2017	\$ 27,677	\$ 16,251	\$ 36,248	\$ 52,499	14.9%
Co-Investment #2	\$ 25,000	8/16/2018	\$ 26,816	\$ 2,888	\$ 18,782	\$ 21,671	-5.1%
Global Infrastructure Partners IV	\$ 150,000	12/21/2018	\$ 129,010	\$ 12,845	\$ 122,312	\$ 135,158	4.4%
IFM Global Infrastructure (US), L.P.	\$ 100,000	12/20/2012	\$ 144,550	\$ 208,040	\$ -	\$ 208,040	9.8%
KKR Diversified Core Infrastructure Fund	\$ 100,000	4/29/2022	\$ 100,000	\$ -	\$ -	\$ -	NM
KKR Global Infrastructure Investors	\$ 75,000	9/29/2010	\$ 87,917	\$ 154,328	\$ 89	\$ 154,418	13.1%
KKR Global Infrastructure Investors II	\$ 150,000	10/24/2014	\$ 184,651	\$ 241,656	\$ 77,385	\$ 319,041	17.2%

(all dollar amounts in thousands)

MainePERS Private Market Investments Summary: 03/31/2023

Infrastructure

Fund Name	Commitment		Amount	Total	Current	Total Value (C+D)	Interim Net IRR
	(A)	Date of Commitment	Contributed (B)	Distributions (C)	Market Value (D)		
KKR Atlanta Co-Invest	\$ 24,000	9/26/2014	\$ 21,428	\$ 28,551	\$ -	\$ 28,551	5.7%
KKR Taurus Co-Invest II	\$ 25,000	8/15/2017	\$ 25,000	\$ 56,779	\$ 818	\$ 57,597	21.4%
KKR Byzantium Infrastructure Aggregator	\$ 15,000	10/17/2017	\$ 15,000	\$ 7,013	\$ 10,912	\$ 17,925	4.7%
KKR Global Infrastructure Investors III	\$ 100,000	3/29/2018	\$ 89,817	\$ 22,722	\$ 87,693	\$ 110,414	10.2%
Meridiam Infrastructure (SCA)	\$ 11,000	9/23/2015	\$ 21,938	\$ 10,415	\$ 26,063	\$ 36,478	8.4%
Meridiam Infrastructure (SCA) B Shares	\$ 1,000	9/23/2015	\$ 305	\$ 55	\$ 23,913	\$ 23,968	80.2%
Meridiam Infrastructure Europe II (SCA)	\$ 22,500	9/23/2015	\$ 27,420	\$ 15,590	\$ 36,181	\$ 51,770	12.0%
Meridiam Infrastructure Europe III SLP	\$ 95,000	4/27/2016	\$ 69,465	\$ 16,804	\$ 56,727	\$ 73,531	2.1%
Meridiam Sustainable Infrastructure Europe IV	\$ 90,000	4/16/2021	\$ 12,422	\$ 4	\$ 10,573	\$ 10,576	NM
Meridiam Infrastructure N.A. II	\$ 75,000	9/28/2012	\$ 88,232	\$ 31,084	\$ 175,999	\$ 207,082	17.2%
MINA II CIP	\$ 175	6/30/2015	\$ 169	\$ 29	\$ 19,773	\$ 19,802	118.9%
Meridiam Infrastructure N.A. II	\$ 20,000	6/30/2015	\$ 18,870	\$ 4,342	\$ 45,092	\$ 49,434	23.8%
Meridiam Infrastructure N.A. III	\$ 50,000	7/12/2017	\$ 30,987	\$ 1	\$ 37,823	\$ 37,823	16.7%
Stonepeak Infrastructure Partners II	\$ 140,000	11/12/2015	\$ 188,950	\$ 231,036	\$ 40,937	\$ 271,973	13.4%
Stonepeak Claremont Co-Invest	\$ 25,000	5/30/2017	\$ 25,000	\$ 51,959	\$ -	\$ 51,959	17.8%
Stonepeak Spear (Co-Invest) Holdings	\$ 25,000	1/8/2018	\$ 19,648	\$ 1,717	\$ 37,333	\$ 39,051	14.8%
Stonepeak Infrastructure Partners III	\$ 150,000	10/13/2017	\$ 162,617	\$ 51,776	\$ 193,534	\$ 245,311	17.3%
Stonepeak Infrastructure Partners IV	\$ 125,000	5/8/2020	\$ 65,141	\$ 9,568	\$ 60,301	\$ 69,869	8.2%

MainePERS Private Market Investments Summary: 03/31/2023

Natural Resources

Fund Name	Commitment (A)	Date of Commitment	Amount Contributed (B)	Total Distributions (C)	Current Market Value (D)	Total Value (C+D)	Interim Net IRR
ACM Permanent Crops	\$ 35,000	10/24/2014	\$ 39,100	\$ 10,375	\$ 60,692	\$ 71,067	9.8%
ACM Permanent Crops II	\$ 35,000	5/12/2016	\$ 41,556	\$ 8,885	\$ 20,054	\$ 28,939	-10.7%
AMERRA Agri Fund III	\$ 50,000	2/11/2016	\$ 98,634	\$ 77,009	\$ 26,052	\$ 103,061	1.8%
Denham Mining Fund	\$ 35,000	6/29/2018	\$ 30,031	\$ 659	\$ 38,257	\$ 38,916	9.9%
Homestead Capital Farmland II	\$ 50,000	8/8/2016	\$ 54,683	\$ 10,029	\$ 55,678	\$ 65,707	5.1%
Homestead Capital Farmland III	\$ 30,000	10/26/2018	\$ 26,148	\$ 2,326	\$ 26,195	\$ 28,521	6.3%
Orion Mine Finance Fund II	\$ 50,000	5/25/2016	\$ 101,653	\$ 75,965	\$ 50,289	\$ 126,254	9.8%
Orion Mine Finance Co-Fund II	\$ 20,000	8/13/2018	\$ 20,098	\$ -	\$ 34,085	\$ 34,085	12.6%
Silver Creek Aggregate Reserves Fund	\$ 100,000	11/6/2018	\$ 15,296	\$ 2,378	\$ 18,053	\$ 20,431	NM
Sprott Private Resource Lending Fund III	\$ 30,000	8/31/2022	\$ 2,453	\$ 1	\$ 2,153	\$ 2,153	NM
Taurus Mining Fund	\$ 50,000	3/27/2015	\$ 41,459	\$ 46,116	\$ 4,060	\$ 50,176	7.6%
Taurus Mining Fund Annex	\$ 23,000	12/1/2016	\$ 18,366	\$ 23,384	\$ 938	\$ 24,322	17.9%
Taurus Mining Fund No. 2	\$ 75,000	4/18/2019	\$ 63,125	\$ 43,153	\$ 32,457	\$ 75,609	19.6%
Teays River Integrated Agriculture	\$ 200,000	7/1/2015	\$ 198,974	\$ 28,770	\$ 315,333	\$ 344,103	7.9%
Twin Creeks Timber	\$ 200,000	1/7/2016	\$ 199,297	\$ 93,827	\$ 123,098	\$ 216,926	2.3%
U.S. Farming Realty Trust III	\$ 100,000	7/7/2015	\$ 110,017	\$ 11,565	\$ 139,895	\$ 151,460	6.7%
Canally Coinvest Holdings	\$ 12,500	12/9/2019	\$ 11,057	\$ -	\$ 13,946	\$ 13,946	11.6%

MainePERS Private Market Investments Summary: 03/31/2023

Private Equity

Fund Name	Commitment		Amount	Total	Current Market	Total Value	Interim Net
	(A)	Date of Commitment	Contributed (B)	Distributions (C)	Value (D)	(C+D)	IRR
ABRY Advanced Securities Fund II	\$ 20,000	5/4/2011	\$ 20,530	\$ 29,628	\$ 345	\$ 29,973	13.1%
ABRY Advanced Securities Fund III	\$ 30,000	4/30/2014	\$ 44,799	\$ 23,884	\$ 20,031	\$ 43,915	-0.6%
ABRY Heritage Partners	\$ 10,000	5/31/2016	\$ 10,774	\$ 10,979	\$ 7,988	\$ 18,966	27.0%
ABRY Partners VII	\$ 10,000	4/29/2011	\$ 12,939	\$ 17,340	\$ 2,122	\$ 19,462	12.2%
ABRY Partners VIII	\$ 20,000	8/8/2014	\$ 23,864	\$ 29,732	\$ 3,997	\$ 33,729	10.3%
ABRY Senior Equity IV	\$ 10,000	12/7/2012	\$ 10,834	\$ 16,694	\$ 1,585	\$ 18,279	14.9%
ABRY Senior Equity V	\$ 12,050	1/19/2017	\$ 12,795	\$ 5,370	\$ 13,288	\$ 18,658	15.7%
Advent International GPE VII	\$ 30,000	6/29/2012	\$ 34,811	\$ 52,335	\$ 6,161	\$ 58,496	13.5%
Advent International GPE VIII	\$ 50,000	2/5/2016	\$ 55,594	\$ 42,125	\$ 64,241	\$ 106,366	18.6%
Advent International GPE IX	\$ 50,000	5/9/2019	\$ 45,503	\$ 4,998	\$ 62,838	\$ 67,836	24.4%
GPE IX TKE Co-Investment	\$ 24,000	3/30/2020	\$ 21,243	\$ -	\$ 29,834	\$ 29,834	13.5%
Advent International GPE X	\$ 45,000	4/28/2022	\$ 3,375	\$ -	\$ 2,758	\$ 2,758	NM
AI Co-Investment I-A	\$ 7,500	3/2/2023	\$ -	\$ -	\$ -	\$ -	NM
Advent Latin America PE Fund VI	\$ 20,000	10/17/2014	\$ 19,516	\$ 12,350	\$ 18,629	\$ 30,979	13.5%
Affinity Asia Pacific Fund IV	\$ 60,000	2/28/2013	\$ 64,783	\$ 74,402	\$ 28,830	\$ 103,232	14.7%
Affinity Asia Pacific Fund V	\$ 40,000	12/11/2017	\$ 22,419	\$ 4,771	\$ 22,431	\$ 27,202	10.5%
Bain Capital Ventures 2021	\$ 25,000	10/28/2020	\$ 17,750	\$ 1	\$ 18,580	\$ 18,581	3.4%
Bain Capital Ventures 2022	\$ 25,000	6/10/2022	\$ 438	\$ -	\$ 227	\$ 227	NM
Bain Capital Venture Coinvestment Fund III	\$ 15,000	4/1/2021	\$ 11,775	\$ -	\$ 13,044	\$ 13,044	NM
Bain Capital Venture Coinvestment Fund IV	\$ 15,000	6/10/2022	\$ -	\$ -	\$ -	\$ -	NM
Berkshire Fund VIII	\$ 15,000	7/20/2011	\$ 16,846	\$ 27,586	\$ 9,475	\$ 37,062	17.1%
Berkshire Fund IX	\$ 50,000	3/18/2016	\$ 56,849	\$ 35,932	\$ 54,791	\$ 90,723	16.8%
Blackstone Capital Partners VI	\$ 30,000	6/30/2010	\$ 37,729	\$ 51,078	\$ 12,235	\$ 63,313	12.4%
Blackstone Capital Partners VII	\$ 54,000	3/27/2015	\$ 61,027	\$ 38,218	\$ 54,099	\$ 92,317	13.7%
Carlyle Asia Partners III	\$ 15,000	12/31/2009	\$ 20,752	\$ 31,105	\$ 177	\$ 31,282	12.6%
Carlyle Asia Partners IV	\$ 60,000	6/3/2014	\$ 79,646	\$ 98,620	\$ 26,722	\$ 125,342	12.6%
Carlyle Asia Partners V	\$ 45,000	10/30/2017	\$ 35,482	\$ 10,769	\$ 29,305	\$ 40,074	8.3%
Centerbridge Capital Partners III	\$ 30,000	10/24/2014	\$ 47,767	\$ 45,744	\$ 29,207	\$ 74,951	18.6%
CB Blizzard Co-Invest	\$ 10,000	9/11/2019	\$ 15,684	\$ 10,053	\$ 2,740	\$ 12,793	-17.9%
Charterhouse Capital Partners VIII	\$ 13,500	1/6/2011	\$ 11,188	\$ 14,160	\$ -	\$ 14,160	7.9%
Charterhouse Capital Partners IX	\$ 4,500	1/6/2011	\$ 5,390	\$ 7,175	\$ 119	\$ 7,294	12.0%

(all dollar amounts in thousands)

MainePERS Private Market Investments Summary: 03/31/2023

Private Equity

Fund Name	Commitment		Amount	Total	Current Market	Total Value	Interim Net
	(A)	Date of Commitment	Contributed (B)	Distributions (C)	Value (D)	(C+D)	IRR
Charterhouse Capital Partners X	\$ 67,000	5/13/2015	\$ 57,291	\$ 60,602	\$ 43,723	\$ 104,325	21.0%
Charterhouse Acrostone	\$ 12,000	8/24/2018	\$ 13,254	\$ 21,268	\$ 0	\$ 21,268	16.9%
Charterhouse Capital Partners XI	\$ 45,000	4/23/2021	\$ 5,341	\$ -	\$ 6,785	\$ 6,785	NM
CVC Capital Partners VI	\$ 67,000	7/12/2013	\$ 97,841	\$ 105,628	\$ 69,394	\$ 175,022	17.1%
CVC Capital Partners VII	\$ 48,000	5/9/2017	\$ 72,466	\$ 38,259	\$ 67,610	\$ 105,869	23.1%
CVC Capital Partners VIII	\$ 44,000	6/11/2020	\$ 46,157	\$ 21,412	\$ 26,704	\$ 48,116	10.4%
EnCap Energy Capital VIII	\$ 30,000	1/31/2011	\$ 34,181	\$ 23,023	\$ 12,236	\$ 35,259	0.7%
EnCap Energy Capital Fund VIII Co-Investors, L.P.	\$ 16,238	12/8/2011	\$ 16,506	\$ 5,997	\$ 6,338	\$ 12,335	-4.1%
EnCap Energy Capital Fund IX	\$ 30,000	12/19/2012	\$ 34,541	\$ 36,668	\$ 13,312	\$ 49,981	10.4%
EnCap Energy Capital Fund X	\$ 40,000	3/5/2015	\$ 41,867	\$ 37,832	\$ 38,591	\$ 76,423	15.4%
EnCap Energy Capital Fund XI	\$ 40,000	5/31/2017	\$ 38,684	\$ 9,958	\$ 46,240	\$ 56,198	19.2%
EnCap Flatrock Midstream Fund III	\$ 20,000	4/9/2014	\$ 25,178	\$ 18,432	\$ 16,009	\$ 34,441	10.7%
EnCap Flatrock Midstream Fund IV	\$ 22,000	11/17/2017	\$ 19,604	\$ 7,454	\$ 15,328	\$ 22,782	8.0%
General Catalyst X - Early Venture	\$ 19,565	3/26/2020	\$ 18,880	\$ -	\$ 34,125	\$ 34,125	33.1%
General Catalyst X - Endurance	\$ 22,826	3/26/2020	\$ 22,859	\$ -	\$ 23,520	\$ 23,520	1.4%
General Catalyst X - Growth Venture	\$ 32,609	3/26/2020	\$ 31,467	\$ -	\$ 38,420	\$ 38,420	9.7%
General Catalyst XI - Creation	\$ 8,823	10/29/2021	\$ 2,143	\$ -	\$ 2,381	\$ 2,381	NM
General Catalyst XI - Endurance	\$ 29,412	10/29/2021	\$ 20,731	\$ -	\$ 20,168	\$ 20,168	NM
General Catalyst XI - Ignition	\$ 11,765	10/29/2021	\$ 6,910	\$ -	\$ 6,403	\$ 6,403	NM
GTCR Fund X	\$ 30,000	1/28/2011	\$ 31,766	\$ 64,445	\$ 198	\$ 64,643	21.4%
GTCR Fund XI	\$ 35,000	11/15/2013	\$ 34,961	\$ 70,749	\$ 44,619	\$ 115,369	33.9%
GTCR Fund XII	\$ 50,000	9/29/2017	\$ 51,223	\$ 31,746	\$ 53,386	\$ 85,131	25.4%
Co-Investment #1	\$ 5,238	4/26/2019	\$ 4,556	\$ -	\$ 8,957	\$ 8,957	19.0%
Co-Investment #2	\$ 5,997	11/1/2019	\$ 5,806	\$ 10,935	\$ 2,881	\$ 13,816	47.7%
GTCR XIII	\$ 50,000	10/27/2020	\$ 25,573	\$ 5,447	\$ 24,255	\$ 29,702	21.1%
GTCR XIV	\$ 50,000	12/16/2022	\$ -	\$ -	\$ -	\$ -	NM
H.I.G. Bayside Loan Fund II	\$ 25,000	5/28/2010	\$ 24,020	\$ 32,189	\$ 262	\$ 32,451	7.1%
H.I.G. Bayside Loan Ops Fund III (Europe)	\$ 30,000	7/27/2012	\$ 26,707	\$ 31,070	\$ 3,933	\$ 35,003	7.6%
H.I.G. Brazil & Latin America Partners	\$ 60,000	7/1/2015	\$ 67,684	\$ 19,264	\$ 78,474	\$ 97,739	13.3%
H.I.G. Capital Partners V	\$ 15,000	2/28/2013	\$ 20,352	\$ 28,359	\$ 11,086	\$ 39,445	23.4%
H.I.G. Europe Capital Partners II	\$ 22,500	7/1/2013	\$ 25,240	\$ 20,667	\$ 14,678	\$ 35,345	11.6%

(all dollar amounts in thousands)

MainePERS Private Market Investments Summary: 03/31/2023

Private Equity

Fund Name	Commitment		Amount	Total	Current Market	Total Value	Interim Net
	(A)	Date of Commitment	Contributed (B)	Distributions (C)	Value (D)	(C+D)	IRR
H.I.G. Growth Buyouts & Equity Fund II	\$ 17,500	6/30/2011	\$ 23,547	\$ 26,958	\$ 14,955	\$ 41,913	14.9%
H.I.G. Growth Buyouts & Equity Fund III	\$ 35,000	9/13/2018	\$ 13,398	\$ -	\$ 13,223	\$ 13,223	NM
H.I.G Middle Market LBO Fund II	\$ 40,000	2/7/2014	\$ 47,963	\$ 63,274	\$ 28,616	\$ 91,889	28.2%
Co-Investment #1	\$ 9,000	10/12/2017	\$ 9,000	\$ -	\$ (28)	\$ (28)	-100.0%
Co-Investment #2	\$ 686	6/19/2020	\$ 686	\$ -	\$ 896	\$ 896	10.1%
Co-Investment #3	\$ 1,000	6/1/2021	\$ 1,079	\$ -	\$ 15	\$ 15	NM
H.I.G. Middle Market LBO Fund III	\$ 40,000	7/23/2019	\$ 31,544	\$ 1,694	\$ 37,376	\$ 39,070	21.6%
Hellman & Friedman Capital Partners VII	\$ 30,000	6/19/2009	\$ 44,347	\$ 105,630	\$ 6,322	\$ 111,952	24.7%
Hellman & Friedman Capital Partners VIII	\$ 45,000	9/24/2014	\$ 48,585	\$ 26,839	\$ 54,926	\$ 81,765	14.0%
Hellman & Friedman Capital Partners IX	\$ 45,000	9/28/2018	\$ 44,605	\$ 1,069	\$ 59,680	\$ 60,749	15.1%
Hellman & Friedman Capital Partners X	\$ 45,000	5/10/2021	\$ 32,383	\$ -	\$ 33,030	\$ 33,030	NM
Inflexion Buyout Fund IV	\$ 27,000	9/30/2014	\$ 33,986	\$ 38,539	\$ 22,023	\$ 60,562	15.9%
Inflexion Partnership Capital Fund I	\$ 17,000	9/30/2014	\$ 25,728	\$ 39,627	\$ 7,261	\$ 46,887	22.5%
Inflexion Supplemental Fund IV	\$ 10,000	5/31/2016	\$ 14,860	\$ 20,923	\$ 8,137	\$ 29,060	24.5%
Kelso Investment Associates VIII	\$ 3,000	1/6/2011	\$ 3,022	\$ 4,263	\$ 136	\$ 4,399	8.1%
Kelso Investment Associates IX	\$ 60,000	11/5/2014	\$ 70,103	\$ 86,523	\$ 33,395	\$ 119,918	20.0%
KIA IX (Hammer) Investor	\$ 25,000	8/12/2016	\$ 25,426	\$ 69,298	\$ 312	\$ 69,609	21.4%
Kelso Investment Associates X	\$ 45,000	3/16/2018	\$ 46,561	\$ 13,311	\$ 70,582	\$ 83,892	35.6%
Kelso Investment Associates XI	\$ 45,000	12/22/2021	\$ 7,810	\$ 652	\$ 10,365	\$ 11,018	NM
Kelso XI Heights Co-Investment	\$ 12,000	8/19/2022	\$ 10,013	\$ -	\$ 10,839	\$ 10,839	NM
KKR North American Fund XI	\$ 60,000	2/7/2012	\$ 100,095	\$ 164,760	\$ 23,071	\$ 187,831	19.5%
KKR North America Fund XI (Platinum)	\$ 8,003	2/26/2016	\$ 8,040	\$ 2,313	\$ 6,053	\$ 8,366	0.8%
KKR Element Co-Invest	\$ 10,000	8/29/2016	\$ 10,050	\$ 24,030	\$ -	\$ 24,030	23.5%
KKR Americas XII	\$ 60,000	3/3/2016	\$ 61,403	\$ 26,301	\$ 72,690	\$ 98,991	18.5%
KKR Sigma Aggregator	\$ 15,000	6/22/2018	\$ 15,000	\$ -	\$ 23,205	\$ 23,205	9.6%
KKR Enterprise Co-Invest	\$ 15,000	10/11/2018	\$ 15,000	\$ -	\$ -	\$ -	-100.0%
KKR Enterprise Co-Invest AIV A	\$ 8,936	11/8/2019	\$ 8,936	\$ 7,243	\$ 1,237	\$ 8,480	-6.0%
KKR North America XIII	\$ 40,000	6/25/2021	\$ 13,403	\$ -	\$ 13,602	\$ 13,602	NM
KKR Special Situations Fund	\$ 60,000	12/19/2012	\$ 118,957	\$ 99,658	\$ 12,376	\$ 112,034	-2.1%
KKR Special Situations Fund II	\$ 60,000	12/19/2014	\$ 98,215	\$ 77,308	\$ 24,192	\$ 101,500	1.4%
Metwest Enhanced TALF Strategy Fund L. P.	\$ 75,000	7/31/2009	\$ 53,350	\$ 67,405	\$ -	\$ 67,405	10.2%

MainePERS Private Market Investments Summary: 03/31/2023

Private Equity

Fund Name	Commitment		Amount	Total	Current Market	Total Value	Interim Net
	(A)	Date of Commitment	Contributed (B)	Distributions (C)	Value (D)	(C+D)	IRR
Oaktree Opportunities VIII	\$ 30,000	12/9/2009	\$ 30,000	\$ 43,920	\$ 94	\$ 44,013	9.1%
ONCAP IV	\$ 15,000	11/8/2016	\$ 13,085	\$ 3,296	\$ 17,561	\$ 20,857	14.7%
Onex Partners III	\$ 10,000	1/6/2011	\$ 11,202	\$ 17,022	\$ 1,770	\$ 18,792	13.2%
Onex Partners IV	\$ 60,000	11/22/2013	\$ 62,871	\$ 50,953	\$ 38,527	\$ 89,481	8.2%
Co-Investment #1	\$ 10,000	2/27/2017	\$ 10,471	\$ 1,235	\$ 8,928	\$ 10,164	-0.6%
Onex Partners V	\$ 45,000	7/11/2017	\$ 39,000	\$ 5,911	\$ 41,686	\$ 47,597	12.4%
Paine & Partners Capital Fund IV	\$ 60,000	12/18/2014	\$ 56,456	\$ 29,070	\$ 48,054	\$ 77,124	7.8%
Wawona Co-Investment Fund I	\$ 15,000	3/31/2017	\$ 15,023	\$ -	\$ 4	\$ 4	-99.0%
Lyons Magnus Co-Investment Fund I	\$ 15,000	11/8/2017	\$ 15,016	\$ -	\$ 24,246	\$ 24,246	9.3%
PSP Maverick Co-Invest	\$ 7,238	9/12/2019	\$ 7,264	\$ -	\$ 517	\$ 517	-52.9%
PSP AH&N Co-Investment Fund	\$ 19,724	11/27/2019	\$ 17,539	\$ -	\$ 31,722	\$ 31,722	20.8%
Paine Schwartz Food Chain Fund V	\$ 45,000	8/3/2018	\$ 45,366	\$ 13,083	\$ 49,166	\$ 62,249	27.0%
SNFL Co-Investment Fund	\$ 5,000	10/11/2019	\$ 5,024	\$ 265	\$ 9,906	\$ 10,171	22.8%
Rhone Partners V	\$ 56,000	3/12/2015	\$ 71,494	\$ 34,616	\$ 79,931	\$ 114,547	15.4%
Riverside Capital Appreciation Fund VI	\$ 60,000	7/3/2013	\$ 61,710	\$ 79,808	\$ 18,122	\$ 97,930	12.1%
RCAF VI CIV XXXII	\$ 12,399	10/21/2015	\$ 12,687	\$ 35,260	\$ -	\$ 35,260	19.9%
Riverside Micro-Cap Fund III	\$ 35,000	6/30/2014	\$ 49,448	\$ 183,115	\$ 54,310	\$ 237,424	36.7%
Riverside Micro-Cap Fund IV	\$ 60,000	10/23/2015	\$ 55,659	\$ -	\$ 88,831	\$ 88,831	9.2%
Riverside Micro-Cap Fund IV-B	\$ 20,000	8/9/2019	\$ 24,292	\$ 5,583	\$ 36,910	\$ 42,493	27.5%
Riverside Micro-Cap Fund V	\$ 40,000	8/21/2018	\$ 33,265	\$ -	\$ 49,765	\$ 49,765	19.4%
Riverside Micro-Cap Fund VI	\$ 45,000	8/26/2021	\$ 12,766	\$ 263	\$ 12,453	\$ 12,717	NM
Shoreview Capital Partners III	\$ 24,000	7/24/2013	\$ 25,657	\$ 28,779	\$ 24,112	\$ 52,891	18.5%
Shoreview Capital Partners IV	\$ 30,000	6/3/2019	\$ 13,403	\$ 5,975	\$ 12,554	\$ 18,529	NM
Sovereign Capital IV	\$ 46,500	7/7/2014	\$ 40,344	\$ 26,905	\$ 32,927	\$ 59,833	10.8%
Summit Partners Credit II	\$ 60,000	10/25/2013	\$ 90,752	\$ 87,328	\$ 20,221	\$ 107,550	6.5%
Summit Europe Growth Equity III	\$ 22,000	3/18/2020	\$ 13,688	\$ -	\$ 12,618	\$ 12,618	-6.5%
Summit Europe Growth Equity IV	\$ 22,000	2/10/2023	\$ -	\$ -	\$ -	\$ -	NM
Summit Growth Equity VIII	\$ 25,000	5/27/2011	\$ 33,445	\$ 63,535	\$ 12,182	\$ 75,717	26.4%
Co-Investment #1	\$ 16,000	6/3/2015	\$ 16,000	\$ 38,735	\$ 21,304	\$ 60,039	32.5%
Summit Growth Equity IX	\$ 60,000	8/26/2015	\$ 83,322	\$ 88,968	\$ 90,187	\$ 179,155	32.7%
Co-Investment #1	\$ 15,000	11/29/2016	\$ 14,895	\$ 41,743	\$ -	\$ 41,743	159.6%

(all dollar amounts in thousands)

MainePERS Private Market Investments Summary: 03/31/2023

Private Equity

Fund Name	Commitment		Amount	Total	Current Market	Total Value	Interim Net
	(A)	Date of Commitment	Contributed (B)	Distributions (C)	Value (D)	(C+D)	IRR
Summit Partners Co-Invest (Ironman)	\$ 15,530	4/20/2018	\$ 15,004	\$ -	\$ 14,979	\$ 14,979	0.0%
Summit Partners Co-Invest (Giants-B)	\$ 15,000	10/22/2019	\$ 15,000	\$ 41,780	\$ 5,433	\$ 47,213	82.0%
Summit Growth Equity X	\$ 60,000	2/26/2019	\$ 59,804	\$ 18,176	\$ 60,791	\$ 78,967	20.6%
Summit Partners Co-Invest (Lions)	\$ 7,534	10/14/2020	\$ 7,534	\$ -	\$ 14,454	\$ 14,454	31.9%
Summit Partners Co-Invest (Indigo)	\$ 10,000	12/11/2020	\$ 11,436	\$ -	\$ 11,426	\$ 11,426	0.0%
Summit Growth Equity XI	\$ 45,000	10/1/2021	\$ 8,194	\$ -	\$ 8,611	\$ 8,611	NM
Summit Venture Capital III	\$ 13,150	5/27/2011	\$ 18,044	\$ 32,899	\$ 2,949	\$ 35,849	17.6%
Summit Venture Capital IV	\$ 40,000	8/26/2015	\$ 50,591	\$ 48,377	\$ 60,160	\$ 108,537	39.4%
Summit Venture Capital V	\$ 45,000	6/16/2020	\$ 24,906	\$ 773	\$ 23,666	\$ 24,438	-1.8%
Summit Partners Co-Invest (CS)	\$ 13,753	10/22/2021	\$ 13,760	\$ -	\$ 11,689	\$ 11,689	NM
Technology Crossover Ventures VIII	\$ 60,000	5/8/2013	\$ 52,307	\$ 39,509	\$ 71,658	\$ 111,167	12.1%
Technology Crossover Ventures IX	\$ 60,000	2/19/2016	\$ 48,428	\$ 46,154	\$ 52,786	\$ 98,940	20.7%
TCV Sports	\$ 8,000	9/25/2018	\$ 8,000	\$ -	\$ 10,095	\$ 10,095	5.3%
Technology Crossover Ventures X	\$ 45,000	8/31/2018	\$ 36,448	\$ 6,801	\$ 60,098	\$ 66,899	24.0%
Technology Crossover Ventures XI	\$ 45,000	10/2/2020	\$ 23,033	\$ -	\$ 20,923	\$ 20,923	-6.7%
Technology Impact Fund	\$ 40,000	12/18/2017	\$ 36,926	\$ 23,243	\$ 85,098	\$ 108,341	49.5%
Technology Impact Fund II	\$ 40,000	4/13/2021	\$ 11,553	\$ 325	\$ 11,789	\$ 12,114	NM
Technology Impact Growth Fund	\$ 40,000	11/26/2018	\$ 47,885	\$ 26,676	\$ 28,895	\$ 55,571	7.7%
Technology Impact Growth Fund II	\$ 40,000	8/6/2021	\$ 8,786	\$ -	\$ 7,352	\$ 7,352	NM
Thoma Bravo Fund XI	\$ 50,000	5/1/2014	\$ 72,220	\$ 135,521	\$ 60,578	\$ 196,099	26.8%
Thoma Bravo Fund XII	\$ 60,000	4/27/2016	\$ 78,447	\$ 80,943	\$ 62,873	\$ 143,816	16.4%
Thoma Bravo Fund XIII	\$ 45,000	12/7/2018	\$ 59,671	\$ 31,856	\$ 67,698	\$ 99,554	29.6%
Thoma Bravo Special Opportunities Fund II	\$ 15,000	3/27/2015	\$ 18,113	\$ 21,091	\$ 16,074	\$ 37,165	16.6%
Thoma Bravo Discover Fund IV	\$ 45,000	7/1/2022	\$ 14,963	\$ -	\$ 15,445	\$ 15,445	NM
Tillridge Global Agribusiness Partners II	\$ 50,000	10/21/2016	\$ 28,819	\$ 2,900	\$ 24,917	\$ 27,817	-1.3%
Water Street Healthcare Partners III	\$ 25,000	7/25/2012	\$ 29,890	\$ 78,657	\$ 8,193	\$ 86,850	35.5%
Water Street Healthcare Partners IV	\$ 33,000	9/15/2017	\$ 34,342	\$ 10,624	\$ 36,813	\$ 47,436	14.4%
Water Street Healthcare Partners V	\$ 43,000	4/15/2022	\$ 5,719	\$ -	\$ 4,962	\$ 4,962	NM
Wayzata Opportunities Fund III	\$ 30,000	9/11/2012	\$ 14,718	\$ 10,875	\$ 4,419	\$ 15,294	0.9%
Wynnchurch Capital Partners IV	\$ 40,000	10/23/2014	\$ 38,209	\$ 39,897	\$ 57,702	\$ 97,599	27.6%
Wynnchurch Capital Partners V	\$ 40,000	1/15/2020	\$ 25,435	\$ 271	\$ 31,589	\$ 31,860	19.7%

(all dollar amounts in thousands)

MainePERS Private Market Investments Summary: 03/31/2023

Real Estate

Fund Name	Commitment (A)	Date of Commitment	Amount Contributed (B)	Total Distributions (C)	Current Market Value (D)	Total Value (C+D)	Interim Net IRR
Angelo Gordon Net Lease IV	\$ 50,000	2/17/2020	\$ 40,452	\$ 2,365	\$ 42,103	\$ 44,467	6.3%
Angelo Gordon Realty Fund XI	\$ 50,000	3/31/2022	\$ 5,000	\$ -	\$ 4,312	\$ 4,312	NM
Bain Capital Real Estate II	\$ 50,000	3/5/2021	\$ 23,277	\$ 2,365	\$ 23,999	\$ 26,364	NM
Blackrock Granite Property Fund	\$ 63,791	9/30/2006	\$ 68,771	\$ 53,312	\$ -	\$ 53,312	-4.9%
Blackstone Property Partners	\$ 350,000	6/29/2017	\$ 350,000	\$ 39,612	\$ 403,939	\$ 443,550	5.6%
Blackstone Real Estate Partners VII	\$ 75,000	2/26/2012	\$ 104,255	\$ 155,587	\$ 14,229	\$ 169,816	15.0%
Blackstone Real Estate Partners VIII	\$ 50,000	3/27/2015	\$ 63,567	\$ 64,827	\$ 38,252	\$ 103,079	16.1%
Blackstone Real Estate Partners IX	\$ 40,000	12/21/2018	\$ 43,253	\$ 14,974	\$ 46,939	\$ 61,913	26.4%
Barings Asia Real Estate II	\$ 50,000	7/31/2018	\$ 21,041	\$ -	\$ 18,887	\$ 18,887	NM
EQT Real Estate II	\$ 55,000	4/26/2019	\$ 31,496	\$ 5,268	\$ 30,185	\$ 35,453	8.4%
EQT Real Estate Rock Co-Investment	\$ 11,000	8/10/2020	\$ 9,090	\$ -	\$ 10,842	\$ 10,842	9.3%
H/2 Credit Partners, L.P.	\$ 75,000	6/21/2011	\$ 75,000	\$ 112,177	\$ -	\$ 112,177	5.9%
Harrison Street Core Property Fund, L.P.	\$ 75,000	4/30/2012	\$ 95,499	\$ 51,616	\$ 133,387	\$ 185,003	8.7%
HSRE-Coyote Maine PERS Core Co-Investment	\$ 20,000	12/4/2020	\$ 14,168	\$ 471	\$ 13,370	\$ 13,841	-1.0%
High Street Real Estate Fund IV, L.P.	\$ 25,000	8/23/2013	\$ 24,717	\$ 34,157	\$ -	\$ 34,157	14.7%
High Street Real Estate Fund V	\$ 25,000	7/24/2015	\$ 24,925	\$ 36,176	\$ -	\$ 36,176	13.2%
High Street Real Estate Fund VI	\$ 25,000	3/22/2019	\$ 25,000	\$ 3,916	\$ 35,714	\$ 39,630	21.8%
HSREF VI Elgin Co-Invest	\$ 10,000	4/9/2021	\$ 10,000	\$ 1,268	\$ 13,197	\$ 14,465	NM
High Street Real Estate Fund VII	\$ 35,000	8/16/2021	\$ 33,151	\$ -	\$ 35,282	\$ 35,282	NM
High Street Real Estate VII Venture	\$ 15,000	3/17/2023	\$ -	\$ -	\$ -	\$ -	NM
Hines US Property Partners	\$ 200,000	9/9/2021	\$ 98,195	\$ 10,637	\$ 92,031	\$ 102,669	NM
Invesco Real Estate Asia IV	\$ 30,000	3/25/2020	\$ 22,494	\$ 12,597	\$ 11,597	\$ 24,193	11.6%
Invesco US Income Fund	\$ 195,000	7/17/2014	\$ 223,678	\$ 64,955	\$ 320,348	\$ 385,303	11.0%
IPI Data Center Partners I	\$ 30,000	12/15/2017	\$ 34,569	\$ 18,635	\$ 35,978	\$ 54,614	18.0%
IPI Data Center Partners II	\$ 25,000	12/20/2019	\$ 17,608	\$ 1,619	\$ 15,801	\$ 17,420	-1.1%
JPMCB Strategic Property Fund	\$ 130,000	11/15/2005	\$ 186,941	\$ 297,519	\$ -	\$ 297,519	5.8%
KKR Real Estate Partners Europe I	\$ 50,000	12/2/2015	\$ 52,648	\$ 51,074	\$ 17,506	\$ 68,580	9.9%
KKR Real Estate Partners Europe II	\$ 25,000	12/23/2019	\$ 18,469	\$ 5,644	\$ 13,799	\$ 19,443	4.8%
KKR Real Estate Partners Americas I	\$ 50,000	12/20/2013	\$ 50,019	\$ 59,390	\$ 2,314	\$ 61,704	10.9%
KKR Real Estate Partners Americas II	\$ 50,000	6/2/2016	\$ 59,370	\$ 67,659	\$ 14,976	\$ 82,635	21.1%
Northbridge-Strategic Fund II	\$ 30,000	2/8/2019	\$ 30,000	\$ 3,748	\$ 44,338	\$ 48,086	12.7%
Prima Mortgage Investment Trust, LLC	\$ 75,000	7/29/2011	\$ 97,490	\$ 131,918	\$ -	\$ 131,918	3.8%
Principal Life Insurance Company U.S. Property	\$ 60,000	5/20/2005	\$ 60,000	\$ 125,410	\$ -	\$ 125,410	6.2%

MainePERS Private Market Investments Summary: 03/31/2023

Real Estate

Fund Name	Commitment (A)	Date of Commitment	Amount Contributed (B)	Total Distributions (C)	Current Market Value (D)	Total Value (C+D)	Interim Net IRR
PRISA	\$ 90,000	6/30/2005	\$ 139,622	\$ 222,450	\$ -	\$ 222,450	5.3%
Rubenstein Properties Fund III	\$ 30,000	10/23/2015	\$ 30,606	\$ 627	\$ 19,808	\$ 20,435	-9.2%
LCC Co-Investor B	\$ 15,000	10/18/2019	\$ 15,000	\$ -	\$ 8,255	\$ 8,255	-18.2%
Rubenstein Properties Fund IV	\$ 25,000	4/16/2019	\$ 8,232	\$ 2	\$ 5,165	\$ 5,166	NM
Prudential Senior Housing Fund V	\$ 50,000	3/17/2015	\$ 41,333	\$ 5,453	\$ 50,386	\$ 55,839	5.9%
Smart Markets Fund, L.P.	\$ 195,000	6/17/2013	\$ 174,933	\$ 67,075	\$ 270,486	\$ 337,561	9.8%
Stonelake Opportunity Partners VII	\$ 40,000	6/30/2022	\$ 0	\$ -	\$ (596)	\$ (596)	NM
Walton Street Real Estate Fund VII	\$ 50,000	5/9/2012	\$ 43,990	\$ 49,882	\$ 11,188	\$ 61,070	9.3%
Walton Street Real Estate Fund VIII	\$ 50,000	10/23/2015	\$ 42,685	\$ 35,113	\$ 22,730	\$ 57,842	9.8%
Co-Investment #1	\$ 10,000	9/27/2017	\$ 10,293	\$ 4,160	\$ -	\$ 4,160	-60.0%
Westbrook Real Estate Fund IX	\$ 15,000	6/30/2014	\$ 17,409	\$ 17,500	\$ 2,918	\$ 20,418	5.8%
Westbrook Real Estate Fund X	\$ 50,000	1/15/2015	\$ 48,632	\$ 42,649	\$ 17,351	\$ 60,000	9.5%
Westbrook Real Estate Fund XI	\$ 40,000	1/31/2019	\$ 21,291	\$ 10,513	\$ 14,640	\$ 25,153	20.5%

MainePERS Private Market Investments Summary: 03/31/2023

Notes: NM = Not Meaningful. MainePERS only reports IRRs for funds with more than 24 months of history and for which Amount Contributed is greater than 50% of Commitments. "Date of Commitment" is not the date of first capital draw. The "IRR" presented uses interim estimates and may not be indicative of ultimate performance of partnership investments due to a number of factors including lags in valuation, maturity of fund, and differences in investment pace and strategy of various funds. Performance figures should not be used to compare returns among multiple funds or different limited partners. Private market investments are long-term investments which are expected to generate returns over the course of their entire life cycle of 10 or more years. Common industry practice dictates that any performance analysis on these funds while they are still in the early years of their investment cycle would not generate meaningful results. The Interim Net IRR figures presented in this table are based on cash flow information provided by the general partner. The above information was not prepared, reviewed, or approved by any of the partnerships, general partners, or their affiliates and may differ from those generated by the general partner or other limited partners due to differences in timing of investments, disposal of in-kind distributions, and accounting and valuation policies.



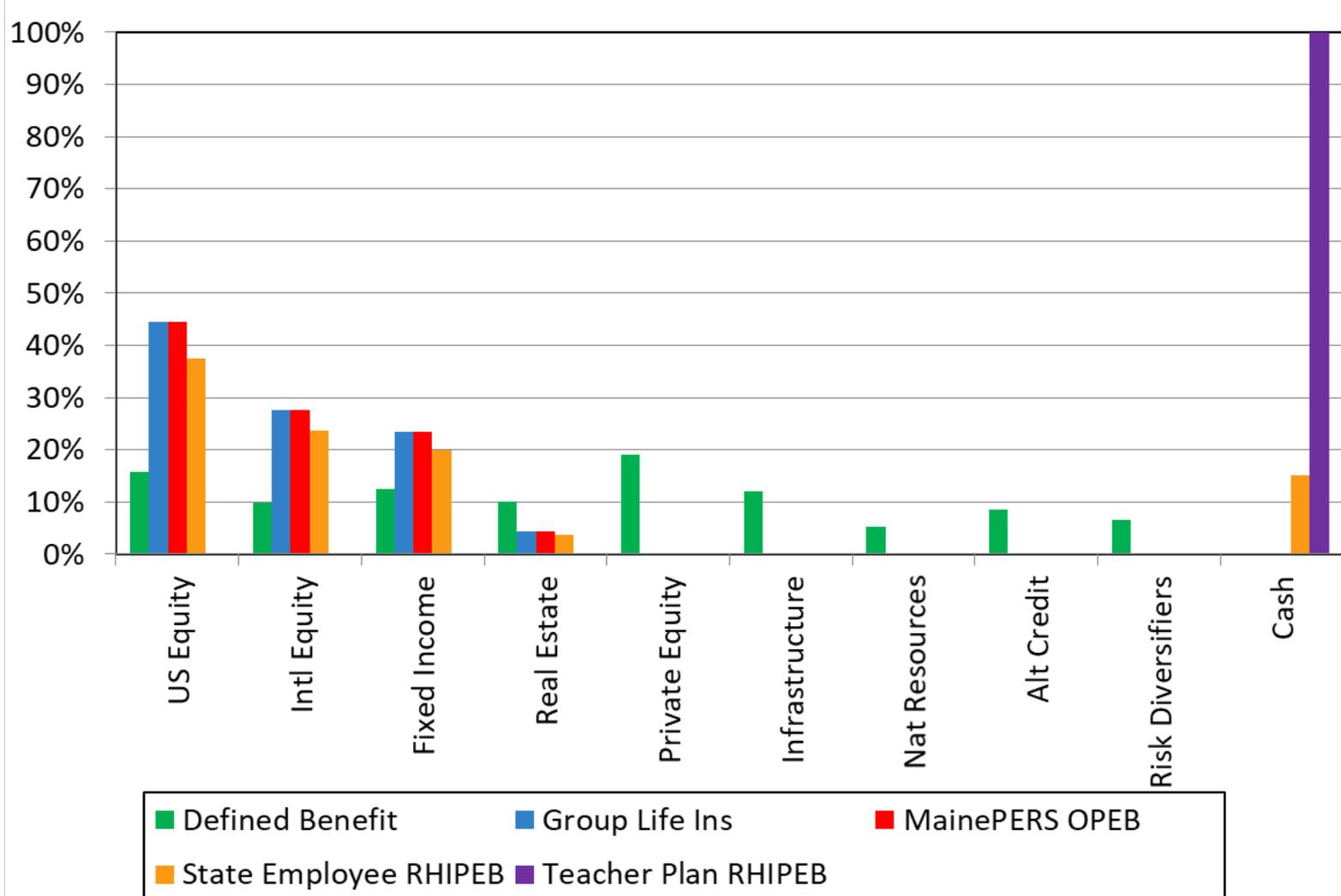
MainePERS
PUBLIC EMPLOYEES RETIREMENT SYSTEM

Comprehensive Quarterly Reports

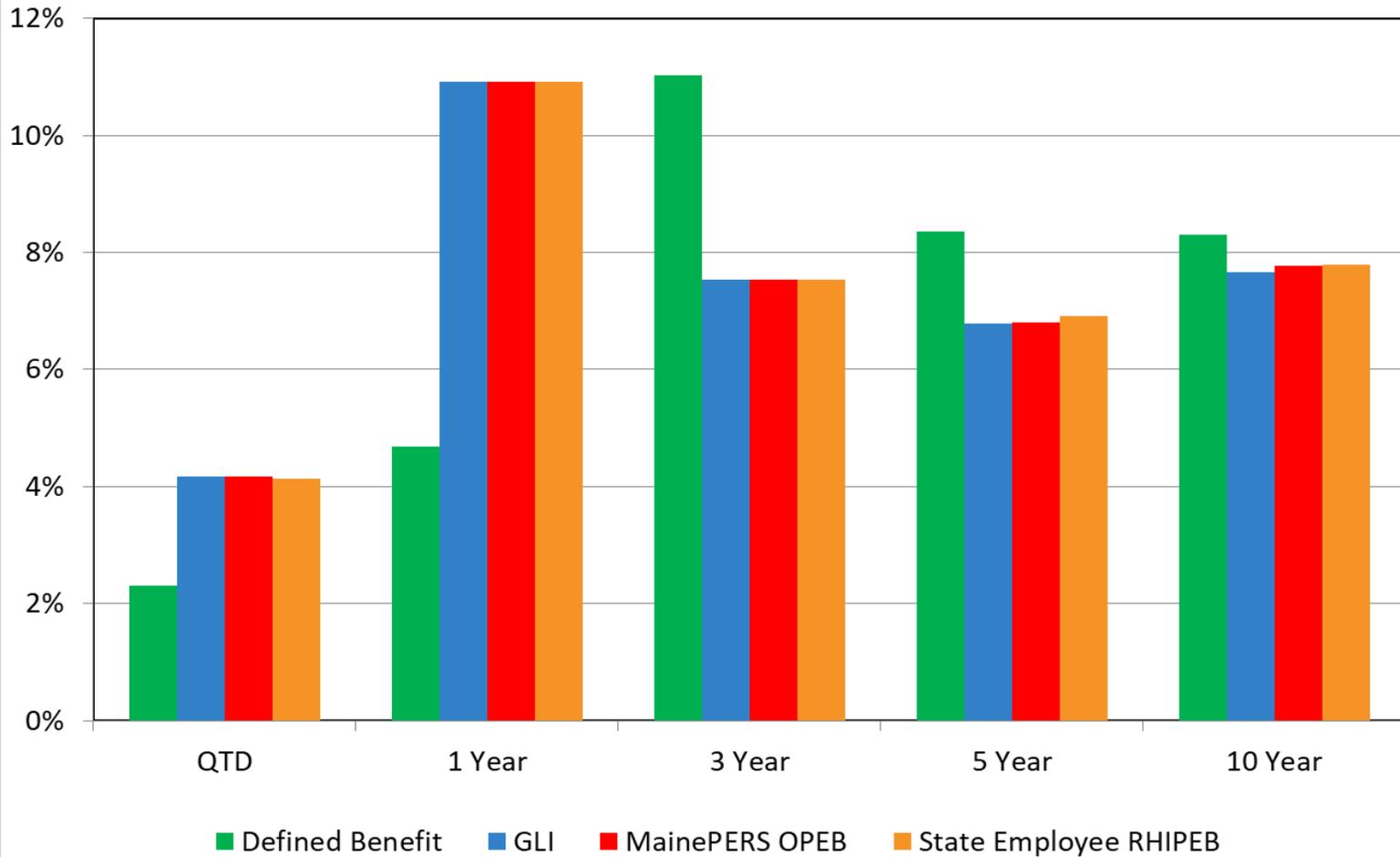
Investment Returns for all Funds at 6/30/2023

Fund	Market Value (millions)	Current Quarter	1 Year	3 Year	5 Year	10 Year
Defined Benefit	\$18,788.0	2.3%	4.7%	11.0%	8.4%	8.3%
Benchmark		3.2%	5.7%	10.8%	7.9%	7.7%
Group Life Insurance	\$176.9	4.2%	10.9%	7.5%	6.8%	7.7%
Benchmark		4.3%	11.4%	7.5%	6.6%	7.6%
MainePERS OPEB	\$18.0	4.2%	10.9%	7.5%	6.8%	7.8%
Benchmark		4.3%	11.4%	7.5%	6.6%	7.6%
State Employee RHIPED	\$432.7	4.1%	10.9%	7.5%	6.9%	7.8%
Benchmark		4.3%	11.4%	7.5%	6.6%	7.6%
Teacher Plan RHIPED	\$103.0					
Benchmark						

Asset Allocation for All Funds at 6/30/2023



Performance for All Funds at 6/30/2023

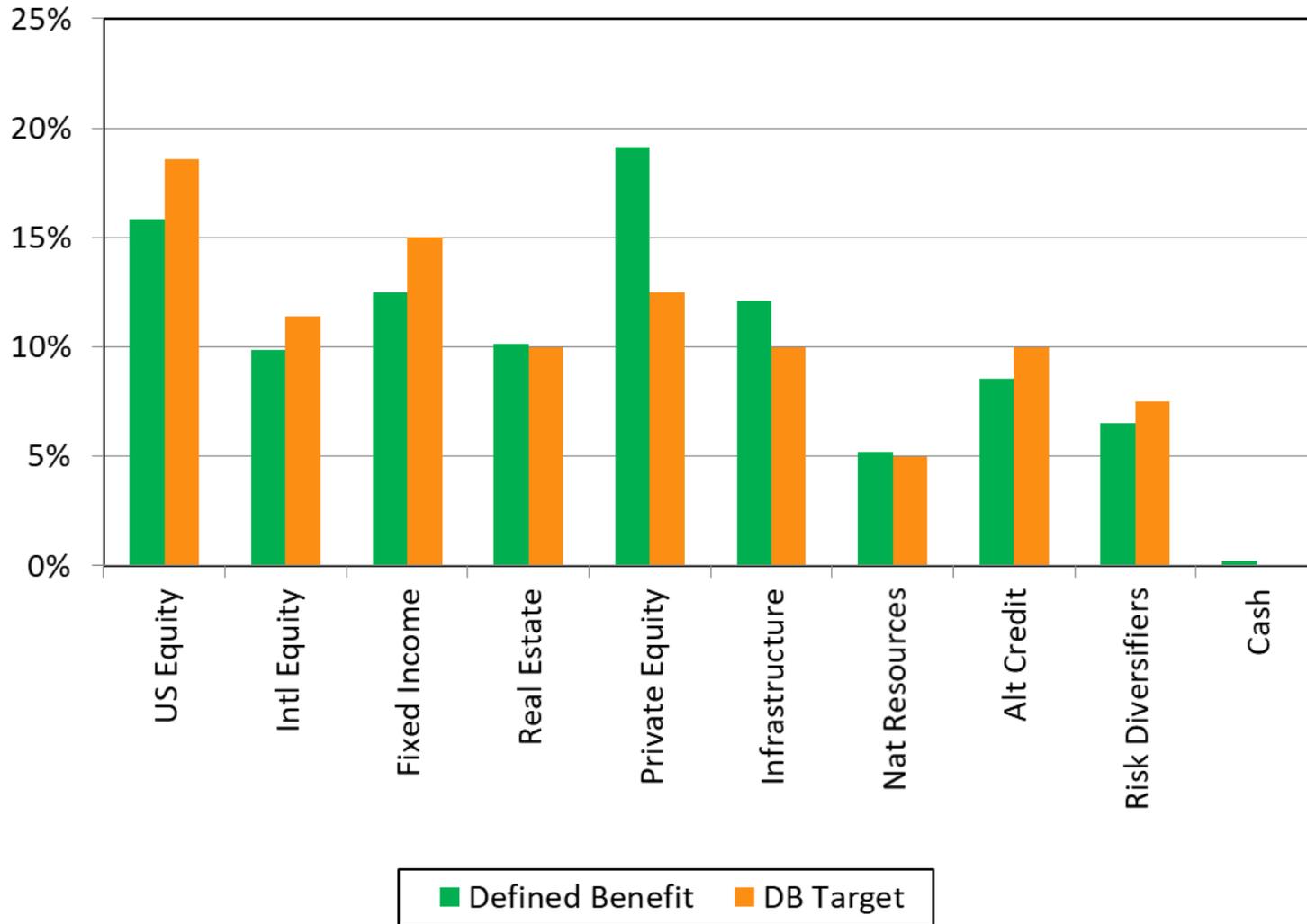




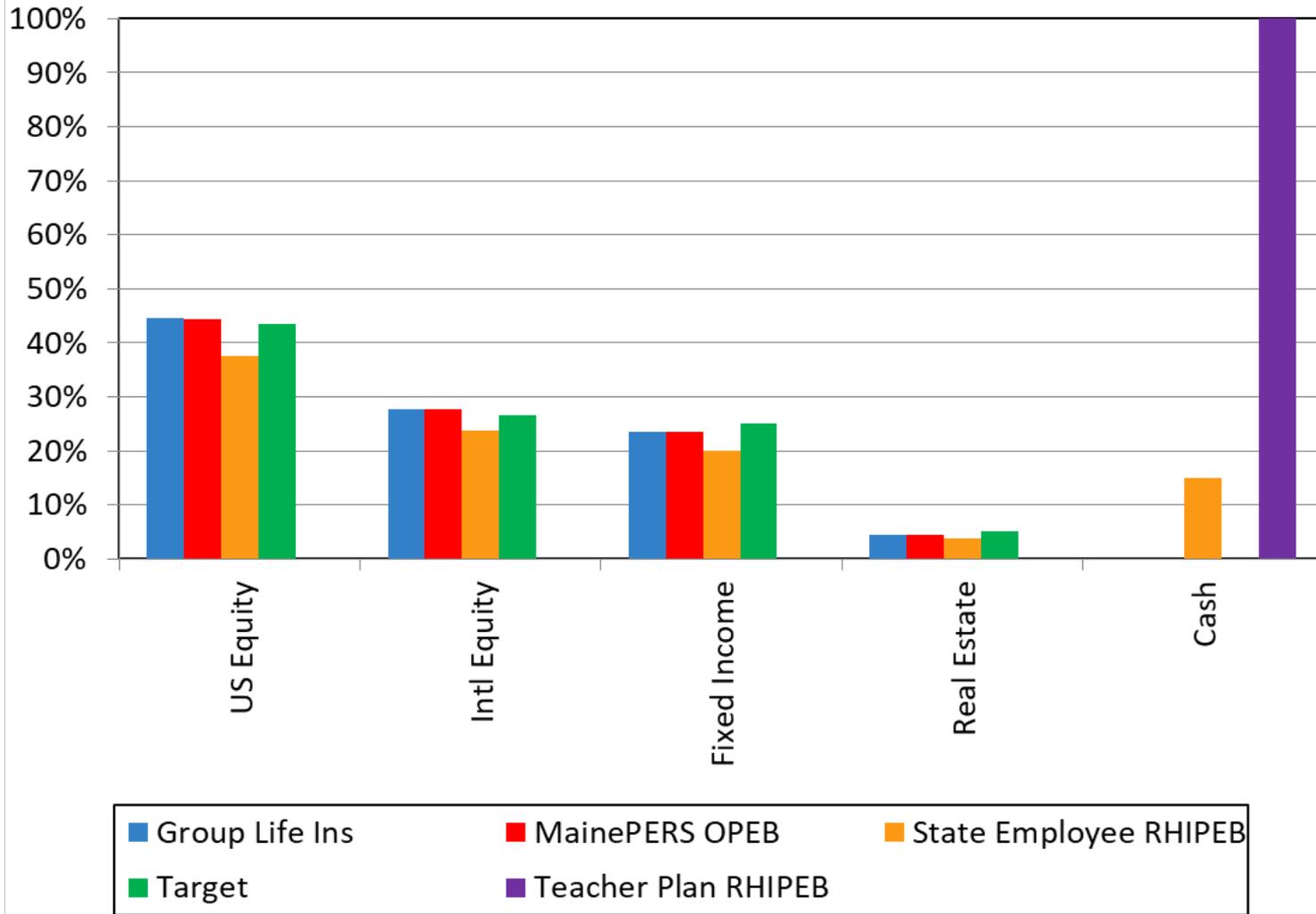
MainePERS
PUBLIC EMPLOYEES RETIREMENT SYSTEM

Appendix

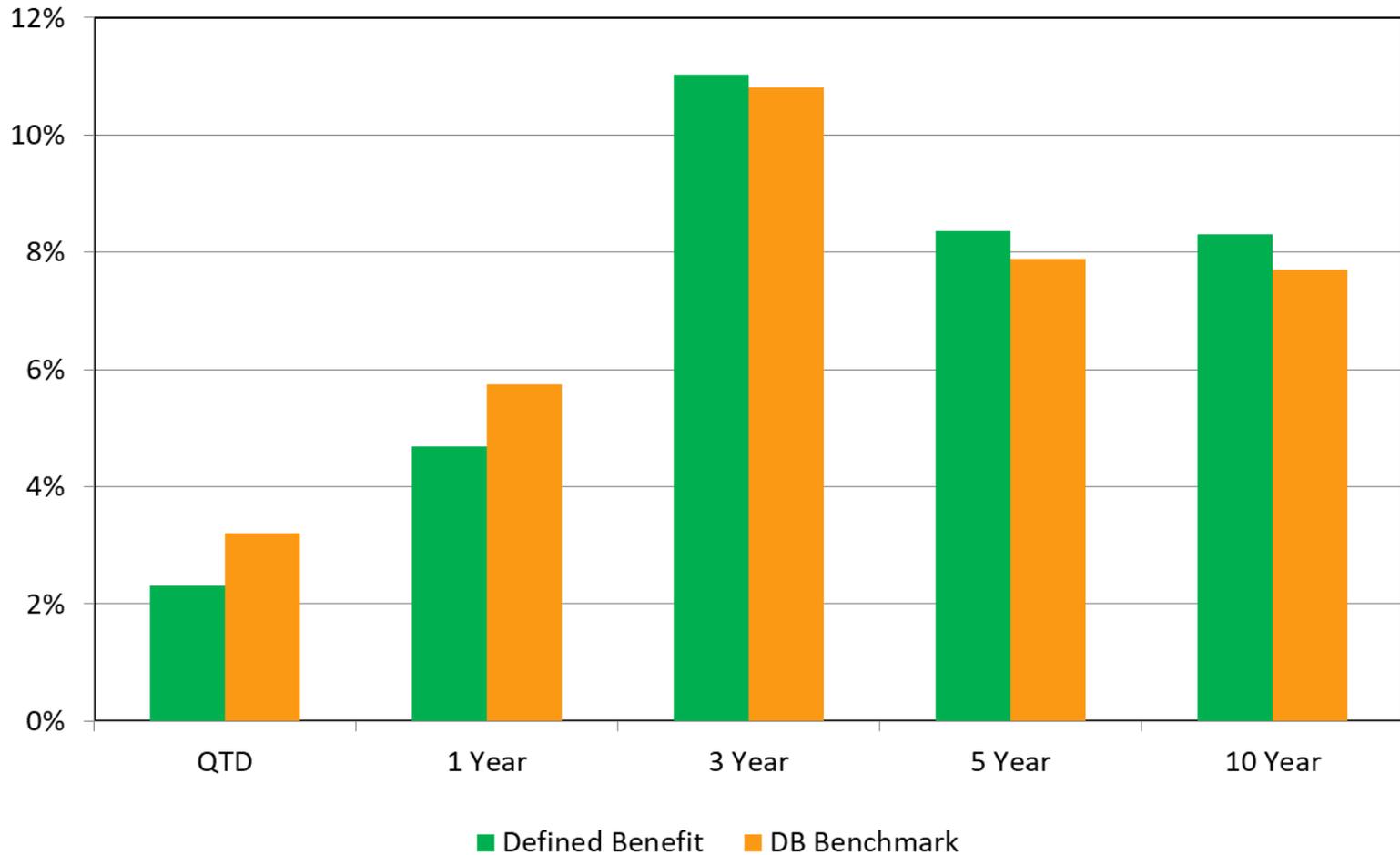
Asset Allocation for Defined Benefit at 6/30/2023



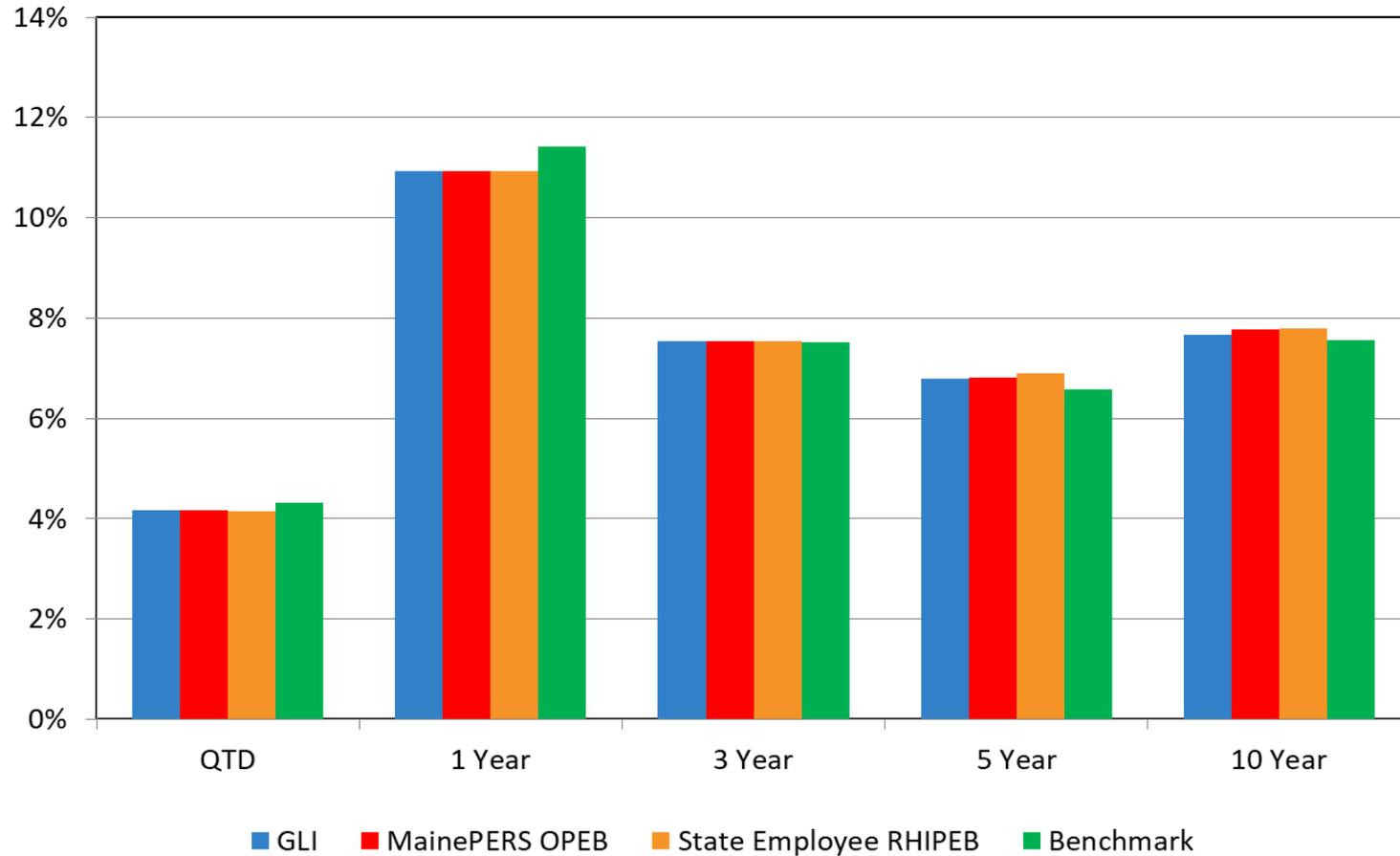
Asset Allocation for RHIPEB, GLI, and OPEB at 6/30/2023



Performance for Defined Benefit at 6/30/2023



Performance for RHIPEB, GLI, and OPEB at 6/30/2023



MAINEPERS

BOARD OF TRUSTEES INVESTMENTS MEMORANDUM

TO: BOARD MEMBERS
FROM: JAMES BENNETT, CHIEF INVESTMENT OFFICER
SUBJECT: QUARTERLY INVESTMENT EDUCATION
DATE: SEPTEMBER 6, 2023

The System's strategic asset allocation to Growth assets is composed of Public and Private Equity, and totals 42.5%. As discussed in the System's Investment Policy, the role of Growth assets is to reduce the System's long term funding needs by generating higher returns than other asset classes. Private Equity is a key component of the System's Growth allocation, and encompasses a broad range of investment strategies spanning a variety of sub-asset classes.

Following this memo is a presentation by Cliffwater providing an overview of the Private Equity asset class and best practices for investing in this asset class.

POLICY REFERENCE

[Board Policy 1.8 – Trustee Education](#)

[Board Policy 2.1 – Investment Policy Statement](#)

[Board Policy 4.5 – Board/Staff Relations](#)

[Board Policy 4.6 – Communication and Support to the Board](#)

September
2023

Maine PERS Board of Trustees

Education Session: Private Equity



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Role of Private Equity in an Institutional Portfolio

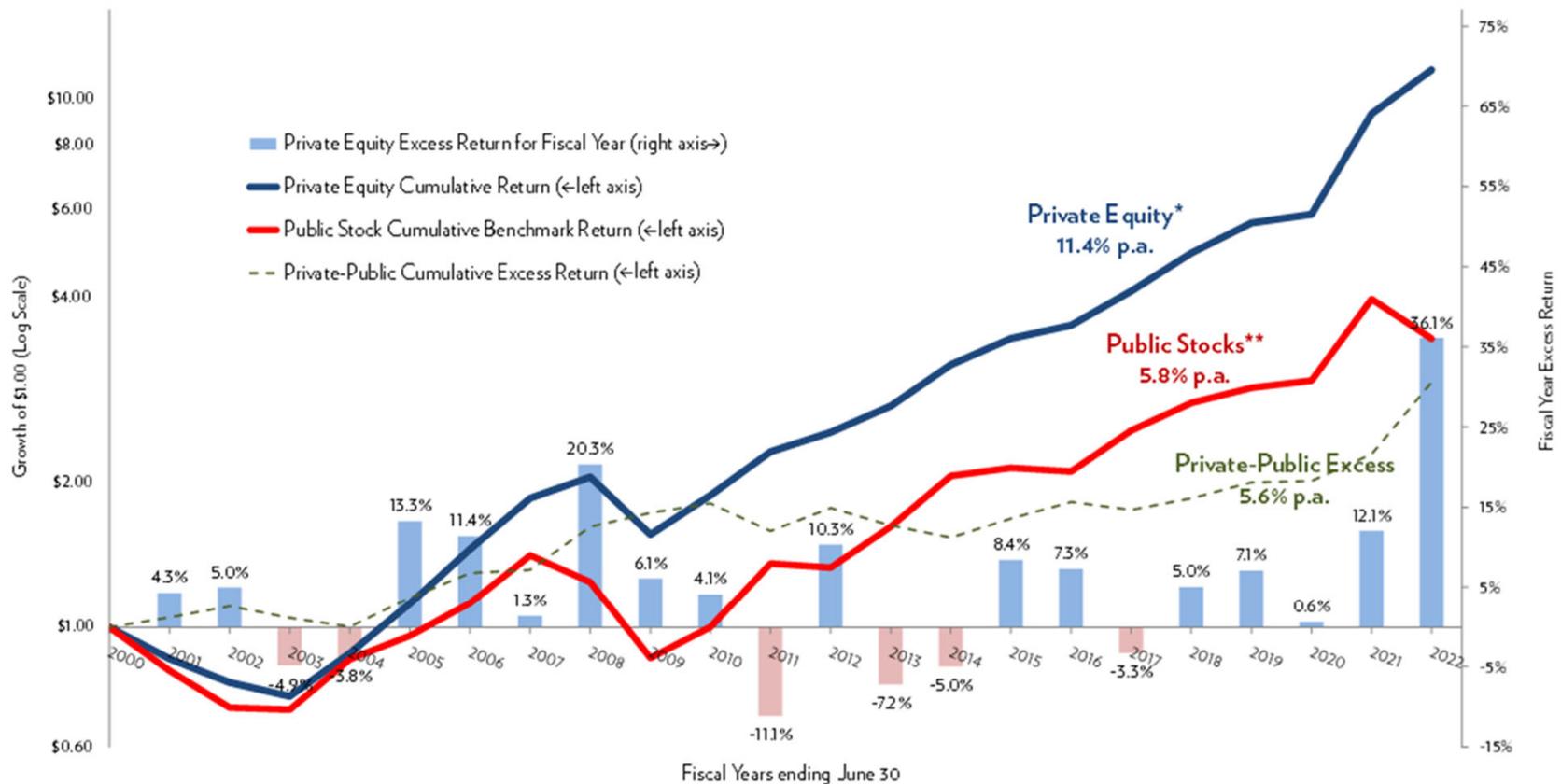
The primary role of Private Equity in an institutional portfolio is to deliver HIGHER RETURNS than Public Equity

Private Equity also can provide:

- Exposure to growth in the economy and corporate profits
- Significant passthrough of inflation
- An ‘illiquidity premium’
- Exposure to factors less represented in the public markets
- Additional return through manager skill

Primary Role of Private Equity: Return

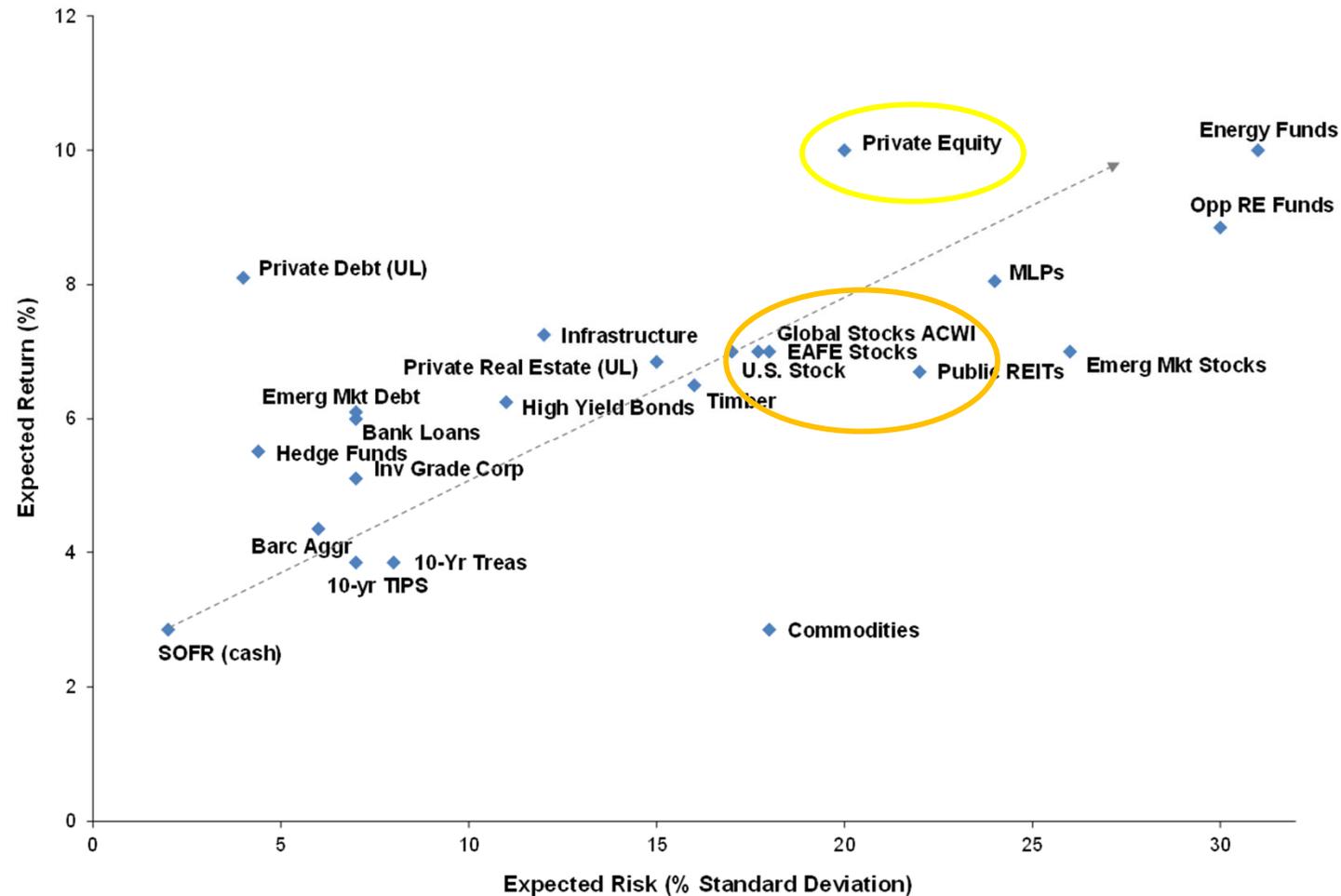
Private equity has provided a premium return over public equity...



* An equal-weighted average of all state funds who reported private equity returns in annual ACFRs for June 30 fiscal years 2001-2022. The equal-weighted average return of 19 state funds who reported private equity returns across all 21 fiscal years equaled 11.9% per annum.
 ** A public stock benchmark weighted 70% to the Russell 3000 Index (6.62% annualized return over 22 years) and 30% to the MSCI ACWI ex US Index (3.53% annualized return over 22 years), with assigned weights reflecting regression-based weightings (a.k.a. "style analysis").

Primary Role of Private Equity: Return (cont'd)

...and is expected to do so in the future



History

Institutional investing in venture capital began in the 70's with passage of ERISA

Buyout investing began in the 80's

Market Size

Private equity market is ~\$7.0 trillion in size¹

Number of Managers

There are approximately 18,000 private equity firms globally²

Types of Investors

Public pension funds, endowments and sovereign wealth funds are the largest investors in private equity

US public pension funds have an average allocation to private equity of

13%³

Regulators

Most private equity funds are registered investment advisors with the SEC

Economic Impact

US private equity has backed 32,000 companies since 2017

US private equity-backed companies employ over 12 million employees⁴

¹ McKinsey & Company

² Cliffwater

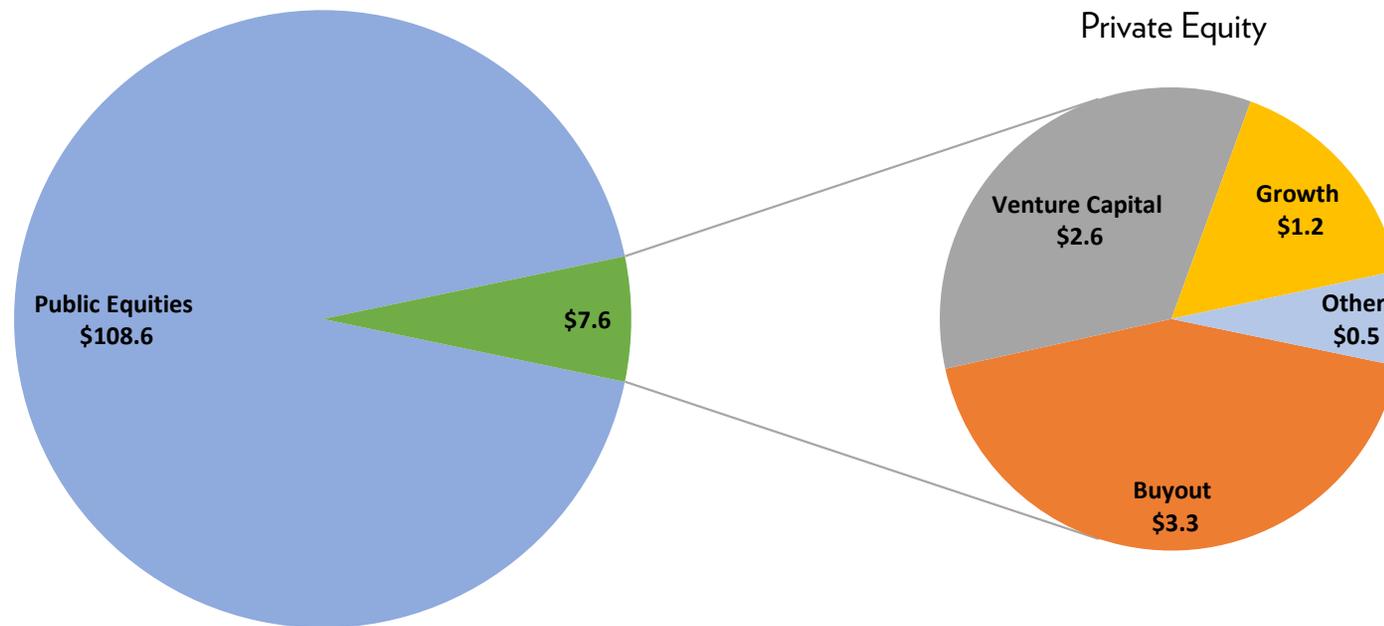
³ Boston College Center for Retirement Research

⁴ AIC

Private Equity Market Size

Private equity makes up approximately 7% of total global equity market capitalization

Global Equity Market Capitalization (USD trillions)



Types of Private Equity

What, How Much, and MainePERS

Private Equity Sub-Asset Classes

Venture Capital – private equity investment in new or young companies. Generally, the investor is a minority shareholder. The capital is used for company formation and growth.

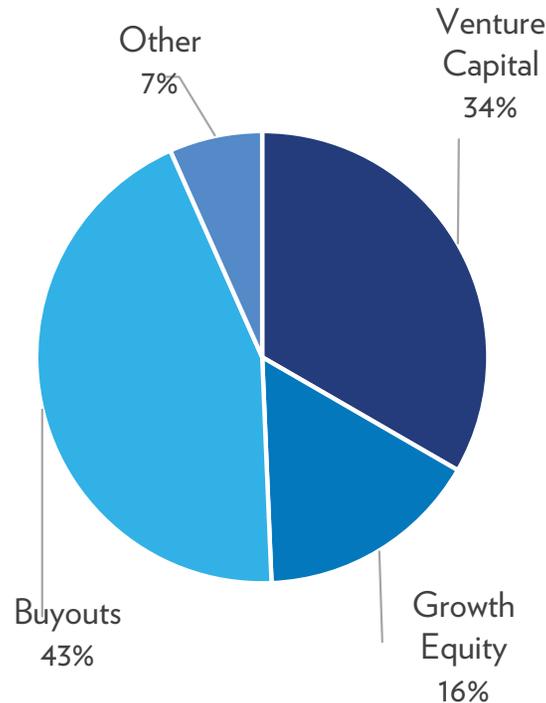
Growth Equity – private equity investing in fast growing companies that need capital for growth and are willing to sell significant ownership stakes.

Buyouts – private equity investing in mature companies which generally involves a change of control. Capital is used for paying out existing owners and investing in the business.

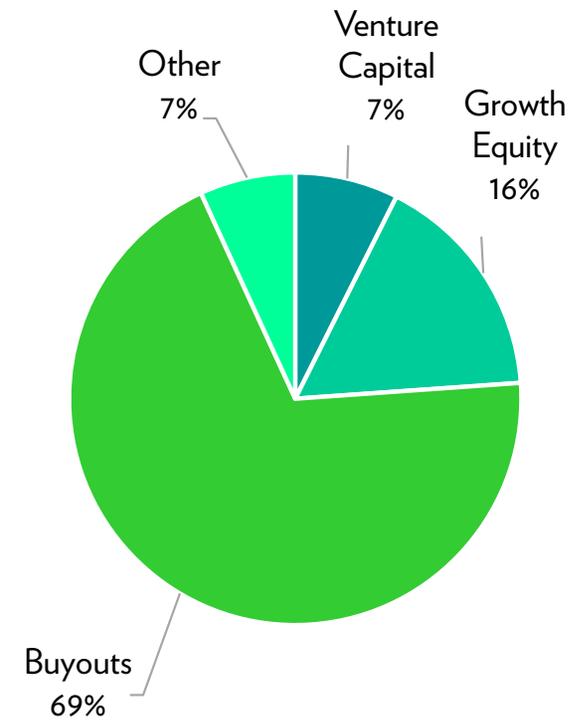
Other opportunistic strategies:

- **Mezzanine** – junior credit strategy with warrants.
- **Distressed Debt** – converting debt to equity through restructuring process
- **Energy Private Equity** – investing in businesses with significant exposure to energy related commodities

Global PE Market



MainePERS



Private Equity Strategies: Generalists v. Specialists

Generalists

- Work across a broad range of industry sectors
- Can vary capital allocation across sectors based upon market opportunity
- Often have groups or individuals with some level of sector expertise
- Typically work across a broad geographic area
 - United States
 - Pan European

Specialists

- Focus almost exclusively on 1-3 sectors
 - Can have a highly specialized sourcing network
 - Often have strong operational capabilities and specific industry expertise to bring to a portfolio company
 - Tradeoff of strong expertise in a few areas but with a portfolio that can be higher risk (due to correlation among portfolio companies)
- May focus by geography rather than (or in addition to) sector
 - Country specific managers outside of the US
 - Regional managers within the US

How Private Equity Adds Value

Source	Public Equity	Buyouts	Growth Equity	Venture Capital
Company selection	Yes	Yes	Yes	Yes
Difficult to access investments	No	Sometimes	Yes	Yes
Strategic advice	No	Yes	Yes	Yes
Supplementing management and boards	No	Yes	Yes	Yes
Providing revenue and sourcing leads	No	Yes	Yes	Yes
Value-added acquisitions	No	Yes	Yes	Sometimes
Operational improvements	No	Yes	Yes	Sometimes
Active exit process	No	Yes	Yes	Yes

Characteristics of a Successful Private Equity Program

Risk management

- Diversification across style, market capitalization, and geography
- Thoughtful pacing plan to control portfolio size, mitigate J-curve effects, and diversify by vintage year

Selection and access are key

- Large dispersion within private market managers
- Top performing managers can be selective about their limited partners

Evaluation and due diligence

- Detailed understanding of strategy
- Quantitative analysis of track record
- Extensive reference checks

Investing vertically

- Investing in primary funds, secondaries, and co-investments

Issue	What is the issue	Mitigating Factors	Mitigating Approaches
Fees	Private equity is more expensive than traditional asset classes	Majority of expense is performance fees where manager gets paid when investors get paid	Evaluation and negotiations of fees and other terms
Governance and Transparency	Private equity investments are typically structured as partnerships where the investor is a limited partner	Most private equity firms are SEC registered. Over the past 15 years, private equity managers have improved their governance and transparency.	Participation on limited partner advisory boards Following ILPA guidelines Active monitoring
Illiquidity and Valuations	Private equity funds typically have 10-12 year terms Investments are private not public	Most private equity funds are required to have annual audits, quarterly financials and adhere to accounting standards for valuation. General partners are, generally, not paid on unrealized gains.	Active monitoring

Impact of Higher Interest Rates on Private Equity

All things being equal, rising rates are a negative for all equity investors including private equity

- Value of the equity of any company is a function expected future cash flows discounted by interest rates
- Strategies that rely on leverage as a source of value-add (buyouts) are negatively impacted by rising interest rates that lower the value of the equity and prevent refinancing at lower interest rates

The immediate impact of rising rates has been fewer deals and fewer exits

- Buyout volume in 2H2022 down approximately 30% compared to 1H2022¹

The market has been slowly adjusting to higher interest rates

- Lower entry valuations - global buyout purchase price/EBITDA dropped from 13.2 in 2021 to 12.9 in 2022²
- Lower leverage - debt/EBITDA of US issued leveraged loans down from 5.3x in 2021 to 4.7x in Q1 2023³

Increased potential in opportunistic strategies (mezzanine, public-to-private, distressed)

Longer term, equity strategies tend to pass through the inflation that drives higher interest rates

¹PitchBook

²McKinsey & Company, Bloomberg, Preqin

³Pitchbook

MAINEPERS

BOARD OF TRUSTEES MEMORANDUM

TO: BOARD MEMBERS
FROM: KATHY J. MORIN, DIRECTOR, ACTUARIAL AND LEGISLATIVE AFFAIRS
SUBJECT: ACTUARIAL EDUCATION
DATE: SEPTEMBER 6, 2023

POLICY REFERENCE

[Board Policy 1.2 – Trustee Fiduciary Responsibility](#)

[Board Policy 1.8 – Trustee Education](#)

[Board Policy 4.5 – Board/Staff Relations](#)

[Board Policy 4.6 – Communication and Support to the Board](#)

Board policy 1.8 requires a periodic refresher training on actuarial practices.

Gene Kalwarski and Bonnie Rightnour will present information that was requested at the July meeting and provide just-in-time education and updates to the actuarial standards of practice (ASOP) leading up to the valuation for the year ended June 30, 2023, which will be presented in October. A copy of their presentation is included with this memo.

Maine Public Employees Retirement System



2023 Actuarial Valuation Planning

September 14, 2023

Gene Kalwarski, FSA, FCA, MAAA, EA
Bonnie Rightnour, FSA, MAAA, EA



- July Board Meeting Questions
 - Net Cash Flow Projections
 - Impact of High Inflation
- The Actuarial Valuation Process
- Actuarial Standards of Practice
- June 30, 2023 Valuation
 - Maine Budget Process
 - Expected 2023 Valuation Results



Responses to July Board Meeting Questions

Net Cash Flow – Coming Changes



- Net Cash Flow = Contributions minus Benefit Payments and Expenses
- Due to the payoff of the 1996 UAL in FY2028, contributions are expected to decline, which creates more negative net cash flow
- Large negative net cash flow indicates plan maturity, which also increases the System's sensitivity to investment risk

Projected Cashflows



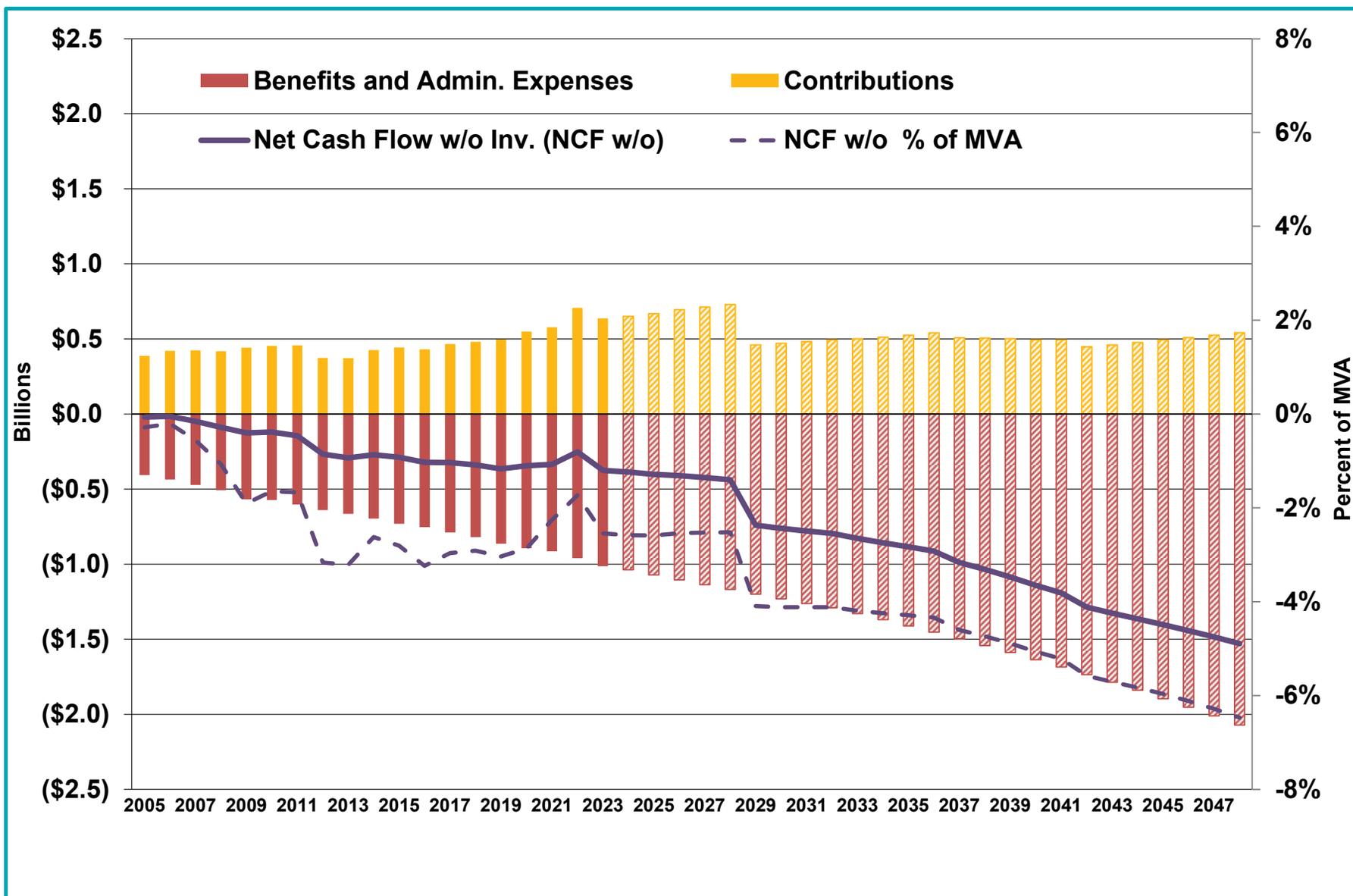
MainePERS

Projected Net Cashflows from 2022 Valuation

State and Teachers Plan ONLY

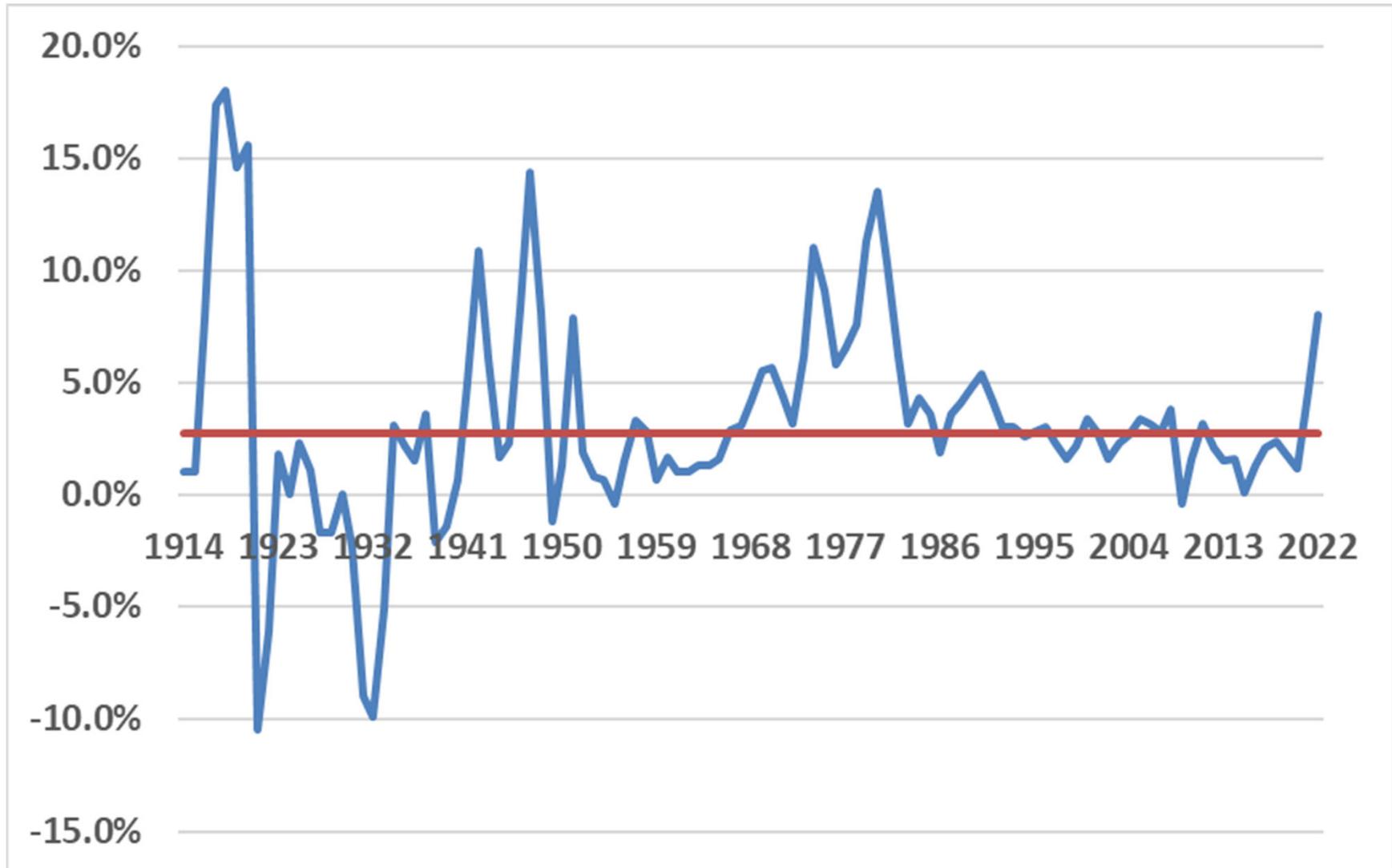
FYE	Total NCF	NCF as % of MVA	Employer Contributions	Employee Contributions	Benefit Payments
2024	\$ (386,488,388)	-2.58%	\$468,823,075	\$181,913,735	(\$1,037,225,197)
2025	\$ (401,930,254)	-2.59%	\$482,200,577	\$186,916,362	(\$1,071,047,193)
2026	\$ (409,619,013)	-2.54%	\$502,814,554	\$192,056,562	(\$1,104,490,129)
2027	\$ (423,341,421)	-2.53%	\$516,315,379	\$197,338,118	(\$1,136,994,918)
2028	\$ (438,892,153)	-2.52%	\$526,890,529	\$202,764,916	(\$1,168,547,598)
2029	\$ (740,015,898)	-4.09%	\$251,567,548	\$208,340,951	(\$1,199,924,397)
2030	\$ (761,265,999)	-4.12%	\$256,175,535	\$214,070,327	(\$1,231,511,861)
2031	\$ (779,000,041)	-4.12%	\$262,946,904	\$219,957,261	(\$1,261,904,206)
2032	\$ (795,997,620)	-4.12%	\$268,891,808	\$226,006,086	(\$1,290,895,514)
2033	\$ (828,885,287)	-4.19%	\$268,515,839	\$232,221,253	(\$1,329,622,379)
2034	\$ (857,854,422)	-4.25%	\$273,049,291	\$238,607,338	(\$1,369,511,051)
2035	\$ (885,106,764)	-4.29%	\$280,320,579	\$245,169,040	(\$1,410,596,382)
2036	\$ (913,175,484)	-4.34%	\$287,827,602	\$251,911,188	(\$1,452,914,274)
2037	\$ (989,053,966)	-4.60%	\$248,608,990	\$258,838,746	(\$1,496,501,702)
2038	\$ (1,035,936,910)	-4.74%	\$239,503,032	\$265,956,811	(\$1,541,396,753)
2039	\$ (1,086,100,920)	-4.89%	\$228,267,112	\$273,270,624	(\$1,587,638,656)
2040	\$ (1,141,350,860)	-5.07%	\$213,131,390	\$280,785,566	(\$1,635,267,815)
2041	\$ (1,190,833,450)	-5.22%	\$204,985,231	\$288,507,169	(\$1,684,325,850)
2042	\$ (1,287,386,083)	-5.58%	\$151,028,426	\$296,441,116	(\$1,734,855,625)
2043	\$ (1,327,259,436)	-5.71%	\$155,048,611	\$304,593,247	(\$1,786,901,294)

Projected Cashflows

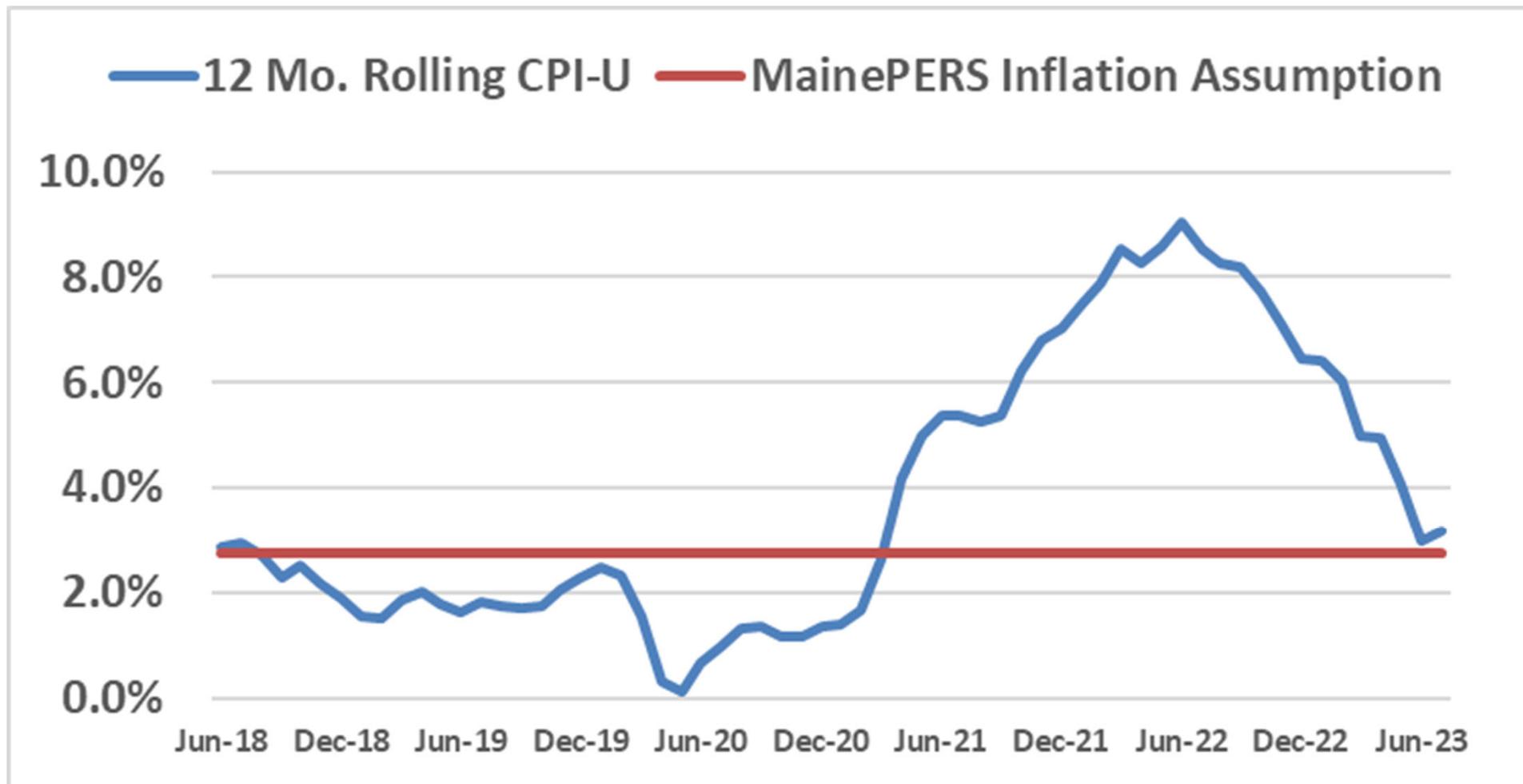




Inflation – Historical Data 1914-2022



Inflation – Recent Historical Data





- Higher Salaries
 - increases liabilities and costs
 - slightly lower contribution rate for existing UAL
- Higher COLAs
 - increases liabilities and costs
 - *generally capped at 3%*
 - COLAs assumed to be 2.20% recognizing long-term effect of the 3% cap
- Liability losses due to higher salaries and COLAs are amortized over 20 years



- If inflation were higher for 5 years, the present value of the liability losses would be:
 - \$440 million for 1% higher inflation, which would accumulate to a 1.20% contribution rate increase
 - \$590 million for 2% higher inflation, which would accumulate to a 1.49% contribution rate increase

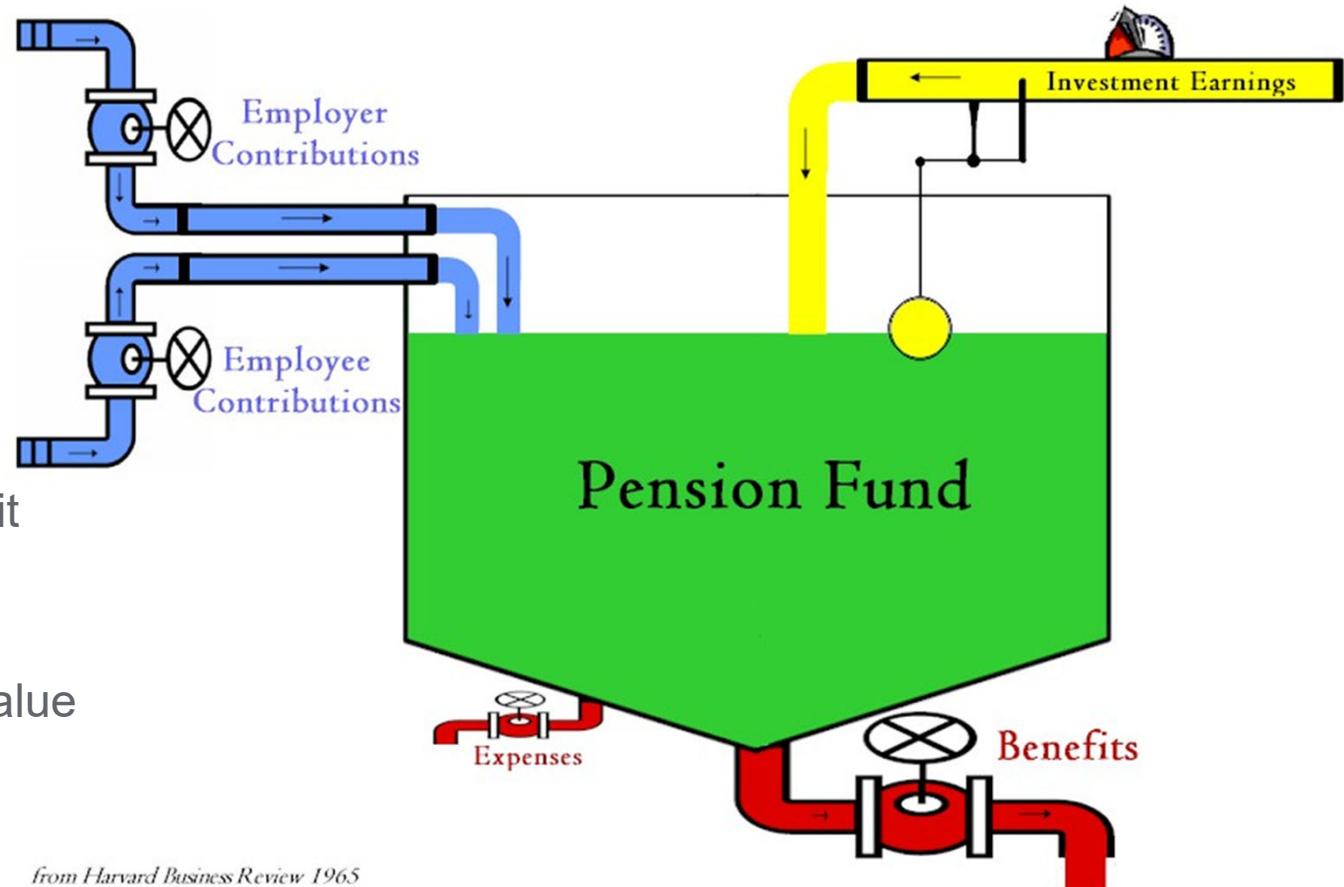


The Actuarial Valuation Process

The Actuarial Valuation Process



1. Collect data
 - Participants
 - Plan Provisions
 - Financial
2. Make assumptions
 - Demographic
 - Economic
3. Project all future benefit payments
4. Determine a present value = tank
5. Compare to assets
6. Calculate employer contribution



from Harvard Business Review 1965

Actuarially Determined Contribution



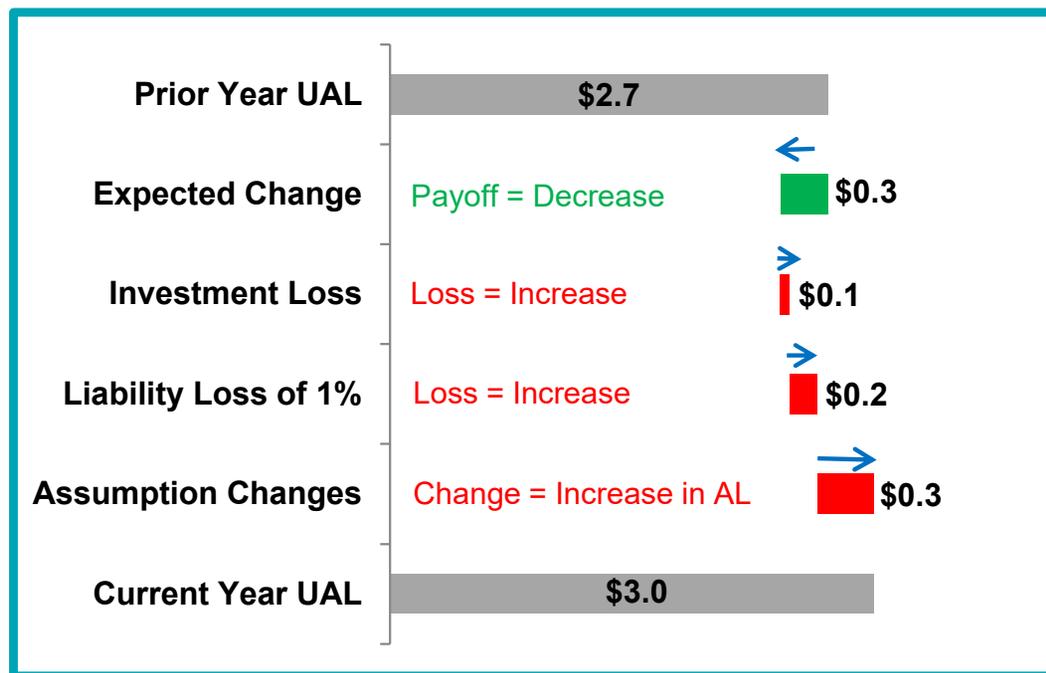
- Employer Contribution Rates are determined as:
 - Normal Cost (annual accruals)
 - + Unfunded Actuarial Liability Contribution
 - Employee Contributions
- Rates are determined as a % of Payroll
- Rates are “locked in” for 2 years for budgeting

Annual Review of UAL



Any unexpected changes in the UAL are amortized over 20 years for State and Teachers. UAL is amortized over 10 years for Judicial and Legislative.

Illustrative Example of UAL change from one valuation to the next:





The relationship between 3-year asset smoothing and 20-year amortizations

Asset Smoothing of Investment Experience



Illustrative Example of Asset Smoothing

<u>FYE</u>	<u>Gain/(Loss)</u>	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>
2022	\$1,000	\$ 333.3	\$ 222.2	\$ 148.1	\$ 98.8	\$ 65.8
2023	(\$500)	NA	\$ (166.7)	\$ (111.1)	\$ (74.1)	\$ (49.4)
2024	\$600	NA	NA	\$ 200.0	\$ 133.3	\$ 88.9
2025	(\$1,200)	NA	NA	NA	\$ (400.0)	\$ (266.7)
2026	\$300	NA	NA	NA	NA	\$ 100.0

Determine Gain or (Loss) for Each Year



Illustrative Example of Asset Smoothing

FYE	Gain/(Loss)	2022	2023	2024	2025	2026
2022	\$1,000	\$ 333.3	\$ 222.2	\$ 148.1	\$ 98.8	\$ 65.8
2023	(\$500)	NA	\$ (166.7)	\$ (111.1)	\$ (74.1)	\$ (49.4)
2024	\$600	NA	NA	\$ 200.0	\$ 133.3	\$ 88.9
2025	(\$1,200)	NA	NA	NA	\$ (400.0)	\$ (266.7)
2026	\$300	NA	NA	NA	NA	\$ 100.0

Recognized Gain/(Loss) **\$ 333.33 \$ 55.56 \$ 237.04 \$(241.98) \$ (61.32)**

- In 2022 – the market gain of \$1,000 is not fully reflected in the actuarial gain.
- In 2023 – despite a market loss of \$500, the actuarial value sees a small gain due to recognition of more of the 2022 gain and only a portion of the 2023 loss.
- 2025 is the first year to see an actuarial loss, but the loss is much smaller than the market loss that year.
- With market Gains/(Losses) ranging from (\$1,200) to \$1,000 over this 5-year period, the actuarial Gains/(Losses) range from (\$242) to \$333. This is the result of the smoothing technique.

Amortize Gain or (Loss) Over 20 Years



Illustrative Example of Asset Smoothing

<u>FYE</u>	<u>Gain/(Loss)</u>	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>
2022	\$1,000	\$ 333.3	\$ 222.2	\$ 148.1	\$ 98.8	\$ 65.8
2023	(\$500)	NA	\$ (166.7)	\$ (111.1)	\$ (74.1)	\$ (49.4)
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2025	(\$1,200)	NA	NA	NA	\$ (400.0)	\$ (266.7)
2026	\$300	NA	NA	NA	NA	\$ 100.0

Recognized Gain/(Loss) **\$ 333.33** **\$ 55.56** **\$ 237.04** **\$(241.98)** **\$ (61.32)**

	<u>FYE</u>							
20-Year Amortization of Gain/(Loss)	2023	\$ 23.67	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	2024	\$ 24.32	\$ 3.94	\$ -	\$ -	\$ -	\$ -	\$ -
	2025	\$ 24.99	\$ 4.05	\$ 16.83	\$ -	\$ -	\$ -	\$ -
	2026	\$ 25.68	\$ 4.16	\$ 17.29	\$ (17.18)	\$ -	\$ -	\$ -
	2027	\$ 26.38	\$ 4.28	\$ 17.77	\$ (17.65)	\$ (4.35)	\$ -	\$ -
	2028	\$ 27.11	\$ 4.40	\$ 18.26	\$ (18.14)	\$ (4.47)	\$ -	\$ -
	2029	\$ 27.85	\$ 4.52	\$ 18.76	\$ (18.64)	\$ (4.60)	\$ -	\$ -
	2030	\$ 28.62	\$ 4.64	\$ 19.28	\$ (19.15)	\$ (4.72)	\$ -	\$ -
	2031	\$ 29.41	\$ 4.77	\$ 19.81	\$ (19.68)	\$ (4.85)	\$ -	\$ -
	2032	\$ 30.21	\$ 4.90	\$ 20.35	\$ (20.22)	\$ (4.99)	\$ -	\$ -



ACTUARIAL STANDARDS BOARD

Actuarial Standards of Practice (ASOPs) provide guidance on the appropriate actuarial practices in the United States

ASOPs Applicable to MainePERS



#	Name	Effective Dates
4	Measuring Pension Plan Obligations and Determining Pension Plan Costs or Contributions	December 31, 2014 Revised February 15, 2023*
23	Data Quality	April 30, 2017
27	Selection of Economic Assumptions for Measuring Pension Obligations	September 30, 2014 Revised August 1, 2021
35	Selection of Demographic and Noneconomic Assumptions for Measuring Pension Obligations	June 30, 2015 Revised August 1, 2021
41	Actuarial Communications	May 1, 2011
44	Selection and Use of Asset Valuation Methods for Pension Valuations	May 15, 2008
51	Assessment and Disclosure of Risk Associated with Measuring Pension Obligations and Determining Pension Contributions	November 1, 2018
56	Modeling	October 1, 2020

****First effective for the June 30, 2023 valuation***

Summary of ASOP 4 Impact



- A new and larger liability called the Low-Default-Risk Obligation Measure (LDRROM) will be disclosed in the actuarial valuation report with decisions needed on:
 - The liability method to use
 - The discount rate to use
 - Where to disclose the number in the report
- Most other ASOP 4 changes have already been implemented
 - Although there will be some minor revisions and additions to language shown in the report



- The LDRROM discount rate must be derived from low-default-risk fixed income securities with cash flows reasonably consistent with pattern of MainePERS' benefits
- We must disclose the significance of LDRROM with respect to:
 - Funded status
 - Plan contributions
 - Benefit security



Entry Age Cost Method (Funding)

- Consistent with Actuarial Liability used in the valuation
- Communicated as the “value of diversification” or “cost to de-risk”

Traditional Unit Credit

- New liability measure requiring description
- Communicated as the “value of benefits accrued to date” or “Settlement Liability”



Corporate Bond Yields

- Higher yields => Lower liability
- Widely used source, FTSE Pension Liability Index, full yield curve published monthly

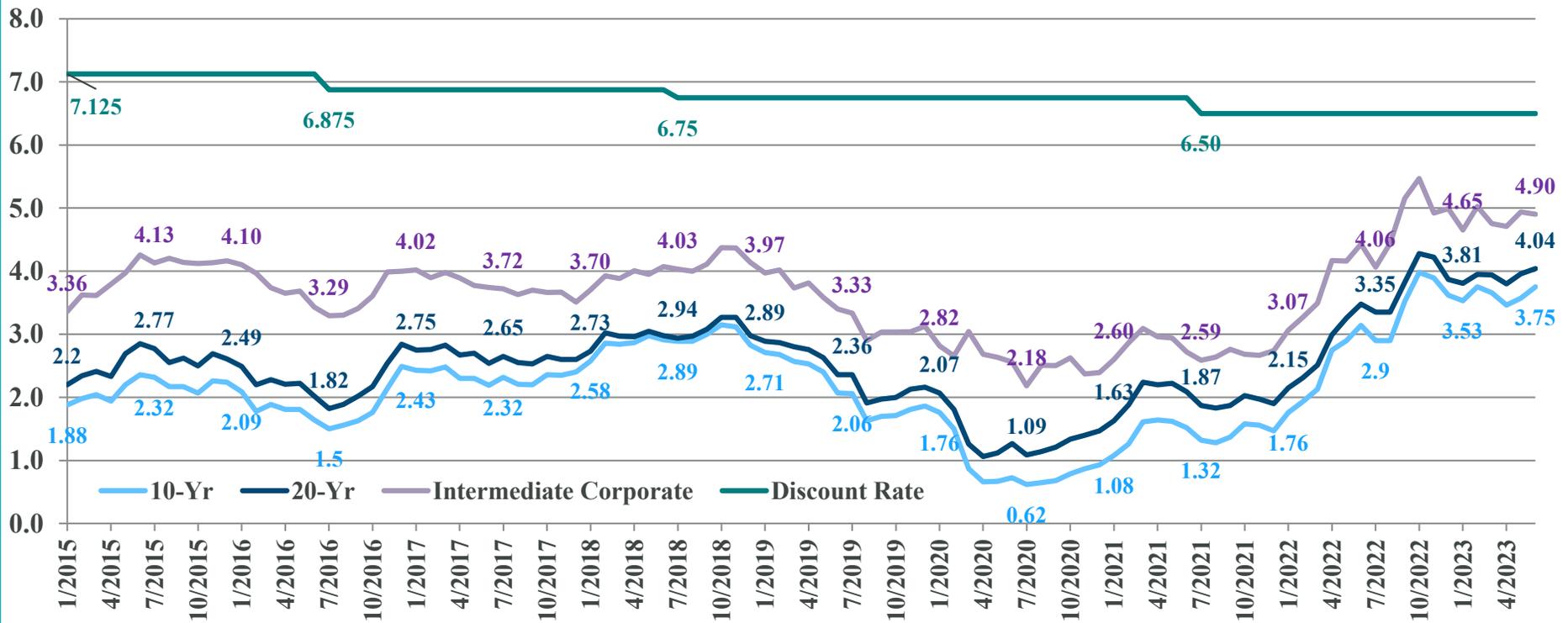
US Treasury Rates

- Lower yields => Higher liability
- Rates published by the Fed for varying durations – need to interpolate for others

LDRROM – Rate Basis Comparison



Treasury Yields and Corporate Bond Rates



ASOP 4 - Everything Else



- Estimate of period over which the UAL is expected to be fully amortized (even if it's not expected to be fully amortized)
- For each amortization base, disclosure of current balance and period left to fully amortize
- Statement whether combined effect of assumptions is expected to have no significant bias
- Qualitative description of the implication of the funding policy on future expected contributions and funded status
- Estimate of how long before contributions are expected to exceed tread water
- Disclose if current ADC already complies as a reasonable ADC, and if not, develop one and disclose its corresponding impact on the Plan's funded status
- Disclose the results of the gain and loss analysis

ASOP 4: Recommendations



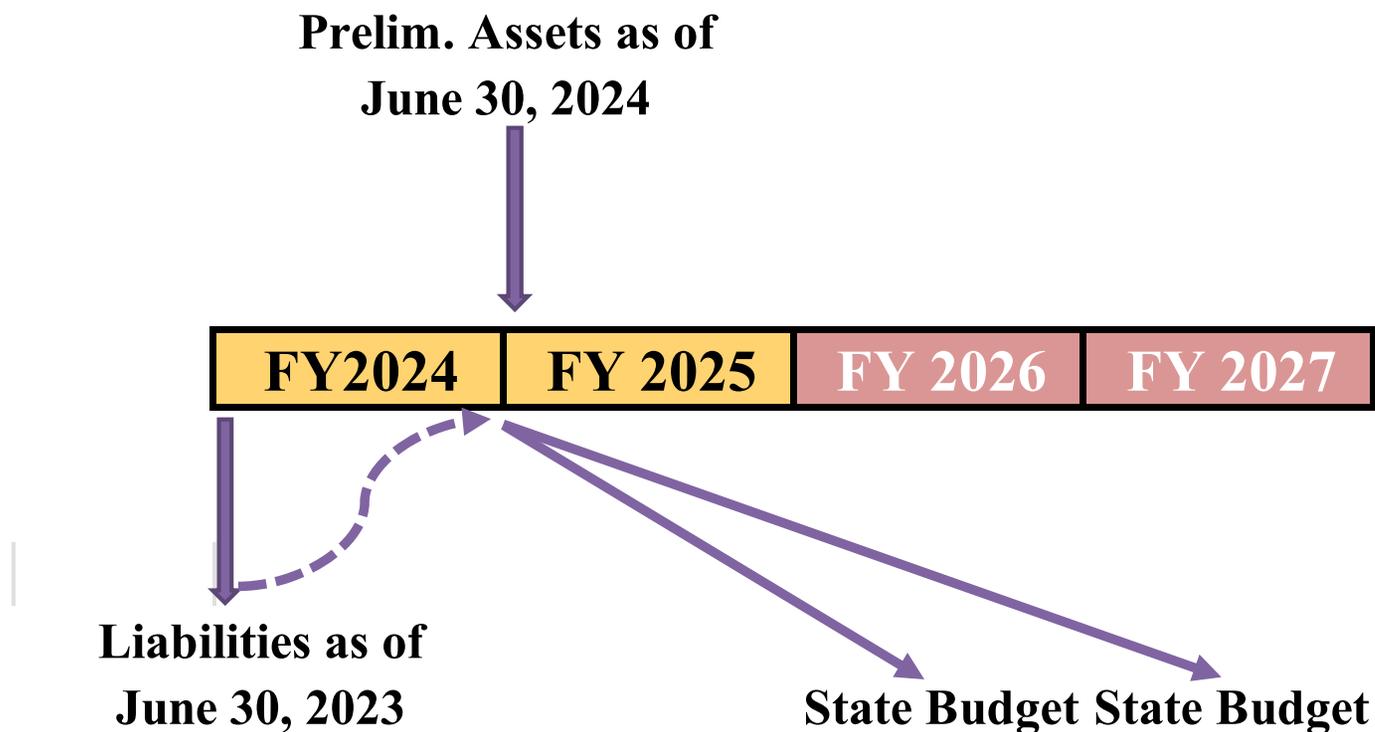
- Staff and Cheiron discussions resulted in sound rationale for:
 - Entry Age Liability Measure
 - US Treasury Discount Rate
- Produces a liability disclosure consistent with MainePERS funding liability
- Treasury discount rates best demonstrate the true value of diversification beyond risk free assets



June 30, 2023 Valuation



- State Employee and Teacher Programs and Judicial and Legislative Programs



- Participating Local Districts (PLDs)
 - June 30, 2023 valuation used for FY 2025 PLD and member contributions



Actual June 30, 2023 Valuation Results will be reviewed in the October Board meeting. Some preliminary observations are:

- Assets
 - Market value return – 5.3%
 - Actuarial value return – 6.9%
 - Expected impact of FYE 2023 asset performance is an increase of 0.33% in the FY 26 and FY 27 contribution rate. FYE 2024 asset performance will also be incorporated into the FY 26 and FY 27 rate setting.
- Liabilities
 - COLA rate higher than assumed
 - Salaries higher than assumed

Required Disclosures



In preparing this presentation, we relied on information supplied by the Maine Public Employees Retirement System.

The actuarial assumptions, data, and methods are those used in the preparation of the latest actuarial valuation report prepared for these plans as of June 30, 2022.

The results of this presentation rely on future Plan experience conforming to the underlying assumptions and methods outlined in the reports. Future results may differ significantly from the current results presented in this presentation due to such factors as the following: Plan experience differing from that anticipated by the assumptions, changes in assumptions, and changes in Plan provisions or applicable law.

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

Cheiron's presentation was prepared solely for the Maine Public Employees Retirement System for the purposes described therein, except that the Plan auditor may rely on the report solely for the purpose of completing an audit related to the matters herein. Other users of this presentation are not intended users as defined in the Actuarial Standards of Practice, and Cheiron assumes no duty or liability to such other users.

Gene Kalwarski, FSA, FCA, MAAA, EA
Principal Consulting Actuary

Bonnie Rightnour, FSA, MAAA, EA
Principal Consulting Actuary

September 14, 2023



Classic Values, Innovative Advice

MAINEPERS

BOARD OF TRUSTEES INVESTMENTS MEMORANDUM

TO: BOARD MEMBERS
FROM: JAMES BENNETT, CHIEF INVESTMENT OFFICER
SUBJECT: RHIT AND GLI INVESTMENT POLICY REVIEWS
DATE: SEPTEMBER 6, 2023

I have worked with Cambridge Associates over the past several months to review the Investment Policy Statements (IPS) guiding the investment of Group Life Insurance (GLI) and Retiree Health Insurance Post-Employment Benefits Investment Trust Fund (RHIT) assets. This review has resulted in a number of proposed changes, as shown in the individual policy statements following this memo. In addition, Cambridge Associates has prepared a comparative portfolio analysis of the RHIT and GLI proposed allocations relative to those of the System's defined benefit assets. That analysis also follows this memo.

This material will be used as the basis for discussion at this month's meeting, and I expect to bring recommendations to adopt these changes to the October meeting.

POLICY REFERENCE

[Board Policy 2.1 – Investment Policy Statement](#)

[Board Policy 2.1-A – GLI Investment Policy Statement](#)

[Board Policy 2.1-B – RHIT Investment Policy Statement](#)

[Board Policy 4.5 – Board/Staff Relations](#)

[Board Policy 4.6 – Communication and Support to the Board](#)

GLI AND RHIT INVESTMENT POLICY STATEMENTS

The GLI and RHIT investment policies specify that assets be allocated in similar fashion as the System's defined benefit (DB) assets, but without the use of illiquid private market investments. This exclusion of private market assets is due to the specific liquidity considerations associated with the GLI and RHIT assets.

The investment policies call for replacing private market holdings with public market investments, and the policies currently specify that substitute public investments be chosen from asset classes that replicate the private market investments being replaced.

The proposed changes call for taking a portfolio approach when choosing substitute investments, rather than an asset-class-by-asset-class approach. Specifically, the changes specify that substitutes be chosen consistent with the overall goal of constructing a portfolio having similar high-level attributes as the DB portfolio, rather than calling for the mirroring of individual alternative asset classes. This approach allows for efficient investment implementation, and aligns with past practice.

Board Responsibilities – Investment Policy for Retiree Health Insurance Post-Employment Benefits Investment Trust

2.1-B – RHIT Investment Policy Statement

Date Adopted: July 12, 2018

Date Amended: November 18, 2021

Policy

The members of the Board of Trustees, as trustees of the Retiree Health Insurance Post-Employment Benefits Investment Trust Fund (“RHIT” or “Investment Trust Fund”), are authorized and responsible for investing and managing the assets of the Investment Trust Fund in accordance with statutory requirements and the Investment Trust Fund Agreement dated January 10, 2008. The Board carries out its investment responsibility by adopting investment objectives and strategic asset allocations and delegating implementation to the investment staff (the “Investment Team”).

Statutory/Legal Provisions

- 5 M.R.S. §§ 17431 - 17439; 18-B M.R.S. § 801, et seq. (Maine Uniform Trust Code); 18-B M.R.S. § 901, et seq. (Maine Uniform Prudent Investor Act).
- 5 M.R.S. §§ 17153(4).
- 5 M.R.S. § 286-B.
- Restatement (Third) of Trusts § 78(1) (2007) (the “sole interest rule”).
- Restatement (Third) of Trusts formally permits, and in some cases requires, the delegation of investment decisions from trustees to internal staff or external agents with the necessary skills and knowledge.
- The Employee Retirement Income Security Act (“ERISA”), codified at 29 U.S.C. § 1002, *et seq.*, provides a description of the standard of care that applies to trustees of private sector retirement plans. Although the System as a public retirement plan is not specifically governed by the fiduciary duty standard set forth in ERISA, courts will often consider the standard set forth in ERISA when addressing public pension plan issues. Under ERISA, a fiduciary must act with the care, skill, prudence and diligence under the circumstances then prevailing that a prudent person (expert) acting in a like capacity would act. This statutory standard is derived from the common law of trusts, which is applicable in the State of Maine.

Background

The RHIT is established in statute to hold and invest funds for the benefit of the Irrevocable Trust Funds for Other Post-Employment Benefits (“Benefit Trusts”), which are separate trusts

Governance Manual

MainePERS Board of Trustees

established to meet the State's unfunded liability obligations for retiree health benefits. The statute names the Board members as the trustees of the Investment Trust Fund.

The Benefit Trusts provide funding for the Investment Trust Fund pursuant to the Benefit Trusts's funding plans. ~~This-These~~ funding plans includes payment of the unfunded liability as of June 30, 2007, by June 30, 2037, ~~;- amortizing gains and losses over fixed 15-year periods; and amortizing assumption and plan changes over fixed 20-year periods.~~ The funding plans ~~are~~ is based on an expected rate of return of 6.5%. No disbursement of funds is expected from the Investment Trust Fund before the year 2027. The Investment Trust Fund may be required to make disbursements subsequent to 2027, and requests for disbursement may be received at any time.

Investment Objectives

The assets of the Investment Trust Fund are to be invested with a long-term time horizon in accordance with the Maine Uniform Trust Code and the Maine Uniform Prudent Investor Act.

The primary goals of Investment Trust Fund are the preservation and growth of principal in accordance with long-term investment assumptions established from time to time by the Board for the defined benefits plans of the System, as considered appropriate by the Trustees.

~~The Board works toward these goals by starting with the asset allocations used for the defined benefit funds, substituting public market securities for illiquid private market investments, and adjusting asset class target weights and ranges to reflect the differences. Substitute securities should be selected from asset classes that replicate to the extent feasible the private market investments they are replacing.~~

The Board seeks to achieve these goals by constructing a portfolio with high-level attributes similar to those of the System's defined benefit funds. This is accomplished by substituting public market investments for the defined benefit funds' alternative asset class holdings, and adjusting target weights and ranges to reflect asset class differences.

Strategic Asset Allocation and Rebalancing

The strategic asset allocation and asset class target weights set forth in Appendix 1 are established for the RHIT investments. The Investment Team shall maintain asset class weights within target ranges. The Investment Team will provide Trustees with reports showing current asset allocations at least quarterly. The Investment Team shall annually review the RHIT investments and asset allocations with Trustees. The Board shall review, and when

Governance Manual

MainePERS Board of Trustees

strategically appropriate, approve recommended changes for implementation by the Investment Team.

Performance Objectives and Benchmarks

The Board acknowledges that benchmarks provide insight into fund and asset class performance but are not necessarily guides for changing asset allocations or fund managers. The rate of return earned by fund assets will be measured against a policy benchmark comprised of the asset class benchmarks. (See Appendix 2) Returns earned by individual managers will be compared with a benchmark index appropriate to each manager's investment approach.

For performance evaluation purposes, all rates of return will be measured net of the deduction of investment management fees.

During a period of transition from one asset allocation to another, certain transitional allocations to appropriate benchmarks are permitted.

Investment Implementation

The Investment Team shall implement the RHIT investment policy, subject to Board guidelines:

- Exposure to publicly traded equity securities is expected to be obtained passively and with weightings substantially similar to those of the benchmarks specified in Appendix 2. Any exceptions must be approved by the Board.
- Investments within each asset class should be consistent with the asset class definitions appended to Board Policy 2.1.

Environmental, Social, and Governance; Engagement

In performing due diligence and monitoring activities, the Board and the Investment Team shall comply with Board Policy 2.6, Environmental, Social and Governance Policy; and Board Policy 2.7, Engagement.

Investment Manager Selection and Allocation Process

MainePERS invests through external investment managers, who are charged to act as fiduciaries, and allocates fund assets among them in accordance with the strategic asset allocation. The Investment Team identifies, performs due diligence on, and recommends investment managers and allocations to the Board. The Investment Team also monitors performance and recommends retention and termination decisions to the Board. The Board retains final authority for manager selection, retention and termination decisions.

Managers are selected and retained on the basis of an evaluation that establishes sufficient confidence that the manager will improve the return and risk of the investment program. If and when the Investment Team and/or consultant(s) identify an investment manager that they

Governance Manual

MainePERS Board of Trustees

believe will improve the investment program, the Investment Team will make a recommendation to the Board of Trustees that the manager be hired. This recommendation will be accompanied by an opinion by the investment consultant on this recommendation. The Board retains the final authority to accept or reject such recommendations.

The Investment Team will prepare and present to the Board of Trustees selection criteria they deem pertinent for each manager search and recommendation to hire. The Investment Team will provide the Board with all the necessary information and analysis to enable an informed decision. The Board may choose to interview the recommended manager or they may rely on the Investment Team to conduct interviews.

Derivatives/Leverage

In general, the use of derivatives is permitted provided that the purpose of the derivative is to achieve an investment objective at lower cost and/or risk than would be the case with direct investments in the underlying securities. Derivatives are not to be used as a means of obtaining leverage. The use of leverage in any strategy must be disclosed to the Board prior to the Board's approval.

The Board has reviewed the benefits and risks associated with foreign currency exposures. As a general rule the Board has chosen not to hedge currency at the portfolio level. Unless otherwise directed asset managers will have discretion to hedge investments under their management as they deem most beneficial to their mandate.

Transaction Costs and Brokerage

The Board of Trustees expects investment managers, in their capacity as fiduciaries, to manage transaction costs in the best interests of the System as an investor. To enable the managers to fulfill this fiduciary duty, it is the Board's policy not to be party to directed brokerage programs.

Emergency Measures

Immediate action may be taken beyond the bounds of this policy under extraordinary circumstances and in order to preserve the best interests of the plans' participants by unanimous decision of the following:

- The Chair, or in the Chair's absence, Vice Chair of the Board
- The Chief Executive Officer, or in the Chief Executive Officer's absence, the Chief Operating Officer
- The Chief Investment Officer, or in the Chief Investment Officer's absence, Deputy Chief Investment Officer, or in the absence of both of them, the general investment consultant.

Any such action must be reported to the Board of Trustees at the earliest opportunity.

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MainePERS Board of Trustees

Board Responsibilities – Investment Policy for RHIT

Appendix 1: Asset Classes, Policy Weights and Ranges

Date Adopted: July 12, 2018

Date Amended: *New*

The RHIT assets are invested across four asset classes that play distinct roles. The asset classes and target policy weights and ranges are set forth below.

Weights			
	Minimum	Policy	Maximum
Public Equity	60%	70%	80%
Real Estate	0%	5%	8%
Traditional Credit	10%	16% 15%	20%
US Government Securities	5% 10%	9% 15%	20%
Cash	0%	0%	10%

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MainePERS Board of Trustees

Board Responsibilities – Investment Policy for RHIT

Appendix 2: Policy Benchmarks

Date Adopted: July 12, 2018

Date Amended: New

Asset	Benchmark	Weight
Total Public Equity	Russell 3000 & MSCI ACWI ex-USA, based on ACWI weights	70%
Real Estate	NCREIF Property (lagged one quarter)	-5%
Traditional Credit	Barclays US Aggregate, ex Treasury	16% 15%
U.S. Government Securities	Custom Fixed Income Benchmark 50% Bloomberg Barclays U.S. Government Bond Market Index + 50% Bloomberg U.S. TIPS Index	9% 15%

Board Responsibilities – Investment Policy for Group Life Insurance

2.1-A – GLI Investment Policy Statement

Date Adopted: October 12, 2017

Date Amended: November 12, 2020

Policy

The Board of Trustees of the Maine Public Employees Retirement System is authorized and responsible for administering group life insurance (“GLI”) benefits for MainePERS members and for prudently investing GLI premiums until needed to pay benefits. The Board carries out its investment responsibility by adopting investment objectives and strategic asset allocations and delegating implementation to the investment staff (the “Investment Team”).

Statutory/Legal Provisions

- Me. Const. art. IX, § 18.
- 5 M.R.S. §§ 17102, 17103, 17435; 18-B M.R.S. § 801, et seq. (Maine Uniform Trust Code); 18-B M.R.S. § 901, et seq. (Maine Uniform Prudent Investor Act).
- 5 M.R.S. §§ 17153(4).
- Restatement (Third) of Trusts § 78(1) (2007) (the “sole interest rule”).
- Restatement (Third) of Trusts formally permits, and in some cases requires, the delegation of investment decisions from trustees to internal staff or external agents with the necessary skills and knowledge.
- The Employee Retirement Income Security Act (“ERISA”), codified at 29 U.S.C. § 1002, et seq., provides a description of the standard of care that applies to trustees of private sector retirement plans. Although the System as a public retirement plan is not specifically governed by the fiduciary duty standard set forth in ERISA, courts will often consider the standard set forth in ERISA when addressing public pension plan issues. Under ERISA, a fiduciary must act with the care, skill, prudence and diligence under the circumstances then prevailing that a prudent person (expert) acting in a like capacity would act. This statutory standard is derived from the common law of trusts, which is applicable in the State of Maine.

Investment Objectives

MainePERS’ GLI investment objectives are the same as the investment objectives set forth in Board Policy 2.1, Investment Policy for Defined Benefit Plans, except that an additional goal for GLI investments is to maintain sufficient liquidity to pay benefits when due under existing GLI plan provisions and to provide flexibility should plan provisions change. ~~The Board balances these goals by starting with the asset allocations used for the defined benefit funds, substituting public market securities for illiquid private market investments, and adjusting asset class target weights and ranges to reflect the differences. Substitute securities should be selected from~~

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MainePERS Board of Trustees

asset classes that replicate to the extent feasible the private market investments they are replacing. The Board seeks to achieve these goals by constructing a portfolio with high-level attributes similar to those of the System's defined benefit funds. This is accomplished by substituting public market investments for the defined benefit funds' alternative asset class holdings, and adjusting target weights and ranges to reflect asset class differences.

Strategic Asset Allocation and Rebalancing

The strategic asset allocation and asset class target weights set forth in Appendix 1 are established, in consultation with investment and actuarial consultants, for the GLI investments. The Investment Team shall maintain asset class weights within target ranges. The Investment Team will provide Trustees with reports showing current asset allocations at least quarterly. The Investment Team and Board consultants shall annually review the GLI investments and asset allocations with Trustees. The Board shall review, and when strategically appropriate, approve recommended changes for implementation by the Investment Team.

Performance Objectives and Benchmarks

The Board acknowledges that benchmarks provide insight into fund and asset class performance but are not necessarily guides for changing asset allocations or fund managers. The rate of return earned by fund assets will be measured against a policy benchmark comprised of the asset class benchmarks. (See Appendix 2) Returns earned by individual managers will be compared with a benchmark index appropriate to each manager's investment approach.

For performance evaluation purposes, all rates of return will be measured net of the deduction of investment management fees.

During a period of transition from one asset allocation to another, certain transitional allocations to appropriate benchmarks are permitted.

Investment Implementation

The Investment Team shall implement the GLI investment policy, subject to Board guidelines:

- Exposure to publicly traded equity securities is expected to be obtained passively and with weightings substantially similar to those of the benchmarks specified in Appendix 2. Any exceptions must be approved by the Board.
- Investments within each asset class should be consistent with the asset class definitions appended to Board Policy 2.1.

Environmental, Social, and Governance; Engagement

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MainePERS Board of Trustees

In performing due diligence and monitoring activities, the Board and the Investment Team shall comply with Board Policy 2.6, Environmental, Social and Governance Policy; and Board Policy 2.7, Engagement.

Investment Manager Selection and Allocation Process

MainePERS invests through external investment managers, who are charged to act as fiduciaries, and allocates fund assets among them in accordance with the strategic asset allocation. The Investment Team identifies, performs due diligence on, and recommends investment managers and allocations to the Board. The Investment Team also monitors performance and recommends retention and termination decisions to the Board. The Board retains final authority for manager selection, retention and termination decisions.

Managers are selected and retained on the basis of an evaluation that establishes sufficient confidence that the manager will improve the return and risk of the investment program. If and when the Investment Team and/or consultant(s) identify an investment manager that they believe will improve the investment program, the Investment Team will make a recommendation to the Board of Trustees that the manager be hired. This recommendation will be accompanied by an opinion by the investment consultant on this recommendation. The Board retains the final authority to accept or reject such recommendations.

The Investment Team will prepare and present to the Board of Trustees selection criteria they deem pertinent for each manager search and recommendation to hire. The Investment Team will provide the Board with all the necessary information and analysis to enable an informed decision. The Board may choose to interview the recommended manager or they may rely on the Investment Team to conduct interviews.

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The Board has reviewed the benefits and risks associated with foreign currency exposures. As a general rule the Board has chosen not to hedge currency at the portfolio level. Unless otherwise directed asset managers will have discretion to hedge investments under their management as they deem most beneficial to their mandate.

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MainePERS Board of Trustees

Emergency Measures

Immediate action may be taken beyond the bounds of this policy under extraordinary circumstances and in order to preserve the best interests of the plans' participants by unanimous decision of the following:

- The Chair, or in the Chair's absence, Vice Chair of the Board
- The Executive Director, or in the Executive Director's absence, the General Counsel
- The Chief Investment Officer, or in the Chief Investment Officer's absence, Deputy Chief Investment Officer, or in the absence of both of them, the general investment consultant

Any such action must be reported to the Board of Trustees at the earliest opportunity.

Governance Manual

MainePERS Board of Trustees

Board Responsibilities – Investment Policy for Group Life Insurance

Appendix 1: Asset Classes, Policy Weights and Ranges

Date Adopted: October 12, 2017

Date Amended: *New*

The System's Group Life Insurance assets are invested across four asset classes that play distinct roles. The asset classes and target policy weights and ranges are set forth below.

Weights			
	Minimum	Policy	Maximum
Public Equity	60%	70%	80%
Real Estate	0%	5%	8%
Traditional Credit	10%	16% 15%	20%
US Government Securities	5% 10%	9% 15%	20%
Cash	0%	0%	10%

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MainePERS Board of Trustees

Board Responsibilities – Investment Policy for Group life Insurance

Appendix 2: Policy Benchmarks

Date Adopted: October 12, 2017

Date Amended: *New*

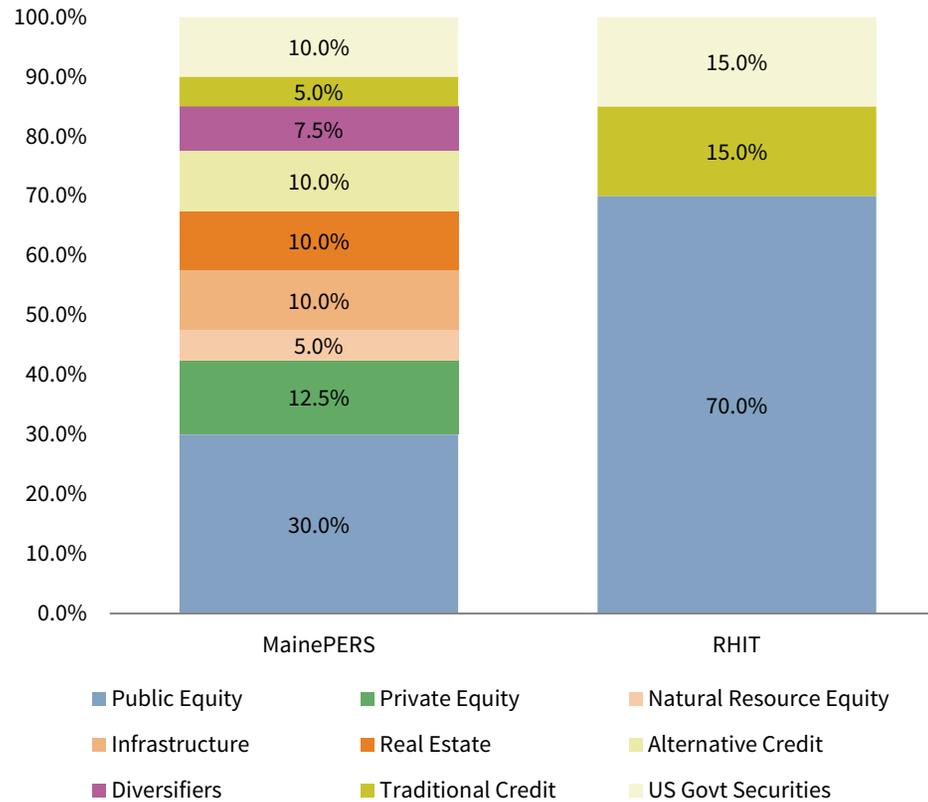
Asset	Benchmark	Weight
Total Public Equity	Russell 3000 & MSCI ACWI ex-USA, based on ACWI weights	70%
Real Estate	NCREIF Property (lagged one quarter)	-5%
Traditional Credit	Barclays US Aggregate, ex Treasury	16% 15%
U.S. Government Securities	50% Bloomberg Barclays U.S. Government Bond Market Index + 50% Bloomberg U.S. TIPS Index Custom Fixed Income Benchmark	9% 15%

RHIT ASSET ALLOCATION



Comparative Asset Allocation

As of June 30, 2023 • Nominal AACR¹ (%)
 Blended 25-Year Assumptions + 2.7% annual inflation



	MainePERS	RHIT
Expected Return (Beta)	7.6%	6.8%
Expected Return (w/ Alpha)	8.0%	6.8%
Standard Deviation	10.8%	12.4%
Beta	0.57	0.68
Sharpe Ratio	0.20	0.11



Note(s): Assumes 10 years of RTN assumptions and 15 years of Equilibrium assumptions. Public Equities assumptions are a blend of Cambridge Associates assumptions: 60% US Equity, 28% Developed ex US Equity, 12% Emerging Markets Equity. Infrastructure assumptions are a blend of Cambridge Associates assumptions: 60% Oil & Gas, 20% Timber, and 20% Commodities. Diversifiers assumptions are a blend Cambridge Associates assumptions: 70% Absolute Return and 30% cash plus 300bps of alpha. Alternative Credit assumptions is Cambridge Associate’s High Yield assumption plus 300bps of alpha. US Government Securities are a blend of Cambridge Associates assumptions: 50% US TIPS, 50% US Govt Bonds.
 1. Average Annual Compound Return.

Capital Markets Assumptions

As of June 30, 2023 • Nominal AACR¹ (%)

Blended 25-Year Assumptions + 2.7% annual inflation

Asset Class	AACR	Standard Deviation
Public Equities	7.1%	16.9%
Private Equity	8.7%	23.6%
Natural Resources	7.4%	18.2%
Infrastructure	8.4%	16.8%
Real Estate	6.4%	20.0%
Alternative Credit	9.8%	12.0%
Diversifiers	7.7%	7.0%
Traditional Credit	5.7%	8.0%
U.S. Government	4.8%	5.5%



Note(s): Assumes 10 years of RTN assumptions and 15 years of Equilibrium assumptions.

Public Equities assumptions are a blend of Cambridge Associates assumptions: 60% US Equity, 28% Developed ex US Equity, 12% Emerging Markets Equity. Infrastructure assumptions are a blend of Cambridge Associates assumptions: 60% Oil & Gas, 20% Timber, and 20% Commodities. Diversifiers assumptions are a blend Cambridge Associates assumptions: 70% Absolute Return and 30% cash plus 300bps of alpha. Alternative Credit assumptions is Cambridge Associate's High Yield assumption plus 300bps of alpha. US Government Securities are a blend of Cambridge Associates assumptions: 50% US TIPS, 50% US Govt Bonds.

1. Average Annual Compound Return.



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MAINEPERS

BOARD OF TRUSTEES MEMORANDUM

TO: BOARD MEMBERS
FROM: DR. REBECCA M. WYKE, CEO
SUBJECT: CEO REPORT
DATE: SEPTEMBER 7, 2023

CEO Comprehensive Evaluation

Board Policy 4.3 – Monitoring Chief Executive Officer Performance requires a comprehensive evaluation of the CEO in the second year of service. Amy McDuffee of Mosaic Governance Advisors has been hired by the Board Chair to serve as the external reviewer called for by the Policy. The Board Chair will brief the Board at the September Board Meeting on the evaluation process and schedule.

Member Portal

The Member Portal is a key strategic objective under the Strategic Plan *Goal IV: Cultivation of a Member-centric Organization*. Internal and external testing of the member portal by both staff and stakeholders was completed in August. Additionally, a final round of testing the security and fraud prevention measures by third-party experts has occurred. Final adjustments are being made to the portal and we anticipate we are on schedule to begin the phased rollout of the portal this fall.

Board Education

MainePERS offers a variety of educational opportunities to support the Trustees in maintaining current knowledge on programs and services, as well as issues facing the System. Attached is a memorandum outlining the Board Education Plan for 2023-24. We invite interested Trustees to let us know if they would like the opportunity to attend one of the seminar options in the coming year. We also invite Trustees to request education on specific items of interest.

MAINEPERS

BOARD OF TRUSTEES MEMORANDUM

TO: BOARD MEMBERS
FROM: DR. REBECCA M. WYKE, CEO
SUBJECT: 2023 BOARD EDUCATION PLAN
DATE: SEPTEMBER 7, 2023

POLICY REFERENCE

[Board Policy 1.2 Trustee Fiduciary Responsibility](#)

[Board Policy 1.4 Trustee Responsibilities and Position Description](#)

[Board Policy 4.5 Board/Staff Relations](#)

[Board Policy 4.6 Communication and Support to the Board](#)

MainePERS offers a variety of educational opportunities to support the Trustees in maintaining current knowledge on programs and services, as well as issues facing the System. Below is the Board Education Plan for 2023-24.

MainePERS Sponsored Board Education

New Trustee Orientation delivered by staff with Board engagement

Quarterly Investment Education delivered by the Investment Team and/or Investment Consultants

Annual Fiduciary Education delivered by legal counsel and governance consultant

Annual Good Governance Practices Education delivered by governance consultant

Annual Actuarial Practices Education delivered by actuary

Biennial DEI Education delivered by consultant

Ad-hoc Board Education will be provided as needed or requested

MainePERS Sponsored Mission Moments

Staff provide periodic mission moments during Board Meetings to introduce Trustees to various programs and services administered by MainePERS. Topics over the past year have included the service retirement program, the disability retirement program, the member annual account summary, the member benefit estimator, new and mid-career online member education, and the member portal features. Topics planned for the coming year include investment team daily operations, the actuarial impact of benefit changes, and an introduction to the state-sponsored special plans. Additional topics will be added as needed or requested.

Pension Plan Fundamentals**One of a Kind! A Practical Guide for 21st Century Public Pension Trustees**

Trustee iPads have access to the Kindle e-book, *One of a Kind! A Practical Guide for 21st Century Public Pension Trustees* by Funston Advisory Services LLC, a nationally known advisor for public retirement systems. The book covers a range of topics relevant to the role of public pension Trustees, including pension plan fundamentals such as: public pension policy, governance, enterprise strategy and risk intelligence, investment oversight, and reporting requirements.

Introduction to Investing**Cambridge Associates**

Trustee iPads have a link in Govenda to a series of short, educational videos and written content that provide an overview of the core elements of investing, how Cambridge Associates develops and builds portfolios, and common asset classes used in portfolio construction.

National Conference on Public Employee Retirement Systems**Trustee Educational Seminar – 2024 date & location TBD**

The seminar offers trustees an opportunity to build and strengthen their foundational knowledge of pensions and governance. This two-day program is designed with a clear focus on the educational needs of trustees who are new to a public pension plan board. The curriculum centers on investing principles, understanding actuarial science, board policies, and fundamental concepts that every trustee should know. Sample of agenda items: history and mechanics of the defined benefit plan; understanding actuarial science; time value of money; setting the discount rate; asset allocation; fiduciary laws; alternative investments; private equity.

National Council on Teacher Retirement**Annual Trustee Workshop - 2024 date & location TBD**

The NCTR Trustee Workshop is developed with input from board trustees on the NCTR Trustee Education Committee. The program is designed by and for public pension board trustees. Workshop agenda items offer a wide range of educational content for both new and experienced trustees. Sample of agenda items: fiduciary duties; ESG investment factors; cyber security; future of pension funds; alternative investments; public equity and fixed income investments; federal relations update; interrelationships between DB/DC plans.

MAINEPERS

BOARD OF TRUSTEES MEMORANDUM

TO: BOARD MEMBERS

FROM: MICHAEL COLLERAN, CHIEF OPERATING OFFICER & GENERAL COUNSEL
JAMES BENNETT, CHIEF INVESTMENT OFFICER
CHIP GAVIN, CHIEF SERVICES OFFICER

SUBJECT: MAINESTART QUARTERLY REVIEW

DATE: SEPTEMBER 6, 2023

Following this memo is the MaineSTART Quarterly Review for the quarter ending 6/30/2023.

POLICY REFERENCE

[Board Policy 2.1-C – DC Plans Investment Policy Statement](#)

[Board Policy 4.5 – Board/Staff Relations](#)

[Board Policy 4.6 – Communication and Support to the Board](#)

RECOMMENDATION

No Board action is required.



MainePERS
PUBLIC EMPLOYEES RETIREMENT SYSTEM

MaineSTART Quarterly Review

For the Quarter Ending 6/30/2023

MAINE
START

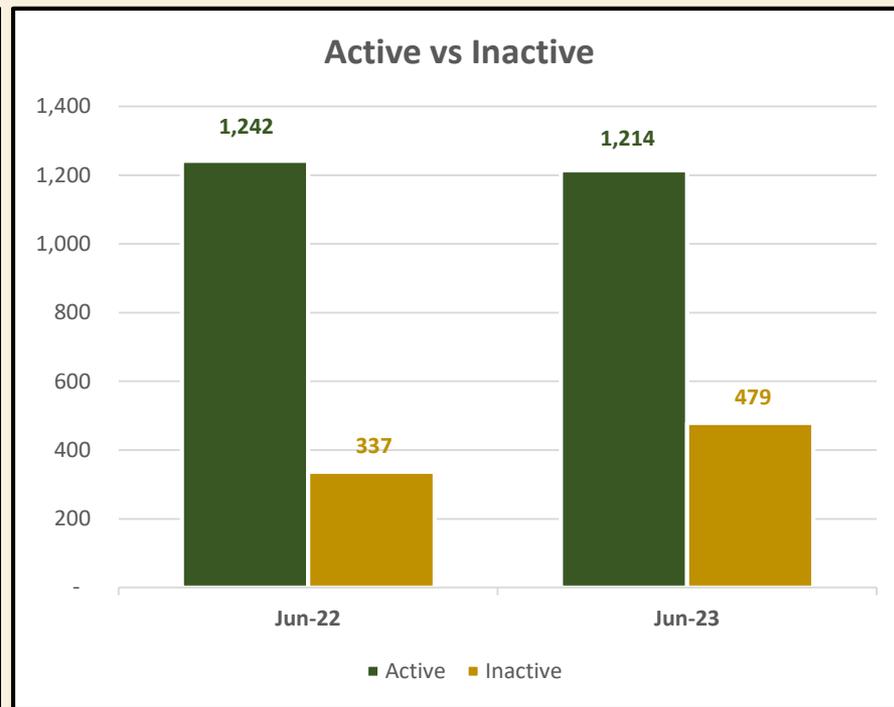
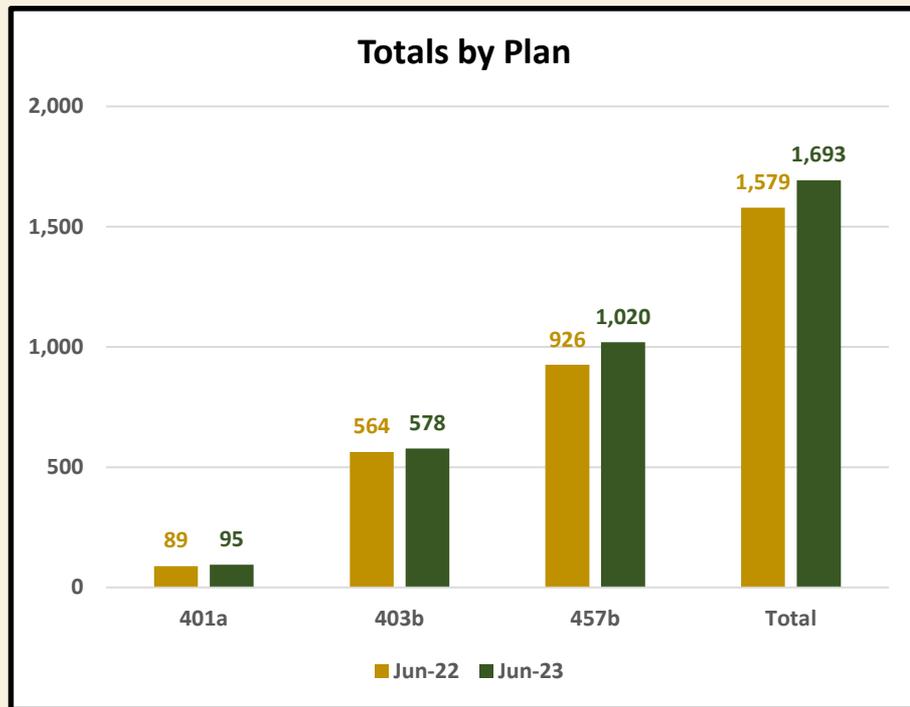
MaineSTART Review 2Q 2023

Overview of MaineSTART

- ▶ **401(a) Defined Contribution Plan**
 - ▶ **Qualified Plan**
 - ▶ **Higher Contribution Limits**
 - ▶ **Inflexible**
- ▶ **403(b) Tax-Sheltered Annuity Plan**
 - ▶ **Only for Educational and Certain Non-Profit Organizations**
 - ▶ **Flexible**
- ▶ **457(b) Deferred Compensation Plan**
 - ▶ **Flexible**

MaineSTART Review 2Q 2023

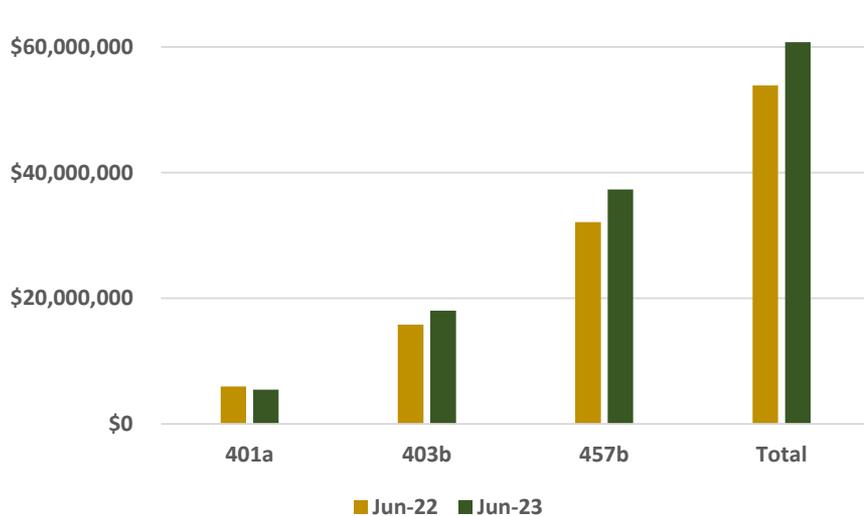
Participants



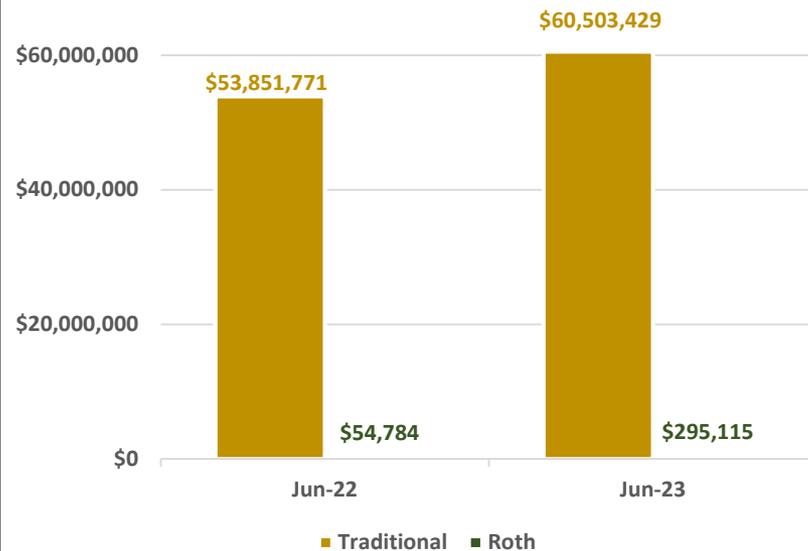
MaineSTART Review 2Q 2023

Market Value

Totals by Plan



Traditional vs Roth



MaineSTART Review 2Q 2023

Participation and Value as of 6/30/2023

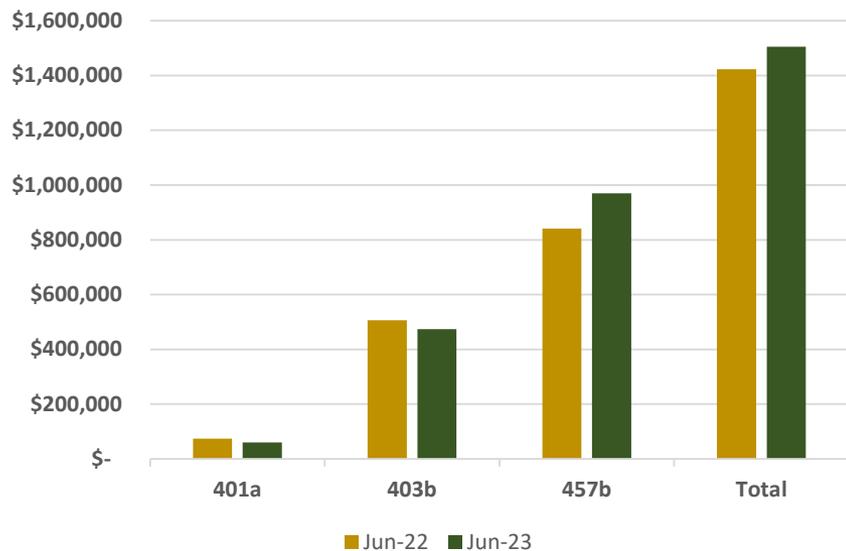
	401(a)	403(b)	457(b)	Total	Change from 6/30/2022
Participating Employers	7	1	77	85*	5
Participating Employees	95	578	1,020	1,693	114
Total Market Value	\$5,451,870	\$18,019,824	\$37,326,849	\$60,798,544	\$6,891,989

*26% of PLDs

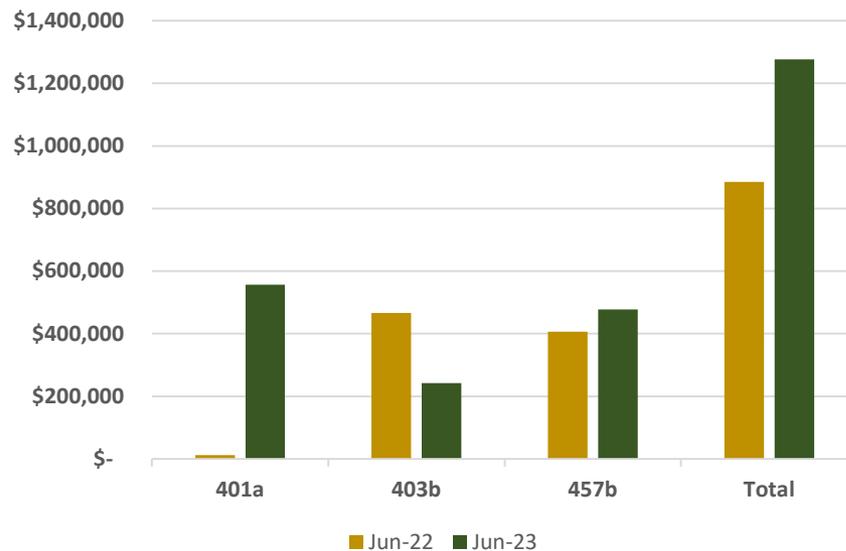
MaineSTART Review 2Q 2023

Cash Flows

Contributions by Plan



Distributions by Plan

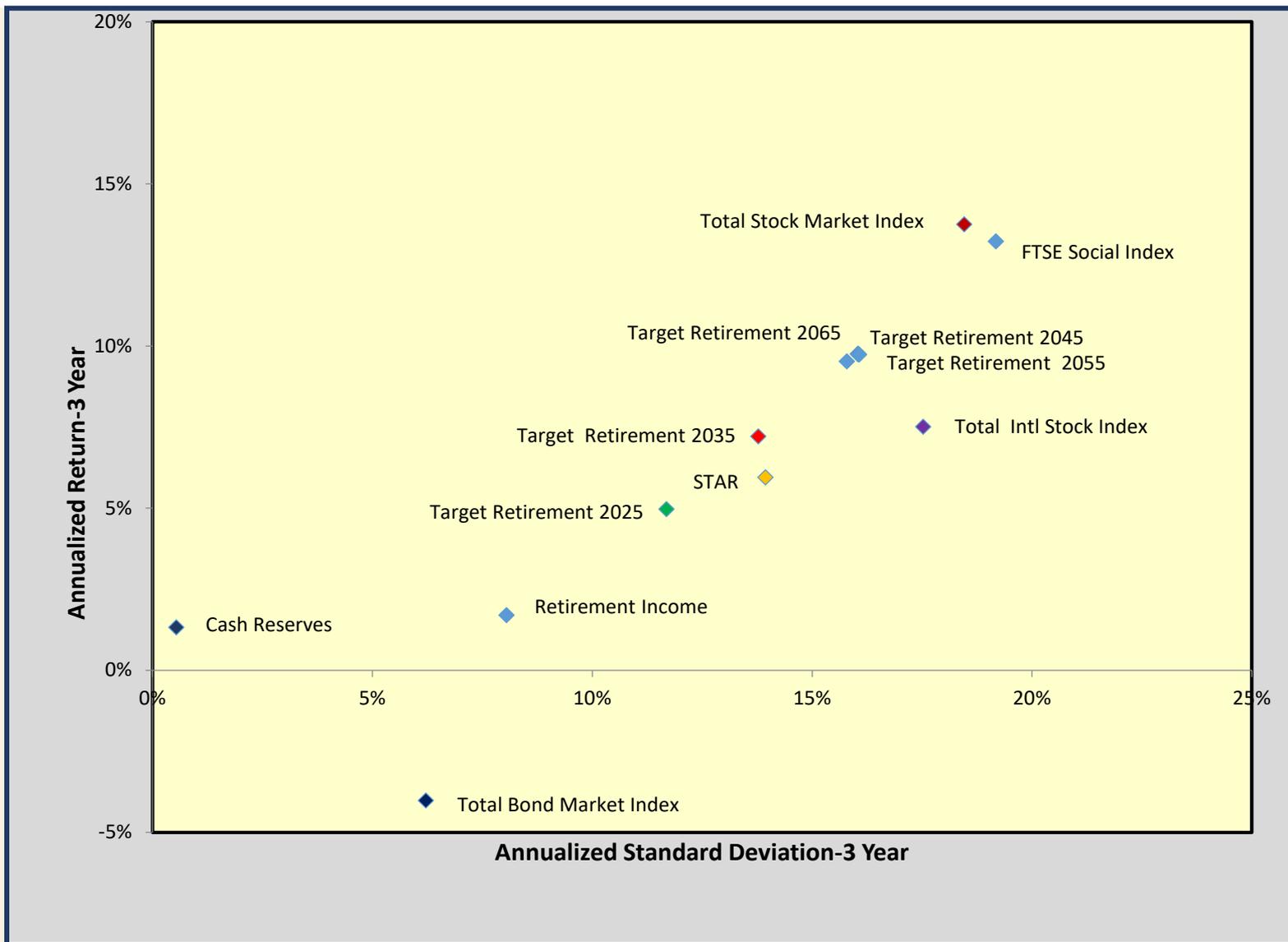


MaineSTART Review 2Q 2023

MaineSTART Investment Options

Fund	Expense Ratio
Target Retirement	
Vanguard Target Retirement 2025	0.08%
Vanguard Target Retirement 2035	0.08%
Vanguard Target Retirement 2045	0.08%
Vanguard Target Retirement 2055	0.08%
Vanguard Target Retirement 2065	0.08%
Vanguard Target Retirement Income	0.08%
US Equity	
Vanguard Total Stock Market Index	0.03%
Vanguard FTSE Social Index	0.14%
Non-US Equity	
Vanguard Total International Stock Index	0.11%
Balanced	
Vanguard STAR	0.31%
Fixed Income	
Vanguard Total Bond Market Index	0.05%
Cash	
Vanguard Cash Reserves Federal Money Market	0.10%

MaineSTART Review 2Q 2023



MaineSTART Review 2Q 2023

Performance of Target Date Funds

Total Fund	\$ 60,798,544	% Total	Quarter	1 Yr	3 Yrs	5 Yrs	10 Yrs
Target Retirement Funds							
Target Retirement 2025	\$ 14,748,707	24.3%	3.0%	8.5%	5.0%	5.3%	6.7%
Target Retirement 2025 Benchmark			3.0%	9.0%	5.3%	5.7%	7.0%
Target Retirement 2035	\$ 10,371,717	17.1%	4.1%	11.3%	7.2%	6.4%	7.8%
Target Retirement 2035 Benchmark			4.1%	11.8%	7.6%	6.7%	8.1%
Target Retirement 2045	\$ 6,406,854	10.5%	5.1%	13.9%	9.5%	7.5%	8.7%
Target Retirement 2045 Benchmark			5.1%	14.4%	9.9%	7.8%	9.0%
Target Retirement 2055	\$ 1,503,612	2.5%	5.4%	14.6%	9.7%	7.6%	8.7%
Target Retirement 2055 Benchmark			5.4%	15.1%	10.1%	8.0%	9.1%
Target Retirement 2065	\$ 208,257	0.3%	5.3%	14.6%	9.8%	7.6%	
Target Retirement 2065 Benchmark			5.4%	15.1%	10.1%	8.0%	
Target Retirement Income	\$ 4,339,548	7.1%	1.4%	4.5%	1.7%	3.5%	4.1%
Target Retirement Income Benchmark			1.4%	4.8%	1.9%	3.7%	4.4%

Tracking Error for all funds remains within expected ranges given market volatility during Q2.

MaineSTART Review 2Q 2023

Performance of Index and Balanced Funds

Total Fund	\$ 60,798,544	% of Total	Quarter	1 Yr	3 Yrs	5 Yrs	10 Yrs
US Equity							
Total Stock Market Index	\$ 12,046,629	19.8%	8.4%	18.9%	13.8%	11.3%	12.3%
Dow Jones Total Stock Market Index			8.4%	18.9%	13.8%	11.3%	12.3%
FTSE Social Index	\$ 959,712	1.6%	9.9%	20.3%	13.2%	12.4%	13.3%
FTSE4Good US Select Index			9.9%	20.5%	13.4%	12.5%	13.5%
Non-US Equity							
Total International Stock Index	\$ 2,292,474	3.8%	2.6%	12.3%	7.5%	3.7%	5.1%
Total International Stock Index			2.5%	12.5%	7.6%	3.7%	5.1%
Balanced							
STAR	\$ 2,514,637	4.1%	3.6%	11.4%	6.0%	6.7%	7.8%
STAR Composite Index			3.9%	10.9%	6.7%	6.7%	7.3%
Fixed Income							
Total Bond Market Index	\$ 1,824,015	3.0%	-0.9%	-0.9%	-4.0%	0.8%	1.5%
Barclays Capital Aggregate Bond Index			-0.9%	-0.9%	-4.0%	0.8%	1.5%
Total Cash							
Cash Reserves Federal Money Market	\$ 3,582,383	5.9%	1.2%	3.8%	1.3%	1.6%	1.1%
Citigroup 90 Day T-Bill Index			1.1%	3.3%	1.1%	1.3%	0.8%

Tracking Error remains within expected range.

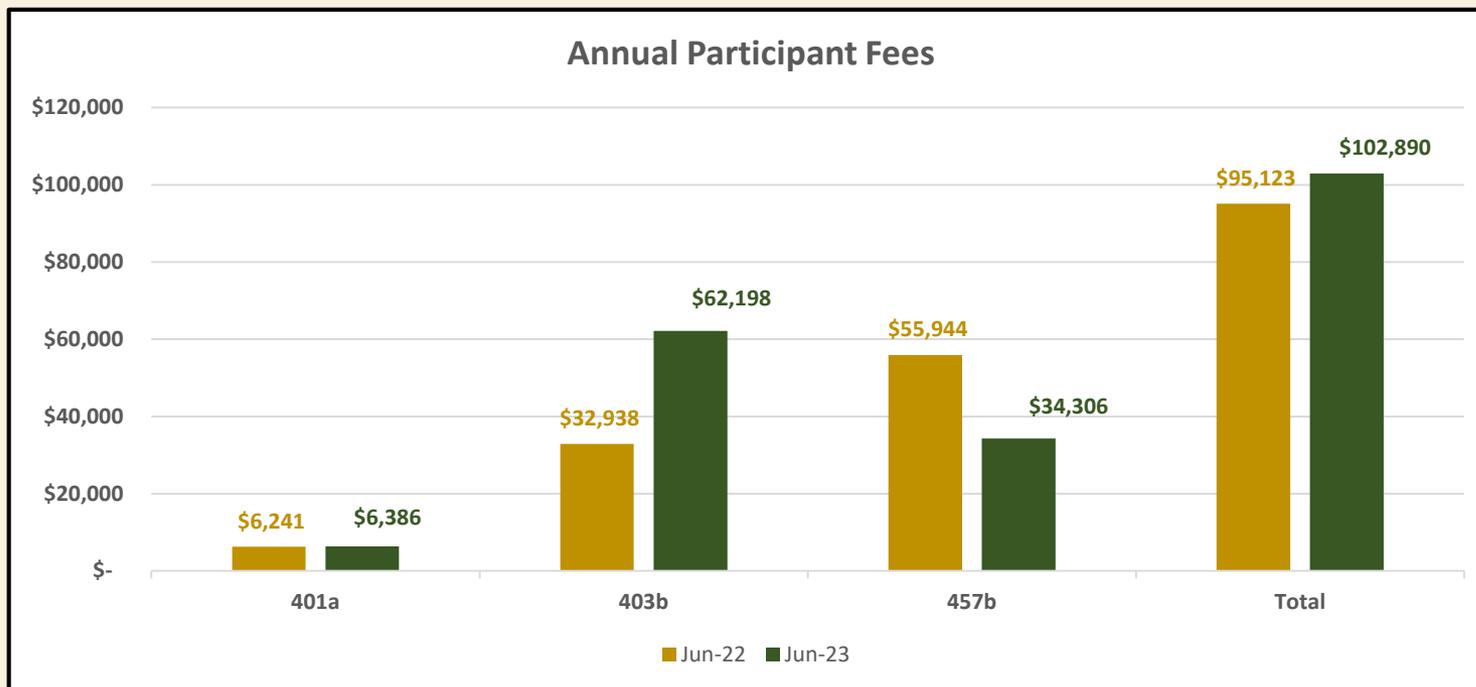
MaineSTART Review 2Q 2023

Investment Option Fees

Fund Name	Ticker	Market Value	MaineSTART Expense Ratio	Next Threshold Amount	Next Expense Ratio
Vanguard Total Stock Market Index	VITSX	\$12,046,629	0.03%	\$100,000,000	0.02%
Vanguard Total International Stock Index	VTIAX	\$2,292,474	0.11%	\$5,000,000	0.10%
Vanguard STAR	VGSTX	\$2,514,637	0.31%	N/A	0.31%
Vanguard FTSE Social Index	VFTAX	\$959,712	0.14%	\$5,000,000	0.12%
Vanguard Target Retirement 2025	VTTVX	\$14,748,707	0.08%	N/A	0.08%
Vanguard Target Retirement 2035	VTTHX	\$10,371,717	0.08%	N/A	0.08%
Vanguard Target Retirement 2045	VTIVX	\$6,406,854	0.08%	N/A	0.08%
Vanguard Target Retirement 2055	VFFVX	\$1,503,612	0.08%	N/A	0.08%
Vanguard Target Retirement 2065	VLXVX	\$208,257	0.08%	N/A	0.08%
Vanguard Retirement Income	VTINX	\$4,339,548	0.08%	N/A	0.08%
Vanguard Total Bond Market Index	VBTLX	\$1,824,015	0.05%	N/A	0.05%
Vanguard Cash Reserves Federal MM	VMRXX	\$3,582,383	0.10%	N/A	0.10%
Newport Group charges \$50 annually and 3 bps on assets.		\$60,798,544			

MaineSTART Review 2Q 2023

Fees



Notes:

- Participants pay an annual fee of \$50 and 3 bps on assets to the Newport Group
- Investment management fees vary depending on the fund selection
- Annual Administrative Fees of \$244,600 are assessed through PLD payrolls at 0.04%

MaineSTART Review 2Q 2023

Compliance and Operations

- ▶ **Contributions to the Vanguard STAR Fund have stopped**
- ▶ **Teacher outreach continues**
- ▶ **One position added to assist DC operations**
- ▶ **Error in 1Q 2023 Report – Market Values for FTSE Social Index and STAR funds transposed**

MaineSTART Review 2Q 2023

- ▶ Error in 1Q 2023 Report – Market Value and % of Total for FTSE Social Index and STAR funds were transposed

Performance of Index and Balanced Funds

Total Fund	\$ 58,101,523	% of Total	Quarter	1 Yr	3 Yrs	5 Yrs	10 Yrs
US Equity							
Total Stock Market Index	\$ 4,280,425	7.4%	7.2%	-8.8%	18.4%	10.4%	11.7%
Dow Jones Total Stock Market Index			7.2%	-8.8%	18.4%	10.4%	11.7%
FTSE Social Index	\$ 2,806,631	4.8%	9.8%	-10.0%	17.7%	11.2%	12.8%
FTSE4Good US Select Index			9.9%	-9.9%	17.8%	11.3%	12.9%
Non-US Equity							
Total International Stock Index	\$ 175,010	0.3%	6.7%	-4.6%	12.7%	2.5%	4.4%
Total International Stock Index			6.4%	-5.7%	12.5%	2.6%	4.5%
Balanced							
STAR	\$ 829,430	1.4%	6.7%	-6.1%	10.2%	6.2%	7.4%
STAR Composite Index			5.6%	-5.3%	10.0%	6.1%	6.9%
Fixed Income							
Total Bond Market Index	\$ 3,444,239	5.9%	3.2%	-4.7%	-2.8%	0.9%	1.3%
Barclays Capital Aggregate Bond Index			3.0%	-4.7%	-2.7%	1.0%	1.4%
Total Cash							
Cash Reserves Federal Money Market	\$ 14,240,084	24.5%	1.1%	2.7%	1.0%	1.4%	0.9%
Citigroup 90 Day T-Bill Index			1.0%	2.2%	0.8%	1.1%	0.7%

MAINEPERS

BOARD OF TRUSTEES MEMORANDUM

TO: BOARD MEMBERS

FROM: MICHAEL J. COLLERAN, CHIEF OPERATING OFFICER & GENERAL COUNSEL
CHIP GAVIN, CHIEF SERVICES OFFICER
SHERRY VANDRELL, CHIEF FINANCIAL OFFICER

SUBJECT: MEMBER SERVICES, FINANCE, AND OPERATIONS REPORT

DATE: SEPTEMBER 6, 2023

Content in the following paragraphs was selected to provide noteworthy information regarding the System's member services, finance, and operations.

POLICY REFERENCE

[Board Policy 4.5 – Board/Staff Relations](#)

[Board Policy 4.6 – Communications and Support to the Board](#)

MEMBER SERVICES

1. CUSTOMARY SERVICES DATA: The customary data about routine member services are attached to this report.
2. MEMBER PORTAL: The member portal continues to work toward a phased launch during the fall of 2023. All planned testing has been completed and the final remediation efforts to ensure a secure launch are in progress. Additionally, a series of physical mailings (letters) have started to active members and retirees with missing contact information asking them to update their information with MainePERS to facilitate their portal account registration when that time comes. The portal effort is part of Goal IV, Strategic Objectives (E) and (B) and other related components of the Strategic Plan, and the related contact information data project also supports efforts to communicate with active and retired members.
3. PENSION ADMINISTRATION SOFTWARE: MainePERS staff have begun fact-finding and information gathering discussion sessions in earnest with its pension administration software consultant. Discussions involving approximately four dozen MainePERS staff members from across the organization are being scheduled to occur in September and October. These discussions are intended to help establish the requirements and otherwise to inform the drafting of the request for proposals to be issued to obtain a software solution to renew or refresh MainePERS current pension administration system. This effort is part of Goal III, Strategic Objective (B) and other related components of the Strategic Plan.
4. DISABILITY APPLICANT SATISFACTION SURVEY: A satisfaction survey is planned for September and October seeking feedback and input from applicants to the Disability Retirement

program who have completed the process through to a final determination. The timing and methodology is the same as a survey conducted in 2022. The results of the 2023 survey will inform the efforts of the program itself and will inform follow-up communication about the program which the Legislature has requested from MainePERS to occur in the spring of 2024.

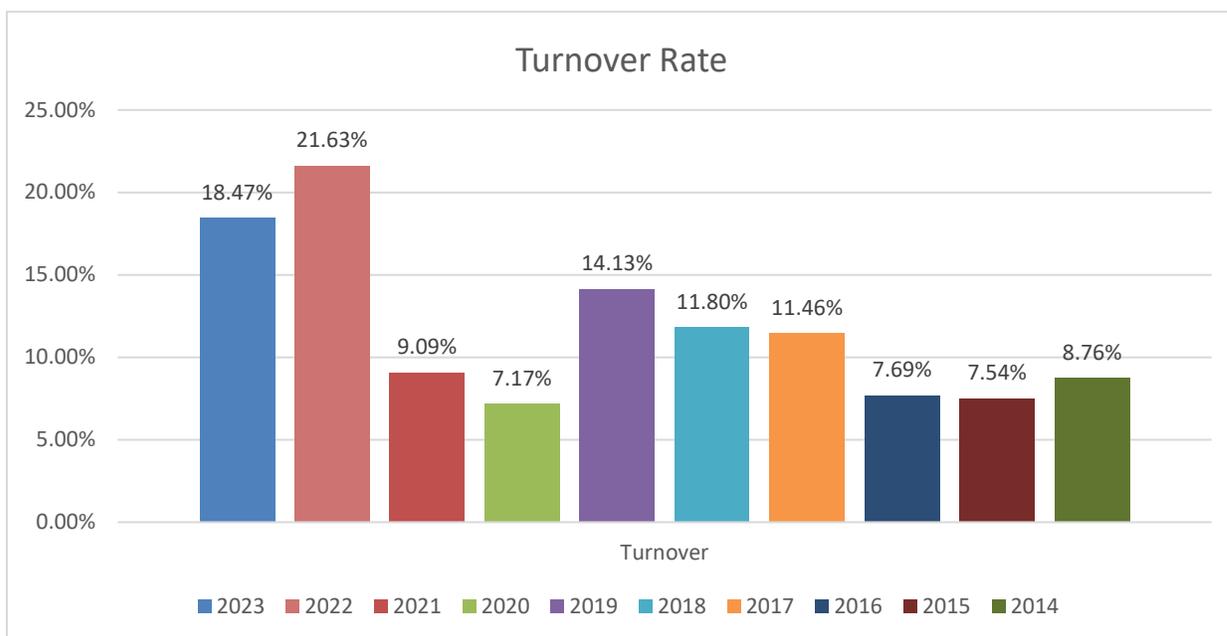
5. COLA: An organization-wide team is preparing to implement several cost-of-living adjustments in the coming months: a) a standard annual COLA for the state-sponsored plans with the September payroll; b) a standard annual COLA for the PLD plan in September; and, c) a special one-time COLA payment for state-sponsored plans for the period ending August 31, 2022 to be implemented by MainePERS in November 2023, as authorized by the recently adjourned session of the Legislature. Communication for members and retirees already is posted to the MainePERS website www.maineopers.org and other communication efforts are scheduled.
6. MEMBER EDUCATION: A new member education webinar – Intro to PLD Plan – is scheduled to launch September 26. This launch to serve for members in the Participating Local District plan will complete the effort to have these new introductory sessions available for members of all plans: State; Teacher; and, PLD. Online registration is available for all introductory sessions. These new sessions are tailored for new and mid-career members looking to understand their benefits and to plan for retirement. They complement MainePERS long-standing Ready to Retire sessions tailored for members who are typically within a year of retirement.

FINANCE

1. EMPLOYER REPORTING. Employers submitted defined benefit payrolls on time at a 93.8% rate in August. This compares to a rate of 96.2% for the same period last year. In addition to maintaining fully reconciled accounts to keep them current, the Employer Reporting unit reconciled an additional 21 employer accounts this past month, bringing the total number of fully-reconciled accounts to 492, an increase of 4.5% over last month's report. Progress on reconciling accounts continues at a slower pace as we move to more complex accounts.
2. EMPLOYER AUDITING. Ten audits were opened in August and eleven were completed. There were four contribution errors detected in the completed audits, including an instance of an employer not reporting two retiree return to work members. Ninety-four percent of all findings to date have been resolved satisfactorily, which is the same rate reported last month.
3. ACCOUNTING AND FINANCE. The annual year-end close and audit continues and the work is on schedule with no significant obstacles or delays anticipated. Work on the internal audit of investment processes and controls has been completed and a final report is pending.

OPERATIONS

1. HUMAN RESOURCES: We hired five new employees in August and had no terminations. However, recruiting remains a challenge as we received only 38 applications in August for 10 open positions. A chart of our turnover rates by calendar year follows.



The turnover rate is measured by dividing terminations by positions on a monthly basis and aggregating annually. The 2023 rate is based on experience year-to-date continuing through the end of the year. We reported for the July meeting that through June the turnover rate was down 30% compared to calendar year 2022 (13.19% vs. 21.63%). Five terminations in July reduced that decline to approximately 10% (18.47% vs. 21.63%).

2. INFORMATION TECHNOLOGY: With a new Benefit System Analyst starting this month, IT will once again be fully-staffed.
3. DOCUMENT CENTER: We successfully produced the August benefits checks and advices of deposit from the Brunswick Disaster Recovery site. Our Quality Control Technicians have updated contact information for 3,058 members and retirees over the past month. Most of these changes were precipitated by our mailing campaign discussed in the Member Portal item above.

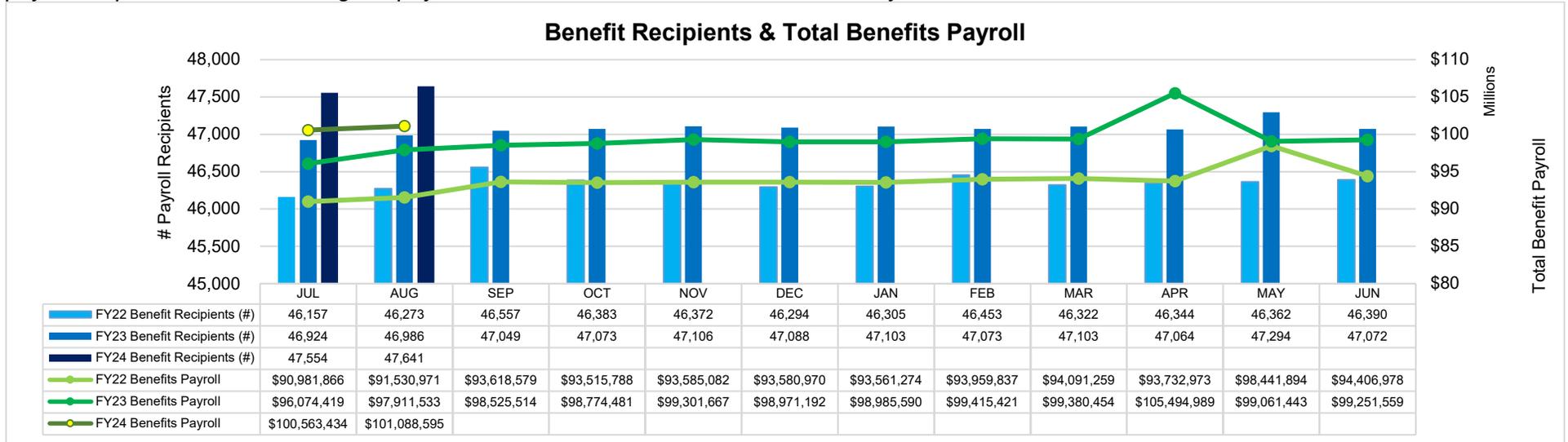
RECOMMENDATION

No Board action is recommended at this time.

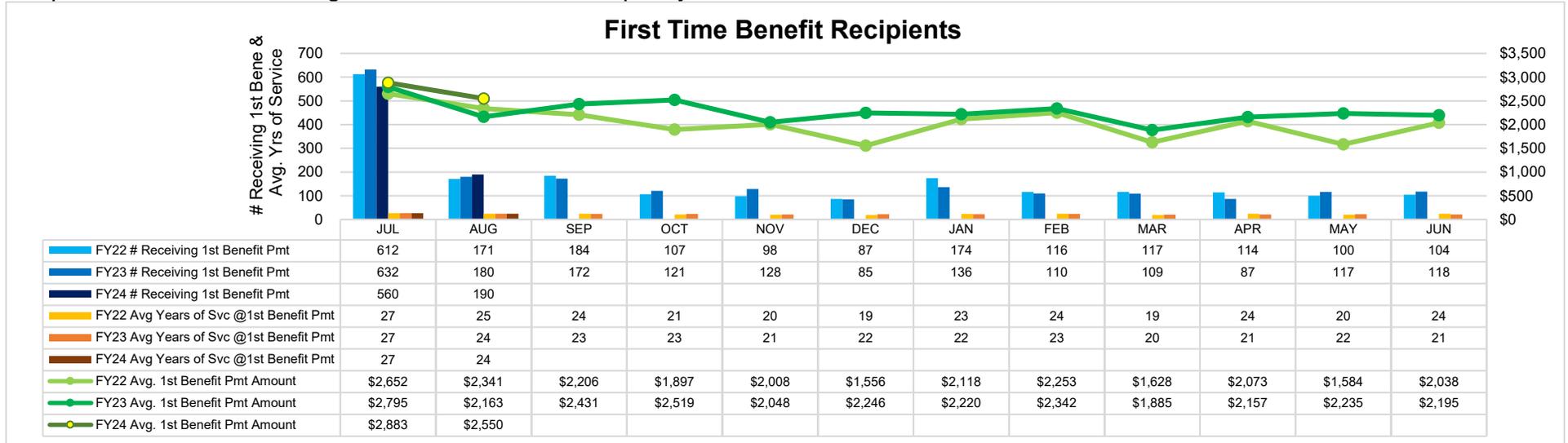
SEPTEMBER 2023 BOARD OF TRUSTEES OPERATIONS – MEMBER SERVICES SUPPLEMENTAL NUMBERS

RETIREMENT SERVICES

BENEFITS PAYROLL. Regular monthly pension benefit payments were made to 47,641 recipients in August, totaling \$101,088,595. *Note: Special payments paid outside of the regular payroll run are not reflected in the “Benefits Payroll” total.*



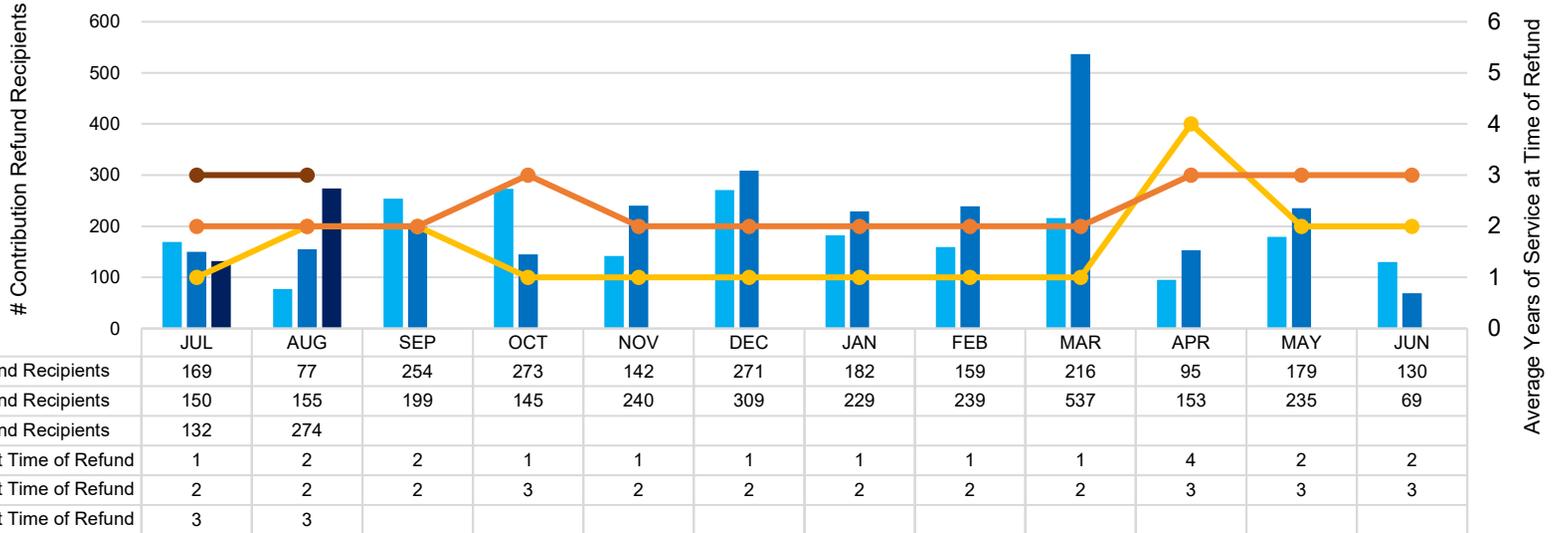
FIRST TIME BENEFIT RECIPIENTS. One-hundred-ninety (190) individuals received their first benefit payment in August. The average benefit amount was \$2,550. First time recipients averaged twenty-four (24) years of service. The count of new recipients, payment amount, and service are comparable to data seen during the same month in recent prior years.



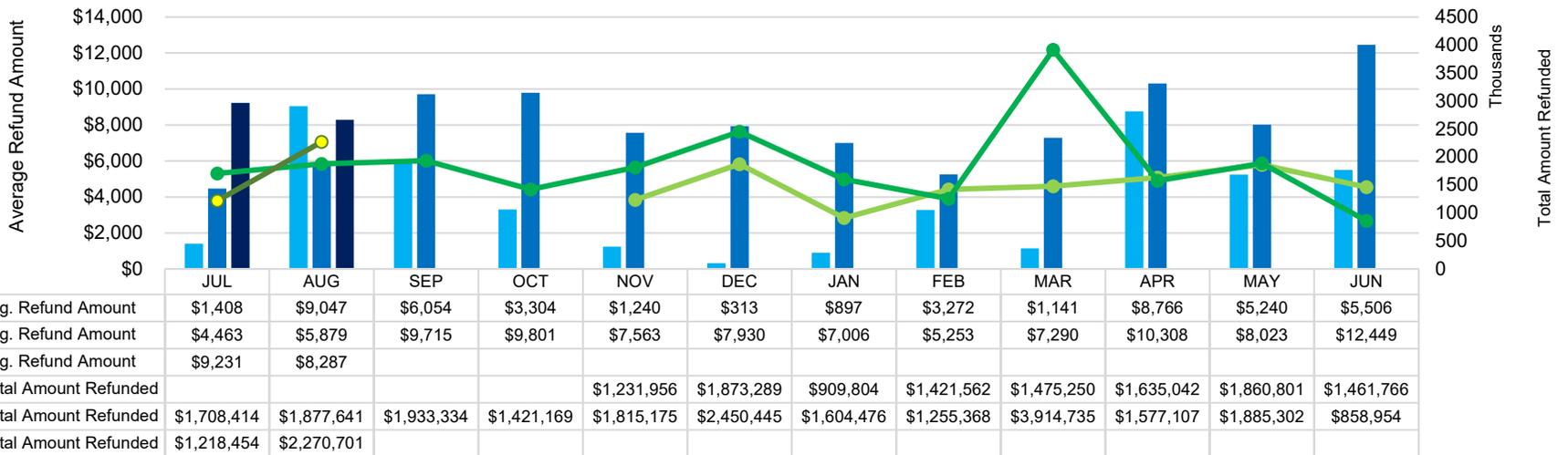
RETIREMENT SERVICES: Continued

CONTRIBUTION REFUNDS: Two-hundred seventy-four (274) former members received a refund of their contributions in August. The average refund was \$8,287 as the result of an average three (3) years of service. The aggregate amount refunded was \$2,270,701.

Contribution Refunds Issued: Total Number & Avg. Yrs of Service

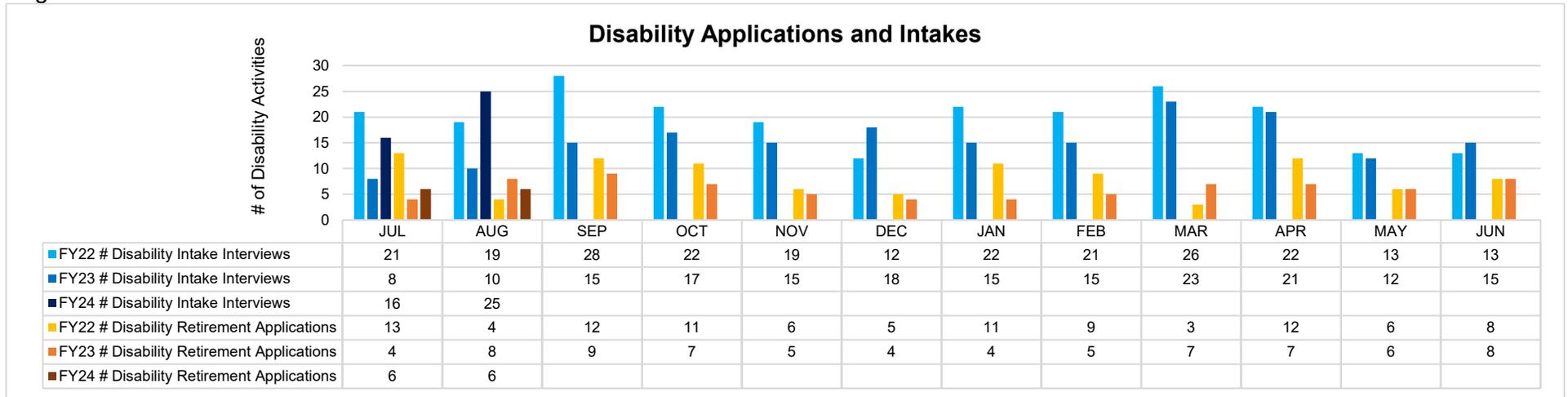


Contribution Refund Average Amount and Total Amount Refunded



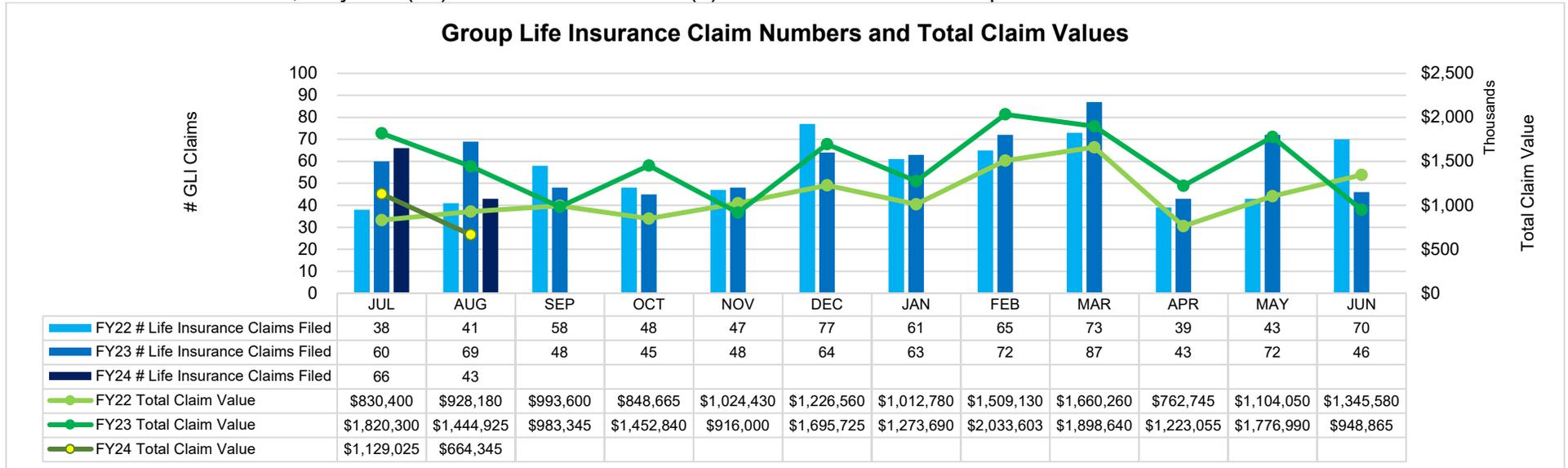
DISABILITY SERVICES

Twenty-five (25) intake interviews were completed in August with varying levels of detail and duration. Intakes included ten (10) State members, eight (8) Teacher members and six (6) PLD members and one (1) other member. Six (6) new disability retirement applications were received in August.



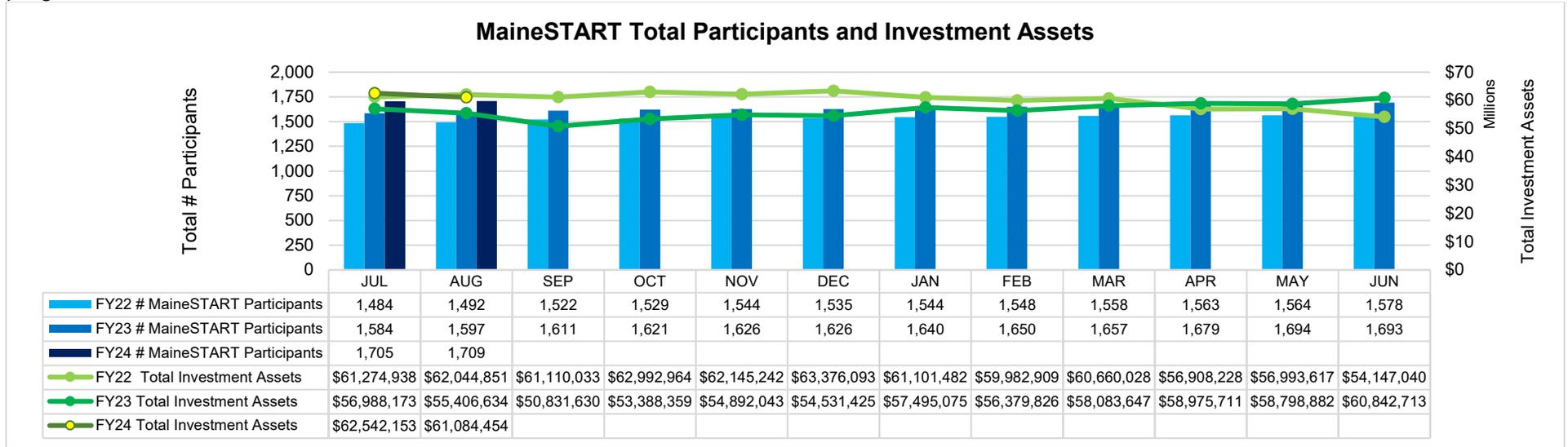
SURVIVOR SERVICES

Forty-three (43) life insurance claims were sent to our carrier (The Hartford) in August with a total value of \$664,345 in payments due to beneficiaries. Of the claims, forty-one (41) were retirees and two (2) were active member's dependent claims.



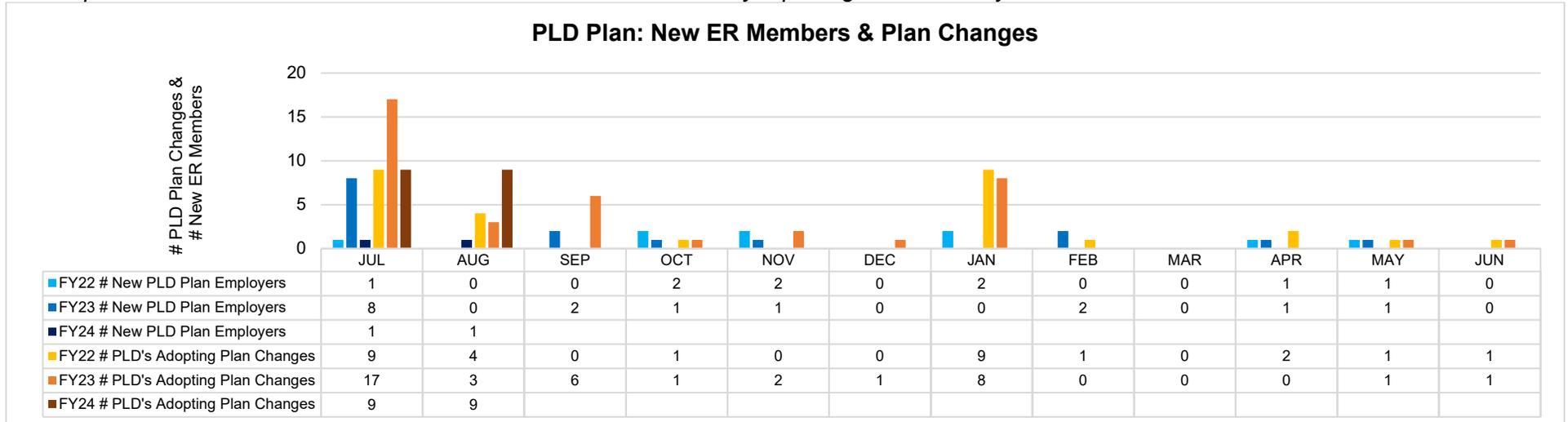
DEFINED CONTRIBUTION PLAN SERVICES

MaineSTART had one thousand seven hundred nine (1,709) participants at the end of August, with \$61,084,454 of investment assets in the program.



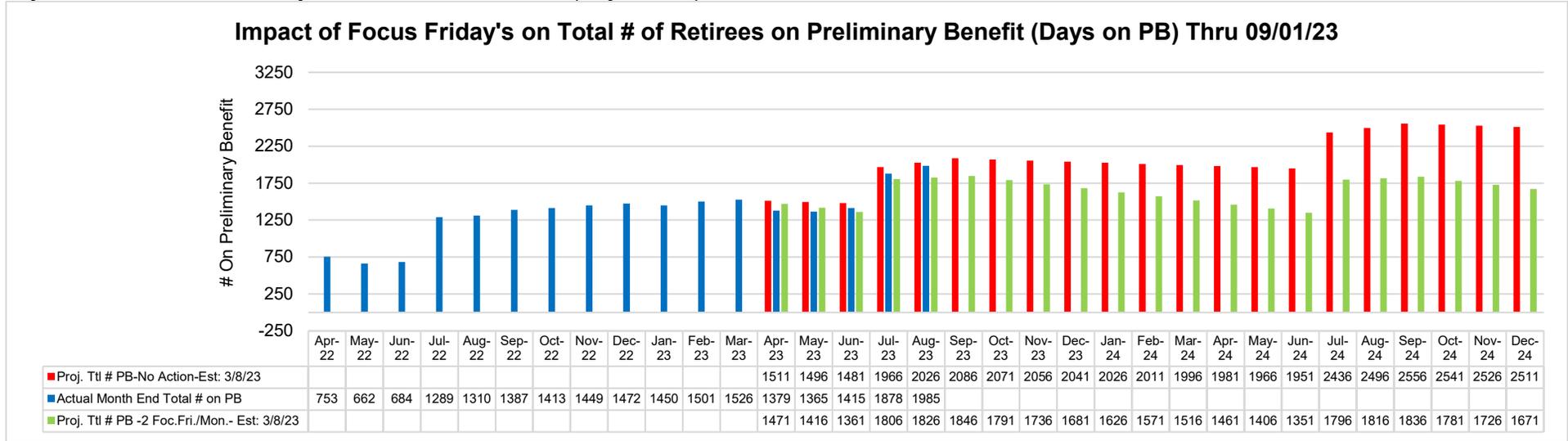
PLD PLAN ADMINISTRATION

One (1) new employer, Town of North Yarmouth, joined the PLD Retirement Program effective August 01, 2023. There were nine (9) employer plan changes effective in August 01, 2023. *Note: This metric reflects PLD employer changes (joining, returning, adopting plan changes) in the month of their implementation. This format is consistent with MainePERS activity reporting to our actuary.*

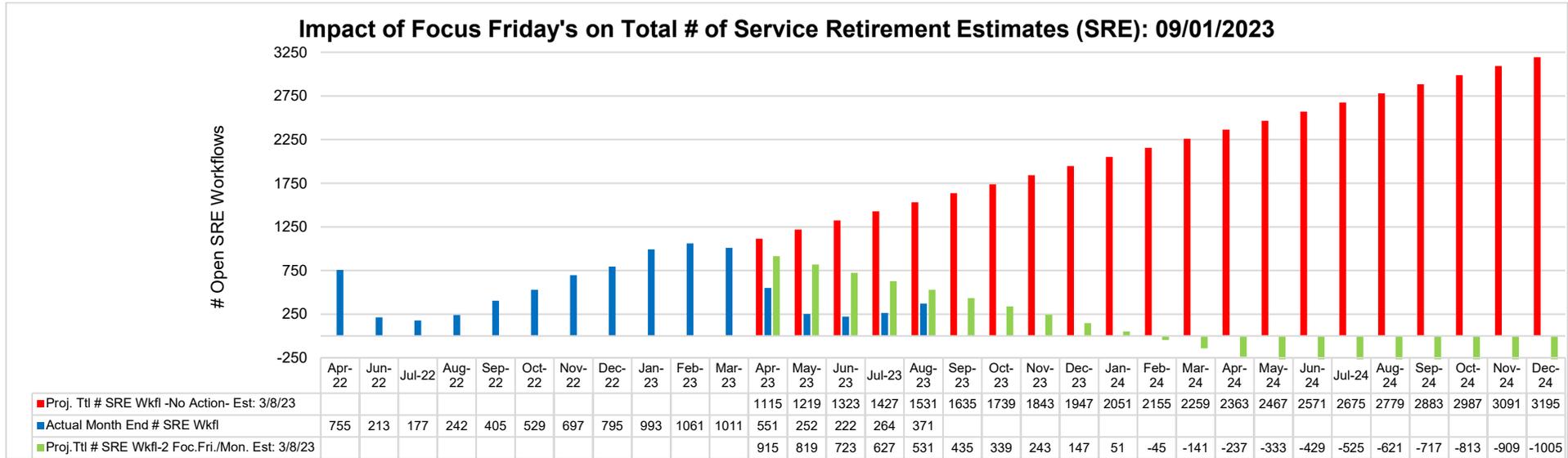


FOCUS FRIDAY IMPACT ON BACKLOG REDUCTION

Preliminary to Final Benefit (PB to Final) Backlog thru 09/01/23: The backlog projections and reporting below are based on a data point that counts days since an initial Preliminary Benefit disbursement date (Days on PB) occurred.



SERVICE RETIREMENT ESTIMATE BACKLOG THRU 09/01/23: The backlog projections and reporting below are based on data that count the total number of open Service Retirement Estimate workflows.



MAINEPERS

BOARD OF TRUSTEES MEMORANDUM

TO: BOARD MEMBERS

FROM: MICHAEL COLLERAN, CHIEF OPERATING OFFICER AND GENERAL COUNSEL

SUBJECT: CEO ANNUAL EVALUATION

DATE: SEPTEMBER 6, 2023

Board Policy 4.3 as amended in February provides for a comprehensive evaluation of the Chief Executive Officer this year. At the September meeting, the Board Chair will lead a discussion of the evaluation process including the establishment of a review committee pursuant to Policy 4.3.

POLICY REFERENCE

[Board Policy 1.2 – Trustee Fiduciary Responsibility](#)

[Board Policy 4.3 – Monitoring Chief Executive Officer Performance](#)

[Board Policy 4.5 – Board/Staff Relations](#)

[Board Policy 4.6 – Communication and Support to the Board](#)

RECOMMENDATION

To establish a review committee with the following members for the 2023 CEO annual evaluation: _____.