MainePERS
PUBLIC EMPLOYEES RETIREMENT SYSTEM

Board of Trustees

Public Meeting Packet

December 8, 2022

MainePERS Board of Trustees
December 8, 2022
139 Capitol Street, Augusta

AGENDA

9:00 a.m.[1]		CALL TO ORDER		Brian Noyes
9:00 – 9:05 a.m.	1.	CONSIDERATION OF CONSENT CALENDAR • Minutes of November 10, 2022	ACTION	Brian Noyes
9:05 – 9:10 a.m.	2.	CEO REPORT • 2023 Board Calendar • Disability Retirement Program Audit • Long-Term Disability Insurance Implementation Plan		Dr. Rebecca M. Wyke
9:10 – 9:15 a.m.	3.	ENVIRONMENTAL, SOCIAL AND GOVERNANCE • Review of Board Policy 2.6 – ESG • ESG Report		James Bennett Zackery McGuire
9:15 – 9:25 a.m.	4.	GENERAL CONSULTANT REVIEW		James Bennett Zackery McGuire
9:25 – 9:45 a.m.	5.	PRIVATE MARKETS REVIEW • Private Markets Activity • Real Estate Quarterly Review • Private Markets Quarterly Review		James Bennett Zackery McGuire Ed Schwartz, ORG Tom Lynch, Cliffwater
9:45 – 10:00 a.m.	6.	RISK DIVERSIFIERS • Risk Diversifiers Quarterly Review		Brian McDonnell, Cambridge Assocs.
10:00 – 10:15 a.m.	7.	INVESTMENT REVIEW • Investment Monthly Review • Investment Quarterly Review		James Bennett Zackery McGuire Brian McDonnell, Cambridge Assocs.
10:15 – 10:45 a.m.	8.	QUARTERLY INVESTMENT EDUCATION • Long-term Capital Markets Assumptions/Commitment Pacing		James Bennett Zackery McGuire Brian McDonnell, Cambridge Assocs.
10:45 – 11:00 a.m.		*BREAK*		

[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.

11:00 – 11:10 a.m.	9.	RULEMAKING • Rulemaking Update • Public Hearing – Proposed Amendment to Rule Chapter 803 – PLD Consolidated Retirement Plan		Michael Colleran Brian Noyes
11:10 – 11:55 a.m.	10.	DIVESTMENT • Executive Session pursuant to 1 M.R.S. § 405(6)(E) *Board moves out of executive session.*	ACTION	Brian Noyes Dr. Rebecca M. Wyke Michael Colleran James Bennett Betsy Stivers Andrew Black
11:55 – 12:05 p.m.	11.	MAINESTART QUARTERLY REPORT		Michael Colleran
12:05 – 12:15 p.m.	12.	FINANCE AND AUDIT COMMITTEE APPOINTMENTS	ACTION	Brian Noyes
12:15 – 12:25 p.m.	13.	OPERATIONS AND MEMBER SERVICES REPORT		Michael Colleran Chip Gavin
12:25 – 12:30 p.m.	14.	LITIGATION SUMMARY		Betsy Stivers
12:30 p.m.		ADJOURNMENT		Brian Noyes

MAINE PUBLIC EMPLOYEES RETIREMENT SYSTEM

Minutes

Board of Trustees	MainePERS
Board Meeting	Augusta
November 10, 2022	9:00 a.m.

The Board of Trustees met at MainePERS, 139 Capitol Street, Augusta, ME 04332 at 9:00 a.m. on November 10, 2022. Brian Noyes, Chair, presided. Other Trustees participating were; Dick Metivier, Vice Chair; Henry Beck, Treasurer; Shirrin Blaisdell; John Beliveau, Mark Brunton, John Kimball; and Ken Williams. Joining the Trustees were Dr. Rebecca M. Wyke, Chief Executive Officer; Michael Colleran, Chief Operating Officer and General Counsel; 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 James Bennett, Chief Investment Officer; Zackery McGuire, Deputy Chief Investment Officer; Stuart Cameron, Cambridge Associates; Tom Lynch and George Bumeder, Cliffwater; John Claisse, Heather Christopher, and Jennifer Yeung, Albourne; and Dulari Pancholi and Kristine Pelletier, NEPC.

Brian Noyes called the meeting to order at 9:00 a.m. Henry Beck and Dick Metivier participated through video remote access pursuant to 1 M.R.S. § 403-B, having been excused from in-person attendance by the Board Chair due to illness. All other Trustees were physically present.

CONSIDERATION OF THE CONSENT CALENDAR

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

- Minutes of October 13, 2022
- Dismissal, Angela Nelson Appeal

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

CEO REPORT

Dr. Rebecca Wyke advised the Board that NEPC would be joining the meeting to present their evaluation of the impact of divestment from fossil fuel and for-profit prison companies on the MainePERS portfolio. This is the next step in the process of evaluating how to implement the requirements of the divestment legislation.

Dr. Wyke shared a new Board software product, Govenda, has been selected to replace Fluix and Board Connect, which are currently used by the Trustees to access Board materials.

Dr. Wyke stated the PLD Advisory Committee had met earlier in the month and completed the 2024 rate setting process. The Committee also recommended an additional 1%

cumulative COLA effective September 1, 2022. This change will be the subject of rulemaking and if approved will be implemented in early 2023.

Dr. Wyke reviewed the results of the disability retirement services survey provided to members who had completed an application under the new law. Members overall were pleased with the process, treated with respect, and received responses to their questions in a timely manner.

Dr. Wyke highlighted Board education opportunities and expressed openness to other opportunities of interest to Trustees.

She described recent changes to the MainePERS website to increase transparency.

Dr. Wyke shared that MainePERS was awarded the Public Pension Coordinating Council's Recognition Award for Funding for the fifteenth consecutive year. This award is given to pension systems in recognition of meeting professional standards for plan funding.

BOARD ELECTIONS

- Action: Motion made by Ken Williams, seconded by Shirrin Blaisdell that the Board elect Brian Noyes as Chair and Dick Metivier as Vice Chair for the next year. Voted unanimously by eight Trustees (Beck, Beliveau, Blaisdell, Brunton, Kimball, Metivier, Noyes, and Williams).

CEO ANNUAL REVIEW

- Action. Motion by Ken Williams, seconded by John Kimball that the Board enter into executive session pursuant to 1 M.R.S. §405(6)(A) to discuss evaluation of an employee. Voted unanimously by eight Trustees (Beck, Beliveau, Blaisdell, Brunton, Kimball, Metivier, Noyes, and Williams).

The Board returned from executive session.

CONSULTANT SEARCH

Jim Bennett presented the staff's recommendation to engage Albourne and Cliffwater as alternative investment consultants. Albourne and Cliffwater provided presentations, and the firms, Jim, and Stuart Cameron answered questions from the Trustees.

- Action: Motion made by Ken Willams, seconded by John Beliveau that MainePERS engage Cliffwater and Albourne as alternative investment consultants as recommended by staff, subject to final due diligence and negotiations, and authorize the Chief Executive Officer, Chief Investment Officer, and General Counsel as signatories to execute documents as necessary. Voted unanimously by eight Trustees (Beck, Beliveau, Blaisdell, Brunton, Kimball, Metivier, Noyes, and Williams).

PRIVATE MARKETS ACTION

SLR Private Corporate Lending Fund II

- Action. Shirrin Blaisdell made the motion, seconded by John Beliveau that MainePERS make a commitment of up to $125 million to SLR Private Corporate Lending Fund II, subject to final due diligence, legal review and negotiations; and authorize the Chief Executive Officer, Chief Investment Officer, and General Counsel as signatories to execute documents in connection with this commitment. Voted unanimously by eight Trustees (Beck, Beliveau, Blaisdell, Brunton, Kimball, Metivier, Noyes, and Williams).

GTCR Fund XIV

- Action. Mark Brunton made the motion, seconded by John Kimball, that MainePERS make a commitment of up to $50 million to SLR Private Corporate Lending Fund II, subject to final due diligence, legal review and negotiations; and authorize the Chief Executive Officer, Chief Investment Officer, and General Counsel as signatories to execute documents in connection with this commitment. Voted unanimously by eight Trustees (Beck, Beliveau, Blaisdell, Brunton, Kimball, Metivier, Noyes, and Williams).

DIVESTMENT

Dulari Pancholi and Kristine Pelletier of NEPC provided a presentation to the Board summarizing the System's exposure to companies covered by the legislation and the estimated impact of divestment on the portfolio and answered questions from the Trustees.

Brian Noyes left the meeting at noon. Shirrin Blaisdell presided over the meeting.

INVESTMENT REVIEW

Jim Bennett stated all of the quarterly review items will be provided in December. He shared there are no investment manager meetings for the months of November and December. Jim stated an actuarial valuation is being completed on the retiree plans, and those results are expected to be available by the end of the year at which time changes may be recommended to the Retiree Health Insurance Trust IPS. Jim answered questions from the Trustees.

BOARD POLICY REVIEW

Michael Colleran stated that ten Board policies had been reviewed and presented the staff's recommended changes.

- Action. Mark Brunton made a motion, seconded by Ken Williams that the Board approve amended Board Policies 1.3, 3.1, and 4.4. Unanimously voted by seven Trustees (Beck, Beliveau, Blaisdell, Brunton, Kimball, Metivier, and Williams).

OPERATIONS AND MEMBER SERVICES REPORT

Chip Gavin shared that increase in DocuSign signature transmittals continues. Chip provided an updated copy of a member account statement and reviewed it with the Trustees.

Michael Colleran stated the Finance and Audit Committee accepted Wipfli's final Internal Control Risk Assessment Report. He shared that the disability retirement program audit will be completed in the near future.

Michael stated implementation of the new form W-4P is almost complete and will be implemented at the end of December. He shared that Human Resources continues recruiting for eight open positions.

Michael shared the Document Center eliminated a backlog of over 350 address changes in the month of October and will be taking over retiree payroll production from the IT Department.

He reviewed changes the organization is making to improve education and reporting on the early distribution tax on retirees who return to work with the same employer before age 59½ without having had a bona fide termination.

BOARD SOFTWARE DEMONSTRATION

Joy Childs, Director of Information Technology, presented the new software that will replace the Board's website and how we deliver Board packets. Joy answered questions from the Trustees.

Henry Beck and Dick Metivier left the meeting at 12:15 and 12:26 p.m., respectively.

LITIGATION UPDATE

Betsy Stivers reported receipt of the court order in the two pending Hawes FOA matters. The first FOA action has been denied and as has all but one of the claims in the second FOA action. The court will review the redacted MMRO contract in camera to resolve the final claim. A motion to amend both complaints was made, but it is unclear at this point what will transpire with that. Betsy shared that discovery is proceeding in the personnel matter.

Betsy explained the fiduciary responsibility legal framework document that is in the Board meeting materials.

ADJOURNMENT

➢ Action. Mark Brunton made a motion, seconded by Ken Williams, to adjourn the November Board of Trustees meeting. Voted unanimously by five Trustees (Beliveau, Blaisdell, Brunton, Kimball, and Williams).

The meeting adjourned at approximately 12:30 p.m.

12/08/22	
Date Approved by the Board	Dr. Rebecca M. Wyke, Chief Executive Officer
	Date Signed

MainePERS
PUBLIC EMPLOYEES RETIREMENT SYSTEM

MEMORANDUM

Date: December 1, 2022

To: Board of Trustees

From: Dr. Rebecca M. Wyke, CEO

Re: CEO Report

Divestment update

Last month NEPC presented their evaluation on the impact of divestment from fossil fuel and for-profit prison companies on the MainePERS portfolio and their full report is included in the materials for this Board meeting. This culminated a year of effort by staff to develop an approach to the divestment legislation, formulate a request for proposal and evaluate responses, and then support the selected consultant in the development of the report. The report should be considered a first step in the process of evaluating the implementation of the divestment legislation. At the Board's December meeting Trustees will meet with representatives of the Maine Office of the Attorney General in executive session. A brief update will also be provided during the public portion of the meeting and we expect to provide further information to the Board at the January meeting. A report on the progress of divestment is due to the Legislature in January, pursuant to Public Law 2021, c. 231.

Line of Business System

We have chartered an internal team to begin the work on the replacement or upgrade of the current line of business system. The team has been asked to gain an understanding of the marketplace of available options, determine our business needs, propose a timeline and budget, and conduct the procurement process. Our goal is to be operational with a new or upgraded system within the next five years.

Electronic Board Book

In November the Board received a demonstration of the new electronic Board Book selected to replace Fluix and Board Connect to access Board meeting materials. The product, called Govenda, is anticipated to be implemented for the February Board meeting. Trustees will be provided with material for that meeting in both the current and new formats and training will be delivered at the start of the meeting.

Board Webpage

The Board of Trustees public webpage has been updated to improve ease of navigation. Posted materials include the public version of the Board materials, as well as the annotated agenda. Additionally, Board materials for prior months will continue to be available consistent with the practices begun this past year.

Annual Board Calendar

The annual board calendar for 2023 is included in the materials for this Board meeting.

Disability Retirement Program Audit

CliffLarsonAllen LLP (CLA) has completed the Disability Program Compliance Assessment, an internal audit consulting engagement to test certain disability retirement benefit calculations and to assess compliance with the implementation of Public Law 2021, c. 277, An Act to Improve the Disability Retirement Program of the Maine Public Employees Retirement System, which became effective October 2022. A copy of CLA's report and management's response is included in the materials for this Board meeting, as this information will be included in the Disability Experience Report to be filed with the Legislature in January. The Finance and Audit Committee of the Board will review the report at its February meeting.

Long-Term Disability Insurance Implementation Plan

Public Law 2021, c. 277, also required MainePERS to convene a working group, including representatives of participant employer and employee groups, to develop an implementation plan for providing mandatory long-term disability insurance coverage to retirement system members through their employers. The group met regularly from mid-September through mid-November to produce the report which includes the implementation plan. Working group members differed in their support for some of the program design specifications in the implementation plan and their respective issues are noted in the report. A copy of the report is included in the materials for this Board meeting.

MAINEPERS

BOARD OF TRUSTEES MEMORANDUM

TO: BOARD MEMBERS

FROM: MONICA GORMAN, BOARD SECRETARY

SUBJECT: 2023 MEETING DATES

DATE: DECEMBER 8, 2022

Included with this memorandum is the 2023 calendar of Board, Board Officer, Finance and Audit Committee, and Investment Manager meetings.

Thank you.

MainePERS

Board of Trustees Calendar

2023

January

- January 10 – Board Officer Meeting
- January 12 – Board Meeting
- January 24 – Investment Managers Meeting (if needed)

February

- February 7 – Board Officer Meeting
- February 9 – Finance and Audit Committee Meeting
- February 9 – Board Meeting
- February 28 – Investment Managers Meeting (if needed)

March

- March 7 – Board Officer Meeting
- March 9 – Board Meeting
- March 28 – Investment Managers Meeting (if needed)

April

- April 11 – Board Officer Meeting
- April 13 – Finance and Audit Committee Meeting
- April 13 – Board Meeting
- April 25 – Investment Managers Meeting (if needed)

May

- May 9 – Board Officer Meeting
- May 11 – Finance and Audit Committee Meeting
- May 11 – Board Meeting
- May 23 – Investment Managers Meeting (if needed)

June

- June 6 – Board Officer Meeting
- June 8 – Board Meeting
- June 27 – Investment Managers Meeting (if needed)

July

- July 11 – Board Officer Meeting
- July 13 – Board Meeting
- July 25 – Investment Managers Meeting (if needed)

August

- August 8 – Board Officer Meeting
- August 10 – Finance and Audit Committee Meeting
- August 10 – Board Meeting
- August 22 – Investment Managers Meeting (if needed)

September

- September 12 – Board Officer Meeting
- September 14 – Board Meeting
- September 26 – Investment Managers Meeting (if needed)

October

- October 10 – Board Officer Meeting
- October 12 – Board Meeting
- October 24 – Investment Managers Meeting (if needed)

November

- November 7 – Board Officer Meeting
- November 9 – Finance and Audit Committee Meeting
- November 9 – Board Meeting
- November 28 – Investment Managers Meeting (if needed)

December

- December 12 – Board Officer Meeting
- December 14 – Board Meeting
- December 19 – Investment Managers Meeting (if needed)

NOTE: The annual board calendar is for Board and staff planning purposes. Notice of public meetings is provided in accordance with the Freedom of Access Act.

MAINEPERS

BOARD OF TRUSTEES MEMORANDUM

TO: BOARD MEMBERS

FROM: DR. REBECCA M. WYKE, CEO

SUBJECT: **DISABILITY RETIREMENT PROGRAM AUDIT**

DATE: DECEMBER 5, 2022

POLICY REFERENCE

5.2 Service to Members, Retirees, Employers and Stakeholders

DISABILITY RETIREMENT PROGRAM AUDIT

MainePERS contracted with CliffLarsonAllen LLC (CLA) to conduct an internal audit consulting engagement on the disability program to assess compliance with the implementation of Public Law 2021, c. 277, An Act to Improve the Disability Retirement Program of the Maine Public Employees Retirement System, which became effective October 2022. A copy of CLA's report is attached. This information will be included in the disability retirement experience report due to the Legislature in January 2023. The Finance and Audit Committee of the Board will review the report at its February 2023 meeting.

Two observations are noted in the report. Observation 1 relates to known functional limitations with the line of business software. An internal team has been chartered to begin the work on the replacement or upgrade of this system with a goal of having a new or upgraded system operational within the next five years. Observation 2 relates to an annual review of Disability Services Policy 2.1 – Medical Diagnosis. This policy is in need of updating, is currently under review, and is expected to be revised in January 2023.

Maine Public Employees Retirement System (MainePERS)

Disability Program Compliance Assessment

November 11, 2022

CPAs | CONSULTANTS | WEALTH ADVISORS

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Maine Public Employees Retirement System
Augusta, ME

To: Executive Management

We have concluded our internal audit consulting engagement to perform the procedures for the disability program compliance assessment as described in the attached document. These procedures, which were agreed to by Maine Public Employees Retirement System (MainePERS), were applied solely to assist in evaluating the disability program and related requirements at MainePERS. The management of MainePERS is responsible for the operations and the internal controls related to disability program(s). This engagement was conducted in accordance with Statements on Standards for Consulting Services issued by the American Institute of Certified Public Accountants. The sufficiency of the procedures, including the scope of and timing of the procedures, is solely the responsibility of the Board of Trustees and management of MainePERS. Consequently, we make no representations regarding the sufficiency of the procedures described in the attached document either for the purpose for which this report has been requested or for any other purpose.

We have included findings and recommendations resulting from the consulting engagement for consideration of MainePERS. Our procedures covered the period from October 18, 2021 through July 31, 2022.

Our engagement to perform these procedures was conducted as a consulting services engagement. We were not engaged to, and did not perform an audit, the objective of which would be the expression of an opinion on the operations or internal controls of MainePERS. Accordingly, we do not express such an opinion. Had we performed additional procedures; other matters might have come to our attention that would have been reported to you.

This report is intended solely for the use of the Board of Trustees, Audit Committee, Legislative Oversight, and management of MainePERS and should not be used by others; however, a copy may be provided to regulatory authorities.

CliftonLarsonAllen LLP

CliftonLarsonAllen LLP

Plymouth Meeting, Pennsylvania
November 11, 2022

Scope:

In coordination with MainePERS, there were key items identified related to S.P. 529 – L.D. 1644, An Act to Improve the Disability Retirement Program of the Maine Public Employees Retirement System, as enacted on June 17, 2021 (the "Act"). Specifically the following scope items were noted for assessment and conformance with the Act, including:

- Changes to policy and procedures due to the repeal of specific requirement for a medical review board, and the new provision and role for permission of the executive director to contract with a medical review service provider;
- System's hearing officers must be independent contractors who serve as neutral independent decision makers;
- Policies and procedures must accurately reflect the change in definition of "disabled";
- Application process changes and updates noting that the executive director may grant benefits based on medical records and the member's health care provider's views, may obtain opinions and recommendations from the medical review service provider (as indicated above), and may not deny an application for disability retirement benefits without first obtaining an independent medical examination unless waived by the member;
- Process and policy changes related to the requirement that the board, executive director and hearing officers must primarily consider medical opinions in the record and whether the opinions are supported by sound medical evidence and are consistent with other medical evidence in the record;
- Process and rules are updated to indicate that attorney's fees up to a maximum of $12,000 must be paid by the MainePERS for a member who appeals the denial of disability benefits and is subsequently awarded those benefits;
- Reporting updates as required of MainePERS to report to the Legislature over retirement matters on the experience of the system and its members, as impacted under the changes made by the bill; and
- Implementation of a stakeholder group to report to the Legislature (and reporting) over issuance of mandatory long-term disability insurance coverage.

Purpose and Objectives:

We reviewed the changes required in the statute and determined if MainePERS has implemented those provisions, and if not, identified and reported what was outstanding. In addition, the assessment provided executive management insight of process documentation for the program and highlighted any gaps in conformance of the requirements and scope as listed above. Lastly, the assessment reviewed two additional components of the program related to benefit calculation(s) – offsets and earnings limitations – to determine if MainePERS was applying those aspects consistently within the statute and board rule, and in a timely and controlled fashion on behalf of members.

Definition of Risk Classification Assigned to Findings and Recommendations:

CLA, with the aid of personnel from the MainePERS, obtained and reviewed documentation surrounding the Agency's management and operations around the Disability Retirement Program, including appeals of disability retirement decisions. This document serves as a draft copy of observations and recommendations CLA noted over the course of the engagement, for management's discussion and review before finalization. Below are risk definitions assigned to each of CLA's observations, which begin on the following page.

Based on the review of the content of each observation, one of the following definitions of risk is assigned to facilitate comparison between observations.

Risk	Definition
High	High priority issue, which requires immediate management attention. This is a serious internal control or risk management issue that if not mitigated, may, with a high degree of certainty, lead to: • Substantial losses, possibly in conjunction with other weaknesses in the control framework, systems/applications, or the organizational entity or process being audited. • Serious violation of corporate strategies, policies, or values. • Serious reputation damage, such as negative publicity. And/or • Significant adverse regulatory impact, such as loss of operating license or material fines.
Moderate	Timely management attention is warranted. This is an internal control or risk management issue that could lead to: • Financial losses. • Loss of effective or efficient control within the organizational entity, systems/applications, or process being audited. • Reputation damage. And/or • Adverse regulatory impact, such as report comments or material fines.
Low	Low priority issue that requires routine management attention. This is an internal control or risk management issue, the solution to which may lead to improvement in the quality and/or efficiency of the organizational entity, systems/applications, or process being audited. Risks of loss or inefficiency are immaterial/inconsequential or significantly limited.

Observation #	Description of Observation (Potential Deficiency)	Risk	Description of Recommendation
1	The MainePERS line of business software used for calculating benefit payments has functional limitations when processing complex calculations to determine the appropriate benefit payment amount and when archiving calculation history for previous benefit payments. For one (1) of the five (5) samples selected for benefit calculation testing, there was an immaterial discrepancy between the calculated benefit amount within the system and the finalized benefit amount. Upon follow up, it was determined that external spreadsheets are utilized to compute the benefit, which was then entered into the system manually. For one (1) of the nine (9) samples selected for offset calculation testing, there was past calculation data that was overwritten within the system to reflect the current status of the member. To obtain the past data, an external spreadsheet was utilized to show the past computation of the benefit.	High	We recommend assessing the line of business software functional limitations and performing a cost-benefit analysis on the impact that these limitations have on operations. From that analysis, a decision can be made to either work with the hosting party / vendor of the software to determine enhancements to address functional limitation or to explore other software options and solutions. Management Response: Management agrees that the use of spreadsheets to do calculations outside of the line of business system creates risk. MainePERS is assessing whether calculations currently performed manually can be added to the line of business application efficiently or if another solution can be put in place. The question related to archiving calculation history will be investigated with the vendor. This work is ongoing.
2	As a part of the MainePERS Disability Services Practice policies and procedures, it was noted that one of the policies had not been updated/approved since the 130th Maine Legislature update: • 2.1 – Medical Diagnosis (Last updated/approved on February of 2021) Upon follow up and review of the policy and practice review logs, it was noted that Policy 2.1 had also not been reviewed since it was last updated in February of 2021.	Low	We recommend that all policies and procedural documents be subject to the annual review process. Management Response: Management has a system in place to track the review of policies and procedural documentation with each document being subject to review annually. Policy 2.1 – Medical Diagnosis is currently under review to be updated.

MAINEPERS

BOARD OF TRUSTEES MEMORANDUM

TO: BOARD MEMBERS

FROM: DR. REBECCA M. WYKE, CEO

SUBJECT: **LONG-TERM DISABILITY INSURANCE IMPLEMENTATION PLAN**

DATE: DECEMBER 1, 2022

POLICY REFERENCE

Board Policy 3.2 - Legislation

Board Policy 5.2 - Service to Members, Retirees, Employers and Stakeholders

LONG-TERM DISABILITY INSURANCE IMPLEMENTATION PLAN

Public Law 2021, c. 277, required MainePERS to convene a working group, including representatives of participant employer and employee groups, to develop an implementation plan for providing mandatory long-term disability insurance coverage to retirement system members through their employers. Members of the working group differed in their support for some of the program design specifications in the implementation plan and their respective issues are noted in the report. A copy of the report is attached.

Long-Term Disability Insurance IMPLEMENTATION PLAN

Public Law 2021, c. 277, Sec. 43

November 2022

Prepared by the Maine Public Employees Retirement System

Table of Contents

Introduction

The Maine Public Employees Retirement System (MainePERS) is an incorporated public instrumentality of the state governed by a Board of Trustees pursuant to Maine law. Since 1942, MainePERS has joined with public employers to help their employees prepare for retirement. The System's active contributing members include teachers, state, county, and municipal employees, legislators, judges, and others. Upon retirement, our members receive monthly benefits from their respective defined benefit plans. The System also administers disability retirement, group life insurance, survivor services, and a tax-deferred retirement savings program known as MaineSTART. Management of these programs includes financial and investment administration, recordkeeping of members' work and compensation data, and administration of retirement and related services.

MainePERS' Disability Retirement benefit covers permanent disabilities, that result in a member being unable to perform the essential functions of the member's employment position with reasonable accommodation. Disability Retirement benefits replace either 59%, 60% or 66.67% of income, depending on the plan under which an employee has coverage. A long-term disability insurance (LTDI) program would assist in addressing income protection gaps for members who do not, or do not yet, qualify for Disability Retirement benefits, and offer members more robust protection from the financial losses associated with long-term disability. The program is designed to be fully insured through a carrier that would partner with MainePERS in implementing the new program.

MainePERS has approximately 43,500 active members currently employed by a participating employer that will not reach service retirement age by July 1, 2023. The LTDI claims incidence rate associated with the program design and specifications proposed in this report is estimated to be 2 to 3 per 1,000 covered employees, after removing the claims incidence rate associated with MainePERS' Disability Retirement experience (approximately 1 per 1,000). This translates into an estimated 90 to 130 LTDI claims per year. LTDI claim durations vary significantly depending on the cause of disability. Less severe claims (such as injuries or musculoskeletal conditions that can be treated) often terminate within the first 24 months because recovery rates are relatively high during this initial period and many LTDI claims fall within this category. Claims that last beyond 24 months are often due to severe conditions (such as multiple sclerosis or respiratory conditions) with lower recovery rates and can persist a long time. On average, LTDI claims typically last for 4 to 5 years, but with a wide variation in duration on specific claims.[1]

There are approximately 600 employers that participate in MainePERS. A table of the MainePERS member distribution by employment category appears below[2]. The largest employer is the State of Maine, comprising approximately 10,500 employees that will not reach service retirement age by July 1, 2023 and who do not currently have employer sponsored LTDI benefits. Other participating employers may offer LTDI, but many do not.

Employment Category	Assumed Eligible Employees
State Public Safety	903
State All Others	9543
Education	23,948
PLD Public Safety	393
PLD All Others	8,670
Total	**43,457**

Both AFSCME and MSEA-SEIU offer their members access to an employee paid short-term disability insurance (STDI) benefit. The Maine Municipal Health Trust offers employees of member employers access to an employee paid self-insured Income Protection Plan (STDI) and a fully-insured LTDI Plan. The Maine School Management Association Group Insurance Trust offers their member employers access to a long-term disability insurance program that can be either employer or employee paid and currently enrolls 61 participating member districts and 2,128 participants.

In September 2019, MainePERS issued a Request for Proposal (RFP) to select an insurance carrier for an LTDI plan and three finalists were selected from among the bidders. The intent at the time was to afford MainePERS participating employers the opportunity to offer LTDI insurance to members. However, the carrier selection process was interrupted by the COVID-19 pandemic. In 2021, the 130th Legislature, through Public Law, c. 277, Sec. 43, revived this process and called for MainePERS "to develop an implementation plan for providing mandatory long-term disability insurance coverage to retirement system members through their employers". MainePERS contracted with Milliman to work with the three finalists from the 2019 RFP process to refresh their quotes.

Program Objectives

The goal of the new LTDI program is to provide participating employers with readily available and affordable group disability insurance coverage options for their employees who are MainePERS members. To that end, the proposed program includes plan options which employers will be able to evaluate, allowing them to select the most appealing option in terms of coverage and cost. The primary objectives of the LTDI program are as follow:

1. Bridging the income replacement gap for employees who are unable to work due to a long-term disability, but who do not, or do not yet, qualify for disability retirement.

2. Providing insurance coverage for disabilities that are not permanent and/or result in a partial reduction in work hours and wages.
3. Coordinating disability insurance coverage with existing employee benefit programs to avoid complexity, over-insurance, and excessive cost.
4. Providing options that are affordable to the employers, to maximize the number of employees who have access to coverage.
5. Including benefit buy-up options to increase benefits, which can be paid for by employers or employees.
6. Encouraging return to work and rehabilitation for LTDI recipients.
7. Providing a positive and helpful experience to employees and employers throughout the LTDI claim process.
8. Developing clear and effective communications about the LTDI program that use existing approaches and terminology where possible.
9. Partnering with an insurance carrier who can perform the whole LTDI process, and coordinate with MainePERS at the point when a disability may become permanent.
10. Keeping the existing MainePERS Disability Retirement benefit in place.

Disability Working Group

The 130th Legislature passed Public Law 2021, c. 277, An Act to Improve the Disability Retirement Program of the Maine Public Employees Retirement System. Section 43 of the legislation calls for the development of an implementation plan for providing mandatory long-term disability insurance coverage to retirement system members through their employers. Section 44 of the legislation calls for a report on the experience of the system and its members after the implementation of changes to the Disability Retirement Program included in the Act. The full text of these two Sections appears below. The report required under Section 44 of the legislation is separate from this report.

MainePERS convened a stakeholder group, including representatives of participant employers and employee groups, to develop an implementation plan for mandatory long-term disability insurance coverage and to provide feedback on the experience of members under the new disability retirement program. All known stakeholder groups representing participant employers and employees were invited to participate. The stakeholder group, known as the Disability Working Group, was given the following charge:

> The Disability Working Group is charged with advising MainePERS on the development of an LTDI implementation plan, accompanying legislation and report to the joint standing committee of jurisdiction by January 3, 2023. The Working Group is also charged with providing feedback to MainePERS on the experience of members under the new disability retirement program for MainePERS' report to the joint standing committee of jurisdiction due by January 31, 2023.

The working group met in the fall of 2022 and held eight meetings. All agendas and meeting materials can be found on the MainePERS website at https://www.mainepers.org/disability-working-group/ . Through these meetings, members of the working group provided perspective and review of the implementation plan for mandatory long-term disability insurance coverage, accompanying legislation and this report. Their participation was valuable in assessing the plan design and impact on members and employers. A list of the questions and issues raised during the development of the plan appears along with responses in Appendix C in this report.

The stakeholder groups represented by individual members of the working group have not taken positions on the implementation plan design or legislation included in this report and reserve the right to discuss this further before taking a final position. The working group members encourage additional legislative discussions.

Membership

Rick Cailler, Professional Fire Fighters of Maine
Kate Dufour, Maine Municipal Association
Paul Gaspar, Maine Association of Police
Sylvia Hebert, AFSCME Council 93
William Laubenstein, Maine Association of Retirees
Jeff McCabe, Maine Service Employees Association
Heather Perreault, Maine Department of Administrative and Financial Services
Craig Poulin, Maine State Troopers Association
Deb Roberts, Maine School Management Association
Mark Roberts, Maine State Law Enforcement Association
Mary Anne Turowski, Governor's Office
Nate Williams, Maine Education Association
Rebecca Wyke, MainePERS (chair)

MainePERS Staff
Michael Colleran
Chip Gavin
Kathy Morin
Mara McGowen

Public Law 2021, c. 277

Sec. 43. Implementation plan for mandatory long-term disability insurance. The Maine Public Employees Retirement System shall convene a stakeholder group, including representatives of participant employers and employee groups, to develop an implementation plan for providing mandatory long-term disability insurance coverage to retirement system members through their employers. The Maine Public Employees Retirement System shall submit an implementation plan, including any recommended legislation, to the joint standing committee of the Legislature having jurisdiction over retirement matters no later than January 3, 2023. The joint standing committee of the Legislature having jurisdiction over retirement matters may report out a bill to the 131st Legislature on matters related to the report.

Sec. 44. Report on disability retirement. The Maine Public Employees Retirement System shall report to the joint standing committee of the Legislature having jurisdiction over retirement matters, no later than January 31, 2023, on the experience of the system and its members after the implementation of this Act. The joint standing committee of the Legislature having jurisdiction over retirement matters may report out a bill to the 131st Legislature on matters related to the report.

Program Design

The MainePERS LTDI program will be coordinated with the existing Disability Retirement program benefit. The insurance carrier will serve as the single point of contact for initiation of all LTDI benefits. The carrier will be responsible for all decisions on the LTDI benefits and keep MainePERS informed on the status of such decisions. The carrier will be the claim fiduciary on the fully insured LTDI benefit.

Information collected by the carrier in the context of its LTDI administration will be available to and shared with MainePERS should an application for Disability Retirement be pursued subsequent to a member’s interactions with or coverage by the carrier. MainePERS will retain claim fiduciary responsibilities on the Disability Retirement benefit.

In instances when the carrier believes a claimant's condition may be appropriate for consideration under the MainePERS Disability Retirement program, the carrier will collaborate with MainePERS to evaluate the claimant’s condition.

From an income replacement perspective, the maximum LTDI benefit percent exactly matches the Disability Retirement benefit percent, so if an employee qualifies for the Disability Retirement benefit, the LTDI benefit would be offset by the disability retirement benefit (subject to the $100 minimum monthly benefit). Also, the maximum LTDI benefit period reflects an employee’s normal retirement age, meaning that LTDI benefits will terminate once the payee qualifies for a Service Retirement benefit without an early retirement reduction.

Program Design Specifications

The RFP outlined initial program design specifications, which were modified through discussion with the Disability Working Group. The proposed program design specifications appear below, however, working group members differ in their support for some of these specifications. The respective employee and employer group statements appear following this section of the report.

A. Participating MainePERS employers must offer the program to all employees who are MainePERS members[3]
    a. Employer may offer the MainePERS LTDI Program, or
    b. Employer may offer an LTDI program through another provider
B. Benefit percent is 59%, 60%, or 66.67% of compensation, depending on the disability retirement benefit in the employee's plan[4]
C. Variable core maximum monthly benefit, from $0 to $8000 in thousand dollar increments
D. Core maximum monthly benefit determined and paid for by employer, may be bargained
E. Employees may opt-out of the program if core maximum monthly benefit is $0
F. Employees may elect the core maximum monthly benefit elected by the employer or buy-up for a maximum monthly benefit of $8,000.
G. Employee premiums to be paid through payroll deduction, post-tax so that the portion of the benefit contributed by the employee is not taxable
H. Eligibility
    a. Unable to perform material and substantial duties of employee's own occupation in first two years
    b. Unable to perform material and substantial duties of any gainful occupation after two years
I. No waiting period for employees actively at work
J. Employee must apply for Social Security disability if covered by Social Security
K. Elimination period is the later of 180 days of disability or the date the member exhausts short term disability days
L. An employee may apply before elimination period ends
M. Employee receives service credit while on LTDI for the MainePERS LTDI Program
N. Benefit payments continue if employee's employment is terminated
O. Work Incentive Benefit
    a. Benefit is not reduced for return-to-work (RTW) earnings for the first 12 months unless the sum of RTW earnings and the benefit exceeds 100% of pre-disability earnings
    b. After 12 months, the benefit will be offset according to a proportionate loss formula in which the deduction to the benefit is proportionate to the employee's RTW earnings ratio
P. Benefit Offsets
    a. MainePERS disability or service retirement, Social Security awards, workers' compensation, sick pay, and other benefits paid by employer*

Q. Disabilities due to mental illness and/or drug and alcohol abuse are limited to a lifetime maximum of 24 monthly benefit payments
R. Survivor benefit equal to three times the gross monthly benefit amount payable if employee received at least 12 monthly benefit payments prior to the date of death
S. Benefit ends when employee is no longer eligible for coverage under the plan, qualifies for a disability retirement benefit, or qualifies for an unreduced service retirement benefit
T. A retroactive disability retirement benefit will be offset by any LTDI benefit paid for the same benefit period

**Note: MainePERS intends to negotiate with carrier to exclude a benefit offset for STDI or LTDI coverage paid for by the employee*

Employee Groups' Statement on Program Design Specifications

The unified representatives of the labor group participating in the MainePERS LTDI working group continues to be grounded, both in the intent, and the language in the directive(s) from the Maine Legislature. The matter before the working group to address:

- The currently onerous and lengthy process endured by MainePERS individual members in their application process to secure disability retirement benefits.

- Recognize and address the significant and adverse impact the current system has on the health, welfare and livelihood of the individual MPERS member in their pursuit of disability coverage. and;

- With the possibility of only a negligible improvement in the length of the currently outlined and systemic application process, the need for an interim, long-term coverage product to allow those in the process who have no access to alternative coverage or income to live sustainably during their application process.

We believe it is the intention of our elected officials that MPERS and/or employers develop and provide a minimum effective amount LTDI coverage to accomplish these directives. Through the evolving discussions of the working group as a whole, we have seen a bit of a departure from these tenets. As such, we cannot agree that fielding a LTDI coverage that offers a "zero-dollar" minimum benefit, in and of itself, is not a benefit, nor does it satisfy the intended purposes of our legislative directive.

There is no more an enormously impactful and stressful situation than a disabling illness or injury; especially those grounded in the behavioral, such as Post Traumatic Stress Disease. These are magnified tenfold by the uncertainties of future quality of life and financial stability. They can have a cascading and cumulative effect on the affected employee and their family

It is important to alleviate some of this by having a safety net that is truly representative of the current financial landscape by providing a substantial minimum base benefit that accurately reflects the affected individual's income rather than a gross average. To accomplish this, we advocate for an employer paid base coverage that is equal to 59% of the individual member's current compensation as is done in other disability products such as those offered by Maine Municipal Association.

We do advocate for the implementation of options to address current efforts by employers by supporting the tentative "substantially similar or better" language with which to allow employer/employee choice through bargaining if it is currently provided. If those opportunities do not exist, then this group can address a minimum benefit to ensure the health and safety of those experiencing loss of work, income, and mental/physical health issues

We continue to support implementing an employer provided/funded coverage option that serves to support members experiencing the inability to work as they attempt to cover expenses while navigating the long road of disability application review.

Employer Groups' Respective Statements on Program Design Specifications

Maine School Management Association asserts the benefits offered to employees of school districts is a local decision and that school districts should not be mandated to offer a specific benefit, one that would require negotiations if it were implemented. They also note that the MSMA Group Insurance Trust has offered a fully-insured group long-term disability insurance plan to its participating school districts for over thirty years.

Maine Municipal Association asserts the benefits offered to employees of municipalities are a local decision and that municipalities should not be mandated to offer a specific benefit. The Maine Municipal Employees Health Trust offers both a self-insured Income Protection Plan and a fully-insured Long Term Disability Plan, so that municipalities may select the disability benefits that best meet the needs of their employees.

State of Maine government, as Maine's second largest employer, understands and empathizes that long-term disability coverage is a need for some employees. The state interprets that this coverage must be offered, but that the employer is not obligated to contribute. The state also clarifies that non-leave benefits for state employees are not bargained. As is the case with any benefit, the state must consider the need, cost and impact to the entirety of its employee group, as well as administrative, implementation and oversight efforts. The state would seek to balance any Long Term Disability Income program with other programs as well as the current and future funding requirements of its existing comprehensive benefit package.

Notes

[1] Milliman, response to questions posed by MainePERS on behalf of the Disability Working Group on October 27, 2022. Estimated number of employees that would qualify for LTDI annually and average length of benefit?

The typical claim incidence rate for LTDI coverage that features a 180-day EP is approximately 3 to 4 claims per 1,000 covered members per year, which includes permanent and total disabilities as well as less severe disabilities. Based on historical MainePERS disability retirement experience (which represents permanent and total disabilities only), the average claim annual incidence rate is approximately 1 claim per 1,000 covered employees. Based on these high-level approximations, the estimated annual claim incidence rate for employees that would qualify for LTDI annually (excluding permanent and total disabilities that would be eligible for disability retirement benefits) is roughly 2 to 3 per 1,000 covered employees.

LTDI claim durations vary significantly depending on the cause of disability. For example, claims related to less severe conditions (such as injuries or musculoskeletal conditions that can be treated) often terminate within the first 24 months because recovery rates are relatively high during this initial period. Generally speaking, many LTDI claims fall into this category. Claims that last beyond 24 months are often due to severe conditions (such as MS or respiratory conditions) and have much lower recovery rates. These claims can persist a very long time. On average, LTDI claims typically last for 4 to 5 years, but with a wide variation on specific claims.

[2] The member numbers in this report are those provided to bidders in the RFP process. They represent active members as of FY2021 who would not reach normal retirement age prior to July 1, 2023. Actual numbers of active members below normal retirement age as of that date are currently projected to be approximately 4% higher.

[3] Participating MainePERS employers must also offer the program to employees who choose not to become members but participate in the defined contribution plan pursuant to Title 5, section 18801, sub-section 1.

[4] The benefit available to the employee without a buy-up is the lesser of the core maximum monthly benefit and 59% (60% or 66.67% where applicable) of compensation. For example, an employee in a 59% plan with a core maximum monthly benefit of $2,000 and annual compensation of $50,000 will have an LTDI benefit of $2,000 since 59% of compensation at $2,458.33 per month exceeds the core maximum monthly benefit amount.

Appendices

A. DRAFT Legislation
B. Estimated Premiums
C. Disability Working Group Questions & Issues
D. Disability Retirement Application Process and Time Variables

APPENDIX A

An Act to Make Long-Term Disability Insurance Coverage Available to Public Employees

VERSION 1 – NO MANDATED EMPLOYER-PAID CORE BENEFIT

Be it enacted by the People of the State of Maine as follows:

Sec. 1. 5 MRSA § 18101, as enacted by PL 2017, c. 378, §1 is amended to read as follows:

The board ~~may~~ shall offer long-term disability insurance coverage to members through their employer and may contract with one or more insurance companies to provide this coverage. Employers shall provide the long-term disability insurance coverage to their employees who are members or provide substantially equivalent coverage obtained from another source.

1. Premiums. All premiums and any other amounts due to an insurance company or other 3rd party in connection with coverage offered by the board under this subchapter must be borne as follows:~~by the covered person, the covered person's employer or both the covered person and the covered person's employer.~~

A. The employer shall elect a maximum monthly benefit, which may be zero, and pay any premiums and other amounts for that maximum monthly benefit amount; and

B. The member may elect to have the maximum monthly benefit amount that has been elected by the employer or pay any remaining premiums and other amounts for a maximum monthly benefit of $8,000.

1-A. Benefits. Subject to the applicable maximum monthly benefit amount, a minimum monthly benefit amount of $100, and offsets and other typical long-term disability policy provisions, the coverage offered by the board under this subchapter must replace:

A. For members who would receive a disability retirement benefit equal to 59% of the member's average final compensation if qualified for disability retirement benefits, 59% of the covered member's income from the employer providing the coverage; or

B. For members who would receive a disability retirement benefit equal to 66 2/3% of the member's average final compensation if qualified for disability retirement benefits, 66 2/3% of the covered member's income from the employer providing the coverage.

2. Rules. The board may adopt rules to implement this subchapter. Rules adopted pursuant to this subsection are routine technical rules pursuant to chapter 375, subchapter 2-A.

Sec. 2. 5 MRSA § 18701, as enacted by PL 2017, c. 378, §1 is amended to read as follows:

The board ~~may~~ shall offer long-term disability insurance coverage to members and employees who choose not to become members but participate in the defined contribution plan pursuant to section 18801, subsection 1 through their employer and may contract with one or more insurance companies to provide this coverage. Employers shall provide the long-term disability insurance coverage to their employees who are members or participants in the defined contribution plan pursuant to section 18801, subsection 1 or provide substantially equivalent coverage obtained from another source.

1. Premiums. All premiums and any other amounts due to an insurance company or other 3rd party in connection with coverage offered by the board under this subchapter must be borne as follows:~~by the covered person, the covered person's employer or both the covered person and the covered person's employer.~~

A. The employer shall elect a maximum monthly benefit, which may be zero, and pay any premiums and other amounts for that maximum monthly benefit amount; and

B. The member or participant may elect to have the maximum monthly benefit amount that has been elected by the employer or pay any remaining premiums and other amounts for a maximum monthly benefit of $8,000.

1-A. Benefits. Subject to the applicable maximum monthly benefit amount, a minimum monthly benefit amount of $100, and offsets and other typical long-term disability policy provisions, the coverage offered by the board under this subchapter must replace:

A. For members who would receive a disability retirement benefit equal to 59% of the member's average final compensation if qualified for disability retirement benefits, 59% of the member's income from the employer providing the coverage;

B. For participants who would receive a disability retirement benefit equal to 60% of the member's annual compensation if qualified for disability retirement benefits, 60% of the participant's income from the employer providing the coverage; or

C. For members who would receive a disability retirement benefit equal to 66 2/3% of the member's average final compensation if qualified for disability retirement benefits, 66 2/3% of the member's income from the employer providing the coverage.

2. Rules. The board may adopt rules to implement this subchapter. Rules adopted pursuant to this subsection are routine technical rules pursuant to chapter 375, subchapter 2-A.

SUMMARY

This bill requires the Maine Public Employees Retirement System to offer long-term disability insurance coverage and requires employers to provide members of the System and certain employees who participate in the System's defined contribution plan with the coverage or substantially equivalent coverage obtained from another source.

An Act to Make Long-Term Disability Insurance Coverage Available to Public Employees

VERSION 2 – MANDATED EMPLOYER-PAID BENEFIT

Mandate preamble. This measure requires one or more local units of government to expand or modify activities so as to necessitate additional expenditures from local revenues but does not provide funding for at least 90% of those expenditures. Pursuant to the Constitution of Maine, Article IX, Section 21, 2/3 of all of the members elected to each House have determined it necessary to enact this measure.

Be it enacted by the People of the State of Maine as follows:
Sec. 1. 5 MRSA § 18101, as enacted by PL 2017, c. 378, §1 is amended to read:

The board ~~may~~ shall offer long-term disability insurance coverage to members through their employer and may contract with one or more insurance companies to provide this coverage. Employers shall provide the long-term disability insurance coverage to their employees who are members or provide substantially equivalent coverage obtained from another source.

1. Premiums. All premiums and any other amounts due to an insurance company or other 3rd party in connection with coverage offered by the board under this subchapter must be borne by ~~the covered person,~~ the covered person's employer ~~or both the covered person and the covered person's employer~~.

1-A. Benefits. Subject to a maximum monthly benefit amount of $8,000, a minimum monthly benefit amount of $100, and offsets and other typical long-term disability policy provisions, the coverage offered by the board under this subchapter must replace:

A. For members who would receive a disability retirement benefit equal to 59% of the member's average final compensation if qualified for disability retirement benefits, 59% of the covered member's income from the employer providing the coverage; or

B. For members who would receive a disability retirement benefit equal to 66 2/3% of the member's average final compensation if qualified for disability retirement benefits, 66 2/3% of the covered member's income from the employer providing the coverage.

2. Rules. The board may adopt rules to implement this subchapter. Rules adopted pursuant to this subsection are routine technical rules pursuant to chapter 375, subchapter 2-A.

Sec. 2. 5 MRSA § 18701, as enacted by PL 2017, c. 378, §1 is amended to read as follows:

The board ~~may~~ shall offer long-term disability insurance coverage to members and employees who choose not to become members but participate in the defined contribution plan pursuant to section 18801, subsection 1 through their employer and may contract with one or more insurance companies to provide this coverage. Employers shall provide the long-term disability insurance coverage to their employees who are members or participants in the defined contribution plan pursuant to section 18801, subsection 1 or provide substantially equivalent coverage obtained from another source.

1. Premiums. All premiums and any other amounts due to an insurance company or other 3rd party in connection with coverage offered by the board under this subchapter must be borne by ~~the covered person,~~ the covered person's employer ~~or both the covered person and the covered person's employer~~.

An Act to Make Long-Term Disability Insurance Coverage Available to Public Employees

1-A. Benefits. Subject to a maximum monthly benefit amount of $8,000, a minimum monthly benefit amount of $100, and offsets and other typical long-term disability policy provisions, the coverage offered by the board under this subchapter must replace:

A. For members who would receive a disability retirement benefit equal to 59% of the member's or participant's average final compensation if qualified for disability retirement benefits, 59% of the member's income from the employer providing the coverage;

B. For participants who would receive a disability retirement benefit equal to 60% of the member's annual compensation if qualified for disability retirement benefits, 60% of the participant's income from the employer providing the coverage; or

C. For members who would receive a disability retirement benefit equal to 66 2/3% of the member's average final compensation if qualified for disability retirement benefits, 66 2/3% of the member's income from the employer providing the coverage.

2. Rules. The board may adopt rules to implement this subchapter. Rules adopted pursuant to this subsection are routine technical rules pursuant to chapter 375, subchapter 2-A.

SUMMARY

This bill requires the Maine Public Employees Retirement System to offer long-term disability insurance coverage and requires employers to provide the coverage at employer expense to members of the System and certain employees who participate in the System's defined contribution plan with the coverage or provide substantially equivalent coverage obtained from another source.

Variable Core Maximum Monthly Benefit – Estimated Premiums Per Covered Employee

Core Maximum Benefit Amount: $1,000

Company	State Public Safety	State All Others	Education	PLD Public Safety	PLD All Others	Total
1	$61	$35	$25	$61	$35	$30
2	$76	$79	$61	$43	$62	$65
3	$29	$40	$17	$24	$46	$28

Core Maximum Benefit Amount: $2,000

Company	State Public Safety	State All Others	Education	PLD Public Safety	PLD All Others	Total
1	$117	$67	$44	$118	$64	$55
2	$146	$150	$109	$83	$113	$119
3	$57	$76	430	$46	$83	$51

Core Maximum Benefit Amount: $3,000

Company	State Public Safety	State All Others	Education	PLD Public Safety	PLD All Others	Total
1	$162	$88	$57	$165	$81	$71
2	$202	$198	$139	$116	$144	$154
3	$79	$100	$38	$64	$106	$66

Core Maximum Benefit Amount: $4,000

Company	State Public Safety	State All Others	Education	PLD Public Safety	PLD All Others	Total
1	$186	$96	$62	$188	$88	$78
2	$232	$217	$152	$132	$156	$168
3	$90	$110	$42	$73	$115	$73

Core Maximum Benefit Amount $5,000

Company	State Public Safety	State All Others	Education	PLD Public Safety	PLD All Others	Total
1	$193	$99	$63	$193	$90	$80
2	$241	$223	$155	$136	$159	$172
3	$94	$113	$43	$75	$118	$74

Core Maximum Benefit Amount $6,000

Company	State Public Safety	State All Others	Education	PLD Public Safety	PLD All Others	Total
1	$195	$99	$63	$193	$91	$81
2	$244	$224	$156	$136	$161	$173
3	$95	$114	$43	$75	$119	$75

Core Maximum Benefit Amount $7,000

Company	State Public Safety	State All Others	Education	PLD Public Safety	PLD All Others	Total
1	$196	$100	$63	$193	$91	$81
2	$245	$225	$156	$136	$161	$174
3	$95	$114	$43	$75	$119	$75

Core Maximum Benefit Amount $8,000

Company	State Public Safety	State All Others	Education	PLD Public Safety	PLD All Others	Total
1	$196	$100	$63	$193	$91	$81
2	$245	$225	$156	$136	$161	$174
3	$95	$114	$43	$75	$119	$75

Disability Working Group – Questions & Issues List 9/28/22

Questions from 9/15 Meeting

1. Will members receive service credit while on LTDI? *Yes.*

2. Will premiums be paid through payroll deduction? *Yes.*
    a. Do other groups currently have payroll deduction for STDI/LTDI? *To be determined. Likely yes.*

3. What is the form of any legislation required to implement? *To be determined.*

4. What population is involved? *All MainePERS members.*
    a. How many members who apply for disability retirement are determined ineligible? *For determinations made 2021-22, approximately 9% of applications do not result in disability retirement benefits. Prior periods had higher denial rates (e.g., 2019-20 approx. 25%).*
    b. How long does it take to reach a determination on disability retirement? *Approval approximately nine months; denial approximately one year. Prior to process changes to give applicants more opportunity to submit information, the average times were approximately three and five months, respectively.*

5. Would there be coordination of LTDI with other disability insurance? *To be determined. Likely yes.*

6. Would employers be required to participate? *To be determined.*

7. Will employers be permitted to choose which LTDI plan they adopt? *To be determined.*

8. Would employees who had declined optional MainePERS membership be required to participate in LTDI? *No.*

9. If local employers are required to fund this, would it be an unfunded mandate? *To be determined.*

10. What would the costs be per employee? *To be provided.*

11. What changes were made to the disability program by the recent law? *The new law made the following changes:*
    - *Replaces "impossible to perform the duties of the member's employment position" standard with "unable to perform the essential functions of the member's employment position with reasonable accommodation";*
    - *Calls on MainePERS to create a form to be completed by the member's provider addressing eligibility requirements;*
    - *Eliminates the Medical Board and provides for a medical review service provider;*

- *Requires an Independent Medical Examination before an application can be denied on medical grounds unless the requirement is waived;*
- *Requires primary consideration of medical opinions in the record and whether the opinions are supported by sound medical evidence and consistent with other medical evidence;*
- *Specifies that Hearing Officers are independent contractors;*
- *Gives an appellant a role in selecting the Hearing Officer;*
- *Provides for* de novo *court review; and*
- *Allows attorney's fees of up to $12,000 for a successful appellant.*

12. Will there be a return of premium for any benefit not used? *No.*
    a. If not, is this a quasi-tax? *No.*

13. Is there a qualifying impairment list? *To be determined.*

Mark Roberts, Maine State Law Enforcement Association

14. If there is mandatory participation and premium payment from State employees, much like MainePers retirement, will there be a return of premium for any benefit not used? If not, does the required contribution become a quasi-tax? *See number 12 above.*

15. Is there an available qualifying impairment list? Are there known exclusions (work related injury, mental health injury, etc.)? *See number 13 above.*

Rick Callier, Professional Fire Fighters of Maine

16. What is the expected time frame for qualification can people apply in advance or must they wait for the elimination period to pass prior to application? *They can apply in advance.*

17. If the employee is terminated during the disability period, what happens? *The benefit payments continue.*

18. Will disability time be counted as service credit time if the employee does not reach normal retirement? *See answer to number 1 above.*
    a. If so, who pays the contribution? *It is built into the contribution rates the same as service credit during disability retirement is.*

19. Will there be a Coordination of benefits for employees' sick leave? *To be determined.*

20. MMEHT income protection is a common employee purchased item, would there income guidelines that would be used if an employee buys his own private coverage, MMEHT/AFLAC etc? *To be determined.*

21. Will these payments be reported as income? *Benefits are taxable to the extent that they are employer funded; any employee-funded portion will be not taxable.*

22. MEPERS disability requires social security disability application, will long term disability have the same requirement? *Yes.*

23. If an employee eventually qualifies for retirement under the existing MainePERS disability benefit programs, how would the prior disability payments that had been made apply? *To be determined.*

24. It appears that the Insurance Company determines qualifications for the program, will there be an effort to insure their requirements are based upon the same criteria of MEPERS with the exception of permanency, i.e not able to work in the present job capacity prior to disability application? *The requirements are similar – the first two years are own occupation; after two years it is any gainful occupation.*

25. Will the exception period be based on last day at work or nonpayment status, or will reduce work time suffice toward the exception period? *To be determined.*

26. Waiting Period Coverage begins the date the member becomes an eligible employee, will this be for new employees, or are all members considered for the waiting period? *There is no waiting period for employees actively at work.*

<u>Deb Roberts, Maine School Management Association</u>

Questions/Comments regarding mandatory LTD insurance from a small group of Superintendents surveyed:

27. The majority of Superintendents surveyed are NOT in favor of a mandatory LTD insurance program for their MEPERS Teacher member employees

28. School employees already have generous sick leave benefit accumulations in their collective bargaining agreements

29. The majority of Superintendents surveyed already offer a voluntary employee paid LTD insurance program for their employees

30. All benefits including LTD insurance are negotiated along with other benefits in exchange for other priorities

31. Why does it take so long for a MEPERS disability retirement to be processed? *An explanation of the process will be provided.*

32. Would substitute teachers and coaches who are Teacher members of MEPERs be covered under this mandatory LTD program? *Yes.*

33. Would the 180-day elimination period run concurrently with the employee's own personal sick leave or kick in after the employee runs out of their own sick leave? *To be determined.*

<u>Heather Perreault, State of Maine Department of Administrative & Financial Services</u>

34. Maximum LTD benefit period reflects employee's normal service retirement date
    a. How does this work for MEPERS plans that do not have a normal service retirement date, just required # years of service? *To be determined.*
    b. What happens for employees whose # years of service result in lower retirement benefit than what they were receiving as LTD benefit? *To be determined.*
    c. Do employees continue to earn years of service while receiving LTD benefit? *See answer to number 1 above.*
    d. Is employer required to hold an employee's position for them while they are receiving LTD benefits? *No.*
    e. How would a LTD benefit coordination impact pending Workers' Compensation claims? *To be determined.*

35. How will LTD and disability retirement benefits be coordinated, especially if employee is on LTD and separates from service but didn't apply for disability retirement prior to separation? *To be determined.*

36. Employer alternatives
    a. $8,000 is a large benefit – at 66.67% of salary, that covers 2/3 salary for someone making $144k/year
    b. Need an option that allows the employer to select a core benefit amount greater than $1,000
        i. Option 2 allows employer to select how much they pay for but obligates the employee to paying the full balance for $8k benefit – could be a hardship for some employees to pay for
        ii. Option 3 core benefit of $1k puts majority of cost on employee for a decent amount of coverage – could be a hardship for some employees to pay for

37. Definition of disability – after 24 months switches from own occupation to any occupation – is there any benefit once it switches to any occupation, to make up the difference between new earnings and former own occupation earnings? *The benefit amount remains the same.*

38. How many people are we trying to solve an insurance gap problem for? Would it make more sense cost-wise to try a self-funded or pay-as-you-go program rather than paying premiums on all employees? *To be determined.*
    a. Could incorporate independent claims review similar to new disability retirement process

William Laubenstein, Maine Association of Retirees

39. The role, if any, MainePERS will have if the State implements long term disability insurance program. *MainePERS would contract with the LTDI insurance carrier. Any other role is to be determined.*

APPENDIX D

MainePERS
PUBLIC EMPLOYEES RETIREMENT SYSTEM

MEMORANDUM

Date: October 5, 2022

To: Disability Working Group

From: Mara McGowen, Supplemental Benefits Division Manager

Re: Disability Retirement Application Process and Time Variables

This memo is meant to provide a brief overview of the current application process as most recently updated by law in October 2021 for Disability Retirement and to outline the variables that can influence the time elapsed between an application being filed and a decision being rendered.

Executive Summary:

- The process of applying for disability retirement and reaching a determination on an application currently requires approximately 9 to 12 months, sometimes longer, depending on the particulars of a case.
- The length of time required generally is associated with providing an applicant every opportunity under the law to provide information that will help result in an accurate assessment of their eligibility for benefits.
- In practice, this has resulted in more approvals and fewer denials. For the applications resolved in 2021-2022, MainePERS approved more than 90 percent of all applications.
- Some typical factors that can lengthen the process include: compilation of medical and employer records; review by the medical review service provider (i.e., UMASS); independent medical examination; and, applicant-requested extensions.
- Each of these and other steps are further detailed below.

Disability Application Process:

Intake – When a member calls MainePERS to inquire about application for Disability Retirement, a Disability Specialist is assigned to process an intake. During the intake, members are provided, in detail, with the eligibility requirements of the program, an understanding of the application process, and next steps to be taken. These conversations typically require approximately an hour. They provide an initial opportunity for an applicant to describe their situation and often the hardships they are facing. It is also at this point that applicants or potential applicants are provided with a health care provider form, newly required by law, which describes the requirements for eligibility and which MainePERS considers in making the determination.

Receipt of Application – Upon completion of the intake, application materials are sent to the member at their request. Application materials are not available unless an intake is completed. MainePERS has found that the intake process reduces frustration for members due to the proactive education surrounding program eligibility requirements. It also assists members in deciding if or when the right time to apply is and informs them about important impacts on benefits such as life or health insurance if an unpaid leave or termination occurs.

New Application Interview – Once a complete application has been received, a Specialist will speak with the applicant. This is another opportunity for the Specialist to outline expectations for the applicant. This interview is also used to gather information regarding the applicant's most recent position, the difficulties they are facing, ask questions regarding the application itself, etc.

Compilation of Records – In addition to the medical records MainePERS needs to compile, specialists and support staff are also requesting documentation from employers, worker's compensation, staff responsible for processing ADA accommodations and any other sources deemed necessary through the application and interview process.

Employer Interview – This is an important step in the application process. Specialists schedule interviews to discuss any difficulties the applicant was having performing job functions, any accommodations provided, further explanation of job duties, etc. This often involves speaking with more than one individual (i.e., direct supervisor, Human Resources personnel, ADA personnel, etc.).

Pre-Medical Review – After receipt of all initial medical documentation and completion of employer interviews, the Specialist calls the applicant to review the medical records received and to determine if the information the applicant intends to submit is complete. This is an opportunity for an applicant to identify important missing information prior to reaching any conclusions about eligibility.

Submission to Medical Review Service Provider – MainePERS' independent contractor as stipulated by law (currently contracted with UMASS) provides medical opinions regarding the applicable diagnoses, limitations caused by the applicant's diagnoses and whether or not any limitations are expected to be permanent.

Observation – Upon receipt and review of the report from the medical review service provider, the assigned Specialist will speak with the applicant regarding the findings. A letter outlining the detail of this conversation, as well as a copy of the report from the medical review service provider/UMASS, is provided to the applicant.

Record Supplementation – Following the observation, the applicant often will choose to supplement the documentation previously provided to MainePERS. Examples of supplementation include undergoing suggested treatment, consulting with treating physicians regarding the observation and UMASS report or seeing a new medical provider. Additional medical records are often compiled at this phase.

2nd Review by Medical Review Service Provider – Once the applicant is satisfied with the content of their record, the record is sent to UMASS for a second review.

Independent Medical Examination (IME) – Each applicant has the opportunity to have an IME scheduled prior to a denial being issued on medical grounds. The medical professionals who perform IMEs are procured by an outside contractor or are themselves independent contractors. The applicant must agree that the professional suggested is acceptable to them prior to scheduling. Applicants may choose to waive the right to an IME.

Decision Issued – Several levels of internal review are performed prior to a decision being rendered.

Hold – At any point in the process above, an applicant may request that their application be placed on hold for 30, 60 or 90 days. Multiple holds may be requested.

The process above is outlined to convey the typical applicant's experience. Please note, some steps may be omitted or repeated depending on the circumstances. For example, an applicant in the end stages of a terminal cancer may cause a Specialist to work directly with the applicant's Oncologist in order to expedite the application and permit an application to be granted without review by the medical review service provider.

Variables that Impact Application Processing Time:

Compilation of Medical Records – Compiling medical records can be a lengthy process. Many Maine providers request MainePERS wait 30 days prior to checking the status of requests, while out of state facilities and national medical record compilation services request 60 days. Once received, staff often discover treating physicians not previously disclosed during the application process, which then requires additional record requests. It also is not uncommon for partial records to be received requiring follow up and likely a second request to obtain the needed information.

Employer Response Times – Response times from employers vary. It is not uncommon for an Employer Report to take several months to be received and then additional time to schedule an Employer Interview and HR follow up.

Record Supplementation – Applicants are permitted to supplement their record at any time. While this is encouraged when the applicant believes it necessary, it lengthens the process.

Seeking Further Treatment – Some applicants apply while still in treatment and/or before they have exhausted all treatment options. Since permanency is an eligibility requirement, further treatment can be required in order to determine an applicant's prognosis.

Holds – An applicant, at any time, may request their case be placed on hold for 30, 60 or 90 days. Applicants can request multiple holds.

Independent Medical Examinations (IMEs) – Sometimes the contracted vendor has difficulty procuring the appropriate medical professional to provide this service. Since an applicant must agree to the medical professional, the pool of available candidates can be further limited if the applicant chooses to deny professionals. Once a medical professional agreeable to both parties is located, there is often further time required actually to secure an appointment. Conducting an IME may add six months to the application processing time as a result.

Medical Review Provider Reports – The medical review provider (currently UMASS) contractually has 30 days to review a case and render an opinion each time the file is sent to them for review. If it is necessary for staff to ask clarifying questions about the content of the report, coordination can take several weeks after the 30 day deadline has passed.

Time required to process an application often is voluntarily extended by the member at their discretion. In order for each applicant to be confident in the documentation submitted for consideration, MainePERS provides as much opportunity as possible for a complete record to be compiled. Whether the decision is to approve or deny the application, specialists are dedicated to ensuring the record is as complete as possible in order for the appropriate determination to be made.

MAINEPERS

BOARD OF TRUSTEES INVESTMENTS MEMORANDUM

TO: BOARD MEMBERS

FROM: REBECCA WYKE, CHIEF EXECUTIVE OFFICER
JAMES BENNETT, CHIEF INVESTMENT OFFICER

SUBJECT: **ANNUAL ENVIRONMENTAL, SOCIAL AND GOVERNANCE REPORT**

DATE: DECEMBER 1, 2022

Following this memo is the annual Environmental, Social, and Governance (ESG) report for 2022. This report, which will also be made available on MainePERS public website, discusses the MainePERS approach to ESG and highlights ESG-related aspects of various investments, both public and private.

The Investment Team continues to integrate ESG considerations into the sourcing and due diligence of investment managers. As shown in the report, the number of managers in the MainePERS portfolio who have committed to incorporating ESG principles into their investment analysis increased to 52, up from 37 last year. The Investment Team also maintains ESG-awareness in the ongoing monitoring of and engagement with existing investments. For example, the Investment Team sent a number of letters to the managers of public companies informing them that we planned to vote against certain of their proxy proposals and urging them to reconsider their positions on these issues. This led to follow-up conversations with company management in one case.

This annual ESG report contains Board Policy 2.6 – Environmental, Social and Governance Policy. The Investment Team has reviewed this policy and has no changes to recommend at this time.

POLICY REFERENCE

Board Policy 2.6 – Environmental, Social, and Governance Policy

Board Policy 4.5 – Board/Staff Relations

Board Policy 4.6 – Communication and Support to the Board

MainePERS
PUBLIC EMPLOYEES RETIREMENT SYSTEM

ENVIRONMENTAL, SOCIAL AND GOVERNANCE REPORT

2022 EDITION

Highlighting how sustainability factors influence investment decisions

MainePERS . . . considers material environmental, social and governance (ESG) risks and value creation opportunities for inclusion in our due diligence and ongoing monitoring of investments subject to our fiduciary duties, constitutional requirements and in accordance with local laws and regulations.

MAINEPERS ENVIRONMENTAL, SOCIAL AND GOVERNANCE POLICY. ADOPTED ON JUNE 8, 2015.

MainePERS
PUBLIC EMPLOYEES RETIREMENT SYSTEM

December 1, 2022

MainePERS is pleased to present you with our 2022 Environmental, Social and Governance (ESG) Report in accordance with the requirements of 5 M.R.S.A. §1957 §§ 5.

Our ESG policy, adopted in 2015, considers material environmental, social and governance risks and value creation opportunities for inclusion in our due diligence and ongoing monitoring of investments subject to our fiduciary duties, constitutional requirements and in accordance with local laws and regulations.

At MainePERS, we understand our primary duty is to serve as responsible fiduciaries to our members. Our constitutional mandate requires "*all of the assets and proceeds or income therefrom, of the Maine State Retirement System or any successor system and all contributions and payments made to the system to provide retirement and related benefits shall be held, invested or distributed as in trust for the exclusive purpose of providing for such benefits and shall not be encumbered for, or diverted to, other purposes.*" We are proud that Maine is one of the few states that protect pension funding in our state constitution.

Since 1942, the Maine Public Employees Retirement System (MainePERS) has helped public employees prepare for retirement. The System's contributing members include teachers, state, county, and municipal employees, legislators, judges, and those who work for other public entities. In addition to our active members, many public sector retirees and their beneficiaries receive monthly benefits from retirement plans offered by MainePERS. The System also administers Disability Retirement, Group Life Insurance, and MaineSTART, a tax-deferred retirement savings program. Administration of these programs includes financial administration, investment administration, recordkeeping of members' work and compensation data, and administration of retirement-related services provided to members, employers and retirees.

Additional information about MainePERS may be found on our website at *www.mainepers.org*.

Sincerely,

Dr. Rebecca M. Wyke
Chief Executive Officer

www.mainepers.org

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MAINE RELAY
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RISKS AND OPPORTUNITIES

“There is now broad recognition that ESG factors are fully part of governance and of equal weight in evaluating the value and the risk of portfolio companies.”

—Stephen Davis
ICGN Founder and Associate Director of Corporate Governance and Institutional Investors Programs at Harvard Law School

In implementing the Board of Trustees’ ESG policy, the MainePERS Investment Team has developed a thoughtful process to monitor the level of ESG risk factors in the MainePERS investment portfolio. Before making any new investment, MainePERS completes a robust due diligence process considering a broad range of factors, including ESG. Such factors include: whether an investment partner engages in profitable capital investment that also has a positive environmental impact; whether partners work constructively with deal stakeholders and are good community members themselves; and the degree of transparency an investment partner provides.

MainePERS recognizes the strong correlation between *responsible governance* and investment performance and therefore considers it an important consideration in the due diligence process.

• • •

MainePERS considers investment manager environmental partnerships and affiliations during the due diligence process.

• • •

MainePERS carefully examines how current and potential partners address diversity, how they incorporate *ESG* training within their organization and in their portfolio companies.

• • •

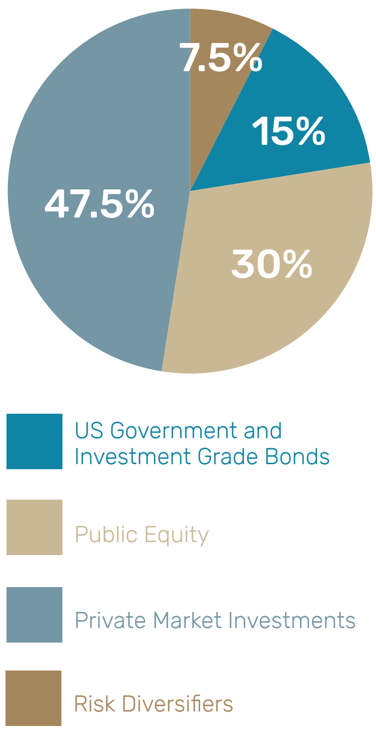
MainePERS takes a holistic view when evaluating investments. No single factor is necessarily a definitive reason to invest or not invest in a strategy, rather all factors are important inputs into the overall decision.

PUBLIC MARKET INVESTMENTS: ENGAGEMENT AND PROXY VOTING

Public Market Investments

MainePERS takes a passive approach to investing in public equity markets. Our public equity investments are "indexed", which simply means we seek to hold the entire stock market. This approach provides broad market exposure at extremely low cost and with little portfolio turnover. This approach means that we do not evaluate the merits, ESG or otherwise, of individual public companies or sectors in order to make buy or sell decisions. However, as a shareholder MainePERS is still able to actively engage with company management, particularly through the proxy voting process.

MainePERS Asset Allocation
(as of 6/30/2022)



ACTIVE OWNERSHIP

"Active ownership refers to the practice of entering into a dialogue with companies on ESG issues and exercising both ownership rights and voice to effect change. Active ownership is in sharp contrast to the idea that investors should vote with their feet—that is, simply sell off the investments with questionable practices."

CFA Institute, Environmental, Social and Governance Issues in Investing: A Guide for Investment Professionals.

CLIMATE CHANGE SCENARIO ANALYSIS

In 2022 MainePERS and other institutional investors supported a successful shareholder proposal requiring ExxonMobil to provide an audited report on how the International Energy Agency's Net Zero 2050 pathway would impact the company's asset valuations and assumptions.

MainePERS owns both public and private equity investments, and recognizes that we cannot ensure any particular investment's commitment to ESG considerations, especially in cases where MainePERS is a minority owner and has limited ability to influence the organization. In the case of investments in large publicly traded securities, the MainePERS Investment Team selectively engages companies in which we currently invest where engagement can have meaningful impact relevant to ESG-related issues. Examples of this type of engagement activity include letters sent in 2022 to AbbVie, American Express, and General Motors concerning Board Chair Independence.

We view ourselves as an "active owner" of the companies in which we invest and will directly engage with company management as appropriate. MainePERS views such engagement as an important and effective means of managing long term risks. Additionally, as opportunities arise, MainePERS works collaboratively with other investors and ESG proponents to broaden our engagement reach and impact.

The MainePERS Investment Team believes that being active owners and making our voice heard by voting of proxies of publicly traded companies has economic value and can serve to reduce portfolio risk. Proxies are the vehicle by which boards of directors are elected, bylaws are changed, and other actions in which owners are involved are accomplished. In conjunction with our proxy agent, Glass Lewis, MainePERS votes on management and shareholder proxy proposals in a manner consistent with our Environmental, Social, and Governance Policy as articulated in the MainePERS Engagement Policy (2.7). During the most recent fiscal year, MainePERS voted in favor of ESG-related shareholder proposals in a majority of cases.

MainePERS casts ballots on over 10,000 proxy items every year.

GLASS LEWIS

PRIVATE MARKET INVESTMENTS

ESG CONSIDERATIONS

While ESG considerations are never an exclusive reason to pursue an investment, in many cases attractive investments are also attractive from an ESG perspective. An example is an infrastructure investment in Edinburgh Airport which added solar energy and other low carbon improvements to reduce Scope 1 & 2 emissions by 90% since 2016.

UN SUSTAINABLE DEVELOPMENT GOALS

Established in 2015 by the United Nations, the UN SDG's target 17 sustainability goals to be met by 2030. Many managers within MainePERS portfolio invest in companies that are aligned with these goals.

MainePERS invests in a number of private "alternative" asset classes, such as Natural Resources, Private Equity, Infrastructure, and Real Estate. Prior to investing with any particular private asset manager, the MainePERS Investment Team completes a thorough due diligence process. This process is designed to assist the Team in the identification and monitoring of risk factors, including the evaluation of a number of ESG-specific items, and a review of a prospective manager's internal ESG policy. Governance and labor practices are crucial concerns in our due diligence process. Appropriate governance and alignment of interests is a prerequisite for any MainePERS investment. We also study labor practices of both the fund and the companies they manage. The due diligence process provides our Investment Team with a road map of strengths and weaknesses that allows us to make an informed investment recommendation to the Board of Trustees. Our holistic approach means we rarely make an investment decision based on a single issue (ESG-related or otherwise). Bringing all these factors into consideration, MainePERS looks to partner with asset managers that operate in an environmentally responsible manner, foster a fair and meritocratic work environment, and provide responsible corporate citizenship. Our Investment Team also believes that conducting due diligence into the ESG practices of potential managers is itself an important act and can serve to alert managers to a need to improve their ESG practices and disclosures. The improvements to ESG practices are beginning to take root, and we have noticed an increasing number of managers incorporating climate risk into investment decisions each year.

MainePERS invests in firms that demonstrate wise-use principles and seek to ensure observance of ESG best practices.

Energy Transition

Energy storage is becoming a critical component required for a successful transition to a lower carbon energy future. Efficient large scale storage is needed to enable renewable energy produced when demand is low to be used during periods of higher demand. For example, excess solar energy produced during daylight hours must be stored until demand peaks in the evening. Similarly, since wind energy production typically peaks after midnight when energy demands are low, excess energy must be stored until needed. An additional source of battery demand will stem from the transition away from internal combustion engines in favor of electric vehicles (EV), which by itself will require a massive increase in battery production.

MainePERS has invested in a number of companies seeking to enable this transition. Examples include Stations-e and Allego, two European electric vehicles (EV) charging companies, as well as Twelve, a California based company focused on using carbon capture to produce consumer products without fossil fuels.

Fossil Fuels

While MainePERS has exposure to fossil fuels-based energy producers in both its public and private market investments, these investments have come to represent a smaller proportion of our overall investments over time for two reasons. First, because of our passive index-based approach to investing in public equities, the value of our public holdings of fossil fuel stocks generally mirrors the role these companies play in the broader economy. As this role shrinks, these public companies naturally become a smaller part of the MainePERS portfolio. The second reason resides in our private market investments and is related to market opportunities. MainePERS is an investor in a number of actively managed private market funds that allow the managers to invest wherever they find the most attractive opportunities. Our experience over the last several years is that these opportunities have generally been found in renewables and industries related to clean power, rather than in fossil fuel-related industries.

WATER SUPPLY AND WASTE

MainePERS invests in Suez, which provides drinking water to 66 million people worldwide, and generates renewable energy from waste, allowing customers to avoid 4.2 million tons of CO_2 in 2021.

SUSTAINABILITY LINKED LOANS

A recent Alternative Credit investment included a loan with payment terms linked to ESG targets such as carbon intensity reduction and health and safety improvements.

Agriculture

MainePERS agriculture investments contribute to the growing demand of food consumption while integrating sustainability factors. Examples include tech enabled services to increase efficiency and minimize inputs[1], as well as production of biological pesticides which eliminates the use of chemicals on crops[2].

Transportation

MainePERS private market infrastructure portfolio includes transportation investments, including the Purple Line[3] project which is estimated to take 17,000 cars off the road each day, and save 1 million gallons of gas over the next 20 years.

1 Sustainable Development Goal #2

2 Sustainable Development Goal #15

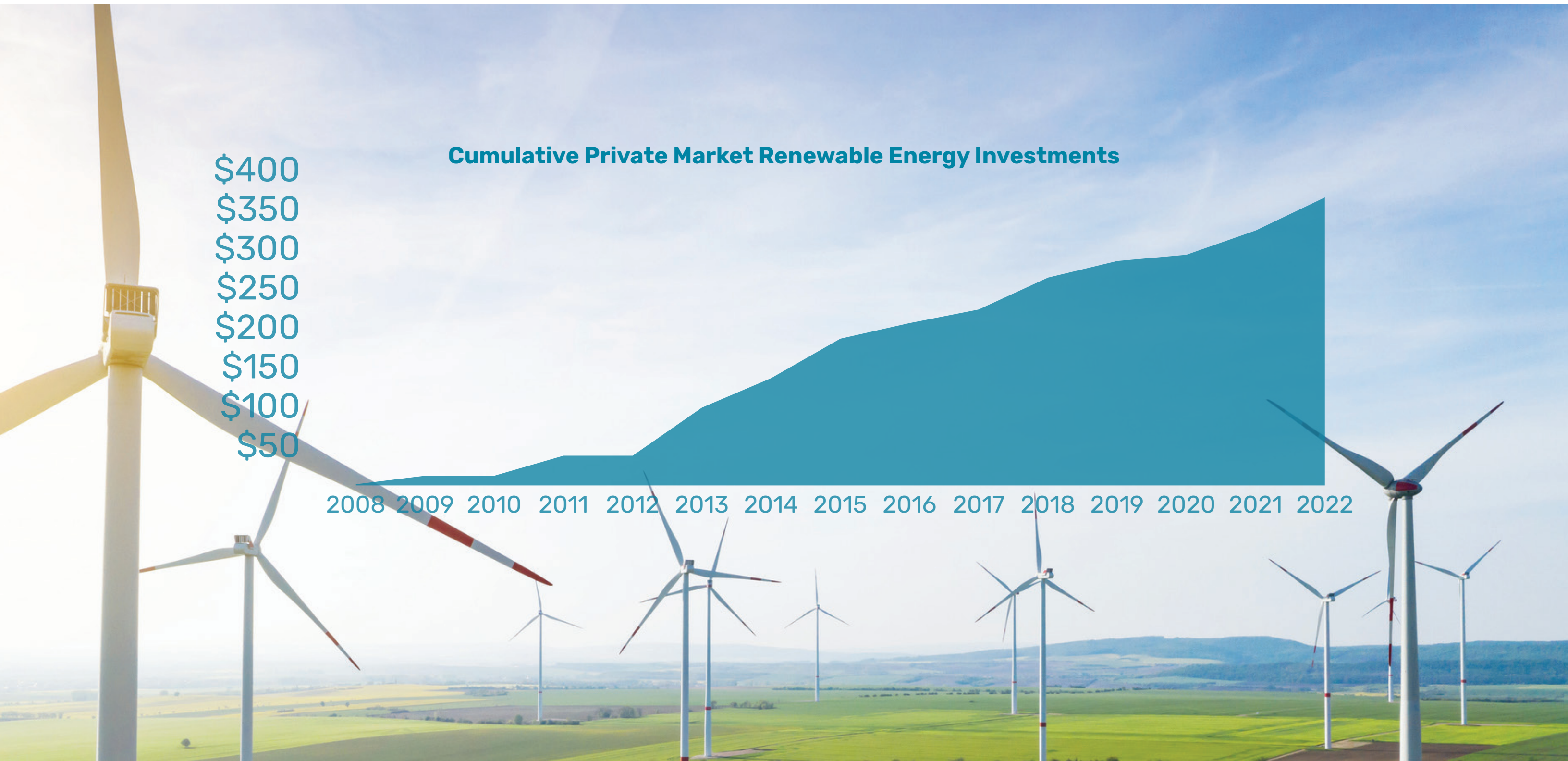
3 Sustainable Development Goals #8, 9, 11, 13

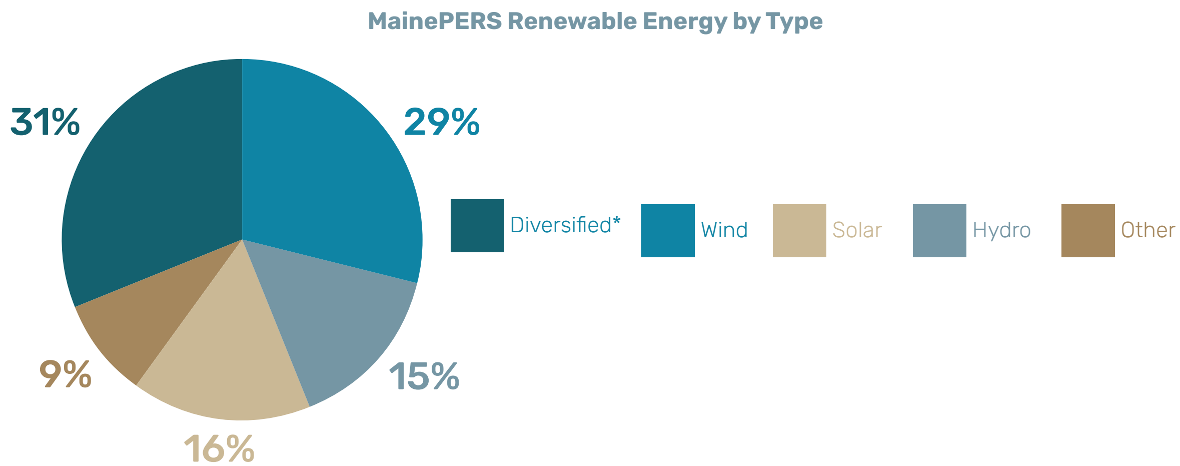
Water

MainePERS understands that many of the sustainability issues facing humanity revolve around the use of water. Critical water-related risks exist for large populations in both developed and undeveloped countries, and MainePERS supports partners that are helping develop solutions to these problems. Among these problems is water quality. One solution, among many others, that MainePERS has supported in this arena are water treatment solutions.

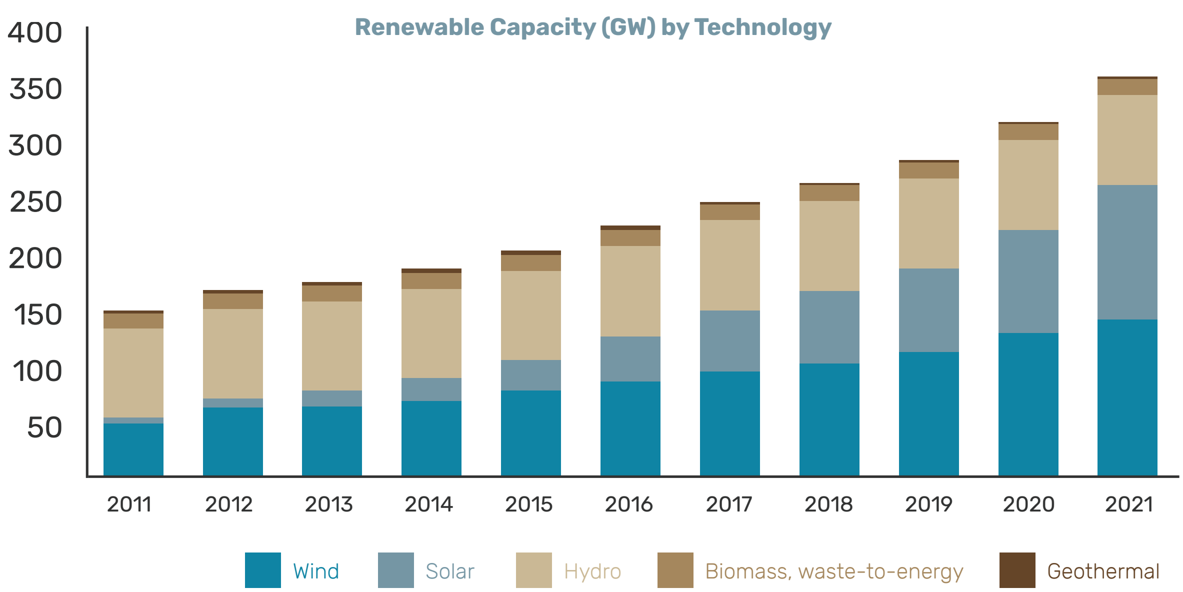
Renewable Energy

MainePERS invests in renewable energy across its portfolio. Recent private market investments include hydro, solar, biomass, geothermal and wind projects around the world. Over the past 15 years MainePERS has invested $365 million in renewables through private market investments. This includes an investment in Hornsea, the world's largest offshore wind project located in England, as well as Bluepoint Wind, an offshore wind project that will provide power to New York and New Jersey.





The largest growth in private MainePERS renewable energy investments since 2012 has been in wind energy, followed by solar. This is consistent with US trends for installation of new renewable energy generation capacity:



* The Diversified category contains investments that comprise of multiple types of renewable energy.

REAL ESTATE

ESG IN ACTION

Mansell Village is a 90,000 square foot grocery store-anchored retail property built in 2003 located in Roswell, Georgia, owned by an Invesco-managed fund in which MainePERS is a founding investor. The property received the Institute for Real Estate Management's Certified Sustainable Property Certification in 2021. As part of the certification, the property has demonstrated a 30% reduction in energy consumption and a 23% reduction in water consumption compared to a 2018 baseline. The property installed white roofs in 2019, which reduced cooling loads, and installed LED lights in parking areas in 2020, which further reduced electricity use. The property has also planted drought-resistant landscaping to reduce the need for irrigation water consumption.

As part of the due diligence and monitoring process for real estate investment partners who buy, hold, and sell commercial and residential real estate, MainePERS examines the following ESG factors:

Environmental

These factors include the degree to which building energy, water, and waste practices support renewable energy innovation and lead to energy conservation and expense savings. Additionally, many of these properties achieve "LEED", "ENERGY STAR", or such measures of green building practices, and some have earned recognition as major achievements. Many of MainePERS' real estate partners have begun to review and assess the resilience of properties to climate risks.

Social Impact

These factors include the degree to which regular engagement with stakeholders such as employees, tenants, and the community result in strong stakeholder relations.

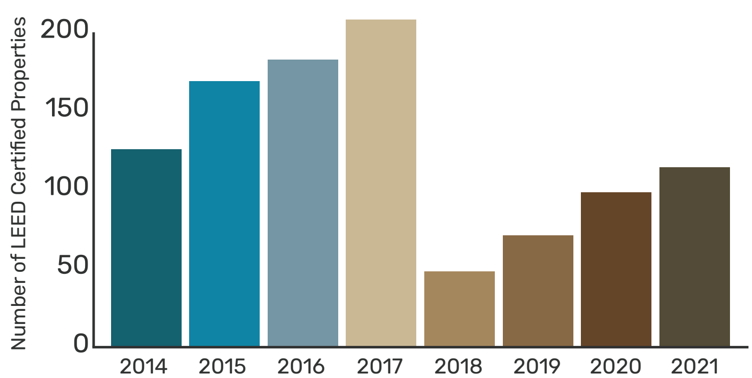
Governance

These factors include the degree to which company management reflects good governance principles including transparency in disclosing and managing potential conflicts of interest and accountability to investors and stakeholders.

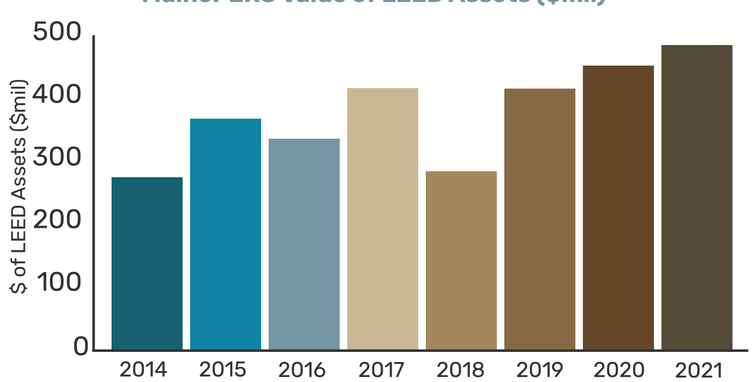
MainePERS tracks participation in the Global Real Estate Sustainability Board (GRESB), a reporting framework for ESG performance. Currently, all five of MainePERS' open-end real estate equity partners are reporting members of GRESB.

Another recent Real Estate example is Aventura Industrial Center, a 303,000 square foot warehouse property, originally acquired in 2012 by MainePERS partner Stockbridge. One factor in the Fund's decision to market the asset for sale were concerns that its location in Miami, Florida would expose it to increased flooding risks related to climate change. The property received strong interest from investors and was sold in December 2021 at a price in excess of Stockbridge's entry basis and most recent carrying value.

MainePERS LEED Assets Increase*



MainePERS Value of LEED Assets ($mil)*



* In 2018, MainePERS reallocated capital in the Real Estate portfolio, and consolidated the number of managers used. This resulted in a drop in the number of individual properties held, including properties with LEED certification.

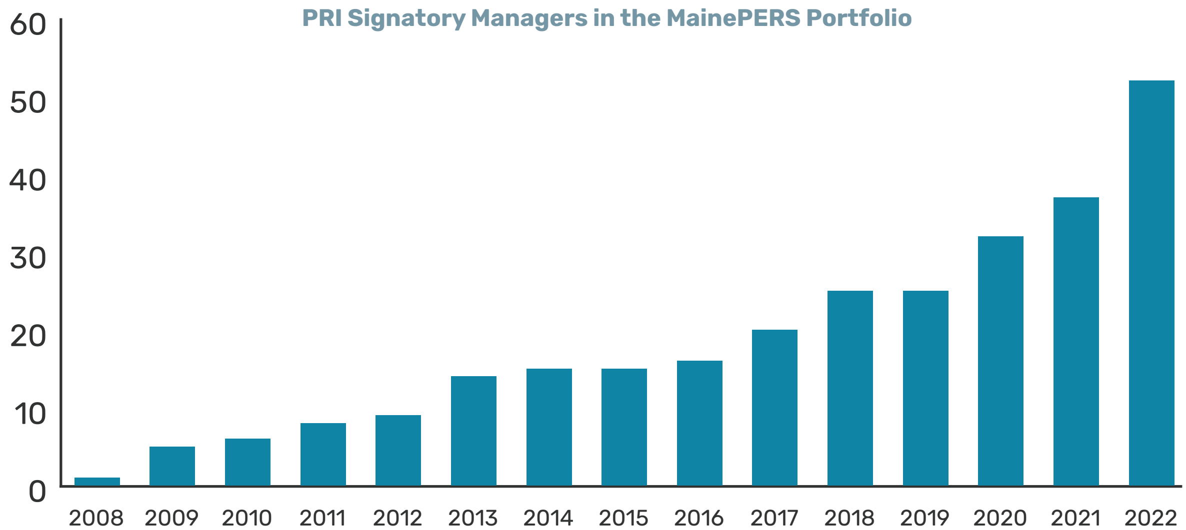
ESG METRICS

PRI | Principles for Responsible Investment

PRI is a UN-supported organization that works with investors and asset managers around the world. PRI signatories commit to incorporating ESG issues into investment analysis and asset ownership and to appropriate levels of ESG-related disclosures.

As shown below, the number of managers in the MainePERS portfolio that have signed on to these Principles for Responsible Investing has grown steadily over time.

As of fiscal year end 52 managers, with investment responsibility for over 81% of MainePERS assets, were PRI signatories, up from 37 managers and 70% last year.



Environmental Metrics

The development and reporting of ESG-related metrics continues to evolve, and such metrics are primarily available only for publicly listed companies. In this section we provide environmental metrics for the public equity portion of MainePERS' portfolio. This reporting will be expanded in future years as these metrics become more widely available for additional asset classes.

As discussed earlier, MainePERS employs an indexing approach to its public equity investments. This approach allows MainePERS to obtain broad exposure to global stock markets at very low cost. By "buying the market", MainePERS is invested in the shares of over 5,000 companies spread across 50 developed and emerging markets. As a result, the characteristics of MainePERS' equity holdings mirror those of the benchmarks that the portfolio tracks. For example, the US Equity portion of the portfolio is indexed to the Russell 3000 Index. This means that the features and characteristics of MainePERS' US equity holdings match those of the index. For example, if aggregate price-to-earnings (P/E) ratio of the index equals 23, then the US portion of MainePERS' equity holdings will also have a P/E ratio of 23. This correspondence also holds for other features, including ESG-related metrics.

The below table contains commonly available environmental metrics for those global equity benchmarks to which MainePERS's equity portfolio is indexed.

	Russell 3000 Index	MSCI All Country World Index ex U.S.
Total CO2 Emissions / $1m invested [1]	95	209
Emissions Intensity [2]	175	263

(1) Annual tons of Scope 1 and Scope 2 CO2 equivalent emissions per $1m invested value.

(2) Annual tons of Scope 1 and Scope 2 CO2 equivalent emissions per $1m revenue.

As of 6/30/22, MainePERS held $2.8 billion of U.S. equities and $1.8 billion of non-U.S. equities, which represents approximately 0.007% of the total value of these indexes. Applying these dollar amounts to the benchmark metrics contained above allows us to estimate the total CO_2 equivalent emissions (Scope 1 and 2) related to MainePERS public equity investments as 642,200 metric tons. MainePERS' portfolio metrics, both environmental and otherwise, should be viewed as being in line with global benchmarks, since we are invested in benchmarks that effectively comprise all companies listed in global markets other than "frontier" markets.

MainePERS ESG Practices

MainePERS participates in numerous ESG initiatives and organizations:

Ceres: A leading nonprofit promoting a sustainable future.

Thirty Percent Coalition: A coalition working to increase diversity on corporate boards.

Principles for a Responsible Civilian Firearms Industry: Established in 2018, MainePERS supported development of five principles encouraging companies in the civilian firearms industry to address gun safety issues.

International Corporate Governance Network (ICGN): an organization that sets industry standards for corporate governance and investor stewardship.

Carbon Disclosure Project (CDP): a nonprofit disclosure platform that allows companies, cities, and states to report on climate change, water, and deforestation data.

2022 HIGHLIGHTS:

Two members of the MainePERS Investment Team began working toward the CFA Institute's Certificate in ESG Investing. The program educates candidates on how to incorporate Environmental, Social, and Governance factors into investment analysis.

Board Responsibilities – Investments and Administration

2.6 – Environmental, Social and Governance Policy

Date Adopted. 1/8/15
Date Amended: May 11, 2017; November 18, 2021

Policy

The MainePERS Board of Trustees considers material environmental, social, and governance (ESG) risks and value creation opportunities critical for inclusion in its due diligence and ongoing monitoring of investments subject to its fiduciary duties, constitutional requirements and in accordance with laws and regulations. The MainePERS Board of Trustees directs the Chief Executive Officer and MainePERS Investment Team to incorporate ESG considerations into all investments considered or made by MainePERS following the adoption date of this policy, and to examine opportunities for ESG integration in existing investments.

MainePERS acknowledges that it will not always be feasible to ensure a particular investment's integration of ESG considerations, especially in cases where MainePERS is a minority owner and has limited ability to influence the organization. In these cases, the MainePERS Investment Team shall engage organizations with which it currently invests to strongly consider relevant ESG-related issues. In addition, MainePERS will consider its ability to influence ESG considerations when weighing prospective investments.

The MainePERS Board of Trustees shall annually review implementation of this policy and update or revise this policy as appropriate.

This policy shall also apply to investment consultants hired by MainePERS to provide guidance on investment due diligence matters.

Statutory/Legal Provisions

- Me. Const. art. IX § 18
- 5 M.R.S. §§ 1957, 17102 and 17103

Roles and Responsibilities

The Chief Executive Officer shall ensure that the MainePERS Investment Team integrates this policy into the investment due diligence process. The MainePERS Chief Investment Officer and Deputy Chief Investment Officer shall ensure that material ESG issues are continually reviewed, revised and integrated by the investment team in the due diligence process. A report describing the implementation of this policy, including recommendations for updates or revisions to this policy, will be provided to the Trustees at the December Board meeting each year. The report must also include commonly available environmental performance metrics on the environmental effects of MainePERS' investments.

ESG Due Diligence

MainePERS believes that organizations that understand the benefit of and openly practice sound environmental, social and governance business practices create strong business models and investment opportunities. Consistent with its fiduciary duties, constitutional requirements and in accordance with laws and regulations, MainePERS shall:

1. Maintain awareness of new and existing key ESG considerations and their impact on investment valuation, and update the due diligence process used to identify material ESG issues accordingly.
2. Examine and understand each potential or existing investment's material ESG risk exposure and use this knowledge when evaluating potential investments and during the duration of investment ownership.
3. Be accessible to, and engage with, relevant stakeholders.
4. Encourage and support the adoption and implementation of sound environmental, social, and governance practices by companies and managers in which MainePERS invests.
5. Encourage governance structures that provide appropriate levels of oversight in the areas of audit, risk management, and potential conflicts of interest.
6. Encourage MainePERS investments, and MainePERS business partners to commit to aligning their operations and strategies with the United Nations Global Compact's principles regarding human rights, labor, environment, and anti-corruption.
7. Provide timely and transparent information accessible by stakeholders on the matters addressed in this policy.

2.7 – Engagement

Date Adopted: February 11, 2016
Date Amended: October 11, 2018

Policy

MainePERS is the fiduciary for funds it is assigned to manage. MainePERS shall be a good steward for the funds entrusted to it, managing and investing these funds as a “prudent investor” in accordance with the “exclusive benefit rule” and the laws and Constitution of the State of Maine. MainePERS shall also promote the long-term success of companies with which the System invests through engagement activities.

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”).
- 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.

Engagement

Engagement is encouraging long-term success and growth of publicly traded companies with whom MainePERS invests through activities such as:

- Direct engagement
- Participating in or sponsoring shareholder litigation
- Proxy voting

DIRECT ENGAGEMENT

MainePERS will maintain a direct engagement effort consistent with the need for and resources available to encourage the publicly traded companies in its portfolio to achieve long term growth and success, balancing the long term focus of good stewardship with the short term challenges the company faces. Direct engagement opportunities may be based on continuous monitoring of its investments including investment analysis, trade publications, trade organizations, or coordination with other institutional investors.

Direct engagement includes written and oral communication to companies, including attending shareholder meetings and sponsoring shareholder resolutions in unusual circumstances.

SHAREHOLDER LITIGATION

MainePERS will participate in shareholder litigation only to the extent that participation is likely to benefit MainePERS members as pension beneficiaries. MainePERS generally will not assume the role of lead plaintiff in a securities class action unless no other investor with interests similar to MainePERS and sufficient resources to support the litigation is willing to serve as lead plaintiff and the System otherwise will lose the benefit of the litigation to members.

PROXY VOTING

MainePERS will vote its proxies in the best interests of its members as pension beneficiaries. This will generally mean focusing on good stewardship by the companies with which MainePERS invests, including:

- Voting to optimize each company's value to shareholders, balancing the long-term focus of good stewardship with the short-term challenges the company faces. Good stewardship includes establishment of effective governance and management practices, responsibility to employee and customer welfare, and responsibility to the environment;
- When there is a conflict between long- and short-term interests, voting shall be in favor of proposals that maximize shareholder control consistent with effective business operations of the company;
- Refraining from voting to further the interests of any group other than the best interests of MainePERS members as pension beneficiaries.

The Executive Director and Chief Investment Officer shall implement this direction by engaging a proxy voting agent to vote shares of stock owned by MainePERS. The MainePERS investment team shall create, maintain, and update general guidance in the following areas that the proxy voting agent can use to map to proxy votes available to MainePERS:

- Management resolutions
  - Elections of officers
  - Ratification of auditors
  - Governance structure and shareholder rights
  - Compensation
- Shareholder proposals
  - Environment
  - Social matters
  - Governance
  - Compensation
- Mergers and proxy contests

The MainePERS Investment team shall work with the proxy voting agent to determine MainePERS' position on proxies not directly covered by the implementation guidance. The Investment team shall monitor the proxy voting agent's implementation of the MainePERS guidance and report semi-annually to the Board of Trustees. The Board may meet with the proxy voting agent from time to time to discuss MainePERS' votes.

CONCLUSION

For further information please contact
esg@mainepers.org

MAINEPERS

BOARD OF TRUSTEES INVESTMENTS MEMORANDUM

TO: BOARD MEMBERS

FROM: JAMES BENNETT, CHIEF INVESTMENT OFFICER

SUBJECT: **GENERAL CONSULTANT REVIEW**

DATE: DECEMBER 1, 2022

Board Policies 2.1 and 4.4 require the Investment Team to evaluate the performance and contract terms of the System's investment consultants at least every five years and make a recommendation to the Board on whether to engage in a new competitive process to retain a consultant or to continue to retain the existing consultant without a new competitive process.

POLICY REFERENCE

Board Policy 2.1 – Investment Policy Statement

Board Policy 4.4 – Board / Consultants / Staff Relations

GENERAL CONSULTANT REVIEW PROCESS

The Investment Team performed a review of the System's general consultant relationship during fall 2022. The Investment Team began this process by identifying three prospective firms that provide general consulting services to large institutional investors, including public pension plans. A series of virtual meetings were held with each firm. The first was typically an hour long and geared toward developing familiarity – allowing the firm to develop an understanding of MainePERS' investment approach and the services sought, as well as, providing the firm an opportunity to present an overview of its capabilities. An in-depth meeting followed these calls to provide the firms an opportunity to present their teams and capabilities in more detail. These presentations typically involved senior consultants as well as professionals focused on capital markets research and strategic asset allocation. Indicative pricing for a general consulting mandate was also discussed as part of the process. Where applicable, the meeting also covered portals and analytical tools made available to clients.

In addition to the three prospective firms, Cambridge Associates, the System's current general consultant, also provided a review of its capabilities and services as part of this process. MainePERS has received advice and guidance from Cambridge Associates as its general consultant since 2015, and this relationship has been highly productive. The Investment Team's recommendation to retain Cambridge Associates as the System's general consultant is a recognition of the Firm's expertise and the Investment Team's belief that MainePERS will be best served by continuing this relationship.

RECOMMENDATION

That MainePERS continue to retain Cambridge Associates as general consultant.

MAINEPERS

BOARD OF TRUSTEES INVESTMENTS MEMORANDUM

TO: BOARD MEMBERS

FROM: JAMES BENNETT, CHIEF INVESTMENT OFFICER

SUBJECT: **PRIVATE MARKETS REVIEW**

DATE: DECEMBER 1, 2022

Following this memo, Trustees will find the Private Markets Activity memo and the alternatives consultants quarterly reviews for the period ended June 30, 2022. ORG will provide a review of the real estate portfolio, and Cliffwater will review the private equity, infrastructure, natural resources, and alternative credit portfolios. As a reminder, these quarterly reviews were moved to December due to time constraints at the November meeting.

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

MAINEPERS

BOARD OF TRUSTEES INVESTMENTS MEMORANDUM

TO: BOARD MEMBERS

FROM: JAMES BENNETT, CHIEF INVESTMENT OFFICER

SUBJECT: **INVESTMENT REVIEW**

DATE: DECEMBER 1, 2022

Following this memo is the Monthly Investment Review for November.

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 $18.3 billion.
- Monthly return of 2.4%.
- Calendar year-to-date return of -3.3%.
- Fiscal year-to-date return of 0.7%.

Investment Review
December 8, 2022

MainePERS
PUBLIC EMPLOYEES RETIREMENT SYSTEM

Investment Objective

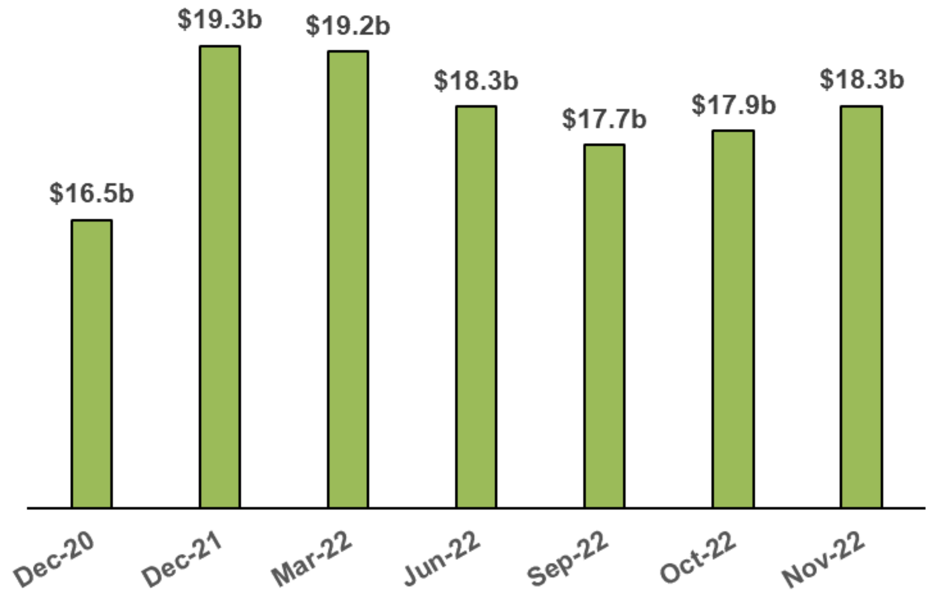
MainePERS' investment objectives balance the System's twin goals of generating investment returns (to ensure growth of the trust funds) and minimizing investment risks (loss of capital and cash flow shortfalls).

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.

November 2022 Performance (Preliminary)

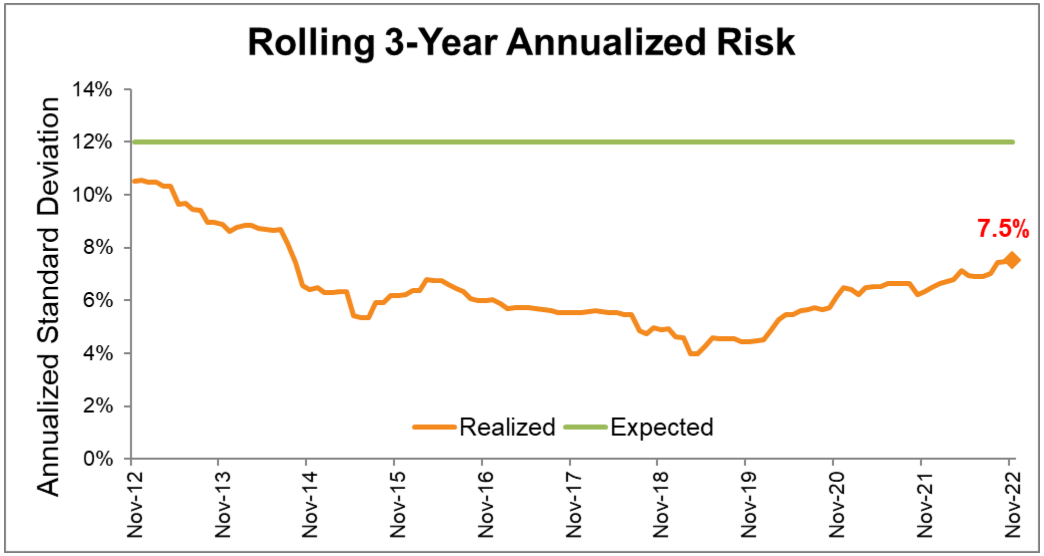
The preliminary fund value at the end of November is $18.3 billion.



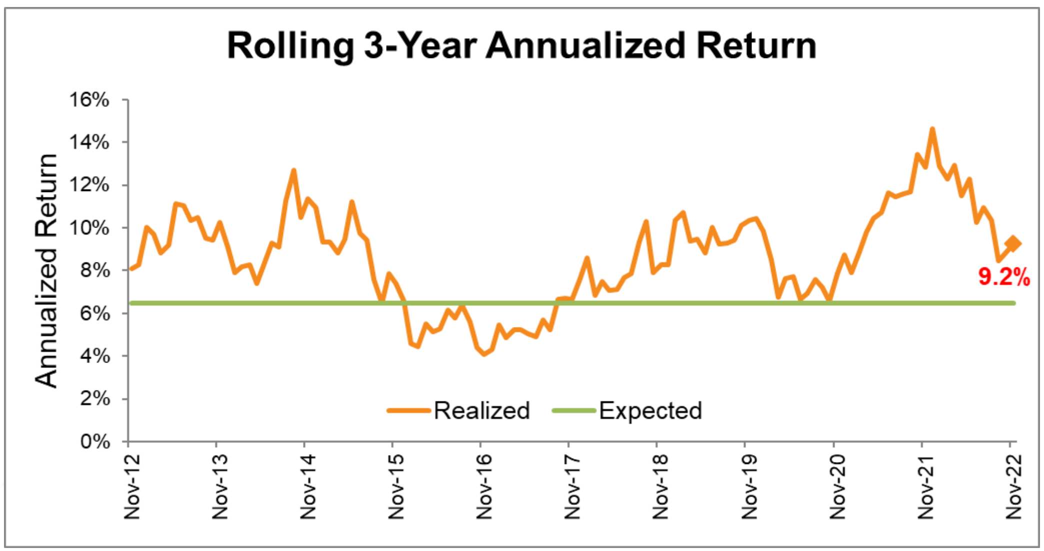
<u>Fund and Benchmark Returns</u>

	Nov-22	CYTD 2022	FYTD 2022
Total Fund	2.4%	-3.3%	0.7%
Russell 3000	5.2%	-14.2%	8.8%
MSCI ACWI ex-USA	11.8%	-15.4%	3.7%
Barclays Agg. Bond Index	3.7%	-12.6%	-2.5%

Investment Objective Measurement: Risk and Return



Despite a volatile year-to-date 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.

November 2022 Asset Allocation (Preliminary)

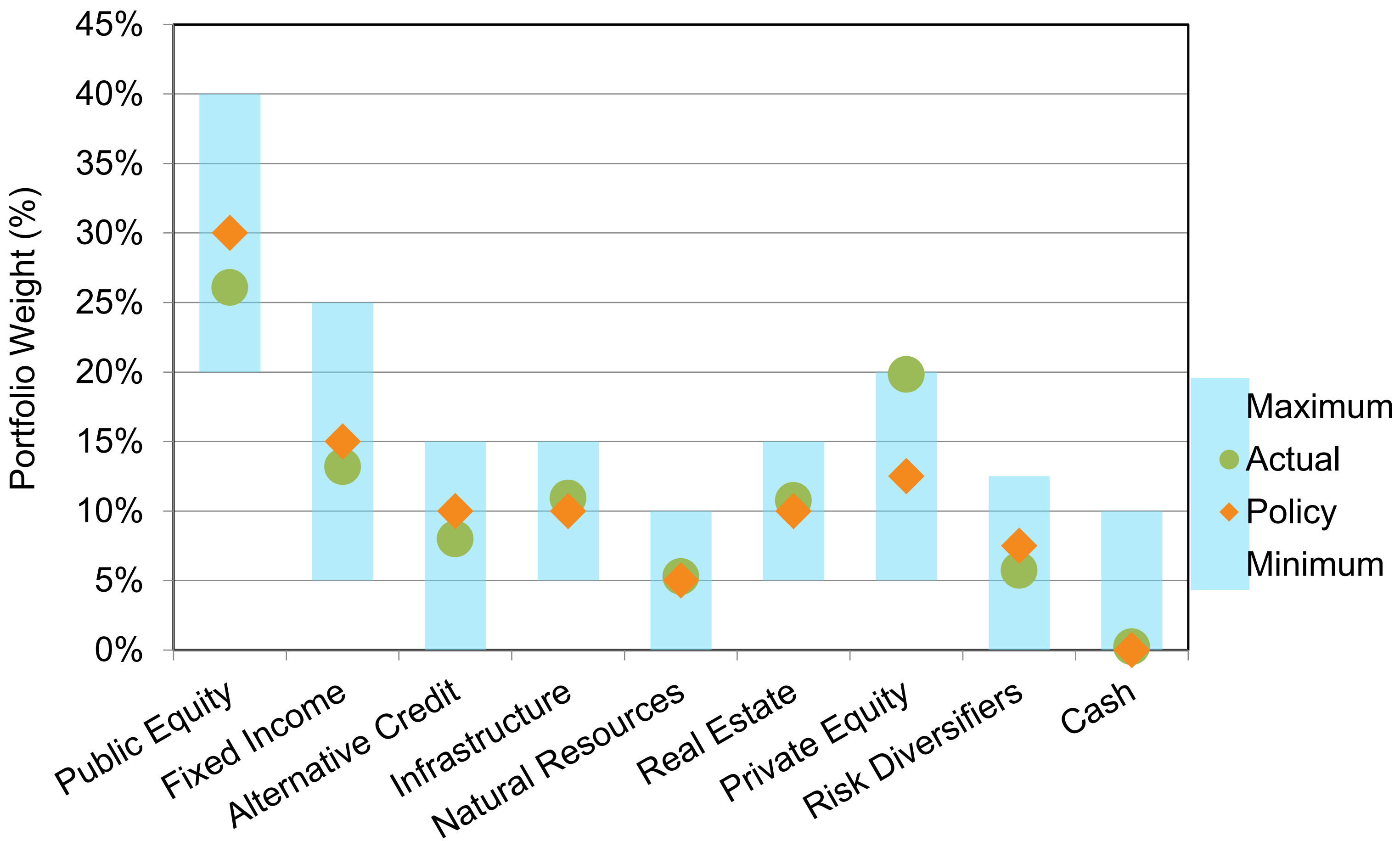
Assets (Millions)		Value	% of Fund	Policy %
MainePERS Portfolio	**$**	**18,338**	**100.0%**	**100.0%**
Domestic Equity	$	3,128	17.1%	18.9%
International Equity	$	1,904	10.4%	11.1%
Fixed Income	$	2,357	12.9%	15.0%
Alternative Credit	$	1,458	8.0%	10.0%
Infrastructure	$	1,987	10.8%	10.0%
Natural Resources	$	945	5.2%	5.0%
Private Equity	$	3,570	19.5%	12.5%
Real Estate	$	1,940	10.6%	10.0%
Risk Diversifiers	$	1,014	5.5%	7.5%
Cash	$	36	0.2%	0.0%

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

Private equity remains overweight at ~20% of Fund value, and private markets assets in aggregate comprise 54% of the overall portfolio, above the 47.5% policy weight.

* Total Public Equity policy weight is 30%, divided across U.S. and non-U.S. equities based on ACWI weights.

November 2022 Asset Allocation (Preliminary)

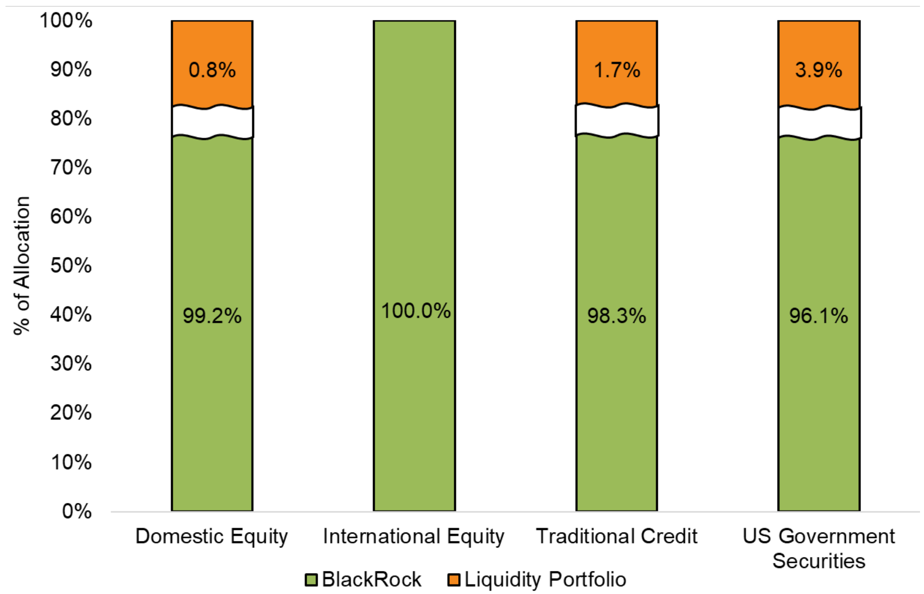


All asset classes are within their investment policy range. Private equity is just below its maximum policy range of 20%.

Public Securities: Liquidity Portfolio

At the end of November, 0.5% of Fund assets were invested via ETFs and futures contracts in an account managed by Parametric Associates.

The Liquidity Portfolio accounts for 1.4% of MainePERS' total exposure to public securities.



MainePERS Liquidity Portfolio	Market Value (Millions)	Exposure Type
Parametric Domestic Equity	$24.9	Futures
Parametric International Equity	$0.0	Futures
Parametric Traditional Credit	$14.0	ETFs
Parametric US Government Securities	$61.0	Futures
Total Liquidity Portfolio	**$99.9**	

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: November 2022

Description	FYTD 23	FY 22	FY 21	FY 20	FY 19
Investment Mgmt. Fees	$50,804,193	$119,200,558	$118,561,261	$124,480,394	$106,398,871
Securities Lending Fees [1]	406,288	1,744,317	1,653,172	2,239,396	2,226,826
Consulting Fees	466,667	1,120,000	1,120,000	1,120,000	1,120,000
Broker Commissions [2]	54,977	30,833	52,364	37,461	28,970
Placement Agent Fees	0	0	0	0	0
Total	**$51,732,125**	**$122,095,708**	**$121,386,797**	**$127,877,251**	**$109,774,667**
Percentage of Fund [3]	**0.68%**	**0.66%**	**0.67%**	**0.87%**	**0.74%**

1. Securities Lending Fees are through 10/31/2022
2. Actual paid commissions reported by JP Morgan
3. Annualized estimated total fees divided by the current fund value for FYTD 23. The prior years' calculations are actual fees divided by the June 30 market value of that year.

Securities Lending: October 2022

	Average Lendable Assets	Average Assets On Loan	Total Sec Lending Revenue	Revenue Split	MainePERS Net Income	MainePERS Net Income, FYTD
BlackRock						
Fixed Income	$1,955,659,487	$1,559,023,736	$122,484	60%/40%	$73,490	$339,484
Total Equity	$1,568,902,197	$196,154,924	$108,465	60%/40%	$72,915	$303,318
Total Blackrock	$3,524,561,684	$1,755,178,660	$230,949		$146,405	$642,802
JP Morgan						
Domestic Equities	$2,644,453,720	$131,136,713	$35,490	85%/15%	$30,173	$176,651
Total	**$6,169,015,404**	**$1,886,315,373**	**$266,439**		**$176,578**	**$819,453**

Total Annualized Securities Lending Income, FY 2023: $2,458,356 (0.01%, or 1.3 bps)

Total Actual Securities Lending Income, FY 2022: $3,118,726 (0.02%, or 1.7 bps)

Liquidity Schedule: November 2022

Term	Market Value	Percent of Portfolio
Liquid[1]	$7,424m	40.5%
Semi-Liquid[2]	$2,361m	12.9%
Illiquid[3]	$8,553m	46.6%
Total	**$18,338m**	**100.0%**

Sources and Uses of Liquidity

Private Markets Activity	**Last 12 Months Actual**	**Next 12 Months Projection**
Capital Contributions	-$1,613m	-$890m
Distributions	$1,682m	$1,750m
Net Private Markets Activity	**$69m**	**$860m**
Benefit Payments	**-$315m**	**-$420m**
Net Cash Flows	**-$246m**	**$440m**

[1]Liquid assets includes public equities and public fixed income
[2]Semi-liquid assets includes risk diversifiers, open-end real estate investments, and listed alternative credit funds
[3]Illiquid assets includes closed-end alternative credit, infrastructure, natural resources, private equity, and real estate funds

MainePERS Alternative Investments Summary

as of 11/30/2022	# of Funds	# of GP Relationships
Alternative Credit	22	13
Infrastructure	34	11
Natural Resources	15	10
Private Equity	120	33
Real Estate	32	18
Risk Diversifiers	9	7
Total*	**232**	**83**

*GP Total may not add due to overlapping relationships

Currently, MainePERS is invested in 232 funds, and has 83 distinct manager relationships.

MainePERS Alternative Investments Summary

(in $millions) *as of 11/30/2022*	Current Market Value Dollars		% of Fund	Policy %*	Unfunded Commitment Dollars		% of Fund
Alternative Credit	$	1,458	8.0%	10.0%	$	607	3.3%
Infrastructure	$	1,987	10.8%	10.0%	$	796	4.3%
Natural Resources	$	945	5.2%	5.0%	$	202	1.1%
Private Equity	$	3,570	19.5%	12.5%	$	1,148	6.3%
Real Estate	$	1,940	10.6%	10.0%	$	549	3.0%
Risk Diversifiers	$	1,014	5.5%	7.5%	$	100	0.5%
Total Alternatives	**$**	**10,914**	**59.5%**	**55.0%**	**$**	**3,403**	**18.6%**

For more details please see Private Markets Investment Summary at http://www.mainepers.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 6/30/2022 values, adjusted for subsequent cash flows.

(in $millions) *as of 11/30/2022*	Private Market Commitments by Vintage Year 2019		2020		2021		2022		3-Year Average[1]	
Alternative Credit	$	200	$	275	$	410	$	425	$	295
Infrastructure	$	350	$	235	$	180	$	200	$	255
Natural Resources	$	175	$	-	$	-	$	30	$	58
Private Equity	$	240	$	276	$	438	$	218	$	318
Real Estate	$	230	$	80	$	285	$	180	$	198
Total Commitments	**$**	**1,195**	**$**	**866**	**$**	**1,313**	**$**	**1,053**	**$**	**1,125**

[1]3-Year Average: 2019-2021

MainePERS Private Market Investments Summary: 06/30/2022

Asset Class Summary		Commitment (A)		Amount Contributed (B)		Total Distributions (C)		Current Market Value (D)		Total Value (C+D)	Interim Net IRR
Alternative Credit	$	1,967,790	$	1,428,081	$	486,077	$	1,148,035	$	1,634,112	6.7%
Infrastructure	$	3,259,920	$	3,091,295	$	2,456,026	$	2,022,936	$	4,478,963	11.6%
Natural Resources	$	1,015,500	$	1,047,549	$	409,042	$	956,032	$	1,365,074	7.3%
Private Equity	$	4,820,149	$	4,383,544	$	3,609,177	$	3,628,086	$	7,237,262	17.4%
Real Estate	$	2,742,564	$	2,433,613	$	1,766,485	$	1,906,030	$	3,672,515	7.9%
Total	$	13,805,923	$	12,384,082	$	8,726,808	$	9,661,119	$	18,387,927	11.3%

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	$	178,700	29	$	185,738	$	60,427	$	143,078	$	203,505	8.2%
Infrastructure Co-Investments	$	207,250	10	$	204,513	$	187,740	$	148,159	$	335,899	13.5%
Natural Resources Co-Investments	$	32,500	2	$	31,142	$	-	$	42,133	$	42,133	10.9%
Private Equity Co-Investments	$	370,496	30	$	352,577	$	308,610	$	264,532	$	573,142	16.2%
Real Estate Co-Investments	$	66,500	5	$	57,317	$	4,791	$	56,798	$	61,588	3.8%
Total	$	855,446	76	$	831,288	$	561,567	$	654,699	$	1,216,266	15.1%

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

(all dollar amounts in thousands)

MainePERS Private Market Investments Summary: 06/30/2022

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	$ 17,612	$ 14,189	$ 31,801	20.0%
Angelo Gordon Direct Lending Fund III	$ 100,000	7/20/2018	$ 100,633	$ 57,553	$ 74,045	$ 131,598	10.9%
Participation Agreement #1	$ 7,500	10/11/2019	$ 7,463	$ 1,314	$ 7,279	$ 8,593	7.7%
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	$ 7,500	10/18/2019	$ 7,488	$ 1,437	$ 7,208	$ 8,645	8.0%
Participation Agreement #5	$ 5,000	12/6/2019	$ 5,000	$ 1,696	$ 4,323	$ 6,019	8.8%
Participation Agreement #6	$ 10,000	12/6/2019	$ 9,991	$ 1,234	$ 9,810	$ 11,044	8.4%
Participation Agreement #7	$ 5,000	12/11/2019	$ 5,000	$ 1,167	$ 4,666	$ 5,833	6.9%
Participation Agreement #8	$ 5,000	8/13/2020	$ 4,914	$ 716	$ 4,818	$ 5,534	NM
Participation Agreement #9	$ 7,500	4/9/2021	$ 7,425	$ 623	$ 7,396	$ 8,019	NM
Participation Agreement #10	$ 5,000	4/20/2021	$ 5,007	$ 655	$ 4,772	$ 5,427	NM
Participation Agreement #11	$ 5,000	5/5/2021	$ 5,000	$ 489	$ 4,886	$ 5,375	NM
Angelo Gordon Direct Lending Fund IV	$ 100,000	1/24/2020	$ 75,000	$ 5,073	$ 81,927	$ 87,000	12.4%
Participation Agreement #1	$ 5,000	10/23/2020	$ 4,913	$ 1,089	$ 4,406	$ 5,495	NM
Participation Agreement #2	$ 12,500	8/17/2021	$ 12,295	$ 483	$ 12,335	$ 12,818	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	$ 216	$ 4,915	$ 5,131	NM
Participation Agreement #5	$ 5,000	12/21/2021	$ 4,925	$ 176	$ 4,916	$ 5,092	NM
Participation Agreement #6	$ 5,000	1/12/2022	$ 4,925	$ 170	$ 4,904	$ 5,074	NM
Participation Agreement #7	$ 7,500	1/12/2022	$ 7,388	$ 284	$ 7,338	$ 7,622	NM
Participation Agreement #8	$ 12,500	6/16/2022	$ 12,406	$ 63	$ 12,313	$ 12,376	NM
Angelo Gordon Direct Lending Fund IV Annex	$ 50,000	11/18/2021	$ 20,000	$ -	$ 20,587	$ 20,587	NM
Ares Capital Europe IV	$ 122,000	4/30/2018	$ 97,001	$ 19,457	$ 85,434	$ 104,891	3.2%
Ares Capital Europe V	$ 122,000	9/4/2020	$ 56,812	$ 1,054	$ 54,451	$ 55,505	NM
Ares Senior Direct Lending Fund II	$ 100,000	12/10/2021	$ 25,327	$ 795	$ 26,224	$ 27,019	NM
Audax Senior Debt (MP), LLC	$ 100,000	6/30/2017	$ 100,000	$ -	$ 122,648	$ 122,648	4.6%
Comvest Credit Partners VI	$ 125,000	5/20/2022	$ 6,250	$ -	$ 6,286	$ 6,286	NM
Deerpath Capital VI	$ 75,000	9/30/2021	$ 54,590	$ 1,384	$ 55,526	$ 56,910	NM
Global Infrastructure Partners Spectrum	$ 100,000	2/20/2019	$ 49,936	$ 17,491	$ 35,331	$ 52,822	NM
Mesa West Core Lending Fund	$ 100,000	6/18/2013	$ 118,530	$ 52,973	$ 119,555	$ 172,528	6.5%
Owl Rock Capital Corporation	$ 100,000	3/10/2017	$ 100,000	$ 22,638	$ 94,958	$ 117,596	4.5%
Participation Agreement #1	$ 5,000	5/7/2018	$ 4,851	$ 5,499	$ -	$ 5,499	12.7%

(all dollar amounts in thousands)

MainePERS Private Market Investments Summary: 06/30/2022

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
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	$ 4,827	$ 1,382	$ 4,511	$ 5,894	6.8%
Participation Agreement #6	$ 7,500	8/7/2020	$ 8,905	$ 2,783	$ 7,373	$ 10,156	NM
Participation Agreement #7	$ 7,500	7/26/2021	$ 6,565	$ 512	$ 6,567	$ 7,079	NM
Participation Agreement #8	$ 12,500	6/17/2022	$ 3,536	$ -	$ 3,571	$ 3,571	NM
Owl Rock Capital Corporation III	$ 100,000	6/19/2020	$ 107,089	$ 7,089	$ 105,724	$ 112,813	5.4%
Pathlight Capital Fund II	$ 75,000	4/22/2021	$ 98,876	$ 40,771	$ 62,212	$ 102,983	NM
Participation Agreement #1	$ 7,500	4/1/2022	$ 7,368	$ 146	$ 7,336	$ 7,482	NM
Participation Agreement #2	$ 7,500	4/1/2022	$ 7,429	$ 43	$ 7,433	$ 7,477	NM
Pathlight Capital Fund III	$ 75,000	6/24/2022	$ -	$ -	$ -	$ -	NM
Solar Capital Private Corporate Lending Fund	$ 50,000	6/26/2019	$ 35,139	$ 3,643	$ 37,165	$ 40,808	15.0%
Solar Capital Debt Fund	$ 50,000	6/26/2019	$ 14,706	$ 612	$ 16,225	$ 16,837	NM
Silver Point Specialty Credit II	$ 50,000	1/31/2020	$ 57,821	$ 21,181	$ 39,694	$ 60,875	7.5%
Tennenbaum Direct Lending VIII	$ 100,000	11/30/2017	$ 100,883	$ 73,413	$ 47,733	$ 121,146	6.4%

(all dollar amounts in thousands)

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Infrastructure

Fund Name	Commitment (A)	Date of Commitment	Amount Contributed (B)	Total Distributions (C)	Current Market Value (D)	Total Value (C+D)	Interim Net IRR
Alinda Infrastructure Fund II	$ 50,000	9/17/2009	$ 67,889	$ 64,449	$ 10,026	$ 74,475	2.1%
ArcLight Energy V	$ 75,000	10/28/2011	$ 76,031	$ 95,561	$ 7,982	$ 103,543	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	$ 86,490	$ 90,890	$ 177,380	2.8%
Great River Hydro Partners	$ 12,000	6/17/2017	$ 10,718	$ 8,639	$ 18,548	$ 27,187	30.0%
Brookfield Infrastructure Fund II	$ 100,000	6/28/2013	$ 115,841	$ 99,990	$ 87,913	$ 187,903	9.9%
Brookfield Infrastructure Fund III	$ 100,000	4/15/2016	$ 96,327	$ 44,079	$ 93,297	$ 137,376	11.8%
Co-Investment #1	$ 20,000	3/31/2017	$ 15,945	$ 17,596	$ 14,492	$ 32,088	26.2%
Carlyle Global Infrastructure Opportunity Fund	$ 100,000	5/1/2019	$ 76,949	$ 4,662	$ 79,871	$ 84,533	9.4%
Carlyle Infrastructure Partners	$ 50,000	11/2/2007	$ 57,366	$ 64,289	$ 387	$ 64,676	2.5%
Carlyle Power Partners II	$ 50,000	11/19/2015	$ 61,769	$ 29,038	$ 50,366	$ 79,403	8.9%
Cube Infrastructure	$ 45,000	4/16/2010	$ 60,063	$ 96,104	$ 1,068	$ 97,172	8.0%
Cube Infrastructure II	$ 90,000	9/11/2018	$ 73,467	$ 3,927	$ 75,646	$ 79,573	3.3%
Cube Infrastructure III	$ 90,000	8/16/2021	$ 17,597	$ -	$ 15,493	$ 15,493	NM
EQT Infrastructure III	$ 68,000	12/3/2016	$ 93,718	$ 127,290	$ 37,705	$ 164,995	21.4%
EQT Infrastructure IV	$ 100,000	12/17/2018	$ 88,063	$ 16,802	$ 94,460	$ 111,262	13.6%
EQT Infrastructure V	$ 75,000	12/8/2020	$ 37,251	$ 3,311	$ 30,971	$ 34,281	NM
First Reserve Energy Infrastructure Fund	$ 50,000	6/30/2010	$ 59,716	$ 51,704	$ 5,545	$ 57,249	-1.2%
First Reserve Energy Infrastructure Fund II	$ 100,000	10/21/2013	$ 125,740	$ 121,842	$ 38,964	$ 160,806	15.7%
Global Infrastructure Partners Sonic	$ 30,000	7/31/2020	$ 31,578	$ -	$ 24,437	$ 24,437	NM
Global Infrastructure Partners	$ 75,000	3/31/2008	$ 101,173	$ 205,062	$ 709	$ 205,771	17.2%
Global Infrastructure Partners II	$ 75,000	12/3/2011	$ 104,709	$ 143,427	$ 36,071	$ 179,498	16.1%
Global Infrastructure Partners III	$ 150,000	4/15/2016	$ 166,753	$ 63,713	$ 170,801	$ 234,513	11.2%
Co-Investment #1	$ 29,000	2/28/2017	$ 27,420	$ 15,870	$ 33,439	$ 49,309	15.2%
Co-Investment #2	$ 25,000	8/16/2018	$ 26,645	$ 2,489	$ 12,703	$ 15,192	-15.5%
Global Infrastructure Partners IV	$ 150,000	12/21/2018	$ 88,243	$ 8,385	$ 81,142	$ 89,527	2.0%
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	$ -	$ -	$ -	$ -	NM

(all dollar amounts in thousands)

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Infrastructure

Fund Name	Commitment (A)	Date of Commitment	Amount Contributed (B)	Total Distributions (C)	Current Market Value (D)	Total Value (C+D)	Interim Net IRR
KKR Global Infrastructure Investors	$ 75,000	9/29/2010	$ 87,917	$ 154,068	$ 22	$ 154,089	13.1%
KKR Global Infrastructure Investors II	$ 150,000	10/24/2014	$ 182,659	$ 218,162	$ 85,418	$ 303,580	16.9%
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	$ 34,190	$ 22,514	$ 56,704	21.9%
KKR Byzantium Infrastructure Aggregator	$ 15,000	10/17/2017	$ 15,000	$ 7,013	$ 9,737	$ 16,750	3.3%
KKR Global Infrastructure Investors III	$ 100,000	3/29/2018	$ 82,876	$ 17,277	$ 76,730	$ 94,007	8.0%
Meridiam Infrastructure (SCA)	$ 11,000	9/23/2015	$ 21,938	$ 9,271	$ 25,895	$ 35,166	8.5%
Meridiam Infrastructure Europe II (SCA)	$ 22,500	9/23/2015	$ 27,380	$ 13,797	$ 33,855	$ 47,652	11.6%
Meridiam Infrastructure Europe III SLP	$ 95,000	4/27/2016	$ 69,465	$ 13,144	$ 47,839	$ 60,983	-6.3%
Meridiam Sustainable Infrastructure Europe IV	$ 90,000	4/16/2021	$ 9,952	$ 4	$ 7,667	$ 7,670	NM
Meridiam Infrastructure N.A. II	$ 75,000	9/28/2012	$ 88,232	$ 31,084	$ 172,025	$ 203,109	18.7%
MINA II CIP	$ 175	6/30/2015	$ 169	$ 29	$ 19,399	$ 19,428	138.3%
Meridiam Infrastructure N.A. II	$ 20,000	6/30/2015	$ 18,870	$ 4,342	$ 44,076	$ 48,418	27.0%
Meridiam Infrastructure N.A. III	$ 50,000	7/12/2017	$ 13,887	$ 1	$ 21,779	$ 21,780	NM
Stonepeak Infrastructure Partners II	$ 140,000	11/12/2015	$ 188,331	$ 223,546	$ 46,284	$ 269,830	13.8%
Stonepeak Claremont Co-Invest	$ 25,000	5/30/2017	$ 25,000	$ 51,938	$ 15	$ 51,953	17.8%
Stonepeak Spear (Co-Invest) Holdings	$ 25,000	1/8/2018	$ 19,648	$ 1,717	$ 36,710	$ 38,427	17.0%
Stonepeak Infrastructure Partners III	$ 150,000	10/13/2017	$ 143,150	$ 39,705	$ 183,810	$ 223,515	21.6%
Stonepeak Infrastructure Partners IV	$ 125,000	5/8/2020	$ 46,994	$ 5,582	$ 44,065	$ 49,647	NM

(all dollar amounts in thousands)

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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	$ 60,516	$ 70,890	10.8%
ACM Permanent Crops II	$ 35,000	5/12/2016	$ 41,072	$ 8,885	$ 23,769	$ 32,654	-7.9%
AMERRA Agri Fund III	$ 50,000	2/11/2016	$ 96,188	$ 67,504	$ 32,564	$ 100,068	1.7%
Denham Mining Fund	$ 35,000	6/29/2018	$ 26,701	$ -	$ 38,728	$ 38,728	17.0%
Homestead Capital Farmland II	$ 50,000	8/8/2016	$ 54,272	$ 9,540	$ 53,369	$ 62,909	4.9%
Homestead Capital Farmland III	$ 30,000	10/26/2018	$ 19,862	$ 2,014	$ 19,344	$ 21,358	6.9%
Orion Mine Finance Fund II	$ 50,000	5/25/2016	$ 100,749	$ 74,178	$ 45,489	$ 119,667	8.9%
Orion Mine Finance Co-Fund II	$ 20,000	8/13/2018	$ 20,085	$ -	$ 32,934	$ 32,934	14.3%
Silver Creek Aggregate Reserves Fund	$ 100,000	11/6/2018	$ 15,166	$ 1,774	$ 16,721	$ 18,496	NM
Taurus Mining Fund	$ 50,000	3/27/2015	$ 41,459	$ 45,135	$ 4,406	$ 49,540	7.3%
Taurus Mining Fund Annex	$ 23,000	12/1/2016	$ 18,298	$ 22,993	$ 1,135	$ 24,128	17.9%
Taurus Mining Fund No. 2	$ 75,000	4/18/2019	$ 55,593	$ 42,630	$ 24,695	$ 67,325	25.0%
Teays River Integrated Agriculture	$ 200,000	7/1/2015	$ 198,989	$ 28,770	$ 344,882	$ 373,652	10.0%
Twin Creeks Timber	$ 125,000	1/7/2016	$ 198,940	$ 83,680	$ 125,271	$ 208,951	1.5%
U.S. Farming Realty Trust III	$ 100,000	7/7/2015	$ 110,017	$ 11,565	$ 123,011	$ 134,576	4.9%
Canally Coinvest Holdings	$ 12,500	12/9/2019	$ 11,057	$ -	$ 9,199	$ 9,199	-13.8%

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Private Equity

Fund Name	Commitment (A)	Date of Commitment	Amount Contributed (B)	Total Distributions (C)	Current Market Value (D)	Total Value (C+D)	Interim Net IRR
ABRY Advanced Securities Fund II	$ 20,000	5/4/2011	$ 20,530	$ 29,628	$ 521	$ 30,149	13.2%
ABRY Advanced Securities Fund III	$ 30,000	4/30/2014	$ 44,186	$ 19,942	$ 22,371	$ 42,313	-1.5%
ABRY Heritage Partners	$ 10,000	5/31/2016	$ 10,696	$ 10,879	$ 6,700	$ 17,579	27.0%
ABRY Partners VII	$ 10,000	4/29/2011	$ 12,930	$ 17,259	$ 2,461	$ 19,719	12.6%
ABRY Partners VIII	$ 20,000	8/8/2014	$ 23,751	$ 29,422	$ 3,854	$ 33,276	10.3%
ABRY Senior Equity IV	$ 10,000	12/7/2012	$ 10,819	$ 16,620	$ 1,686	$ 18,305	15.2%
ABRY Senior Equity V	$ 12,050	1/19/2017	$ 12,560	$ 3,933	$ 14,102	$ 18,035	18.6%
Advent International GPE VII	$ 30,000	6/29/2012	$ 34,511	$ 52,335	$ 6,187	$ 58,522	13.8%
Advent International GPE VIII	$ 50,000	2/5/2016	$ 55,594	$ 42,125	$ 59,814	$ 101,938	19.6%
Advent International GPE IX	$ 50,000	5/9/2019	$ 34,629	$ 3,998	$ 60,802	$ 64,800	49.0%
GPE IX TKE Co-Investment	$ 24,000	3/30/2020	$ 21,243	$ -	$ 21,110	$ 21,110	-0.3%
Advent International GPE X	$ 45,000	4/28/2022	$ -	$ -	$ -	$ -	NM
Advent Latin America PE Fund VI	$ 20,000	10/17/2014	$ 19,516	$ 10,750	$ 21,210	$ 31,960	16.4%
Affinity Asia Pacific Fund IV	$ 60,000	2/28/2013	$ 64,277	$ 68,021	$ 30,607	$ 98,628	14.5%
Affinity Asia Pacific Fund V	$ 40,000	12/11/2017	$ 16,134	$ 3,777	$ 17,092	$ 20,869	NM
Bain Capital Ventures 2021	$ 25,000	10/28/2020	$ 14,125	$ 1	$ 16,981	$ 16,982	NM
Bain Capital Ventures 2022	$ 25,000	6/10/2022	$ -	$ -	$ -	$ -	NM
Bain Capital Venture Coinvestment Fund III	$ 15,000	4/1/2021	$ 11,775	$ -	$ 14,143	$ 14,143	NM
Bain Capital Venture Coinvestment Fund IV	$ 15,000	6/10/2022	$ -	$ -	$ -	$ -	NM
Berkshire Fund VIII	$ 15,000	7/20/2011	$ 16,795	$ 24,989	$ 11,603	$ 36,593	17.4%
Berkshire Fund IX	$ 50,000	3/18/2016	$ 53,980	$ 24,021	$ 63,318	$ 87,339	19.6%
Blackstone Capital Partners VI	$ 30,000	6/30/2010	$ 37,416	$ 48,703	$ 12,463	$ 61,166	12.2%
Blackstone Capital Partners VII	$ 54,000	3/27/2015	$ 59,239	$ 29,960	$ 59,610	$ 89,570	15.6%
Carlyle Asia Partners III	$ 15,000	12/31/2009	$ 20,408	$ 29,734	$ 1,038	$ 30,772	12.5%
Carlyle Asia Partners IV	$ 60,000	6/3/2014	$ 77,167	$ 84,420	$ 35,232	$ 119,652	12.5%
Carlyle Asia Partners V	$ 45,000	10/30/2017	$ 29,741	$ 9,074	$ 26,375	$ 35,449	15.1%
Centerbridge Capital Partners III	$ 30,000	10/24/2014	$ 46,787	$ 41,510	$ 31,113	$ 72,624	19.8%
CB Blizzard Co-Invest	$ 10,000	9/11/2019	$ 15,684	$ 10,053	$ 1,592	$ 11,645	-39.4%
Charterhouse Capital Partners VIII	$ 13,500	1/6/2011	$ 11,188	$ 14,160	$ -	$ 14,160	7.9%

(all dollar amounts in thousands)

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Private Equity

Fund Name	Commitment (A)	Date of Commitment	Amount Contributed (B)	Total Distributions (C)	Current Market Value (D)	Total Value (C+D)	Interim Net IRR
Charterhouse Capital Partners IX	$ 4,500	1/6/2011	$ 5,373	$ 7,091	$ 127	$ 7,218	11.9%
Charterhouse Capital Partners X	$ 67,000	5/13/2015	$ 53,928	$ 40,175	$ 50,828	$ 91,003	20.2%
Charterhouse Acrostone	$ 12,000	8/24/2018	$ 13,254	$ 21,268	$ 9	$ 21,277	16.9%
Charterhouse Capital Partners XI	$ 45,000	4/23/2021	$ 0	$ -	$ (538)	$ (538)	NM
CVC Capital Partners VI	$ 67,000	7/12/2013	$ 94,227	$ 84,573	$ 84,251	$ 168,824	18.1%
CVC Capital Partners VII	$ 48,000	5/9/2017	$ 68,811	$ 32,011	$ 63,272	$ 95,283	25.9%
CVC Capital Partners VIII	$ 44,000	6/11/2020	$ 22,946	$ 14,073	$ 9,626	$ 23,699	16.2%
EnCap Energy Capital VIII	$ 30,000	1/31/2011	$ 34,181	$ 21,445	$ 13,446	$ 34,891	0.5%
EnCap Energy Capital Fund VIII Co-Investors, L.P.	$ 16,238	12/8/2011	$ 16,495	$ 5,144	$ 7,199	$ 12,342	-4.4%
EnCap Energy Capital Fund IX	$ 30,000	12/19/2012	$ 34,502	$ 33,735	$ 14,429	$ 48,164	10.0%
EnCap Energy Capital Fund X	$ 40,000	3/5/2015	$ 41,240	$ 30,173	$ 45,204	$ 75,377	16.7%
EnCap Energy Capital Fund XI	$ 40,000	5/31/2017	$ 32,160	$ 7,441	$ 36,489	$ 43,930	18.8%
EnCap Flatrock Midstream Fund III	$ 20,000	4/9/2014	$ 25,034	$ 16,752	$ 14,234	$ 30,986	8.4%
EnCap Flatrock Midstream Fund IV	$ 22,000	11/17/2017	$ 13,650	$ 7,094	$ 8,965	$ 16,059	8.0%
General Catalyst X - Early Venture	$ 19,565	3/26/2020	$ 18,391	$ -	$ 38,346	$ 38,346	69.9%
General Catalyst X - Endurance	$ 22,826	3/26/2020	$ 22,859	$ -	$ 25,986	$ 25,986	9.8%
General Catalyst X - Growth Venture	$ 32,609	3/26/2020	$ 30,815	$ -	$ 50,224	$ 50,224	39.8%
General Catalyst XI - Creation	$ 8,823	10/29/2021	$ 2,143	$ -	$ 2,093	$ 2,093	NM
General Catalyst XI - Endurance	$ 29,412	10/29/2021	$ 15,969	$ -	$ 15,384	$ 15,384	NM
General Catalyst XI - Ignition	$ 11,765	10/29/2021	$ 4,818	$ -	$ 4,796	$ 4,796	NM
GTCR Fund X	$ 30,000	1/28/2011	$ 31,766	$ 64,445	$ 164	$ 64,609	21.4%
GTCR Fund XI	$ 35,000	11/15/2013	$ 34,196	$ 67,178	$ 62,241	$ 129,419	38.1%
GTCR Fund XII	$ 50,000	9/29/2017	$ 51,223	$ 31,746	$ 53,948	$ 85,694	32.0%
Co-Investment #1	$ 5,238	4/26/2019	$ 4,556	$ -	$ 8,378	$ 8,378	21.4%
Co-Investment #2	$ 5,997	11/1/2019	$ 5,806	$ 10,935	$ 2,745	$ 13,680	50.3%
GTCR XIII	$ 50,000	10/27/2020	$ 12,430	$ 1,809	$ 16,220	$ 18,029	NM
H.I.G. Bayside Loan Fund II	$ 25,000	5/28/2010	$ 24,192	$ 29,602	$ 2,084	$ 31,686	6.6%
H.I.G. Bayside Loan Ops Fund III (Europe)	$ 30,000	7/27/2012	$ 26,707	$ 31,070	$ 4,292	$ 35,363	7.9%
H.I.G. Brazil & Latin America Partners	$ 60,000	7/1/2015	$ 63,534	$ 14,505	$ 85,577	$ 100,082	19.1%

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Private Equity

Fund Name	Commitment (A)	Date of Commitment	Amount Contributed (B)	Total Distributions (C)	Current Market Value (D)	Total Value (C+D)	Interim Net IRR
H.I.G. Capital Partners V	$ 15,000	2/28/2013	$ 18,834	$ 22,149	$ 13,816	$ 35,964	23.5%
H.I.G. Europe Capital Partners II	$ 22,500	7/1/2013	$ 25,240	$ 20,667	$ 13,518	$ 34,185	11.6%
H.I.G. Growth Buyouts & Equity Fund II	$ 17,500	6/30/2011	$ 22,235	$ 24,210	$ 17,576	$ 41,786	16.3%
H.I.G. Growth Buyouts & Equity Fund III	$ 35,000	9/13/2018	$ 11,852	$ -	$ 11,783	$ 11,783	NM
H.I.G Middle Market LBO Fund II	$ 40,000	2/7/2014	$ 47,563	$ 63,274	$ 29,688	$ 92,961	30.7%
Co-Investment #1	$ 9,000	10/12/2017	$ 9,000	$ -	$ 5,069	$ 5,069	-11.5%
Co-Investment #2	$ 686	6/19/2020	$ 686	$ -	$ 830	$ 830	9.8%
Co-Investment #3	$ 1,000	6/1/2021	$ 1,079	$ -	$ 1,355	$ 1,355	NM
H.I.G. Middle Market LBO Fund III	$ 40,000	7/23/2019	$ 25,920	$ 431	$ 29,729	$ 30,160	36.6%
Hellman & Friedman Capital Partners VII	$ 30,000	6/19/2009	$ 44,342	$ 105,630	$ 5,700	$ 111,329	24.7%
Hellman & Friedman Capital Partners VIII	$ 45,000	9/24/2014	$ 48,407	$ 26,428	$ 62,906	$ 89,334	18.8%
Hellman & Friedman Capital Partners IX	$ 45,000	9/28/2018	$ 43,952	$ 1,069	$ 52,786	$ 53,856	14.7%
Hellman & Friedman Capital Partners X	$ 45,000	5/10/2021	$ 24,529	$ -	$ 22,744	$ 22,744	NM
Inflexion Buyout Fund IV	$ 27,000	9/30/2014	$ 33,518	$ 34,364	$ 20,074	$ 54,439	14.4%
Inflexion Partnership Capital Fund I	$ 17,000	9/30/2014	$ 22,242	$ 25,566	$ 14,626	$ 40,192	21.6%
Inflexion Supplemental Fund IV	$ 10,000	5/31/2016	$ 14,245	$ 17,933	$ 8,920	$ 26,853	24.1%
Kelso Investment Associates VIII	$ 3,000	1/6/2011	$ 3,022	$ 4,263	$ 150	$ 4,412	8.2%
Kelso Investment Associates IX	$ 60,000	11/5/2014	$ 69,666	$ 75,442	$ 40,745	$ 116,186	20.2%
KIA IX (Hammer) Investor	$ 25,000	8/12/2016	$ 25,426	$ 69,298	$ 217	$ 69,515	21.4%
Kelso Investment Associates X	$ 45,000	3/16/2018	$ 39,687	$ 12,888	$ 57,695	$ 70,583	44.2%
Kelso Investment Associates XI	$ 45,000	12/22/2021	$ 1,547	$ -	$ 1,384	$ 1,384	NM
KKR North American Fund XI	$ 60,000	2/7/2012	$ 95,328	$ 147,951	$ 37,549	$ 185,500	20.1%
KKR North America Fund XI (Platinum)	$ 8,003	2/26/2016	$ 8,040	$ 2,313	$ 5,913	$ 8,226	0.5%
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	$ 59,957	$ 22,564	$ 80,449	$ 103,013	25.4%
KKR Sigma Aggregator	$ 15,000	6/22/2018	$ 15,000	$ -	$ 19,453	$ 19,453	6.7%
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	$ 4,320	$ 11,563	27.1%
KKR North America XIII	$ 40,000	6/25/2021	$ 6,689	$ -	$ 6,340	$ 6,340	NM

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Private Equity

Fund Name	Commitment (A)	Date of Commitment	Amount Contributed (B)	Total Distributions (C)	Current Market Value (D)	Total Value (C+D)	Interim Net IRR
KKR Special Situations Fund	$ 60,000	12/19/2012	$ 118,957	$ 97,434	$ 11,784	$ 109,218	-3.2%
KKR Special Situations Fund II	$ 60,000	12/19/2014	$ 97,892	$ 73,542	$ 33,439	$ 106,981	3.9%
Oaktree Opportunities VIII	$ 30,000	12/9/2009	$ 30,000	$ 43,849	$ 231	$ 44,080	9.1%
ONCAP IV	$ 15,000	11/8/2016	$ 12,053	$ 2,725	$ 16,468	$ 19,193	16.8%
Onex Partners III	$ 10,000	1/6/2011	$ 11,181	$ 16,832	$ 1,806	$ 18,637	13.2%
Onex Partners IV	$ 60,000	11/22/2013	$ 62,871	$ 43,444	$ 43,926	$ 87,370	8.2%
Co-Investment #1	$ 10,000	2/27/2017	$ 10,471	$ 1,181	$ 15,659	$ 16,841	10.3%
Onex Partners V	$ 45,000	7/11/2017	$ 38,694	$ 2,378	$ 43,005	$ 45,383	16.4%
Paine & Partners Capital Fund IV	$ 60,000	12/18/2014	$ 53,247	$ 29,070	$ 47,541	$ 76,611	9.6%
Wawona Co-Investment Fund I	$ 15,000	3/31/2017	$ 15,012	$ -	$ 8,623	$ 8,623	-10.0%
Lyons Magnus Co-Investment Fund I	$ 15,000	11/8/2017	$ 15,000	$ -	$ 36,054	$ 36,054	20.8%
PSP Maverick Co-Invest	$ 7,238	9/12/2019	$ 7,254	$ -	$ 12,681	$ 12,681	22.1%
PSP AH&N Co-Investment Fund	$ 19,724	11/27/2019	$ 17,539	$ -	$ 30,997	$ 30,997	26.9%
Paine Schwartz Food Chain Fund V	$ 45,000	8/3/2018	$ 39,651	$ 10,723	$ 40,653	$ 51,376	33.5%
SNFL Co-Investment Fund	$ 10,000	10/11/2019	$ 5,024	$ 265	$ 7,426	$ 7,691	17.0%
Rhone Partners V	$ 56,000	3/12/2015	$ 70,335	$ 32,124	$ 77,703	$ 109,827	17.0%
Riverside Capital Appreciation Fund VI	$ 60,000	7/3/2013	$ 61,710	$ 70,903	$ 24,886	$ 95,789	12.0%
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	$ 63,467	$ 246,582	38.1%
Riverside Micro-Cap Fund IV	$ 60,000	10/23/2015	$ 55,659	$ -	$ 100,335	$ 100,335	13.8%
Riverside Micro-Cap Fund IV-B	$ 20,000	8/9/2019	$ 24,292	$ 5,583	$ 33,991	$ 39,574	33.5%
Riverside Micro-Cap Fund V	$ 40,000	8/21/2018	$ 30,673	$ -	$ 42,243	$ 42,243	21.2%
Riverside Micro-Cap Fund VI	$ 45,000	8/26/2021	$ 0	$ -	$ (1,002)	$ (1,002)	NM
Shoreview Capital Partners III	$ 24,000	7/24/2013	$ 25,134	$ 28,438	$ 24,368	$ 52,807	20.0%
Shoreview Capital Partners IV	$ 30,000	6/3/2019	$ 10,422	$ 5,768	$ 8,609	$ 14,377	NM
Sovereign Capital IV	$ 46,500	7/7/2014	$ 40,344	$ 21,967	$ 36,141	$ 58,109	11.3%
Summit Partners Credit II	$ 60,000	10/25/2013	$ 90,550	$ 82,699	$ 24,406	$ 107,104	6.7%
Summit Europe Growth Equity III	$ 22,000	3/18/2020	$ 10,563	$ -	$ 10,066	$ 10,066	NM
Summit Growth Equity VIII	$ 25,000	5/27/2011	$ 33,302	$ 61,691	$ 16,007	$ 77,698	27.3%

(all dollar amounts in thousands)

MainePERS Private Market Investments Summary: 06/30/2022

Private Equity

Fund Name	Commitment (A)	Date of Commitment	Amount Contributed (B)	Total Distributions (C)	Current Market Value (D)	Total Value (C+D)	Interim Net IRR
Co-Investment #1	$ 16,000	6/3/2015	$ 16,000	$ 38,735	$ 16,654	$ 55,390	32.3%
Summit Growth Equity IX	$ 60,000	8/26/2015	$ 83,052	$ 88,968	$ 91,219	$ 180,187	37.4%
Co-Investment #1	$ 15,000	11/29/2016	$ 14,895	$ 41,104	$ -	$ 41,104	159.6%
Summit Partners Co-Invest (Ironman)	$ 15,000	4/20/2018	$ 15,001	$ -	$ 17,903	$ 17,903	4.5%
Summit Partners Co-Invest (Giants-B)	$ 15,000	10/22/2019	$ 15,000	$ 41,780	$ 5,244	$ 47,024	84.3%
Summit Growth Equity X	$ 60,000	2/26/2019	$ 57,704	$ 13,804	$ 55,502	$ 69,306	21.8%
Summit Partners Co-Invest (Lions)	$ 7,000	10/14/2020	$ 7,000	$ -	$ 7,096	$ 7,096	NM
Summit Partners Co-Invest (Indigo)	$ 10,000	12/11/2020	$ 11,432	$ -	$ 11,424	$ 11,424	NM
Summit Growth Equity XI	$ 45,000	10/1/2021	$ 0	$ -	$ (227)	$ (227)	NM
Summit Venture Capital III	$ 13,150	5/27/2011	$ 18,044	$ 32,899	$ 2,432	$ 35,332	17.5%
Summit Venture Capital IV	$ 40,000	8/26/2015	$ 49,739	$ 48,377	$ 57,247	$ 105,624	43.7%
Summit Venture Capital V	$ 45,000	6/16/2020	$ 18,361	$ 773	$ 17,229	$ 18,002	NM
Summit Partners Co-Invest (CS)	$ 12,000	10/22/2021	$ 12,007	$ -	$ 9,682	$ 9,682	NM
Technology Crossover Ventures VIII	$ 60,000	5/8/2013	$ 52,307	$ 39,509	$ 57,533	$ 97,042	10.7%
Technology Crossover Ventures IX	$ 60,000	2/19/2016	$ 48,428	$ 46,154	$ 49,123	$ 95,277	21.8%
TCV Sports	$ 8,000	9/25/2018	$ 8,000	$ -	$ 6,954	$ 6,954	-3.7%
Technology Crossover Ventures X	$ 45,000	8/31/2018	$ 33,774	$ -	$ 63,365	$ 63,365	31.9%
Technology Crossover Ventures XI	$ 45,000	10/2/2020	$ 19,087	$ -	$ 19,366	$ 19,366	NM
Technology Impact Fund	$ 40,000	12/18/2017	$ 35,377	$ 22,270	$ 81,658	$ 103,928	60.2%
Technology Impact Fund II	$ 40,000	4/13/2021	$ 8,320	$ -	$ 8,689	$ 8,689	NM
Technology Impact Growth Fund	$ 40,000	11/26/2018	$ 47,422	$ 26,676	$ 32,519	$ 59,195	13.8%
Technology Impact Growth Fund II	$ 40,000	8/6/2021	$ 5,562	$ -	$ 4,667	$ 4,667	NM
Thoma Bravo Fund XI	$ 50,000	5/1/2014	$ 69,098	$ 119,295	$ 68,974	$ 188,270	27.4%
Thoma Bravo Fund XII	$ 60,000	4/27/2016	$ 72,729	$ 45,352	$ 87,087	$ 132,438	16.9%
Thoma Bravo Fund XIII	$ 45,000	12/7/2018	$ 56,723	$ 30,516	$ 64,082	$ 94,599	37.4%
Thoma Bravo Special Opportunities Fund II	$ 15,000	3/27/2015	$ 17,555	$ 18,290	$ 17,372	$ 35,662	17.1%
Tillridge Global Agribusiness Partners II	$ 50,000	10/21/2016	$ 24,318	$ 125	$ 19,937	$ 20,062	NM
Water Street Healthcare Partners III	$ 25,000	7/25/2012	$ 29,674	$ 76,771	$ 7,660	$ 84,431	35.4%
Water Street Healthcare Partners IV	$ 33,000	9/15/2017	$ 31,714	$ 10,624	$ 26,546	$ 37,170	8.6%

(all dollar amounts in thousands)

MainePERS Private Market Investments Summary: 06/30/2022

Private Equity

Fund Name	Commitment (A)	Date of Commitment	Amount Contributed (B)	Total Distributions (C)	Current Market Value (D)	Total Value (C+D)	Interim Net IRR
Water Street Healthcare Partners V	$ 43,000	4/15/2022	$ -	$ -	$ -	$ -	NM
Wayzata Opportunities Fund III	$ 30,000	9/11/2012	$ 14,718	$ 10,063	$ 3,926	$ 13,989	NM
Wynnchurch Capital Partners IV	$ 40,000	10/23/2014	$ 38,047	$ 35,402	$ 56,314	$ 91,716	29.1%
Wynnchurch Capital Partners V	$ 40,000	1/15/2020	$ 16,260	$ -	$ 22,107	$ 22,107	NM

(all dollar amounts in thousands)

MainePERS Private Market Investments Summary: 06/30/2022

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	$ 29,237	$ 1,036	$ 31,074	$ 32,110	7.5%
Angelo Gordon Realty Fund XI	$ 50,000	3/31/2022	$ -	$ -	$ -	$ -	NM
Bain Capital Real Estate II	$ 50,000	3/5/2021	$ 15,667	$ 920	$ 18,592	$ 19,511	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	$ 31,542	$ 472,291	$ 503,833	10.5%
Blackstone Real Estate Partners VII	$ 75,000	2/26/2012	$ 104,132	$ 152,899	$ 19,288	$ 172,187	15.5%
Blackstone Real Estate Partners VIII	$ 50,000	3/27/2015	$ 62,958	$ 63,322	$ 41,618	$ 104,940	18.0%
Blackstone Real Estate Partners IX	$ 40,000	12/21/2018	$ 31,699	$ 13,388	$ 36,724	$ 50,112	39.8%
Barings Asia Real Estate II	$ 50,000	7/31/2018	$ 21,041	$ -	$ 19,067	$ 19,067	NM
EQT Real Estate II	$ 55,000	4/26/2019	$ 21,269	$ 4,956	$ 17,656	$ 22,611	NM
EQT Real Estate Rock Co-Investment	$ 11,000	8/10/2020	$ 8,790	$ -	$ 10,934	$ 10,934	NM
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	$ 94,737	$ 47,941	$ 134,763	$ 182,704	9.1%
HSRE-Coyote Maine PERS Core Co-Investment	$ 20,000	12/4/2020	$ 14,000	$ -	$ 17,342	$ 17,342	NM
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	$ 36,045	$ -	$ 36,045	13.2%
High Street Real Estate Fund VI	$ 25,000	3/22/2019	$ 25,000	$ 2,598	$ 30,485	$ 33,084	18.6%
HSREF VI Elgin Co-Invest	$ 10,000	4/9/2021	$ 10,000	$ 631	$ 12,521	$ 13,152	NM
High Street Real Estate Fund VII	$ 35,000	8/16/2021	$ 13,260	$ -	$ 12,469	$ 12,469	NM
Hines US Property Partners	$ 200,000	9/9/2021	$ 79,719	$ 3,645	$ 76,331	$ 79,976	NM
Invesco Real Estate Asia IV	$ 30,000	3/25/2020	$ 17,906	$ 10,069	$ 6,210	$ 16,279	-27.6%
Invesco US Income Fund	$ 195,000	7/17/2014	$ 167,184	$ 53,462	$ 292,696	$ 346,157	13.3%
IPI Data Center Partners I	$ 30,000	12/15/2017	$ 31,645	$ 16,578	$ 40,668	$ 57,246	25.6%
IPI Data Center Partners II	$ 25,000	12/20/2019	$ 12,311	$ 1,619	$ 10,469	$ 12,088	NM
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	$ 51,092	$ 44,022	$ 22,197	$ 66,219	10.3%
KKR Real Estate Partners Europe II	$ 25,000	12/23/2019	$ 17,085	$ 3,288	$ 16,371	$ 19,659	26.7%
KKR Real Estate Partners Americas I	$ 50,000	12/20/2013	$ 49,812	$ 59,226	$ 2,502	$ 61,729	11.2%
KKR Real Estate Partners Americas II	$ 50,000	6/2/2016	$ 57,945	$ 66,550	$ 18,045	$ 84,596	25.0%
Northbridge-Strategic Fund II	$ 30,000	2/8/2019	$ 30,000	$ 2,905	$ 38,352	$ 41,257	10.3%
Prima Mortgage Investment Trust, LLC	$ 75,000	7/29/2011	$ 97,488	$ 92,443	$ 39,465	$ 131,908	3.8%

(all dollar amounts in thousands)

MainePERS Private Market Investments Summary: 06/30/2022

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
Principal Life Insurance Company U.S. Property	$ 60,000	5/20/2005	$ 60,000	$ 125,410	$ -	$ 125,410	6.2%
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	$ 28,925	$ 29,552	-1.0%
LCC Co-Investor B	$ 15,000	10/18/2019	$ 14,917	$ -	$ 11,408	$ 11,408	-11.1%
Rubenstein Properties Fund IV	$ 25,000	4/16/2019	$ 5,700	$ 56	$ 4,352	$ 4,408	NM
Prudential Senior Housing Fund V	$ 50,000	3/17/2015	$ 41,333	$ 5,453	$ 51,038	$ 56,491	7.0%
Smart Markets Fund, L.P.	$ 195,000	6/17/2013	$ 168,182	$ 60,323	$ 286,118	$ 346,441	11.4%
Stonelake Opportunity Partners VII	$ 40,000	6/30/2022	$ 0	$ -	$ (284)	$ (284)	NM
Walton Street Real Estate Fund VII	$ 50,000	5/9/2012	$ 43,990	$ 49,099	$ 13,039	$ 62,138	10.0%
Walton Street Real Estate Fund VIII	$ 50,000	10/23/2015	$ 42,685	$ 27,936	$ 32,505	$ 60,441	12.4%
Co-Investment #1	$ 10,000	9/27/2017	$ 9,610	$ 4,160	$ 4,592	$ 8,752	-3.0%
Westbrook Real Estate Fund IX	$ 15,000	6/30/2014	$ 17,380	$ 17,500	$ 3,098	$ 20,599	6.3%
Westbrook Real Estate Fund X	$ 50,000	1/15/2015	$ 48,455	$ 42,649	$ 18,281	$ 60,931	11.1%
Westbrook Real Estate Fund XI	$ 40,000	1/31/2019	$ 16,802	$ 4,571	$ 14,826	$ 19,397	NM

(all dollar amounts in thousands)

MainePERS Private Market Investments Summary: 06/30/2022

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.

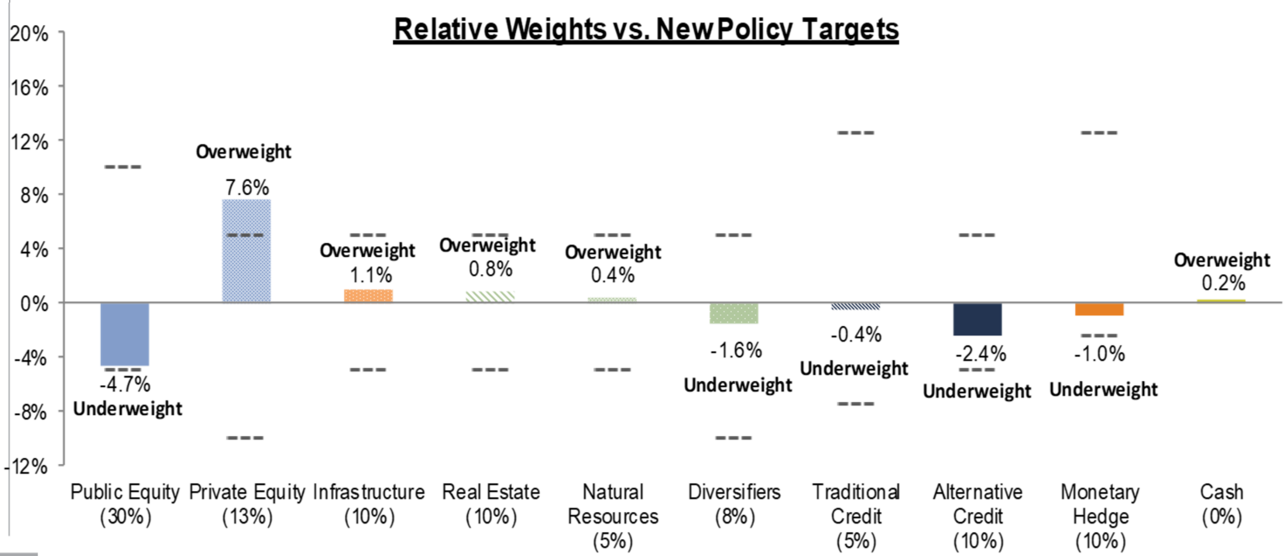
MainePERS Dashboard as of September 30, 2022

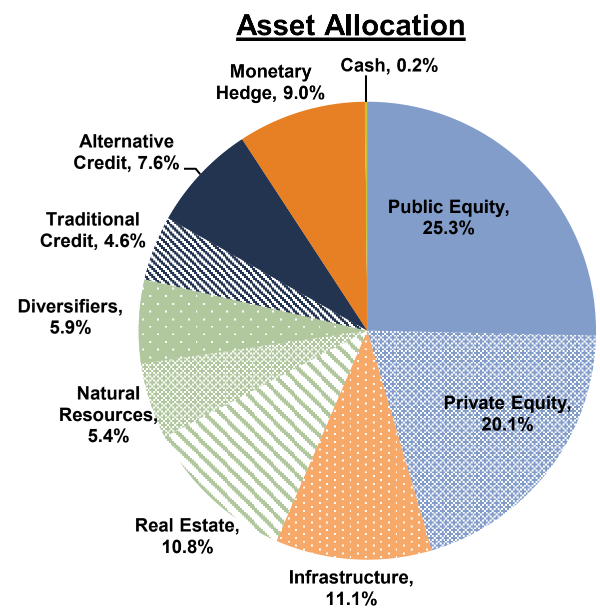
Summary Portfolio Observations

- The MainePERS total portfolio market value at the end of Q3 2022 was $17,719.5 million. The portfolio returned -3.1% in the quarter ended September 30, 2022, with relative outperformance primarily driven by Private Equity and Alternative Credit. Over the past five years, the portfolio has generated annualized returns of +8.0%.

Total Fund Performance (9/30/2022)

	Q3 2022	Tr. 1 Year	Tr. 3 Year	Tr. 5 Year
Total Fund Composite	-3.1	-2.6	8.5	8.0
MainePERS Policy Index	-5.2	-6.5	6.6	6.7
Value Add	**2.1**	**3.8**	**1.9**	**1.3**





Note: Asset classes with a solid fill are passively managed, while those with a patterned fill are actively managed

MAINEPERS

THIRD QUARTER 2022 PERFORMANCE REVIEW

CAMBRIDGE ASSOCIATES

NOVEMBER 2022

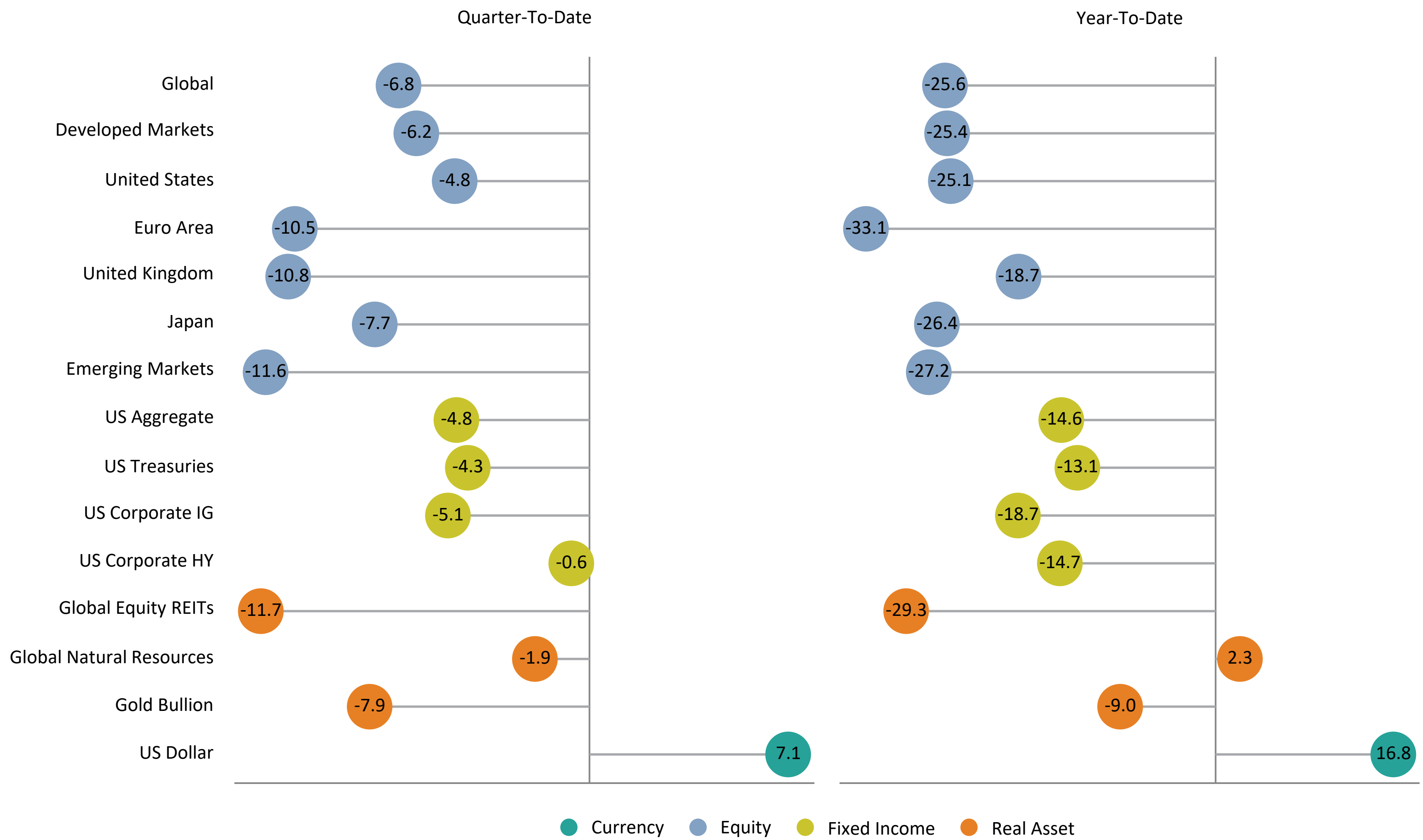
MARKET UPDATE

CAMBRIDGE ASSOCIATES

Rising rates and inflationary pressures batter markets in Q3

GLOBAL ASSET CLASS PERFORMANCE

As of September 30, 2022 • US Dollar • Percent (%)



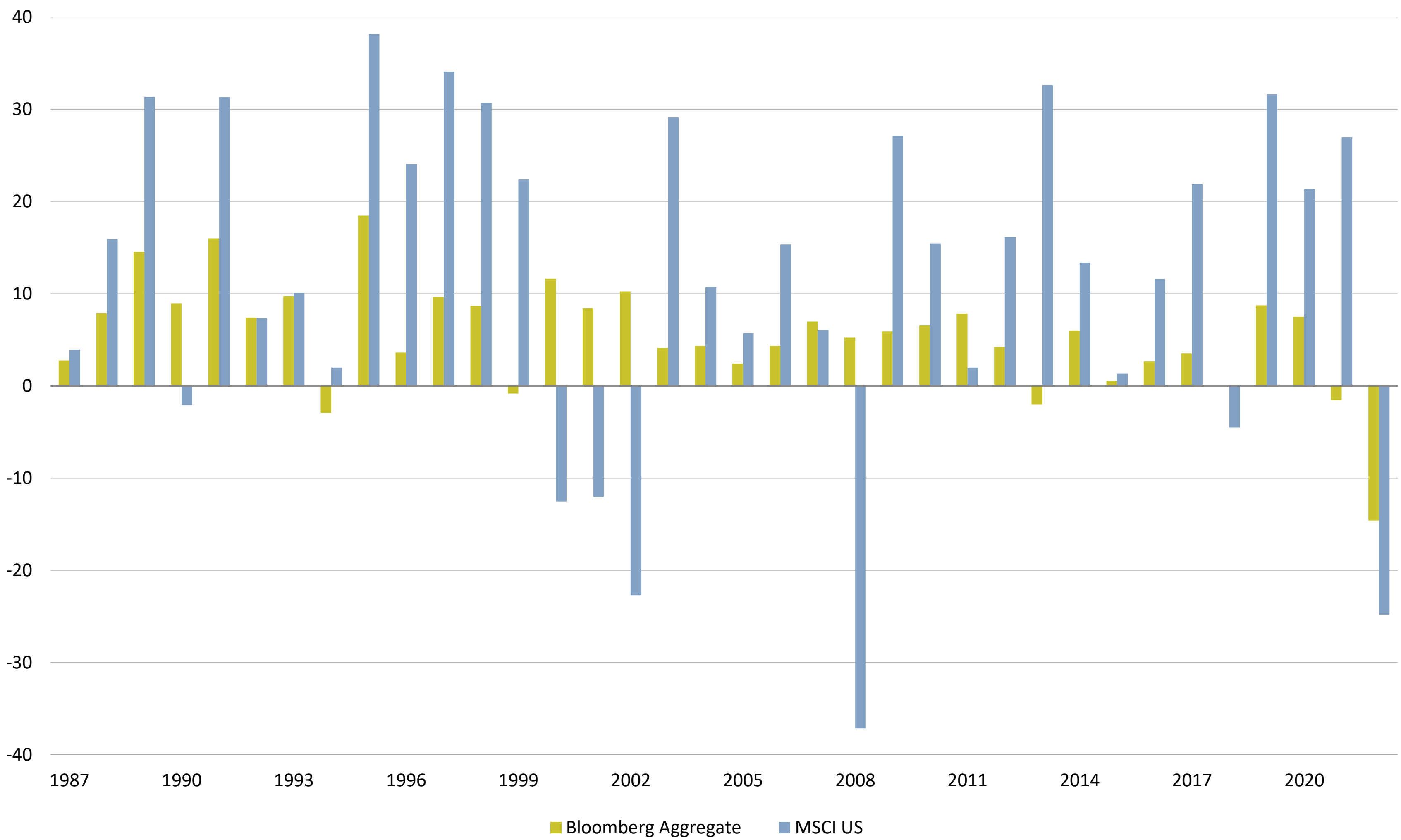
Sources: Bloomberg Index Services Limited, MSCI Inc., and Thomson Reuters Datastream. MSCI data provided "as is" without any express or implied warranties.

Notes: All data are in US Dollar terms. The equity data are total returns net of dividend taxes of MSCI indexes. The fixed income data are total returns of Bloomberg Barclays indexes. The MSCI Global Equity REIT Index, the MSCI ACWI Commodity Producers Index, and front-month gold contracts as traded on the New York Mercantile Exchange are used to calculate real asset performances. The US Dollar Index (DXY) is used to calculate US Dollar performances.

70/30 on track for worst year since 2008

BLOOMBERG AGGREGATE AND MSCI US CALENDAR YEAR RETURNS

1987–2022 • Total Return in USD (%)

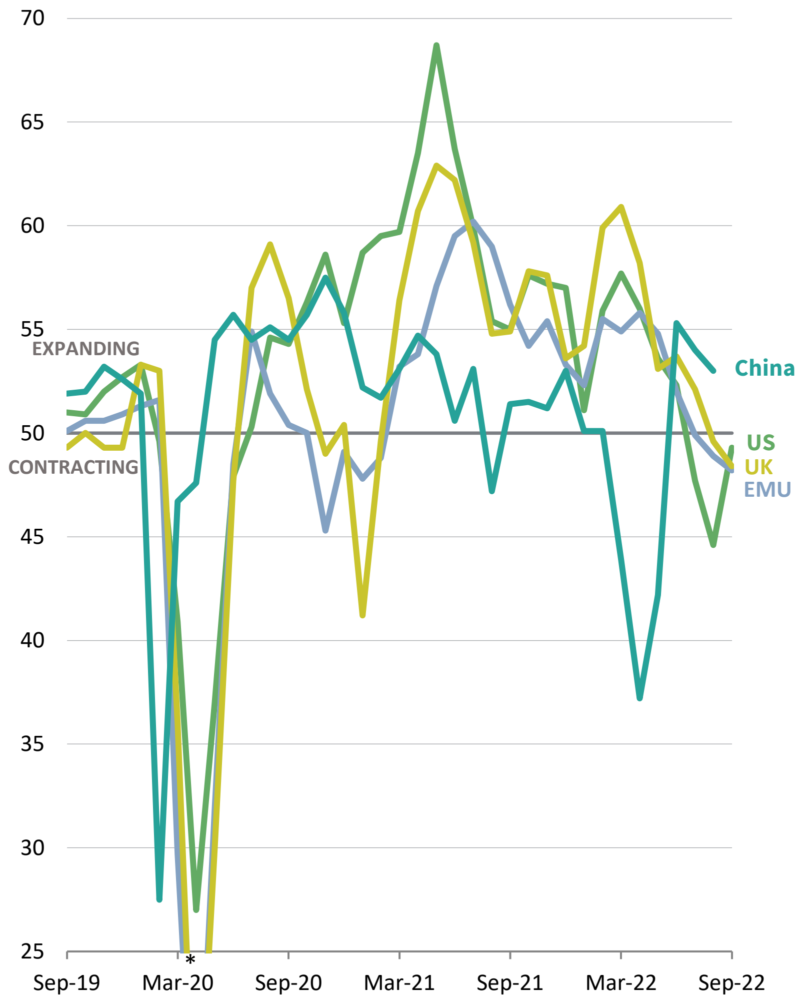


Sources: Bloomberg Index Services Limited, MSCI Inc., and Thomson Reuters Datastream. MSCI data provided "as is" without any express or implied warranties.
Notes: Data for 2022 are through September 30. MSCI US data are total returns gross of dividend taxes.
MMHC

Growth is fading, but the magnitude of the slowdown remains uncertain

COMPOSITE PMIs

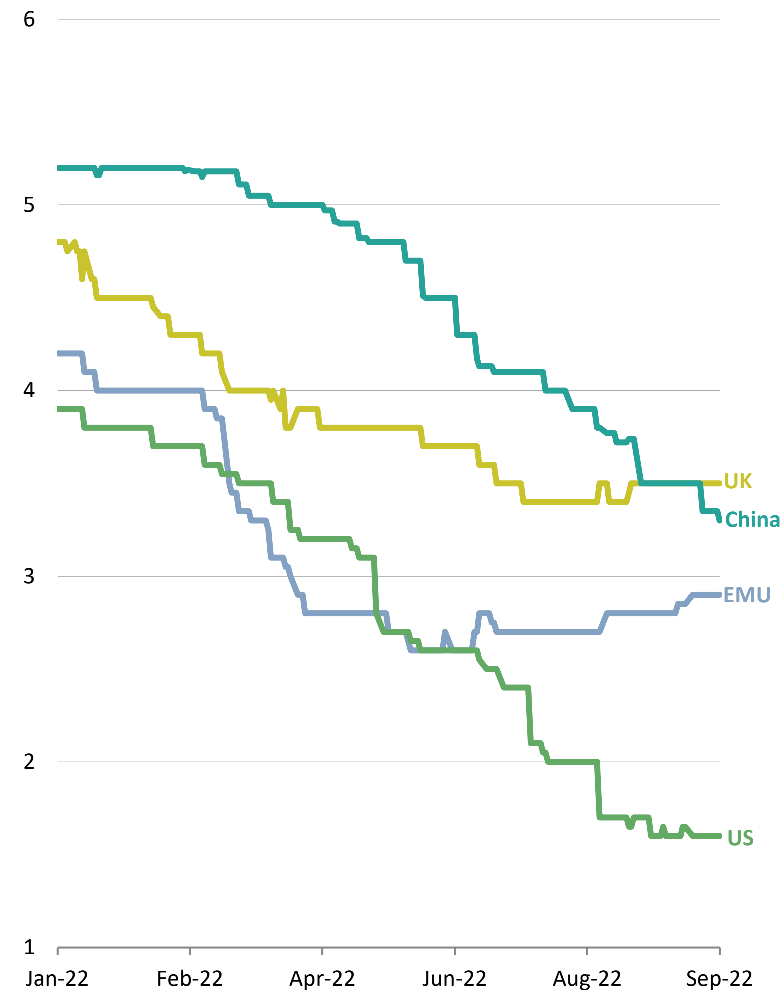
September 30, 2019 – September 30, 2022



* Chart is capped for scaling purposes.

2022 CONSENSUS GDP GROWTH ESTIMATES

December 31, 2021 – September 30, 2022 • Percent (%)

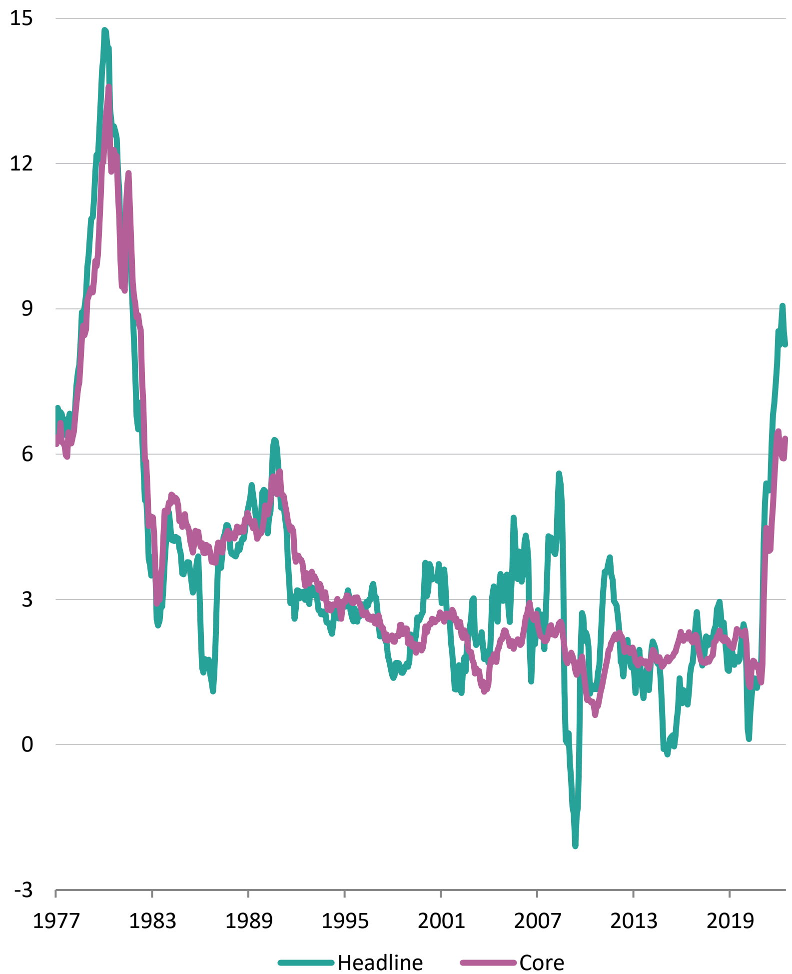


Sources: Bloomberg L.P., Markit Economics, and Thomson Reuters Datastream.
Notes: Composite PMI data are flash estimates. Data for China are as of August 31. GDP growth forecasts for 2022 are based on median estimates.
MMHC

Inflation remains stubbornly high, but is still expected to rollover

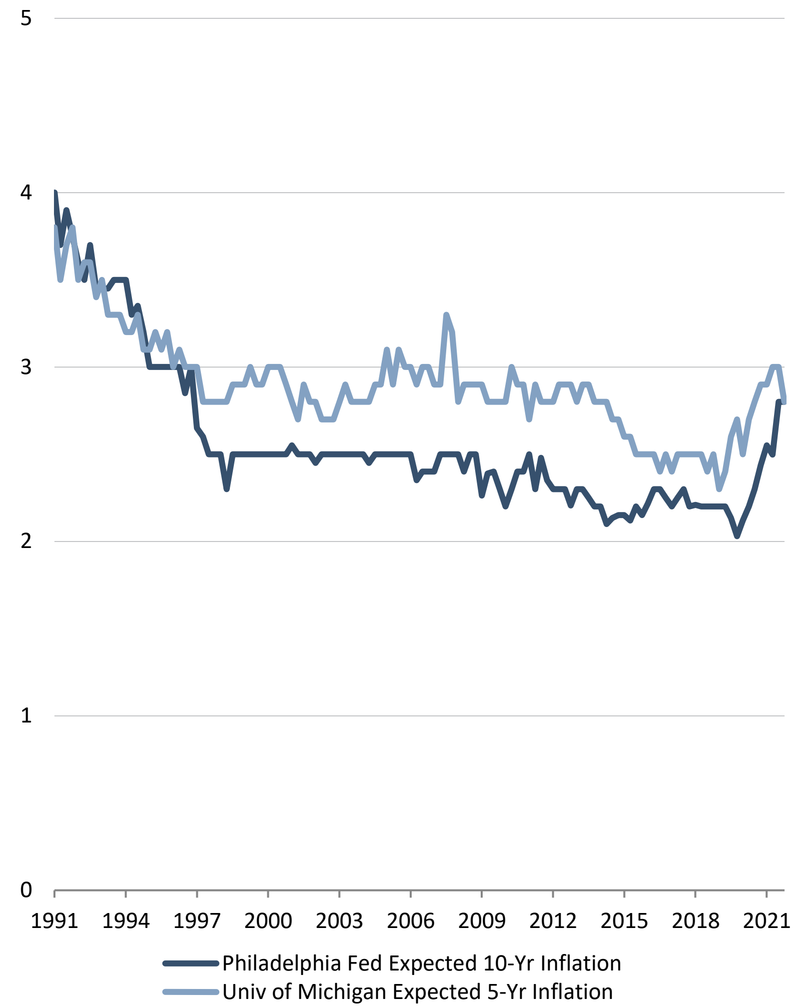
US HEADLINE AND CORE INFLATION

March 31, 1977 – August 31, 2022 • Year-Over-Year Percent Change (%)



INFLATION EXPECTATIONS

December 31, 1991 – September 30, 2022 • Percent (%)

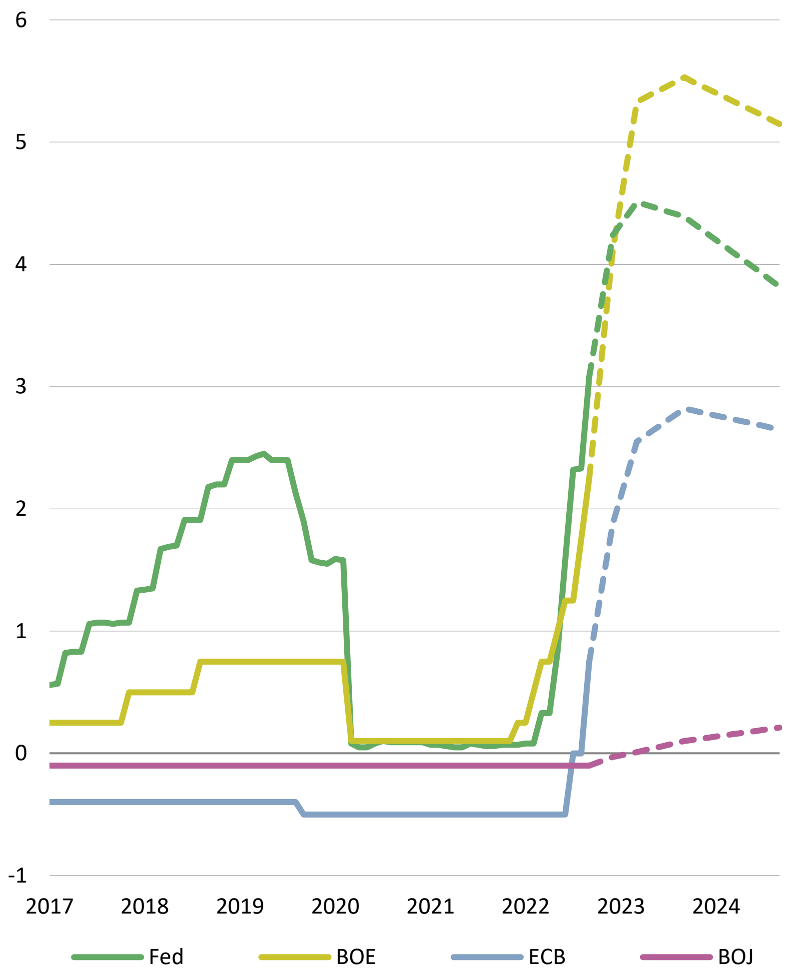


Sources: Philadelphia Federal Reserve, Thomson Reuters Datastream, University of Michigan, and US Department of Labor - Bureau of Labor Statistics.
Notes: Headline and Core Inflation data are monthly. University of Michigan consumer survey data represent the median expected change in prices over the next five years. Philadelphia Federal Reserve data represent survey of professional forecasters expected inflation over the next ten years. Inflation expectation data are quarterly.
MMHC

Aggressive tightening by central banks has resulted in a shift to higher bond yields

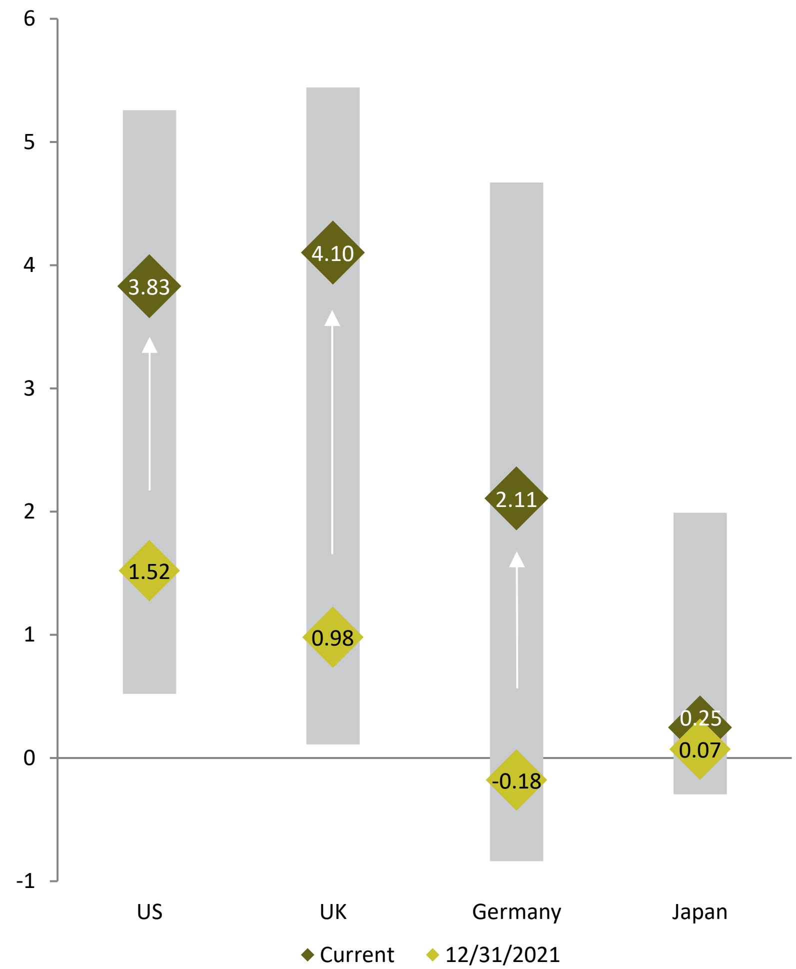
G4 GLOBAL POLICY RATES

January 1, 2017 – September 30, 2024 • Percent (%)



TRAILING 20-YR RANGE OF 10-YR G4 GOVERNMENT BOND YIELDS

October 31, 2002 – September 30, 2022 • Yield (%)

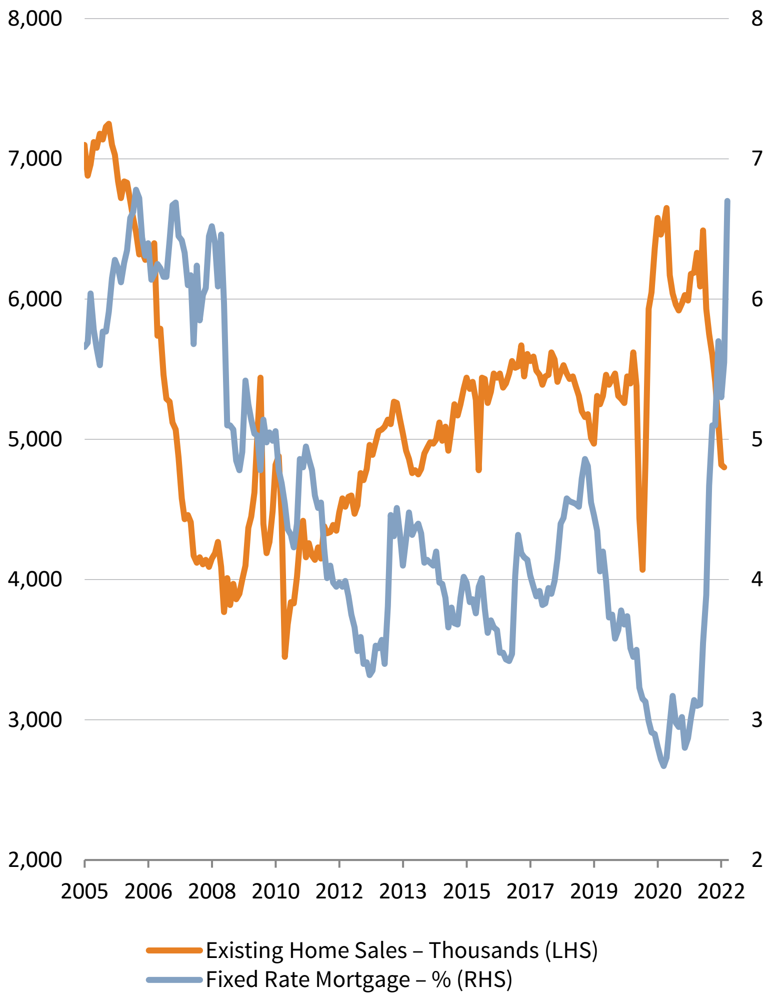


Sources: Bank of England, Bank of Japan, Bloomberg L.P., European Central Bank, Federal Reserve, and Thomson Reuters Datastream.
Notes: Policy rate data are as of September 30, 2022. Policy rate data are estimated after September 30, 2022, and based on market implied rates. Federal Reserve data are based on the effective federal funds rate.
MMHC

Rapid pace of Fed tightening is impacting markets like housing

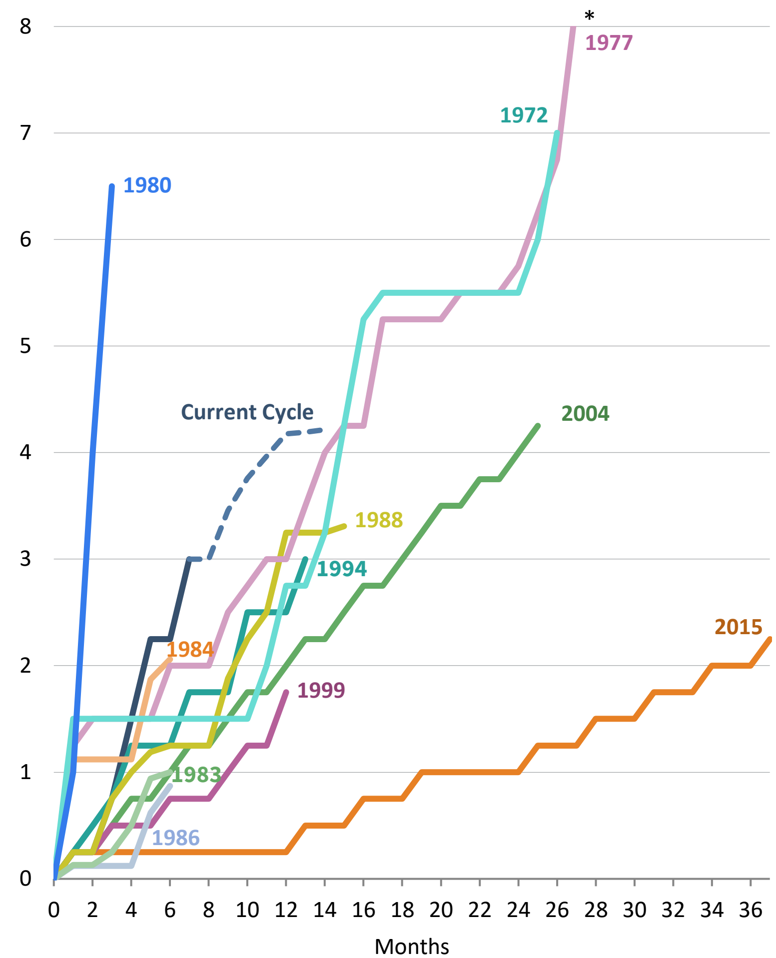
HOME SALES AND 30-YR MORTGAGE RATES OVER TIME

January 31, 2005 – September 30, 2022



PACE OF FED FUNDS RATE HIKES SINCE 1972

January 31, 1971 – September 30, 2022 • Cumulative Change in Fed Funds Rate (%)



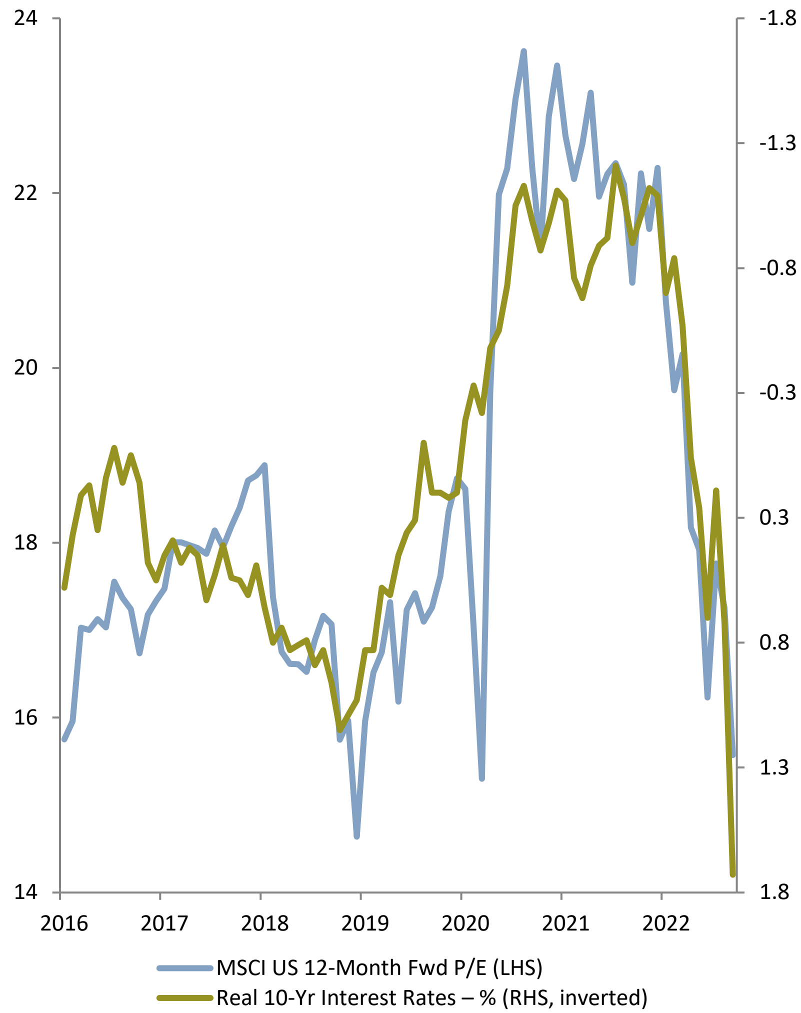
* Y-axis are capped for scaling purposes. The fed funds rate increased 11.75% during the 1977 rate hiking cycle.

Sources: Bloomberg L.P., Federal Reserve, FreddieMac, National Association of Realtors, and Thomson Reuters Datastream.
Notes: Data are monthly. The existing home sales data are through August 31, 2022. The dashed line on the RHS chart reflects estimates based on fed funds futures curve data.
MMHC

Rising interest rates have weighed on valuations and aided value versus growth stocks

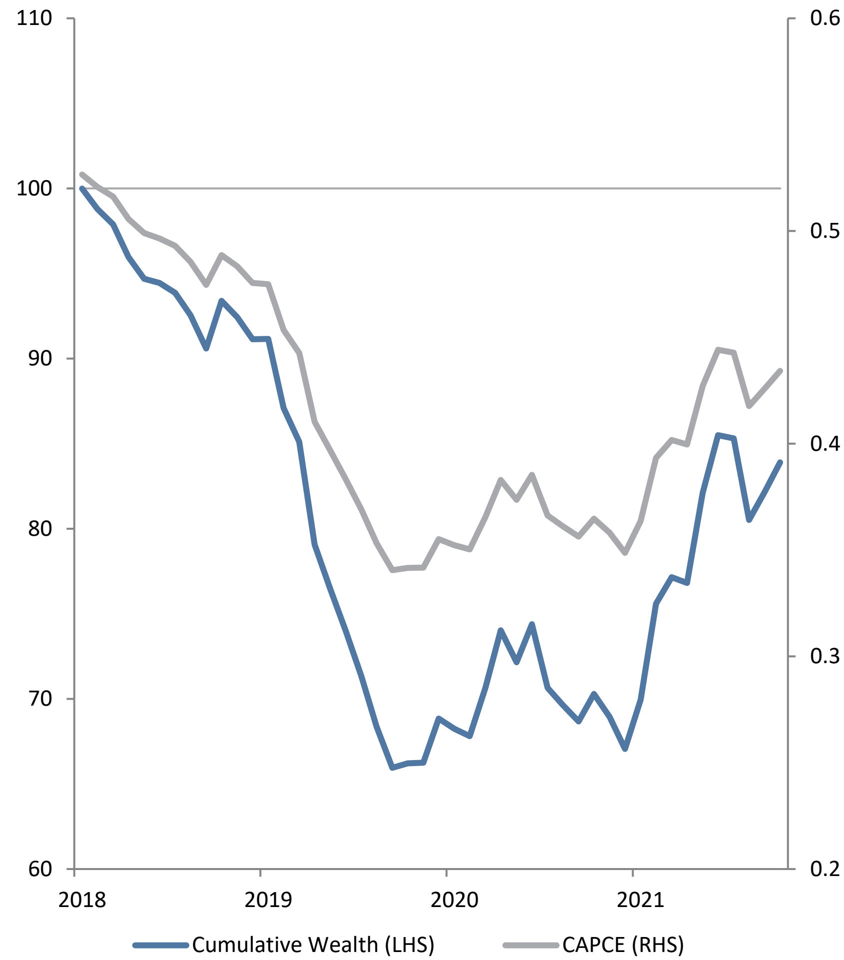
MSCI US FWD P/E VS REAL INTEREST RATES

January 31, 2016 – September 30, 2022



RELATIVE CUMULATIVE WEALTH AND CAPCE
MSCI ACWI VALUE VS GROWTH

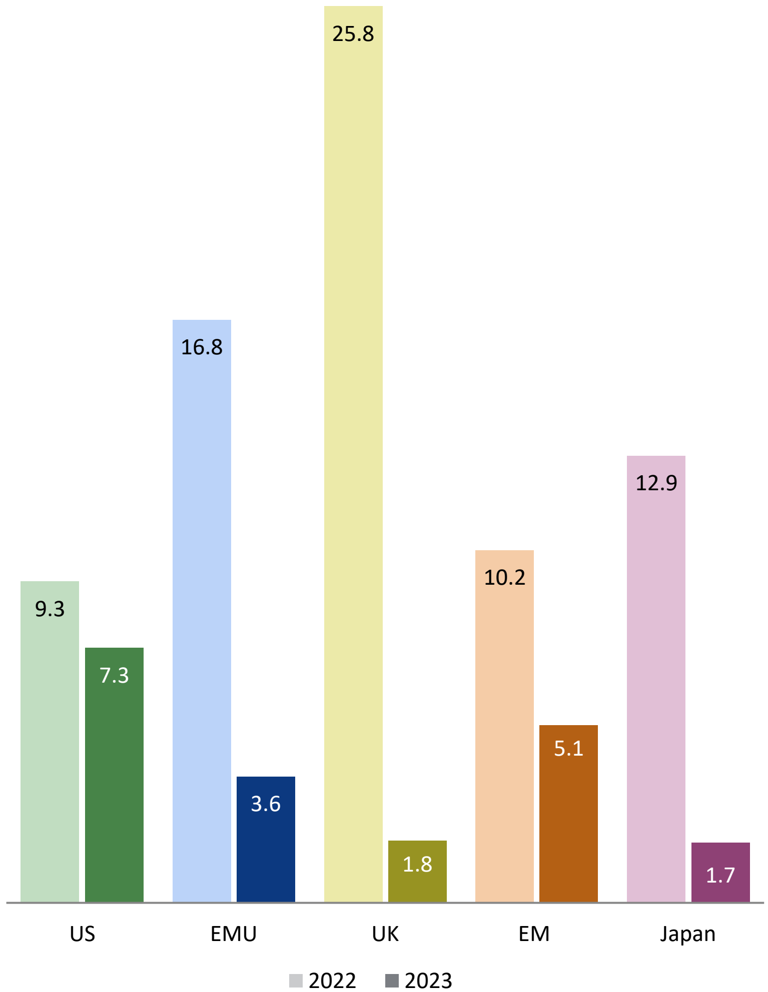
December 31, 2018 – September 30, 2022 • Local Currency • December 31, 2018 = 100



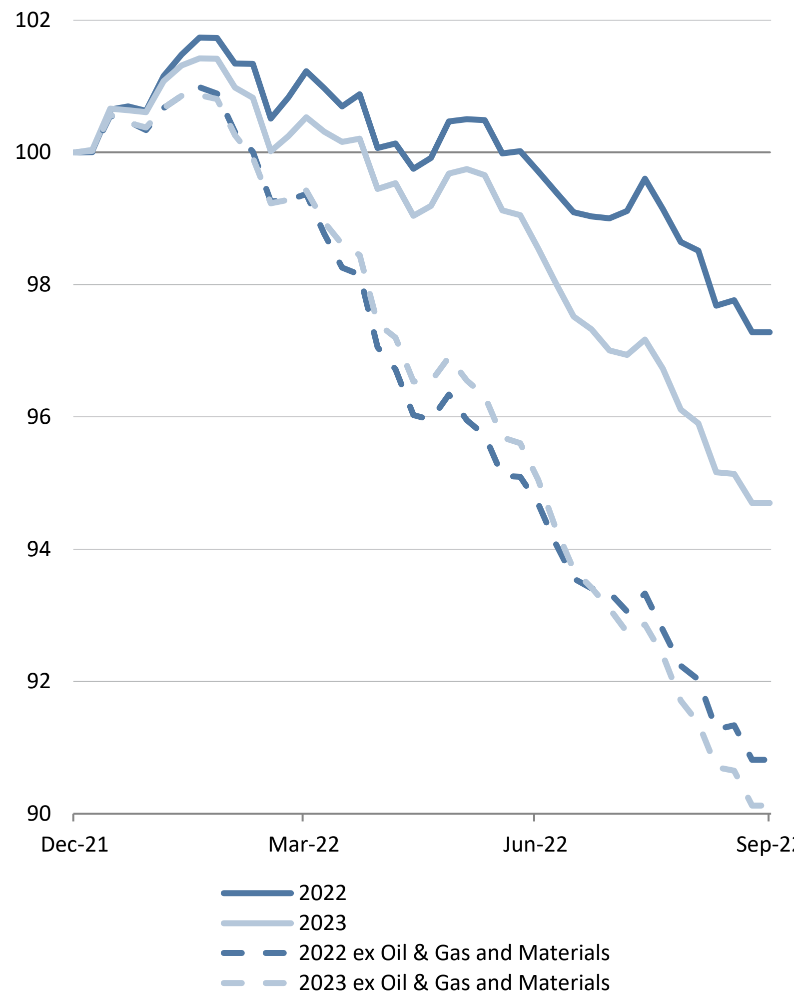
Sources: Federal Reserve, MSCI Inc., and Thomson Reuters Datastream. MSCI data provided "as is" without any express or implied warranties.
Notes: Real ten-year interest rates are represented by the ten-year TIPS yield. Data are monthly. Total return data are gross of dividend taxes. The cyclically adjusted price-to–cash earnings (CAPCE) ratio is calculated by dividing the inflation-adjusted index price by trailing ten-year average inflation–adjusted cash earnings. Cash earnings are defined as net income from continuing operations plus depreciation and amortization expense. MSCI does not publish cash earnings for banks and insurance companies and therefore excludes these two industry groups from index-level cash earnings.
MMHC

Negative revisions outside of commodity sector are dragging EPS forecasts lower

FY EPS GROWTH ESTIMATES BY REGION
As of September 30, 2022 • Percent (%)



MSCI ACWI EARNINGS GROWTH EXPECTATIONS
December 31, 2021 – September 30, 2022 • December 31, 2021 = 100

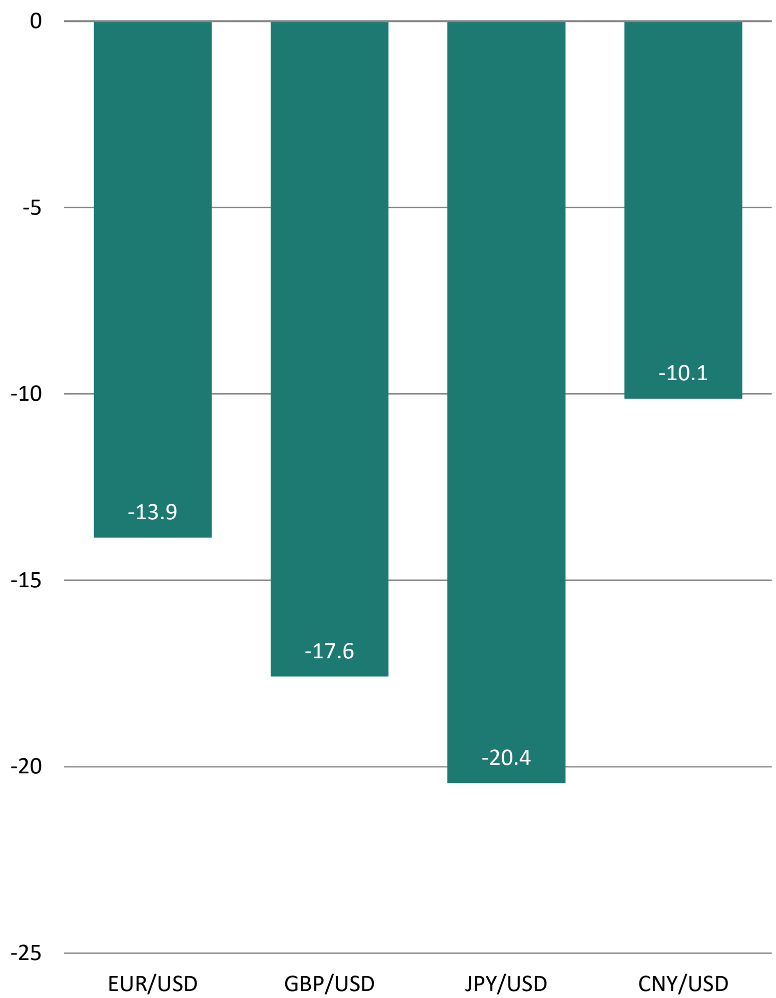


Sources: FTSE International Limited, I/B/E/S, MSCI Inc., Standard & Poor's, and Thomson Reuters Datastream. MSCI data provided "as is" without any express or implied warranties.
Notes: Japan FY EPS data represents earnings growth from March through the next 12-month period. EM estimate is in USD terms and reflects the impact of currency fluctuations. Regions are represented by the following indexes: S&P 500 (US), MSCI EMU (EMU), FTSE® All-Share (UK), MSCI Emerging Markets (EM), and MSCI Japan (Japan). MSCI ACWI earnings growth expectations data are weekly.
MMHC

Dollar strength has dragged down the rest of the world's currencies

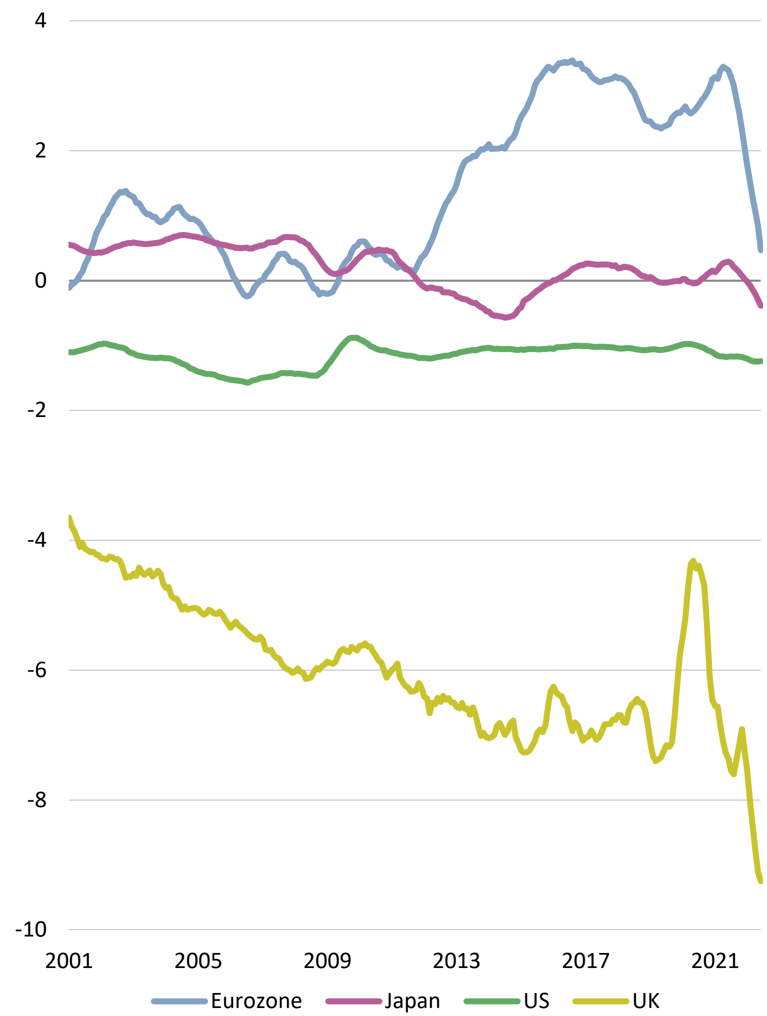
YTD SELECT GLOBAL CURRENCY RETURNS

As of September 30, 2022 • Percent (%)



GOODS TRADE BALANCE

February 28, 2001 – July 31, 2022 • Percent of GDP (%)



Source: Thomson Reuters Datastream.

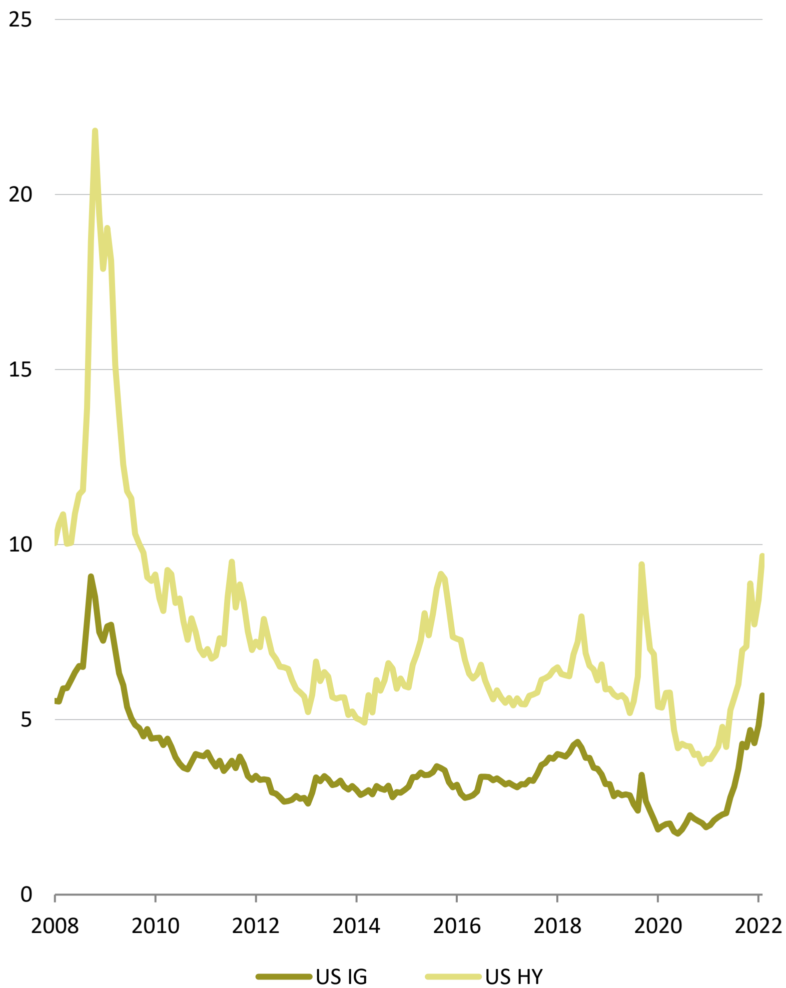
Notes: Goods trade balance is the rolling 12-month sum of the visible trade balance as a percent of the rolling 12-month sum of GDP. Trade balance data are as of July 31, 2022, and use second quarter 2022 GDP as a proxy for July 31 GDP figures.

MMHC

Credit yields are at cyclical peaks with all eyes on potential defaults

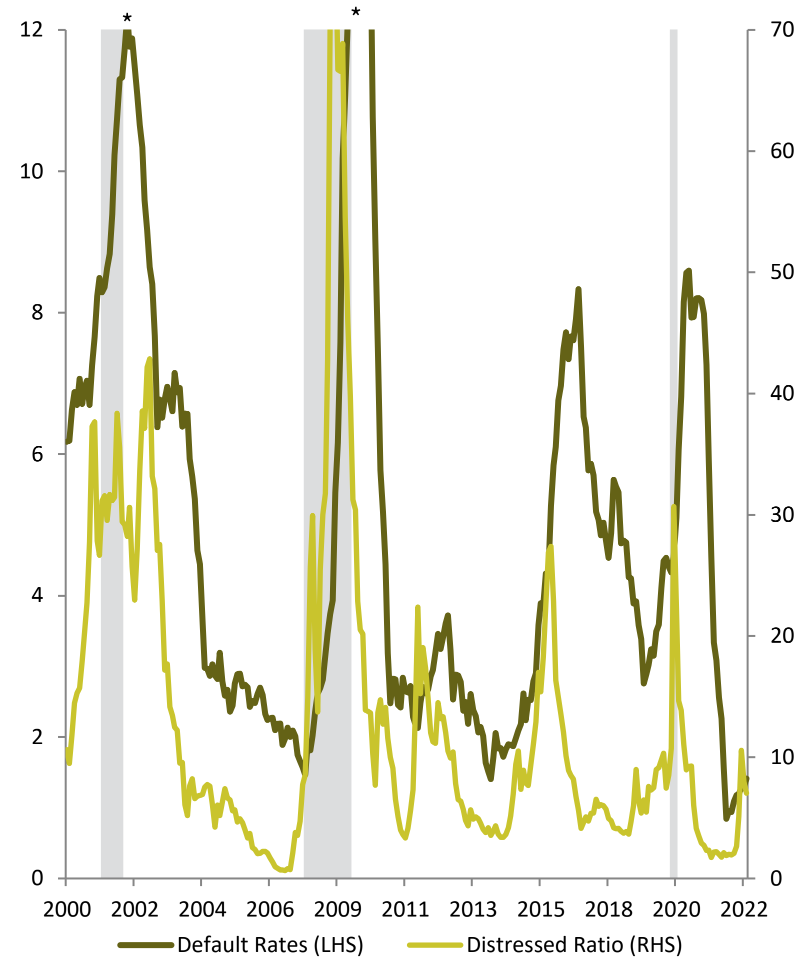
US IG AND US HY BOND YIELDS OVER TIME

January 31, 2008 – September 30, 2022 • Percent (%) • Yield-to-Worst



US HIGH-YIELD BOND DEFAULT RATES AND DISTRESSED RATIO

January 31, 2000 – August 31, 2022 • Percent (%)



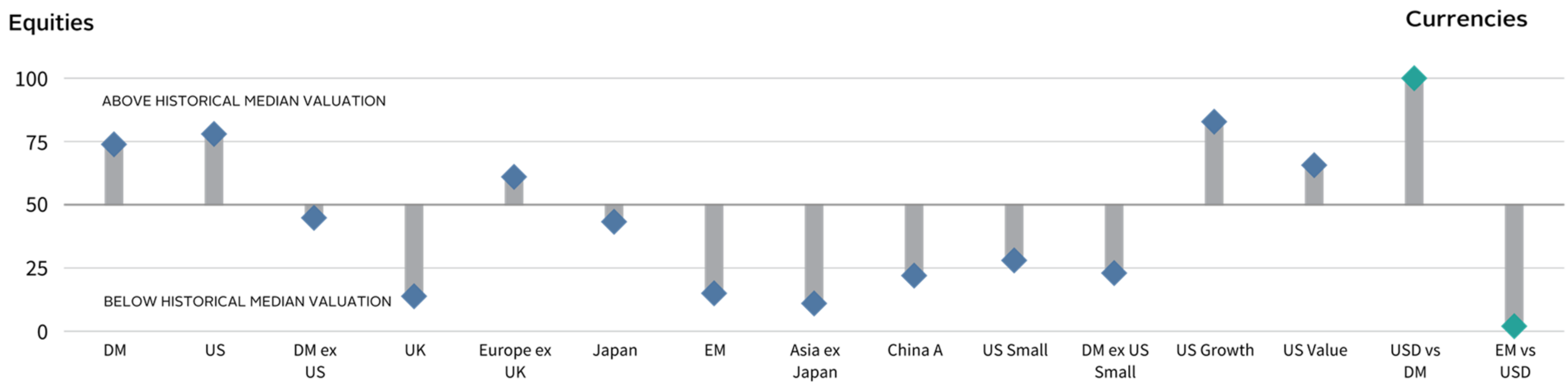
* Y-axis are capped for scaling purposes. The default rates reached 12.2% on January 31, 2002, and 15.6% on November 30, 2009. The distress ratio reached 85.7% on November 30, 2008.

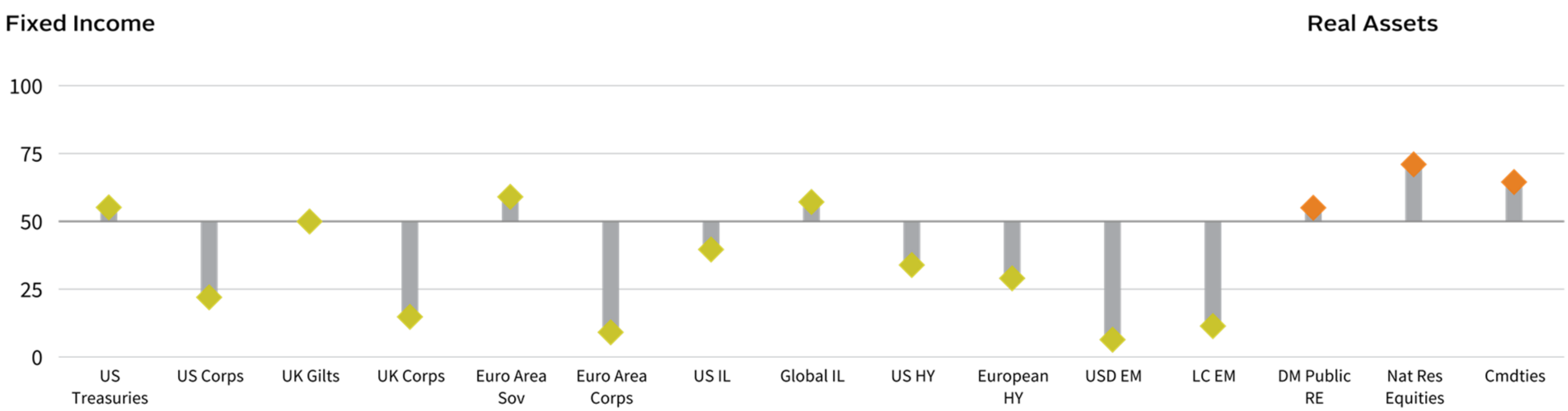
Sources: Bloomberg Index Services Limited, Intercontinental Exchange, Inc., Moody's Investor Services, and National Bureau of Economic Research.
Notes: All data are based on trailing 12 months. Gray bars represent NBER-defined US recessions. Distressed ratio graph shows percentage of high-yield bonds trading 1,000 or more basis points over the risk-free rate.
MMHC

Cambridge Associates Current Valuations Summary

CURRENT VALUATION LEVELS OF VARIOUS ASSET CLASSES

As of September 30, 2022 • Percentile





Source: Cambridge Associates LLC.

Notes: This exhibit compares current valuation levels to historical levels across a variety of asset classes. A percentile rank of 50 indicates that an asset class's current valuation level is consistent with its long-term median, while a percentile rank of 75 indicates that level is higher than 75% of historical data. The valuation level for each asset class is determined by a metric or composite of metrics relevant to that asset class.

044x

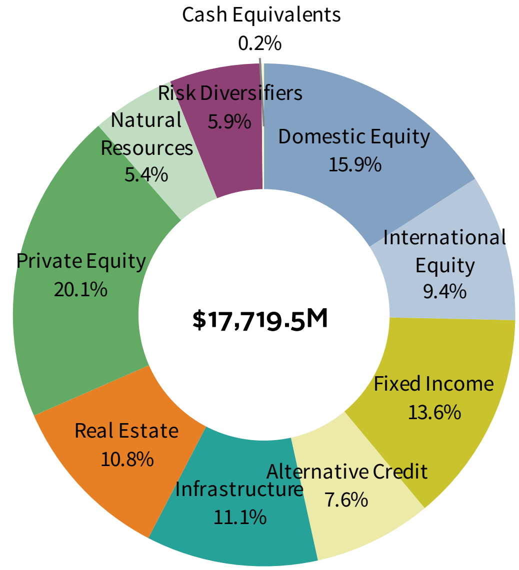
PERFORMANCE REVIEW

MainePERS Allocation Snapshot

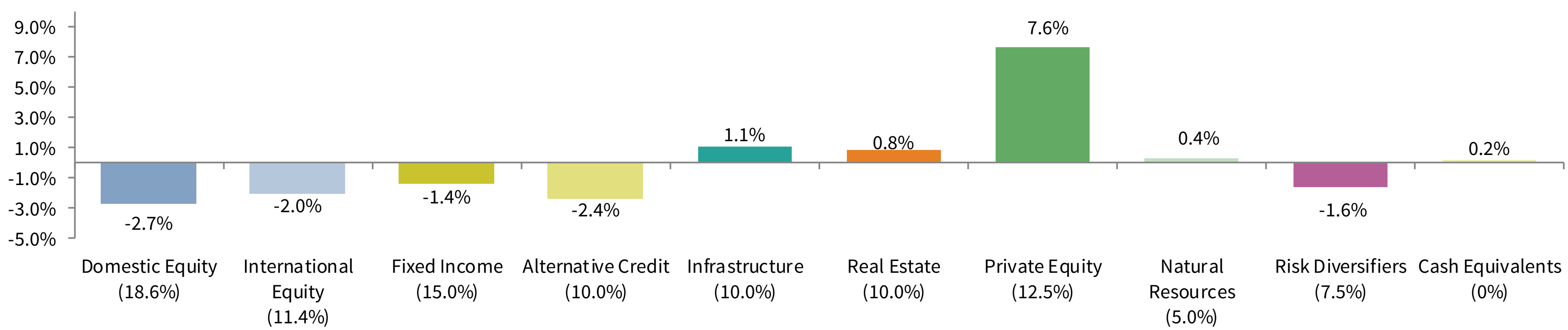
As of September 30, 2022

Asset Allocation ($ Millions)

Asset Class	$(M)	%
Domestic Equity	2,816.9	15.9
International Equity	1,672.7	9.4
Fixed Income	2,414.3	13.6
Alternative Credit	1,346.5	7.6
Infrastructure	1,959.3	11.1
Real Estate	1,917.0	10.8
Private Equity	3,562.7	20.1
Natural Resources	951.0	5.4
Risk Diversifiers	1,048.6	5.9
Cash Equivalents	30.7	0.2
Total	**$17,719.5**	**100.0%**



Relative Weights vs. Policy Targets

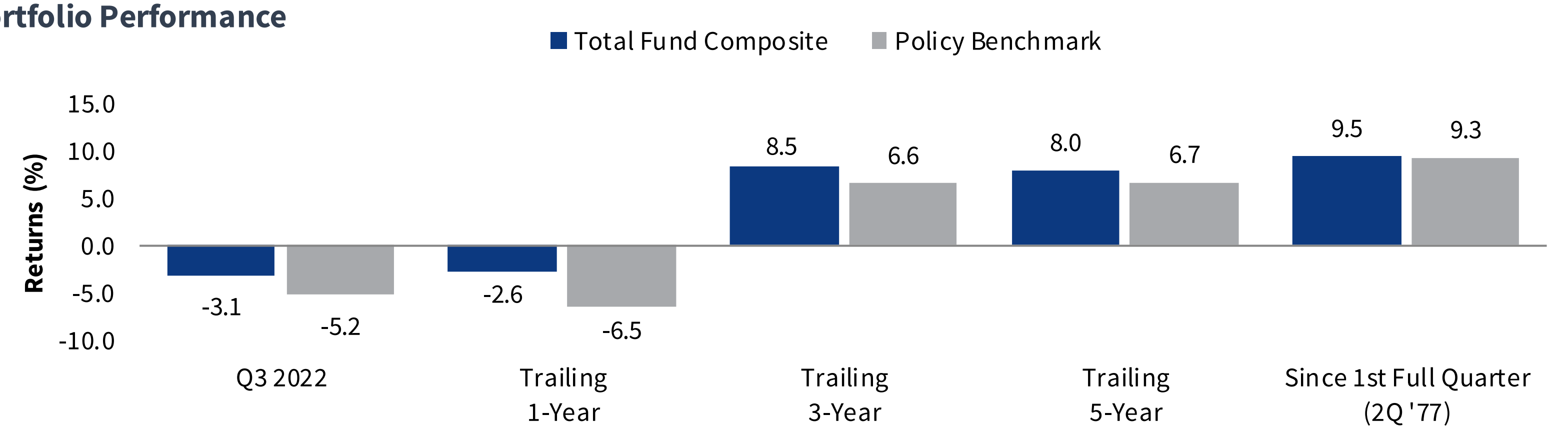


Note: Interim Policy Target allocation in parentheses. Asset class, composite breakout, and performance is based on JP Morgan performance data.

MainePERS Performance Summary

As of September 30, 2022

Total Portfolio Performance



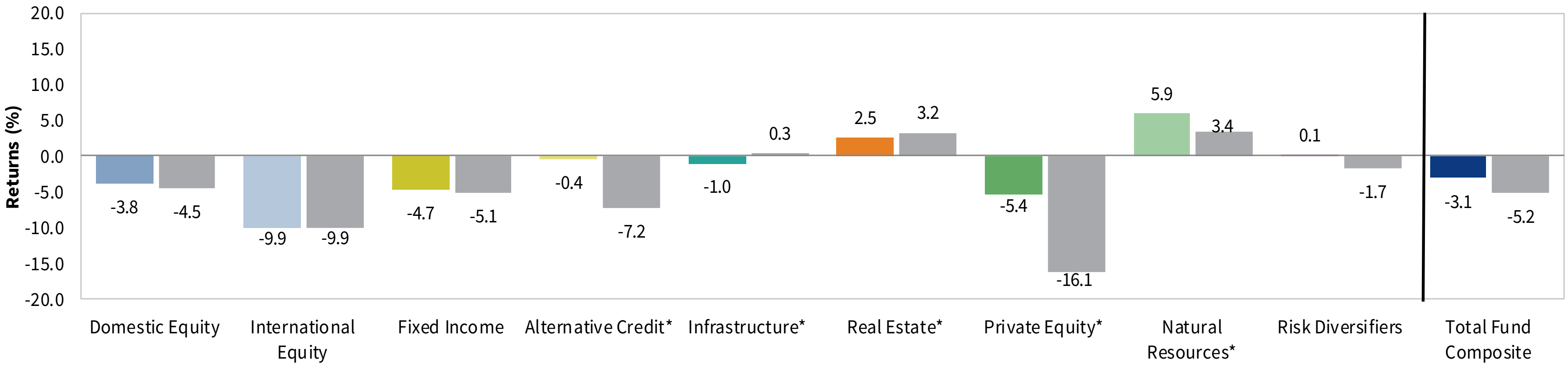
	Q3 2022	Trailing 1-Year	Trailing 3-Year	Trailing 5-Year	Since 1st Full Quarter (2Q '77)
Total Fund Composite	(3.1)	(2.6)	8.5	8.0	9.5
Policy Benchmark	(5.2)	(6.5)	6.6	6.7	9.3
Value Added	*2.1*	*3.8*	*1.9*	*1.3*	*0.1*

MainePERS Asset Class Performance

As of September 30, 2022

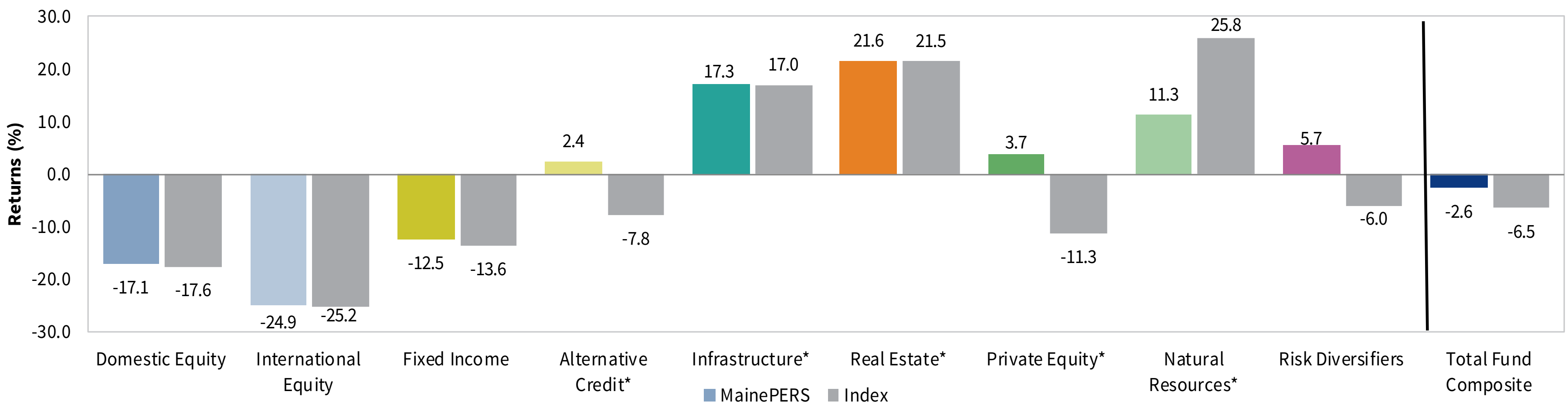
Quarter-to-Date

July 1, 2022 - September 30, 2022



Trailing 1-Year

October 1, 2021 - September 30, 2022



Notes: Asset class benchmarks (from left to right): Index returns for Infrastructure, Real Estate, and Natural Resources are reported on a quarterly basis. Returns reported by J.P. Morgan, except for Infrastructure and Real Estate indices, which are reported by Cambridge Associates on a quarter lag. Returns for CA Real Estate and Infrastructure indices are preliminary, and subject to adjustment.
*Performance is reported on a quarter lag, as June 30, 2022.

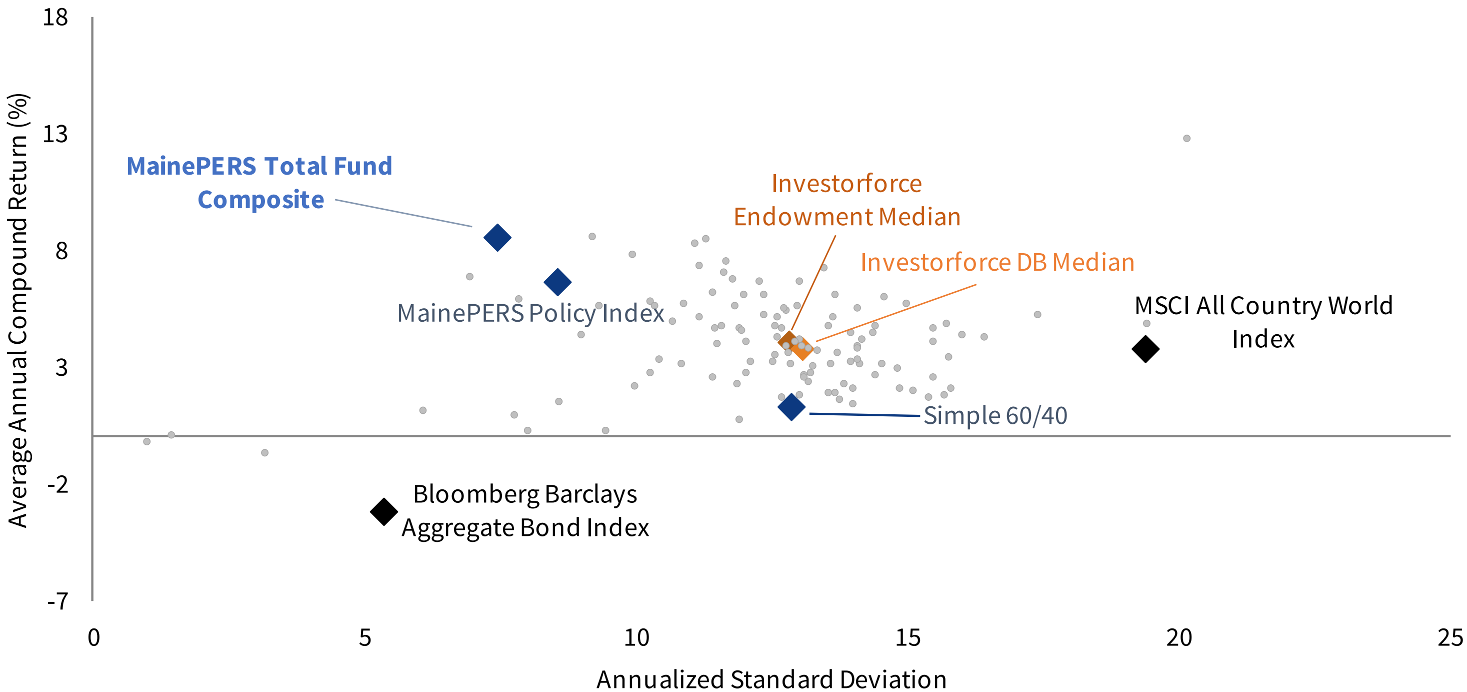
Asset Class Benchmarks

Asset Class	Benchmark	Long-Term Target
	Russell 3000[1]	18.6%
	MSCI ACWI ex US[2]	11.4%
Public Equity	Total Public Equity	30.0%
Private Equity	Russell 3000 + 3% per annum (1 qtr lag)	12.5%
Risk Diversifiers	0.3 Beta MSCI ACWI[3]	7.5%
Real Estate	NCREIF Property (1 qtr lag)	10.0%
Infrastructure	Cambridge Associates Infrastructure Median (1 qtr lag)	10.0%
Natural Resources	Cambridge Associates Natural Resources Median (1 qtr lag)	5.0%
Traditional Credit	Barclays US Agg ex Treasury	5.0%
Alternative Credit	50% BAML US HY II + 50% S&P/LSTA US Leveraged Loan Index (1 qtr lag)[4]	10.0%
US Govt Treasuries	Custom Fixed Income[5]	10.0%
Total		**100.0%**

1. Russell 3000 weight is based upon the MSCI ACWI weighting for US
2. MSCI ACWI ex US weight is based upon the MSCI ACWI weighting for International
3. 91-day T-bill + 0.3(MSCI ACWI Return – 91-day T-bill)
4. 50% Bank of America US High Yield II + 50% S&P/Loan Syndications & Trading Association US Leveraged Loan Index
5. 65% 0-5 Year TIPS / 35% US TIPS Fund

MainePERS Risk/Return – 3 Years

As of September 30, 2022

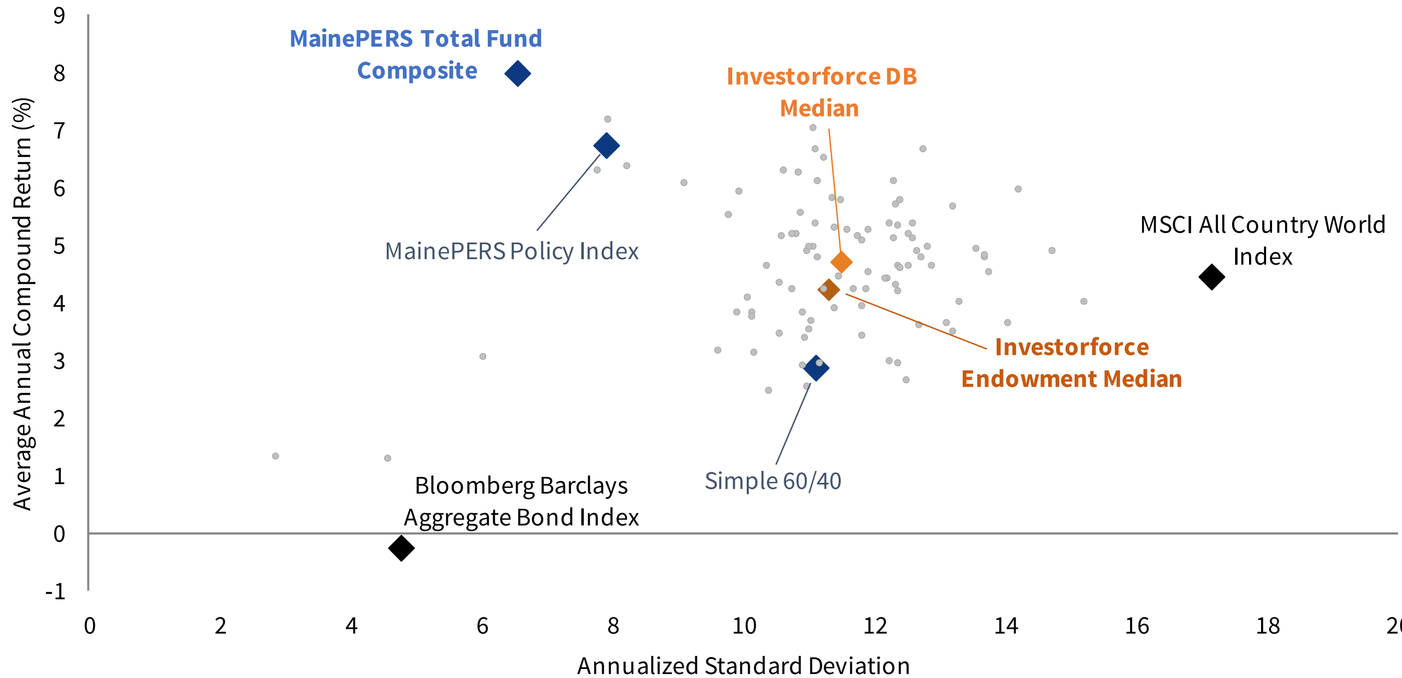


	Average Annual Compound Return	Annualized Standard Deviation	Sharpe Ratio[1]	Beta vs. MSCI ACWI
MainePERS - Total Fund Composite	8.5	**7.4**	**1.1**	**0.32**
MainePERS - Policy Index	6.6	8.6	0.7	0.34
Simple 60/40	1.3	12.9	0.1	0.66
Investorforce Public DB Plan Median	3.8	13.1	0.2	---
Investorforce Endowment Median	4.0	12.8	0.3	---
Indices				
MSCI All Country World Index (Net)	3.7	19.4	0.2	--
Bloomberg Barclays Aggregate Bond Index	-3.3	5.4	-0.7	0.15

Note: Calculations are based on monthly data, net of fees.
[1]The Sharpe Ratio represents the excess return generated for each unit of risk. To calculate this number, subtract the average T-Bill return (risk-free return) from the manager's average return, then divide by the manager's standard deviation. The Investor Force data uses the median return and standard deviations are based on monthly data, net of fees.
[2] Simple 60/40 is 60% MSCI ACWI and 40% BC Aggregate US Bond Index.
[3] Net Investor Force Median data reflects median of 3-year returns and the standard deviations as reported by institutions with over $100m in assets to Investor Force.

MainePERS Risk/Return – 5 Years

As of September 30, 2022

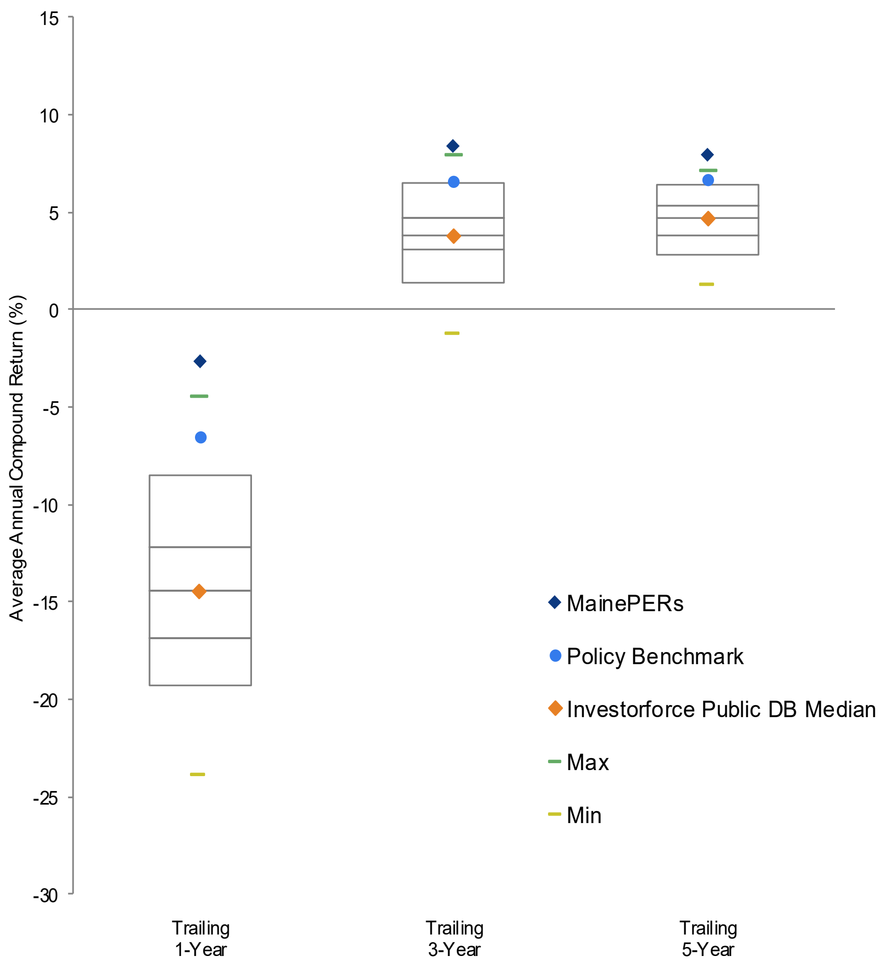


	Average Annual Compound Return	Annualized Standard Deviation	Sharpe Ratio[1]	Beta vs. MSCI ACWI
MainePERS - Total Fund Composite	8.0	**6.5**	**1.1**	**0.32**
MainePERS - Policy Index	6.7	7.9	0.7	0.38
Simple 60/40	2.9	11.1	0.2	0.64
Investorforce Public DB Plan Median	4.7	11.5	0.3	---
Investorforce Endowment Median	4.2	11.3	0.3	---
Indices				
MSCI All Country World Index (Net)	4.4	17.2	0.2	--
Bloomberg Barclays Aggregate Bond Index	-0.3	4.8	-0.3	0.10

Note: Calculations are based on monthly data, net of fees.
[1]The Sharpe Ratio represents the excess return generated for each unit of risk. To calculate this number, subtract the average T-Bill return (risk-free return) from the manager's average return, then divide by the manager's standard deviation. The Investor Force data uses the median return and standard deviations are based on monthly data, net of fees.
[2] Simple 60/40 is 60% MSCI ACWI and 40% BC Aggregate US Bond Index.
[3] Net Investor Force Median data reflects median of 5-year returns and the standard deviations as reported by institutions with over $100m in assets to Investor Force.

MainePERS vs. Defined Benefit Peers

As of September 30, 2022

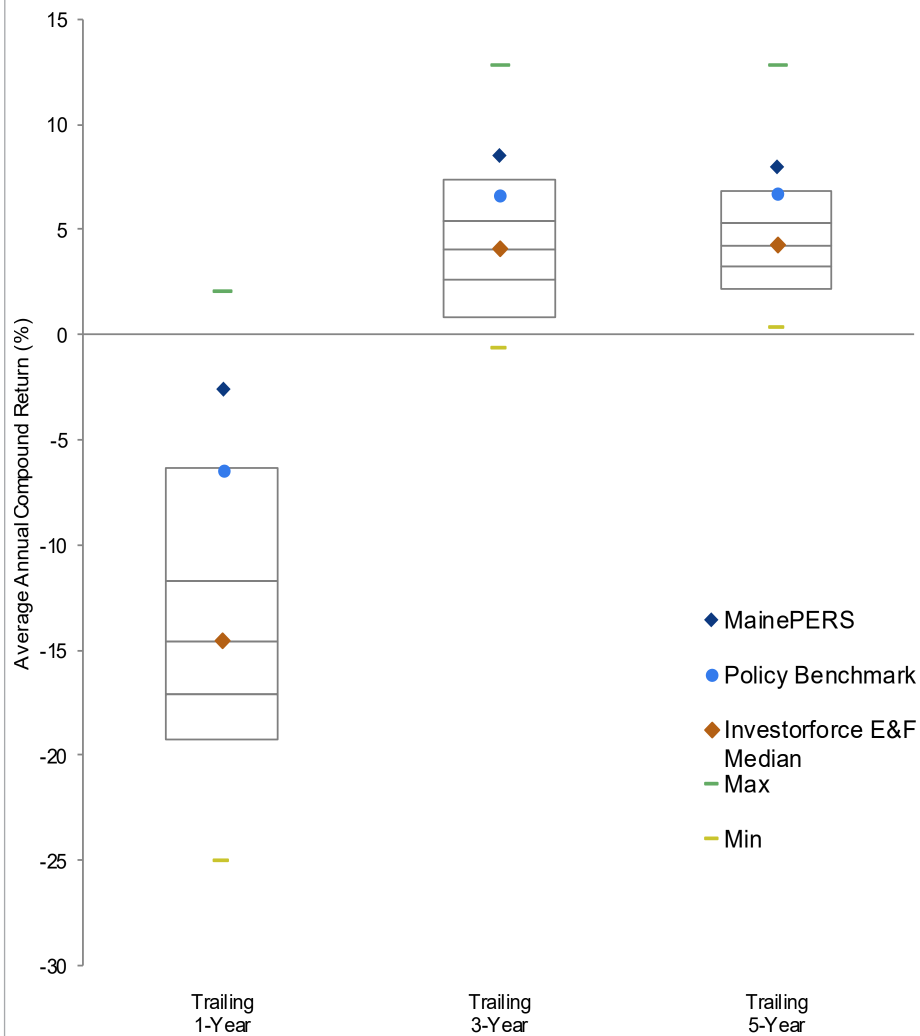


	One Year	Three Year	Five Year
MainePERS	**-2.6**	**8.5**	**8.0**
Policy Benchmark	-6.5	6.6	6.7
Max	-4.5	8.0	7.2
5th Percentile	-8.5	6.5	6.4
25th Percentile	-12.2	4.7	5.3
Investorforce Public DB Median	-14.4	3.8	4.7
75th Percentile	-16.8	3.1	3.8
95th Percentile	-19.2	1.4	2.8
Min	-23.9	-1.2	1.3
Sample Size			
n	100	99	94

Source: InvestorForce – All Public DB Plans Q3 2022
Note: Net InvestorForce median data reflects medians of 1-, 3-, and 5-year returns as reported by plans with AUM exceeding $100 million.

MainePERS vs. E&F Peers

As of September 30, 2022



	One Year	Three Year	Five Year
MainePERS	**-2.6**	**8.5**	**8.0**
Policy Benchmark	-6.5	6.6	6.7
Max	2.0	12.7	12.7
5th Percentile	-6.3	7.4	6.8
25th Percentile	-11.7	5.4	5.3
Investorforce E&F Median	-14.6	4.0	4.2
75th Percentile	-17.1	2.6	3.3
95th Percentile	-19.2	0.8	2.2
Min	-25.1	-0.7	0.3
Sample Size *n*	119	113	108

Source: InvestorForce – All Endowments and Foundations Q3 2022
Note: Net InvestorForce median data reflects medians of 1-, 3-, and 5-year returns as reported by plans with AUM exceeding $100 million.

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Standard & Poor's

Wilshire Indexes

Bloomberg Barclays

MAINEPERS

BOARD OF TRUSTEES INVESTMENTS MEMORANDUM

TO: BOARD MEMBERS

FROM: JAMES BENNETT, CHIEF INVESTMENT OFFICER

SUBJECT: **TRUSTEE EDUCATION: LONG-TERM CAPTIAL MARKETS ASSUMPTIONS / COMMITMENT PACING**

DATE: DECEMBER 1, 2022

Following this memo are presentations covering long-term capital markets assumptions and private capital commitment pacing. The long-term capital markets assumptions presentation reviews Cambridge Associates framework for developing asset class return assumptions and provides the Firm's nominal average annual compound return assumptions as of October 31, 2022. The private capital commitment pacing presentation reviews the methodology for developing pacing plans and capital budgeting and provides high level summaries of expected future pacing plans for MainePERS private market investments.

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

MAINEPERS

CAPITAL MARKET ASSUMPTIONS

CAMBRIDGE ASSOCIATES

DECEMBER 2022

CAMBRIDGE ASSOCIATES

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Overview of CA Asset Class Return Assumptions

- Capital market assumptions are intended to inform asset allocation and other decision making or assessments (contributions, benefit sustainability, etc.)

- They are not predictive of the future!
  - Actual investment experience may (and probably will) be significantly different from the capital market assumptions utilized, especially over shorter horizons

- Assumptions reflect expected market ("beta") returns
  - They assume no manager value-add and are net of investment management fees

- In risk diversifiers and private asset classes, no investable passive beta exposure is available
  - Manager fees are assumed to equal manager value-add for a median manager, so that the net-of-fee return is the assumed return

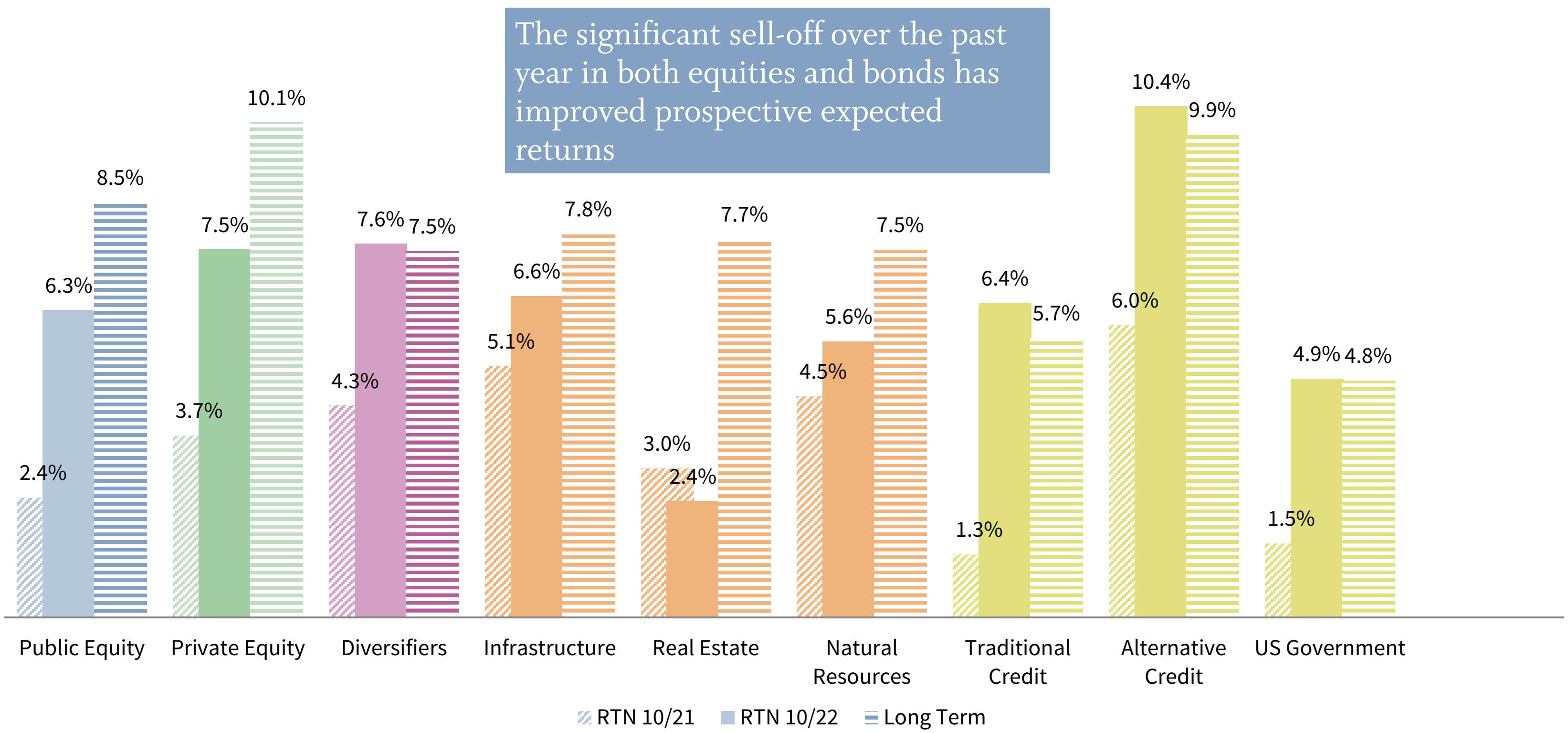
Blended Framework for Total Portfolio Expected Return

- Combines Return-to-Normal (RTN) assumption set with Equilibrium assumption set
- Typically represented as 10 years of RTN followed by 15 years of Equilibrium
  - **Return to Normal**: moderate earnings growth, low corporate default rates, and a return to fair value for equity multiples, government bond yields, and credit spreads; using a current level of inflation
  - **Equilibrium**: expected returns are based entirely on long-term fair value estimates; calculated nominally using a 2.5% inflation rate
- **Reasonable Uses**
  - More applicable when time horizon is longer (>20 years)
  - Specific view that current market conditions will revert to historic averages over time
  - May tend to produce higher returns when current market conditions are below historic averages and time horizon is long

Nominal Return Scenarios: "Return To Normal" & "Long Term"

As of October 31, 2022 • Nominal AACR[1] (%)

Assumes 2.75% annual inflation



TOTAL PORTFOLIO	OCT-21	OCT-22
Nominal Blended AACR	6.8%	8.1%
Standard Deviation	11.2%	10.9%

Note(s): All returns projections shown above are nominal. Public Equities assumptions are a blend of Cambridge Associates assumptions: .53 US Equity, .37 Developed ex US Equity, .1 Emerging Markets Equity. Infrastructure assumptions are a blend of Cambridge Associates assumptions: .6 Oil & Gas, 2 Timber, and .2 Commodities. The Diversifiers assumptions are a blend made up of .7 Absolute Return and .3 cash plus 300bps of alpha. The Alternative Credit assumptions is Cambridge Associate's High Yield assumption plus 300bps of alpha. US Government assumptions are a blend of Cambridge Associates assumptions: .99 TIPS, .01 US Govt Bonds

1. Average Annual Compound Return

APPENDIX

CAMBRIDGE ASSOCIATES

Current Capital Market Assumptions

As of October 31, 2022

Assumes 2.75% annual inflation

	Asset Classes	Policy Portfolio	Long Term Geometric	RTN Geometric	Blended Geometric	Standard Deviation
Growth Assets	Public Equity	30.0%	8.5%	6.3%	7.6%	16.9%
	Private Equity	12.5%	10.1%	7.5%	9.1%	23.6%
Diversifiers	Diversifiers	7.5%	7.5%	7.6%	7.5%	7.0%
Hard Assets	Infrastructure	10.0%	7.8%	6.6%	7.8%	16.8%
	Real Estate	10.0%	7.7%	2.4%	5.5%	20.0%
	Natural Resources	5.0%	7.5%	5.6%	6.8%	18.2%
Credit	Traditional Credit	5.0%	5.7%	6.4%	6.0%	8.0%
	Alternative Credit	10.0%	9.9%	10.4%	10.1%	12.0%
Monetary Hedge	US Government	10.0%	4.8%	4.9%	4.9%	6.0%

Nominal Geometric Return	**8.1%**

Standard Deviation	**10.9%**

Note(s): All returns projections shown above are nominal. Public Equities assumptions are a blend of Cambridge Associates assumptions: .53 US Equity, .37 Developed ex US Equity, .1 Emerging Markets Equity. Infrastructure assumptions are a blend of Cambridge Associates assumptions: .6 Oil & Gas, 2 Timber, and .2 Commodities. The Diversifiers assumptions are a blend made up of .7 Absolute Return and .3 cash plus 300bps of alpha. The Alternative Credit assumptions is Cambridge Associate's High Yield assumption plus 300bps of alpha. US Government assumptions are a blend of Cambridge Associates assumptions: .99 TIPS, .01 US Govt Bonds

Prior Year Capital Market Assumptions

As of October 31, 2021

Assumes 2.5% annual inflation

	Asset Classes	Policy Portfolio	Long Term Geometric	RTN Geometric	Blended Geometric	Standard Deviation
Growth Assets	Public Equity	30.0%	8.5%	2.4%	6.0%	16.9%
	Private Equity	15.0%	10.1%	3.7%	7.5%	23.6%
Diversifiers	Diversifiers	7.5%	7.5%	4.3%	6.2%	7.0%
Hard Assets	Infrastructure	10.0%	7.8%	5.1%	6.8%	16.8%
	Real Estate	10.0%	7.7%	3.0%	5.8%	20.0%
	Natural Resources	5.0%	7.5%	4.5%	6.3%	18.2%
Credit	Traditional Credit	7.5%	5.7%	1.3%	3.9%	8.0%
	Alternative Credit	7.5%	9.9%	6.0%	8.3%	12.0%
Monetary Hedge	US Government	7.5%	4.8%	1.5%	3.5%	6.0%

Nominal Geometric Return	**6.8%**

Standard Deviation	**11.2%**

Note(s): All returns projections shown above are nominal. Public Equities assumptions are a blend of Cambridge Associates assumptions: .53 US Equity, .37 Developed ex US Equity, .1 Emerging Markets Equity. Infrastructure assumptions are a blend of Cambridge Associates assumptions: .6 Oil & Gas, 2 Timber, and .2 Commodities. The Diversifiers assumptions are a blend made up of .7 Absolute Return and .3 cash plus 300bps of alpha. The Alternative Credit assumptions is Cambridge Associate's High Yield assumption plus 300bps of alpha. US Government assumptions are a blend of Cambridge Associates assumptions: .99 TIPS, .01 US Govt Bonds

Overview of Pacing Plans

November 28, 2022

CLIFFWATER

Pacing Plans and Capital Budgeting

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- Private markets investments tend to be made through limited life, closed end funds
- Funds grow as capital is called and investments increase in value, and then have a ‘harvest period’ as investments are sold and funds wind down
- To achieve a steady target allocation to a private markets asset class, money needs to be put into new funds each year as old funds wind down – the “pacing plan” or “capital budget”
- Targeting a specific allocation is a complex problem – there are many variables, most outside the control of the allocator

Pacing Plans – what are the variables?

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- The allocation to an asset class is a function of the fair market value of the invested capital in that asset class (the numerator) and the overall size of the portfolio (the denominator), for example:

Private Equity Allocation = Private Equity Fair Value / Total Fund Value

- For typical private markets investments, neither of these is in the complete control of the allocator
- Taking the denominator first, total fund value is a function of:
  - Asset inflows (contributions) and outflows (benefit payments and other expenses) – there is some predictability to these but also some uncertainty
  - Returns of the overall portfolio – this introduces very significant uncertainty, particularly over the short to medium term

Pacing Plans – what are the variables? (cont'd)

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The numerator (the fair market value of the asset class) also has multiple factors

- Dollars committed each year is the main factor that is under an allocator's control
  - However, for drawdown funds, this does not directly translate into invested market value. Managers can typically draw this capital over 3-5 years, and will do so as opportunities become available
  - The pace of these drawdowns is one key assumption in capital budgets
- Dollars distributed is a second key factor in determining the fair market value of invested capital
  - Depends upon the manager finding the right opportunity to exit the investment
- Finally, the growth rate of the capital that is invested (returns) is the third main factor

Pacing Plans – what are the variables? (cont'd)

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- To summarize – for drawdown funds, the key drivers of fair market value are:
  - drawdown pace,
  - distribution pace, and
  - asset return
- Output is more sensitive to drawdown and distribution pace than return assumptions
- All three of these factors vary with the market environment
- Distribution pace has the most sensitivity to market conditions – strong/rising equity markets lead to high distributions
- Use of co-investments can help limit drawdown pace as a variable
- Use of open-ended funds can reduce the variability introduced by both drawdowns and distributions (but within limits for illiquid asset classes, and with other tradeoffs)

Modeling an Asset Class – Asset Flows

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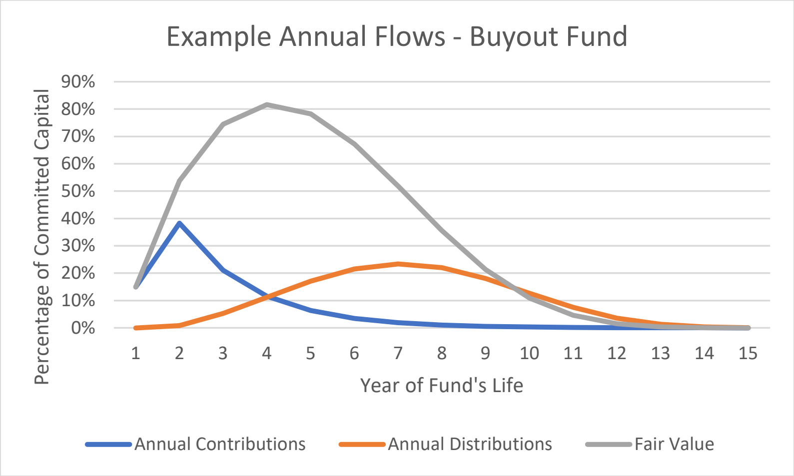
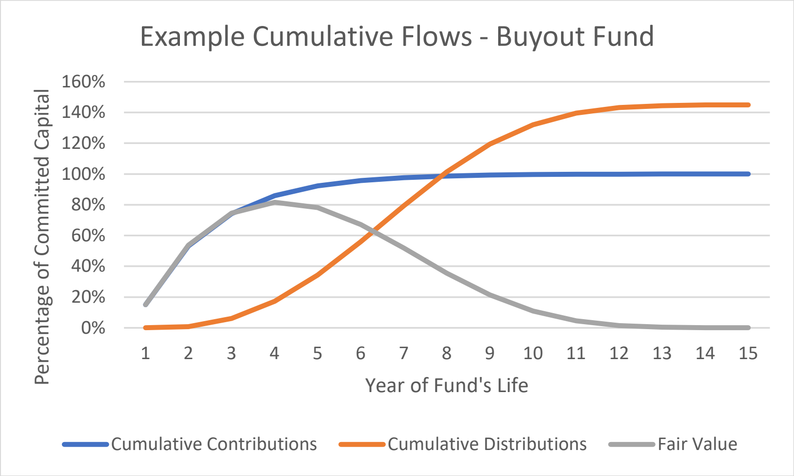
- Our asset class model builds from assumptions for a simplified generic fund for that asset – example below is the buyout model
- Contributions occur in a pattern over early years, then capital is distributed in the later years. Capital grows at an assumed return rate while it is invested



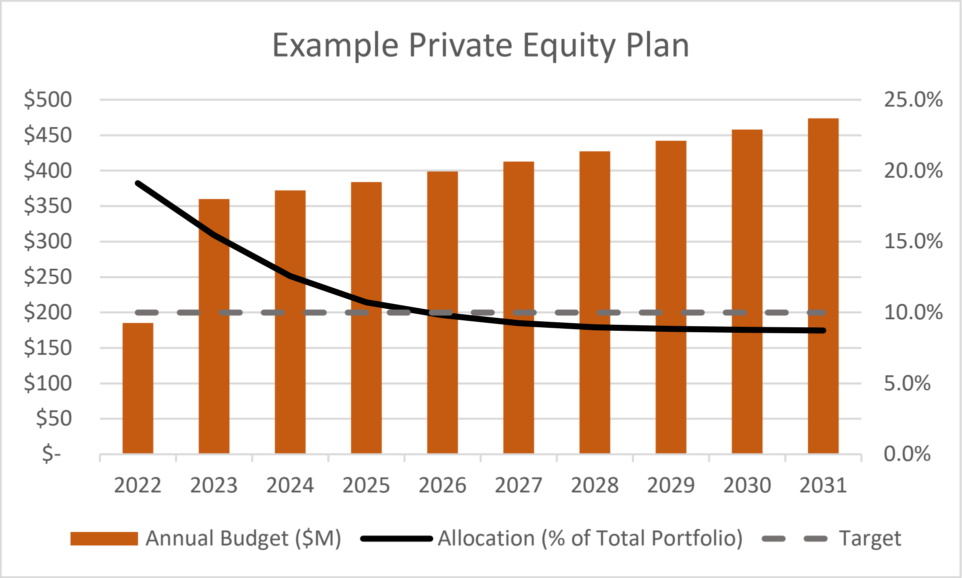


Return and Growth Assumptions

Asset Class	Assumed Annualized Return
Buyouts	9.1%
Venture Capital	11.5%
Alternative Credit	9.1%
Infrastructure	7.3%
Agriculture	6.5%
Mining	7.2%

Total Portfolio Growth: 3.25% (includes asset returns plus fund flows)

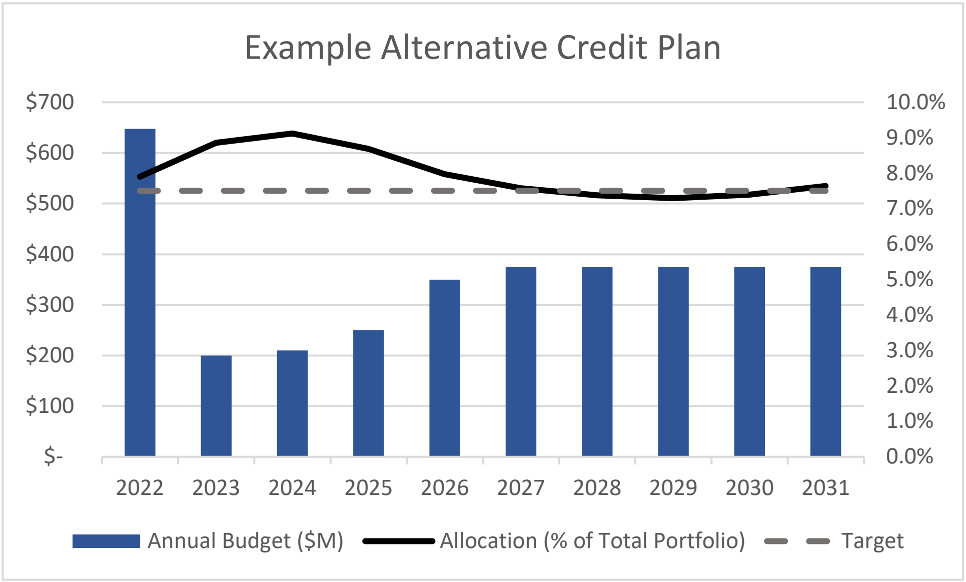
Example Pacing Plan – Private Equity



Note: Budget target has been set below actual target allocation to be conservative and allow room for co-investments

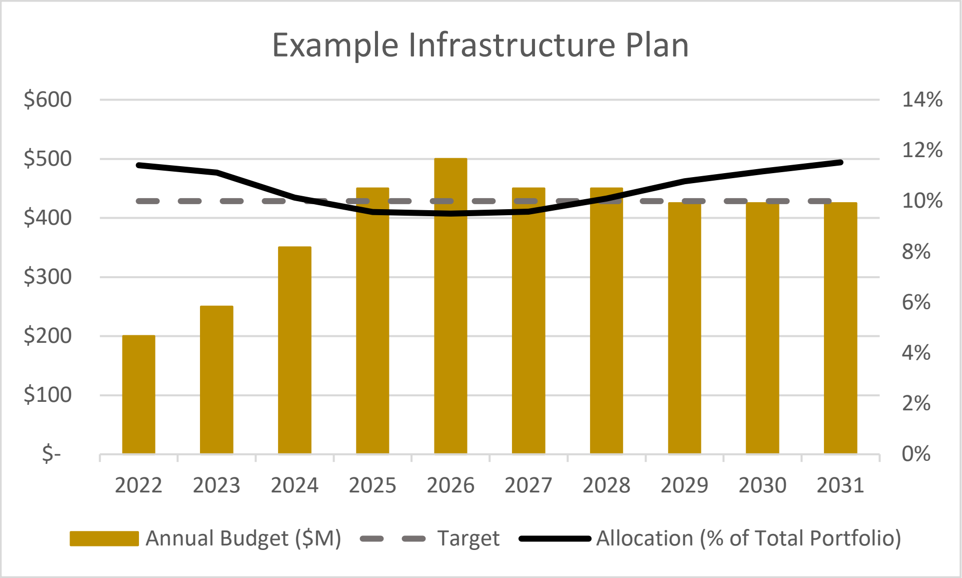
Based upon end of Q2 2022 data

Example Pacing Plan – Alternative Credit



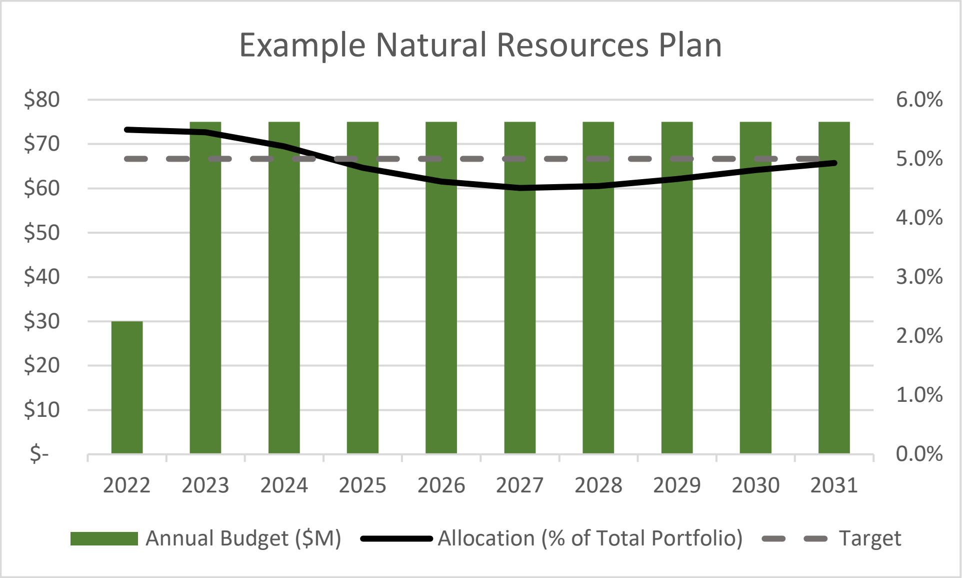
Note: Budget target has been set below actual target allocation to be conservative and allow room for co-investments

Example Pacing Plan - Infrastructure



Based upon end of Q2 2022 data

Example Pacing Plan – Natural Resources



Based upon end of Q2 2022 data

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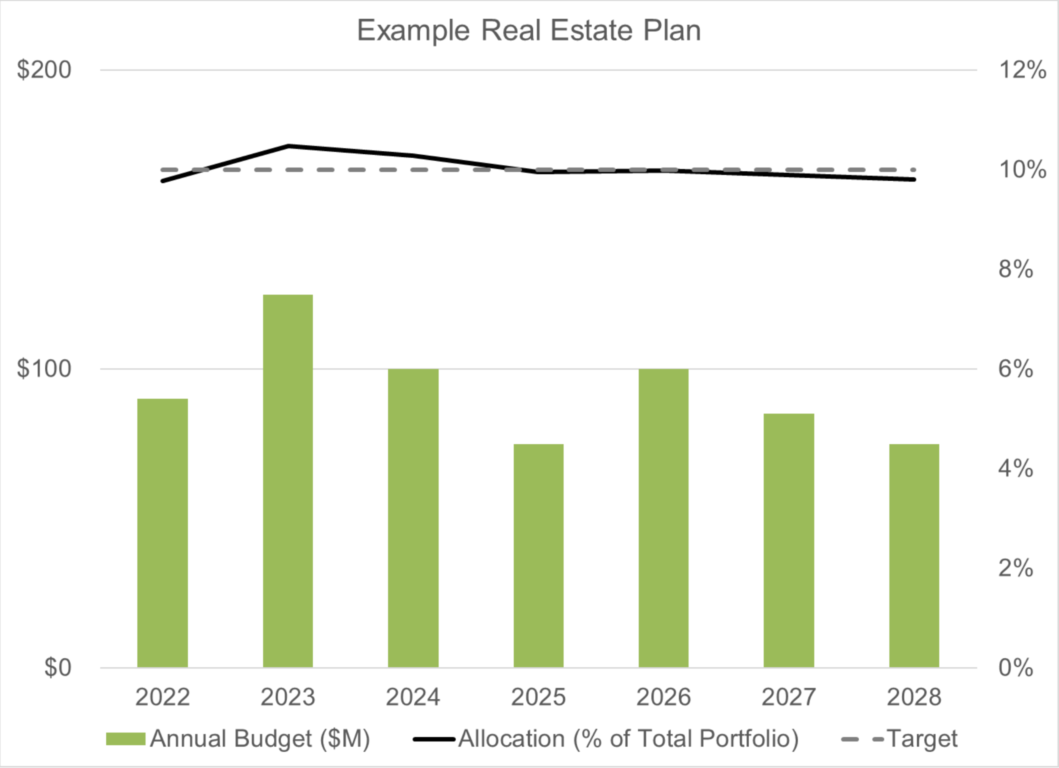
Example Pacing Plan – Real Estate



MAINEPERS

BOARD OF TRUSTEES RULEMAKING MEMORANDUM

TO: BOARD MEMBERS

FROM: MICHAEL J. COLLERAN, CHIEF OPERATING OFFICER AND GENERAL COUNSEL

SUBJECT: **RULEMAKING UPDATE**

DATE: DECEMBER 1, 2022

A public hearing on a proposed amendment to Rule Chapter 803 will be held as part of the Board meeting. A public hearing provides an opportunity for members of the public to comment on the proposed rulemaking. It is not the time for the Board to make any decisions or for the Board or staff to provide responses to any comments or questions. Comments from the public may also be submitted in writing through December 19, 2022. We then will consider all comments, make any revisions we think appropriate in response to the comments, and bring a recommendation to the Board for action at a future meeting.

We plan to publish notice of intent to amend, adopt, or repeal several disability retirement and appeals rules as a result of a consensus-based rule development process that we are completing. A public hearing on each rule would be held at the January Board meeting.

POLICY REFERENCE

Board Policy 2.3 -- Rulemaking

Board Policy 4.5 – Board/Staff Relations

Board Policy 4.6 – Communications and Support to the Board

RULE CHAPTER 803

Rule 803 contains plan provisions for the PLD Consolidated Plan. We are proposing amendments to this rule to provide an additional 1% cost of living adjustment for the current year as recommended by the PLD Advisory Committee. A copy of the proposed amended rule is attached.

RECOMMENDATION

No Board action is required at this time.

94-411 MAINE PUBLIC EMPLOYEES RETIREMENT SYSTEM

Chapter 803: PARTICIPATING LOCAL DISTRICT CONSOLIDATED RETIREMENT PLAN

SUMMARY: This chapter establishes a consolidated retirement plan, as required by 5 M.R.S. §18801 *et seq*. for local districts that are participating local districts under 5 M.R.S., Chapter 425 before the date the plan is put into operation and for local districts that enter into agreements for the participation of their employees in the Maine Public Employees Retirement System after The Plan is put into operation.

NOTE: 5 M.R.S., Chapter 421, *General Provisions*, is applicable to all activities relating to the Maine Public Employees Retirement System, including the subject matter of this chapter of the rules of the Board of Trustees ("Board"). 5 M.R.S., Chapter 427, *Participating Local Districts Consolidated Plan*, is the statute from which this chapter of the rules of the Board derives its authority and is applicable to all activity based upon this chapter.

SECTION 1. DEFINITIONS

1. **Local District**. "Local district" means:

    A. Any county, municipality, quasi-municipal corporation or incorporated instrumentality of the State or of one or more of its political subdivisions;

    B. Any incorporated association of employees of the State or employees of any of the entities set out in paragraph A;

    C. Any incorporated association of any of the entities set out in paragraph A;

    D. Any entity eligible to become a participating local district before January 1, 1976;

    E. Any entity participating in the Retirement System before January 1, 1976; or

    F. Any educational institution in the State teaching courses equivalent to or higher than secondary institutions.

    G. Any public charter school, as authorized by Title 20-A, chapter 112.

2. "**Consumer Price Index**" means:

    A. The Consumer Price Index for All Urban Consumers, CPI-U, as compiled by the Bureau of Labor Statistics, United States Department of Labor; or

    B. If the index described in paragraph A is revised or superseded, the Board must employ the Consumer Price Index compiled by the Bureau of Labor Statistics, United States Department of Labor that the Board finds to be most reflective of changes in the purchasing power of the dollar for the broadest population of consumers, including retired consumers.

3. "**Current Employer**" means the employer who is the member's employer at the time the member becomes a member under The Plan.

4. "**Member**" means any employee included in the membership of The Plan.

5. "**Normal Retirement Age**" means the specified age, the years of service requirement or any combination of age and years of service requirements at which a member becomes eligible for an unreduced retirement benefit.

6. "**Participant**" means any employee included in the defined contribution plan under this chapter.

7. "**Participating Local District**" means a local district which has approved the participation of its employees in the Retirement System under 5 M.R.S. §18201 or §18804.

8. "**The Plan**" means the defined benefit plan under the consolidated retirement plan for local districts established by 5 M.R.S., Chapter 427 (§18801 *et seq*.) and this chapter.

9. **Other Terms**. All other terms used in this chapter, unless the context otherwise indicates, shall have the same definitions as in 5 M.R.S. §17001.

SECTION 2. LOCAL DISTRICT PARTICIPATION

1. **Participating Local District Election**. Before July 1, 1996, the executive body or legislative body of each local district that is a participating local district under 5 M.R.S., Chapter 425 (§18201 *et seq*.) must, by resolution or order, elect one of the following options. Failure to make an election will have the same effect as electing paragraph B.

A. **To Join The Plan**. A participating local district may elect to participate in The Plan in accordance with the requirements of 5 M.R.S. §18804. Upon receipt of the certified copy of the resolution or order and record of the vote, the Executive Director shall prepare an agreement, to be signed by the authorized representative of the district and the Executive Director, specifying the parts of The Plan applicable to the district and the duties and rights of the district and the Retirement System. The resolution or order shall include:

(1) Approval of the participation in The Plan;

(2) The regular service retirement benefit plan and, if applicable, the special service retirement benefit plan elected from those provided by this chapter for the district's employees; and

(3) The name or title of the person authorized to sign the agreement on behalf of the local district.

B. **To Be Transferred to The Plan**. A participating local district may elect to have its participation in the Retirement System transferred to The Plan without electing the retirement benefit plan or plans for the district's employees.

(1) The Retirement System will transfer the district's employees to the plan or plans with the benefit level or levels closest to the district's current plan or plans.

(2) The resolution or order shall include the same information as that required under paragraph A, except that it shall state that the Retirement System is to determine the retirement benefit plan or plan that apply to the district's employees.

(3) The agreement as prepared by the Executive Director shall be as provided in paragraph A.

C. **To Withdraw from the Maine Public Employees Retirement System**. Subject to 5 M.R.S. §18203, a participating local district may withdraw from participation in the Retirement System. The effect of withdrawal on the district's employees is governed by 5 M.R.S. §18254.

2. **Local District May Enter into Agreement for The Plan**. Any local district that is not a participating local district before July 1, 1993, may enter into an agreement for participation of its employees in the Retirement System only under The Plan and in the manner provided by 5 M.R.S. §18804, sub-§1 or 2. Upon receipt of the certified copy of the resolution or order and record of the vote, the Executive Director shall prepare an agreement specifying the parts of The Plan applicable to the district and the duties and rights of the district and the Retirement System. The resolution or order shall include:

A. Approval of the participation in The Plan;

B. The regular service retirement benefit plan and, if applicable, the special service retirement benefit plan elected from those provided by this chapter for the district's employees;

C. A list of classes, and a list by name and social security number, of any employees who are excluded from membership based upon their being provided for by local pension provisions;

D. Any limitations on the granting of service credits to employees for service before the beginning date of the participation of its employees in The Plan; and

E. The name or title of the person authorized to sign the agreement on behalf of the local district.

3. **Effective Date; Date of Operation; Date of Participation**

A. **Effective Date**. July 1, 1993, is the effective date of The Plan. Participating local districts and other local districts may enter into an agreement to participate in The Plan on and after that date.

B. **Date the Plan Goes into Operation**. The Plan will be put into operation as of July 1 immediately following the date when:

(1) The number of local districts that have entered into agreements for participation in The Plan with an election of regular service retirement benefits for their employees exceeds 3% of the districts which as of that date are participating in the Retirement System in regular service retirement benefit plans;

(2) The number of local districts that have entered into agreements for participation in The Plan with an election of special service retirement benefits for their employees exceeds 3% of the districts which as of that date are participating in the Retirement System special service retirement benefit plans; and

(3) In each instance the total number of members employed by districts that have entered agreements exceeds 5% of the total of all participating local district members in each category as of that date.

C. **Date of Participation**. The date of participation in The Plan for a participating local district is the first day of the month that most immediately follows the date on which the agreement for participation is signed by the Executive Director and the authorized representative of the participating local district or such later date stated in the agreement or amendment, unless The Plan is not then in operation, in which case, the date of participation is the date on which The Plan goes into operation.

4. **Full Withdrawal from The Plan**. A participating local district may fully withdraw from participation in The Plan by filing with the Board of Trustees a duly certified copy of the withdrawal vote of the body entitled to approve participation under 5 M.R.S. §18804, sub-§1 or 2. The withdrawal date is the later of the last day of the month following the month in which the certified notice is received by the Board or the last day of a later month specified in the notice. The effect of withdrawal on the district's employees is governed by 5 M.R.S. §18254, sub-§1 through 4.

1. A participating local district that withdraws from participation in The Plan must continue to make payments as required under Section 5, subsection 2.

2. Additionally, the withdrawing participating local district must make a withdrawal liability payment determined as follows:

(1) The System’s actuary will calculate the pooled unfunded actuarial liability of The Plan as of the most recent valuation date that precedes the withdrawal date. The actuary will allocate a portion of the pooled unfunded actuarial liability to the withdrawing participating local district on the basis of the proportion of the withdrawing participating local district’s total covered payroll to the total covered payroll of The Plan as of the valuation date.

(2) Unless otherwise agreed under subparagraph 3, the actuary will subtract from the withdrawing participating local district’s portion calculated under subparagraph 1 the present value, as of the withdrawal date, of pooled unfunded actuarial liability payments the participating local district has made since the valuation and pooled unfunded actuarial liability payments the participating local district is expected to pay through the payment of employer contributions after withdrawal on those employees who remain active members. The difference is the withdrawal liability payment amount.

(3) As an alternative to subparagraph 2, the Executive Director and the withdrawing participating local district may agree that the withdrawal liability payment amount is the withdrawing participating local district's portion as calculated under subparagraph 1, reduced only by the present value, as of the withdrawal date, of any pooled unfunded actuarial liability payments the participating local district has made since the valuation. In that case, the withdrawing participating local district's obligations under paragraph A do not include payments under Section 5, subsection 2, paragraph C.

(4) The withdrawing participating local district may pay this withdrawal liability amount in a lump sum or amortize it over a period of up to 30 years at the actuarial assumed rate of return used in the most recent valuation that precedes the withdrawal date.

3. The withdrawing participating local district remains a participating local district subject to this rule until it has no remaining active members and all of its liabilities for inactive vested members, retired members and beneficiaries of retired members have been satisfied according to the requirements of federal and state law, and rules and policies governing satisfaction of liabilities.

4-1. **Partial Withdrawal from The Plan.** For purposes of this subsection, a partial withdrawal occurs when a participating local district elects a change under subsection 7 that excludes a category of employees from membership who would have been eligible for membership absent the change. In the case of a partial withdrawal, the participating local district must make a withdrawal liability payment calculated and paid in the same manner as set forth in subsection 4, paragraph B, except that the portion of The Plan's pooled unfunded actuarial liability that will be allocated to the partially-withdrawing participating local district will be based on the proportion of the district's covered payroll for that category of employees to the total covered payroll of The Plan as of the valuation date.

5. **Resumption of Participation after Withdrawal**. A participating local district that has withdrawn from The Plan under subsection 1, paragraph C or subsection 4 may resume participation in The Plan by taking the actions required by subsection 2.

A. A participating local district which has resumed participation and which thereafter again withdraws may not subsequently again resume participation before 3 years from the date of its immediately prior withdrawal.

B. A local district may resume participation only under the consolidated plan. The retirement benefit plan adopted by the local district on resumption is applicable to all current and future employees who are members if the plan results in a higher level of benefits for the district's employees. The plan adopted on resumption is applicable only to new employees if the plan results in a lower level of benefits for the district's employees or results in a change from a plan with cost of living adjustments to a plan without cost of living adjustments.

C. **Effect on employees**. Except as set forth below in this paragraph C, employees of a local district which resumes participation in the Retirement System are eligible for membership in the System on the same basis as employees of a local district upon initial participation.

(1) Employees who did not withdraw from membership when the local district withdrew from participation in the System may continue membership on the same basis as before the resumption of participation and are entitled to any additional benefit provisions selected and any increase in the level of benefits provided under The Plan.

(2) Employees for whom membership was compulsory who withdrew from membership when the local district withdrew from participation in the System must resume membership in the System if membership with the local district remains compulsory upon the resumption of participation by the local district.

(a) These employees may receive service credits for previous membership service upon repayment of withdrawn accumulated contributions and applicable interest.

(b) These employees may not purchase service credits for periods of employment between withdrawal from membership and resumption of participation by the local district.

(3) Employees for whom membership was not compulsory and who elected not to become or remain a member may not be a member as an employee of that local district unless the employee is electing to rejoin The Plan and:

(a) The employee is covered by a plan provided by the employer under section 5 M.R.S. §18252-B with an employee contribution rate that is not lower than the employee contribution rate for the applicable plan under The Plan; and

(b) Employee contributions after rejoining The Plan qualify for treatment as pick-up contributions for federal tax purposes and the person’s membership otherwise complies with the United States Internal Revenue Code as applicable to governmental qualified defined benefit plans.

(4) The participating local district may allow current employees who began service with the district after the district withdrew from participation to purchase service credits for service rendered from the time of hire to the resumption of participation. The purchase of such service credits is governed by 5 M.R.S. §18253, sub-§2, paragraphs A and B.

(5) If the district grants prior service credits, those service credits shall be based only upon the employee’s employment with the district before the district’s initial date of participation.

6. **Disbanded or Dissolved Districts**. The effect of the disbanding or dissolution of a district that participates in The Plan on the membership and benefits of its employees is governed by 5 M.R.S. §18255 and §18408.

7. **Change of Service Retirement Benefit Plan or Plans**. After beginning participation in The Plan, a participating local district may elect to change the service retirement benefit plan or plans which apply to the district's employees by following the same process set forth in Section 2 for participation in The Plan. The change is applicable to all current and future

employees who are members, if the change results in a higher level of benefits for the district's employees. The change is applicable to new employees only, if the change results in a lower level of benefits for the district's employees or results in a change from a plan with cost of living adjustments to a plan without cost of living adjustments.

The Executive Director shall prepare either a new agreement or an amendment to the district's agreement which will be signed by the authorized representative of the district and the Executive Director. The effective date of the change is the first day of the month that most immediately follows the date the new agreement or amendment to the agreement is signed by the authorized representative of the district and the Executive Director or such later date stated in the agreement or amendment.

SECTION 3. MEMBERSHIP

1. **Compulsory Membership**. Membership is compulsory for all employees who are in the service of a participating local district on the date when participation of the employees of that district in The Plan begins and who are members of the System on that date and for all employees entering the service of that district after that date, except as provided under subsection 2 and 3. A local district that is not a participating local district before July 1, 1993, shall designate in its resolution or order approving participation any class of employees otherwise provided for by local pension provisions who are excluded from membership in The Plan as provided under 5 M.R.S. §18804, sub-§3.

2. **Optional Membership**. Optional membership under The Plan for employees of participating local districts is governed as follows:

   A. **Member When Participation of Employees Begins**. Membership is optional for employees in the service of a local district on the date when the participation in the Retirement System of the employees of the local district first begins, whether under 5 M.R.S., Chapters 425 or 427.

   B. **Elected or Appointed Officials**. Membership is optional for elected officials and officials appointed for a fixed term.

   C. **Trustees of Water, Sanitary and Sewer Districts**. Membership of trustees of water, sanitary and sewer districts is subject to the following:

      (1) **Water districts**. Membership of trustees of a water district is governed by 35-A M.R.S., §6410, subsection 8;

      (2) **Sanitary districts**. Membership of trustees of a sanitary district is governed by 38 M.R.S. §1104.

      (3) **Sewer districts**. Membership of trustees of a sewer district is governed by 38 M.R.S. §1036.

   D. **Employees Covered by Social Security**. Membership is optional for an employee of a participating local district who is covered under the *United States Social Security Act*. Except as provided by paragraph H, optional membership for those employees is subject to 5 M.R.S. §18252.

E. **Employees Not Covered by Social Security**. Membership is optional for any employee of a participating local district that does not provide Social Security coverage provided that the district offers an alternative plan that meets the requirements of 5 M.R.S. §18252-B, and provided that the employee participates in the alternative plan. Optional membership for those employees is subject to 5 M.R.S. §18252-A as amended by PL 2021, c. 90.

F. **Chief Administrative Officer**. Membership is optional for a chief administrative officer of a participating local district, whether appointed for a fixed term or whether appointed with tenure.

G. **Employees Not Subject to Municipal Public Employees Labor Relations Law**. Membership is optional for those employees who are not subject to the municipal public employees labor relations laws contained in 26 M.R.S., Chapter 9-A.

H. Membership for employees of a participating local district that provides a plan under 5 M.R.S. §18252-B is governed by 5 M.R.S. §18252-A as amended by PL 2021, c. 90.

I. The provisions of 5 M.R.S. §18252-C apply only to employees of participating local districts who specifically adopt them in their participation agreement.

3. **Part-Time, Seasonal or Temporary Employees**. Membership of part-time, seasonal and temporary employees, as defined by Chapter 802 (94-411 CMR 802) of the rules of the Board is determined by the election made by each participating local district under Section 2.

4. **Cessation of Membership**. A member ceases to be a member of the Retirement System if the member:

A. **Withdrawal**. Withdraws accumulated contributions;

B. **Beneficiary**. Becomes a beneficiary as a result of the member's own retirement; or

C. **Death**. Dies.

5. **Service in the Armed Forces**. The membership of the following members under The Plan is considered to have continued during the period of the member's service in the Armed Forces of the United States:

A. Any member entering a class of service in the Armed Forces of the United States approved by resolution of the Board, if the member does not withdraw accumulated contributions;

B. Any member who enlists in or is inducted or drafted into the service of the Armed Forces of the United States; and

C. Any member who enlists in or is inducted or drafted into the service of the Armed Forces of the United States while the *United States Selective Service Act of 1948*, Public Law 759, or any of its amendments or extensions is in effect.

SECTION 4. PORTABILITY OF SERVICE CREDITS; ELIGIBILITY TO RETIRE, COMPUTATION OF BENEFIT

1. **Two or More Employers under The Plan**. A member's benefits are based upon all creditable service with all participating employers while a member under The Plan, and creditable service with the member's employer on the date the member began participation under The Plan. When a member under The Plan terminates employment and is subsequently reemployed by another employer whose employees participate in The Plan, the member is not considered to be reemployed by a new employer. If the member is reemployed by the subsequent employer as of the first work day following termination of employment with the previous employer, for the purpose of determining eligibility for benefits, the member is considered to have continuous membership and creditable service.

2. **Previous Employer Not under The Plan**; Subsequent Employer under The Plan. When a member either terminates employment with an employer that has withdrawn from the System, or terminates employment with another employer under the System whose employees are not covered by The Plan, and is employed by a subsequent employer whose employees are members under The Plan, the member's creditable service with the previous employer is used in determining eligibility to retire under the subsequent employer's regular service retirement benefit plan under Section 7. Benefits for service with the previous employer are based upon creditable service and earnable compensation with the previous employer and the provisions of 5 M.R.S., Part 20 in effect with respect to the previous employer at the date of termination of service by the member. A county or municipal law enforcement officer or a municipal firefighter who is eligible under 5 M.R.S. §18253, sub-§1, paragraph E, and who elects to make the contribution necessary under Section 5, subsection 1, paragraph K may include all or part of the creditable service earned with a previous employer with service earned with the new employer both for the purpose of qualification for a service retirement benefit and for the benefit computation.

3. **Previous Employer under The Plan**; Subsequent Employer Not under The Plan. Membership, creditable service and benefits of a member under The Plan who terminates employment and is reemployed as a state employee or teacher are governed by 5 M.R.S. §17656, sub-§1. Until July 1, 1996, membership, creditable service and benefits of a member under The Plan who terminates employment and is reemployed by a participating local district whose employees do not participate in The Plan are governed by 5 M.R.S. §18253, sub-§1. As required by Section 2, paragraph 1, as of July 1, 1996, each local district that is a participating local district must have either entered into an agreement to participate in The Plan or have withdrawn from participation in the Retirement System.

4. **Service under Two or More Special Service Retirement Benefit Plans; Eligibility to Retire**. If a member accrues service credits under more than one special service retirement benefit plan in The Plan, whether with the same employer or more than one employer, credit from service under other special plans toward meeting the retirement eligibility requirements of the special plan from which the member retires is transferred based upon the percentage of the eligibility requirements for the previous plan or plans which were met while under the previous plan or plans. For example, a member who accrues 10 years of creditable service under Special Service Retirement Benefit Plan 1 (1/2 of AFC after 20 years) would have completed 50% of the eligibility requirement under that plan and upon transferring to employment under Special Service Retirement Benefit Plan 2 (1/2 of AFC after 25 years) would be entitled to 50% of the eligibility requirements for that plan; i.e., 12.5 years. The member's benefit would be calculated at 2.5% of AFC for each year under Plan 1 and at 2% for each year under Plan 2.

5. **Service under Two or More Service Retirement Benefit Plans – One Regular and One Special; Eligibility to Retire**

A. **Regular Service before Special Service**. If a member under The Plan accrues service credits under a regular service retirement plan before accruing service credits under a special service retirement benefit plan, whether with the same employer or more than one employer,

(1) the member may retire at any time after the member qualifies for a special service retirement benefit under Section 8. The regular plan service credits may be used toward qualifying to retire under a special service retirement benefit as provided in Section 8. The regular plan service credits used towards qualification for a special service retirement benefit are considered to be special plan service credits for the purpose of computation of the special service retirement benefit as provided in Section 8. If the application of the provisions of Section 4, subsection 6 would result in a greater service retirement benefit, then the benefit will be computed under that section.

(2) A member who does not qualify to retire under a special service retirement plan may retire under a regular service retirement plan at any time after the member qualifies under Section 7. The service retirement benefit for all service is computed as provided in Section 7.

B. **Special Service before Regular Service**. If a member under The Plan accrues service credits under a special service retirement benefit plan before accruing service credits under a regular service retirement benefit plan, whether with the same employer or more than one employer,

(1) before qualifying to retire under a special service retirement plan, the member may retire at any time after completing 25 years total service or reaching normal retirement age with at least one year of service. The service retirement benefit for all service is computed as provided in Section 7.

(2) after qualifying to retire under a special service retirement plan, the member may retire at any time. The portion of the benefit that is based upon service credits under a regular service retirement benefit plan is subject to early retirement reduction if retirement is before normal retirement age. The portion of any benefit paid to a member that is based upon service credits under Special Service Retirement Benefit Plan 4 is also subject to early retirement reduction, if retirement is before age 55.

6. **Service under Two or More Service Retirement Benefit Plans; Computation of Benefits.** When a member has creditable service under two or more service retirement benefit plans, the appropriate benefit formula is applied to each period of service as provided by Section 7, “Regular Service Retirement Benefits Plans” and Section 8, “Special Service Retirement Benefit Plans”. All benefits based upon creditable service under The Plan are based upon one calculation of average final compensation.

SECTION 5. CONTRIBUTIONS

1. **Member contributions**

A. **Active Member**. Each member under The Plan shall contribute to the Retirement System or have pick-up contributions made by the employer at a rate provided by Sections 7, 8, and 9. The contribution rate for a member is the rate assigned to the retirement benefit plan under which the member is accruing service credits.

B. **Former Members; Service under The Plan**. Any former member who, after having terminated service while a member under The Plan and having withdrawn accumulated contributions, again becomes a member under The Plan may repay the withdrawn contributions to the Members' Contribution Fund under the following conditions:

(1) **Time**. The repayment must be made before the date any retirement benefit becomes effective for the member.

(2) **Manner of Repayment**. The repayment must be made to the Retirement System consistent with Chapter 406 (94-411 CMR 406) of the rules of the Board.

(3) **Amount of Repayment**. The amount of repayment must be equal to the withdrawn accumulated contributions plus interest on the amount of those accumulated contributions, beginning on the date of withdrawal to the date the repayment or repayments are made, at a rate to be set by the Board not to exceed regular interest by 5 or more percentage points.

(4) **Credit under The Plan**. Except as provided in paragraph C, only withdrawn contributions relating to creditable service under The Plan may be repaid for service credit under The Plan.

C. **Service Not under The Plan**

(1) **Withdrawn Contributions**

(a) Any member who had service while not a member under The Plan and having withdrawn contributions relating to that service may repay the withdrawn contributions to the Members Contribution Fund under the conditions specified in paragraph B, subparagraphs 1 to 3. Creditable service related to these repaid contributions is used in determining eligibility to retire under the applicable regular service retirement benefit plan under Section 7. Benefits for that service are calculated based on that service and on earnable compensation related to that service in accordance with applicable provisions of 5 M.R.S., Part 20 in effect with respect to the previous employer's regular service retirement plan immediately before that employer's employees became members under The Plan. The additional liability relating to the service credits granted under this division becomes part of the previous employer's unpooled unfunded actuarial liability as provided in subsection 2, paragraph A, subparagraph 2.

(b) Any member who had service while not a member under The Plan and having withdrawn contributions relating to that service may repay the withdrawn contributions to the Members Contribution Fund under the conditions specified in paragraph B, subparagraphs 1 to 3. Creditable service related to these repaid contributions is used in determining that a member is qualified to retire and in the computation of retirement benefit under the applicable service retirement benefit plan under Section 7 or Section 8. Unless the service was with the same employer that is the member's employer at the time the contributions are repaid, the contributions provided for under this subparagraph may be repaid only after the participating local district that is the member's employer at the time the contributions are repaid agrees to assume the additional liability incurred as part of the district's unpooled unfunded actuarial liability as provided in subsection 2, paragraph A, subparagraph 2.

(2) **Non-member Service**

(a) Subject to the personnel rules or policies of the member's employer at the time of the service; provided the member has continued to be employed by that employer; and subject to 5 M.R.S. §18305-B, a member who had service as an employee of a participating local district for which contributions were not made may receive service credit for that service upon paying the appropriate contributions to the Members Contribution Fund under the conditions specified in paragraph B, subparagraphs 2 and 3. Creditable service related to these contributions is used in determining that a member is qualified to retire and in the computation of retirement benefit under the applicable service retirement benefit plan under Section 7 or Section 8. The additional liability relating to the service credits granted under this division becomes part of the district's unpooled unfunded actuarial liability as provided in subsection 2, paragraph A, subparagraph 2.

(b) Subject to 5 M.R.S. §18305-B, a member who had service as an employee of any participating local district for which contributions were not made may receive service credit for that service upon paying the appropriate contributions to the Members Contribution Fund under the conditions specified in paragraph B, subparagraphs 2 and 3. Creditable service related to these contributions is used in determining that a member is qualified to retire and in the computation of retirement benefit under the applicable service retirement benefit plan under Section 7 or Section 8. The contributions provided for under this subparagraph may be made only after the participating local district that is the member's employer at the time the contributions are made and the service credits are granted agrees to assume the additional liability incurred as part of the district's unpooled unfunded actuarial liability as provided in subsection 2, paragraph A, subparagraph 2.

D. **Optional Members with non-member service**. The purchase of service credit for a member for whom membership is optional under Section 3, subsection 2 who had service as an employee of a participating local district for which contributions were not made is governed by 5 M.R.S. §18305-B, provided that the member has continued to be employed by the same employer as that during which no contributions were paid.

E. **Former Member**; Withdrawal by Employees Not Covered by Social Security. In addition to paragraphs B and C, the repayment of contributions that were withdrawn by a member who is an employee of a participating local district that is not covered under a Social Security Section 218 agreement but that has a plan that meets the requirements of 5 M.R.S. §18252-B is subject to the provisions of 5 M.R.S. §18252-A as amended by PL 2021, c. 90.

F. **Service in the Armed Forces before Becoming a Member**. A member who qualifies under Section 6, subsection 4, paragraph B, sub-paragraphs 1 through 4, shall contribute to the Retirement System for the period of service in the Armed Forces under the following terms and conditions:

(1) Contributions are calculated at the percentage rate required of active members during the period of time covered by the service in the Armed Forces applied to the member's earnable compensation during the first year as an employee subsequent to service in the Armed Forces under the following terms and conditions:

(a) The payment may not be made until the member has accumulated at least 15 years of creditable service and must be made before the date any retirement benefit becomes effective for the member;

(b) If 2 or more percentage rates were in effect during the period of service in the Armed Forces, the highest percentage rate is used;

(c) The minimum rate is 5%; and

(d) Interest at a rate set by the board not to exceed regular interest by 2 or more percentage points is paid on the unpaid balance beginning January 1, 1976, or the date of attaining 15 years of creditable service, if later, to the date payment is made.

(2) **Manner of Repayment**. The repayment must be made to the Retirement System consistent with Chapter 406 (94-411 CMR 406) of the rules of the Board.

G. **Service in the Armed Forces after Becoming a Member**. For members who qualify to have their membership in the Retirement System continued under Section 3, subsection 5 because of service in the Armed Forces of the United States, the participating local district shall contribute to the Members' Contribution Fund the same amount that the member would have been required to contribute if the member had been serving the district during the period of service in the Armed Forces in the same capacity in which the member was serving at the time the member joined the Armed Forces. Any member whose contributions to the Members' Contribution Fund are paid by the district under this subsection, who withdraws or ceases to be a member of the Retirement System, may not withdraw any of the contributions made by the district under this subsection. Upon receiving written certification and substantiation from the member's employer that a member has met the requirements of Section 3, subsection 5 and Section 6, subsection 4, paragraph A, the System shall calculate the member contributions applicable to the period of service in the Armed

Forces. The participating local district by which the member is employed is responsible for those contributions and will be billed by the System.

H. **Out-of-state Service**. A member who qualifies under Section 6, subsection 5, must make contributions into the Members' Contribution Fund for the years of out-of-state service under the following terms and conditions:

(1) Contributions are calculated on the same basis as the member would have made contributions had the service been in the State;

(a) The payment may not be made until the member has accumulated at least 20 years of creditable service in the Retirement System and must be made before the date any retirement benefit becomes effective for the member; and

(b) Interest at a rate, to be set by the Board, not to exceed regular interest by 5 or more percentage points is paid on the unpaid balance. Interest shall be computed from the end of the year when those contributions would have been made, if the service had been in the State, to the date of payment.

(2) **Manner of Payment**. The payment must be made to the Retirement System consistent with Chapter 406 (94-411 CMR 406) of the rules of the Board.

I. **Refund of Contributions**. Refunds of contributions to members under The Plan are subject to 5 M.R.S. §§ 18306-A and 18307-A.

J. **Teachers in Private, Parochial and Other Schools**. A member who qualifies under Section 6, subsection 8, must make contributions into the Members’ Contribution Fund for the years of private, parochial or other school service under the following terms and conditions:

(1) Contributions are calculated on the same basis as the member would have made contributions had the service been as a state employee or teacher in the State. The member’s earnings for the years of private or parochial teaching must be assumed to have been the same as the average salary for teachers in the State as determined by the Department of Education for each of the years when the private or parochial school teaching took place.

(a) The payment may not be made until the member has accumulated at least 20 years of creditable service in the Retirement system as a member of the participating local district and must be made before the date any retirement benefit becomes effective for the member;

(b) Interest at a rate, to be set by the Board, not to exceed regular interest by 5 or more percentage points is paid on the unpaid balance. Interest shall be computed from the end of the year when those contributions would have been made, if the service had been as a state employee or teacher in the State, to the date of payment.

(2) **Manner of Payment**. The payment must be made to the Retirement System consistent with Chapter 406 (94-411 CMR 406) of the rules of the Board.

K. **Portability of Service**. A member who elects under 5 M.R.S. §18253, sub-§1, paragraph E to include all or part of the creditable service and earnable compensation from a prior plan with service earned under The Plan may do so under the following terms and conditions:

(1) Before any retirement benefit becomes effective for that member, the member must pay into the Members' Contribution Fund an amount that, together with regular interest on that amount, is the actuarial equivalent, at the effective date of the retirement benefit, of the portion of the retirement benefit based on the inclusion of the prior plan creditable service and earnable compensation with service earned under The Plan.

(2) **Manner of Payment**. The payment must be made to the Retirement System consistent with Chapter 406 (94-411 CMR 406) of the rules of the Board.

L. **Back contributions for certain days off without pay**. A member who elects under 5 M.R.S. §18305-C to include compensation that would have been paid for days off without pay in order to include those earnings in the calculation of the member's average final compensation as provided in 5 M.R.S. §17001, sub-§4, paragraph A, may do so under the following terms and conditions:

(1) **Election**. If the retirement system determines at the time a member retires that the member's benefit would be increased as a result of the inclusion of compensation that would have been paid for days off without pay, the retirement system shall advise the member of that result and shall allow the member to elect to have that compensation included in the calculation of the member's benefit and to make payments as set forth in subsection 2.

(2) **Payment**. The amount that a member who makes the election permitted in subsection 1 must pay is the amount equal to the employee contribution that member would have made on compensation that would have been paid to that member on the days off without pay, plus interest at the same rate as that required for repayment of withdrawn contributions pursuant to section 18304. If the member elects to make the payment, the retirement system shall withhold the required amount from the member's first retirement benefit check.

(3) **Benefit calculation**. If a member fails to make the election within 31 days of the notification provided under subsection 1, the retirement system shall calculate the member's retirement benefit without inclusion of the compensation that would have been paid for the days off without pay.

M. **Law enforcement service before becoming a member.** A member who qualifies under Section 6, subsection 10 must make contributions into the Members' Contribution Fund for the period of law enforcement service under the following terms and conditions:

(1) Before any retirement benefit becomes effective for that member, the member must pay into the Members' Contribution Fund an amount that, together with regular interest on that amount, is the actuarial equivalent, at the effective date of the retirement benefit, of the portion of the retirement benefit based on the inclusion of the prior law enforcement service credit with service earned under The Plan.

(2) **Manner of Payment**. The payment must be made to the Retirement System consistent with Chapter 406 (94-411 CMR 406) of the rules of the Board.

2. **Employer Contributions**. Contributions by participating local districts whose employees are members under The Plan are subject to 5 M.R.S. §18303, except that contributions and pickup contributions are to be calculated according to Sections 7, 8, and 9, and the following:

A. **Unpooled Unfunded Actuarial Liability Contribution**. Each participating local district with employees who are members under The Plan shall make a contribution known as the "Unpooled Unfunded Actuarial Liability Contribution" based upon:

(1) its Initial Unpooled Unfunded Actuarial Liability, which is the excess of projected liabilities allocated to future benefit payments to current recipients of benefits and to current members as of the date its employees begin participation under The Plan over the sum of the participating local district's assets on hand as of that date and its future employer and member normal contributions. The rate for this portion of Unpooled Unfunded Actuarial Liability Contribution shall be determined by a valuation made by the System's actuary for each participating local district with employees who are members under The Plan; and

(2) any adjustments to the Initial Unpooled Unfunded Actuarial Liability attributable to that district separately. The rate for this portion of the Unpooled Unfunded Actuarial Liability Contribution shall be added to or subtracted from the rate determined under a.

(3) if the calculation required by (1) or (2) above results in a credit balance, the balance may, at the discretion of the participating local district, be applied as an offset against the monthly contribution required in an amount no greater than the total amount of the monthly contribution against which the offset is applied.

B. **Normal Contribution**. Each participating local district with employees who are members under The Plan, along with those members pursuant to Sections 7, 8, and 9, shall make a contribution known as a "Normal Contribution" based upon the portion of projected liabilities attributable to service of all members under the several benefit plans under The Plan for the year following the valuation. The rate of this contribution shall be determined annually by a valuation made by the System's actuary based upon the membership data relating to all members under each benefit plan under The Plan and in accordance with Sections 7, 8, and 9.

C. **Pooled Unfunded Actuarial Liability Contribution**. Each participating local district with employees who are members under The Plan, along with those members pursuant to Sections 7, 8, and 9, shall make a contribution known as the "Pooled Unfunded Actuarial Liability Contribution" based upon the Pooled Unfunded Actuarial Liability. This liability is equal to the present value of all projected benefits for current and future members, including employer contributions related to military service credit under The Plan, less the present value of future member and employer normal contributions, the assets of The Plan and the present value of all Unpooled Unfunded Actuarial Liability contributions. This rate of this contribution shall be determined annually in accordance with Sections 7, 8, and 9.

D. **Disability Benefit Contribution**. Each participating local district with employees who are members under The Plan shall make a contribution known as a "disability benefit contribution" based upon the expected value of future disability benefits to be paid to those employees, and to employees who are participants in the defined contribution 401(a) plan under this chapter but who are not members under The Plan, as a result of disablements occurring during the year following the valuation date. The rate of this contribution shall be determined annually by a valuation made by the System's actuary based upon the membership data relating to all members under each benefit plan under The Plan and participants in the defined contribution 401(a) plan under this chapter who are not members under The Plan.

E. **Death Benefit Contribution**. Each participating local district with employees who are members under The Plan shall make a contribution known as a "death benefit contribution" based upon the expected value of future death benefits to be paid to beneficiaries of those employees and to beneficiaries of employees who are participants in the defined contribution plan under this chapter as a result of deaths occurring during the year following the valuation date. The rate of this contribution shall be determined annually by a valuation made by the System's actuary based upon the membership data relating to all members under each benefit plan under The Plan and participants in the defined contribution plan under this chapter.

SECTION 6. CREDITABLE SERVICE

1. **Determination of Service Credits**. The determination of service credits for members under The Plan is subject to Chapter 401 (94-411 CMR 401) of the rules of the Board.

2. **Prior Service**; Service Before Effective Date of District’s Participation. Service credit for service as an employee of a local district before the beginning date of the participation of the employees of a participating local district in the Retirement System shall be granted upon certification by the district, subject to limitations in the district's agreement as provided by Section 2, subsection 2, paragraph D and statutes and rules in effect at the time the service was rendered.

3. **Former Member**

A. **Member who Terminated Service**. Upon complete payment of the withdrawn contributions under Section 5, subsection 1, paragraph B, a member shall be granted service credit for the period of time for which the contributions have been repaid. Upon making partial payment of the withdrawn contributions under Section 5, the member shall be granted service credit on a pro rata basis in accordance with rules adopted by the Board.

B. **Service Not under The Plan**. Upon complete payment of the contributions under Section 5, subsection 1, paragraph C, a member shall be granted service credit for the period of time for which the contributions have been paid. Upon making partial payment of the contributions under Section 5, the member shall be granted service credit on a pro rata basis in accordance with rules adopted by the Board.

C. **Contributions Withdrawn by Employees Not Covered by Social Security**. The granting of creditable service upon repayment of contributions, under section 5, subsection 1, paragraph E, that were withdrawn by a member who is an employee of a participating local district that is not covered under a Social Security Section 218 agreement but that has a plan that meets the requirements of 5 M.R.S. §18252-B is subject to the provisions of 5 M.R.S. §18252-A as amended by PL 2021, c. 90.

4. **Service in the Armed Forces**. Service credit for service in the Armed Forces of the United States is governed as follows:

A. **Service after Becoming a Member**. A member is entitled to service credit for the period of time during which the member's membership is continued under Section 3, subsection 5 under the following terms and conditions. Except as provided in subparagraph 3, service credit under this subsection is limited to 5 years.

(1) A member's separation from service in the Armed Forces of the United States must be under conditions other than dishonorable.

(2) A member is not entitled to service credit for military leave if the member's return to membership service is delayed beyond 90 days after separation from the service in the Armed Forces, unless the delay is caused by an illness or disability incurred in the service in the Armed Forces.

(3) A member may not receive service credit for military leave beyond the end of the period of first enlistment or induction or beyond 5 years from the date of original call to active duty in the Armed Forces, whichever is less, unless:

(a) The member's return to active duty in the Armed Forces or the extension of the period of service beyond 5 years is required by some mandatory provision; and

(b) The member presents proof of the return to or extension of service satisfactory to the Board.

B. **Service before Becoming a Member**. A member who served as a full-time active duty member of the Armed Forces of the United States before becoming a member of the Retirement System is entitled to service credit for the period of time the member served in the Armed Forces, under the following terms and conditions. Service credit under this subsection is limited to 4 years.

(1) Except as provided in paragraph 6, on the date of retirement, the member must have at least 15 years of creditable service.

(2) The member must have separated from the Armed Forces under conditions other than dishonorable.

(3) Except as provided in subparagraph 4, the member must have begun membership before January 1, 1976.

(4) Except as provided in paragraph 6, a member who served in the Armed Forces during any federally recognized period of conflict, as defined in 5 M.R.S. §18360(2)(E), is entitled to service credit under this paragraph.

(5) Upon complete payment of the back contributions under Section 5, subsection 1, paragraph F, the member shall be granted service credit for the period of time for which the contributions have been made. Upon making partial payment of the back contributions under Section 5, the member shall

be granted service credit on a pro rata basis in accordance with rules adopted by the board.

(6) **Alternative**. A member who fails to meet one or more of the terms and conditions required under paragraphs 1, 3 and 4 may purchase service credit as provided in this paragraph. The member must have at least 5 years of creditable service and, before any retirement benefit becomes effective for that member, must pay into the Members' Contribution Fund, an amount that, together with regular interest on that amount, is the actuarial equivalent, at the effective date of the retirement benefit, of the portion of the retirement benefit based on the additional creditable service. Any member who purchases service credit under this paragraph who subsequently, without inclusion of the purchased service credit and prior to retirement, meets the terms and conditions of paragraphs 1, 2 and 4 is entitled to purchase the service credit under Section 5, subsection 1, paragraph F and to receive a refund of the amount paid under this paragraph that exceeds the cost to purchase the service under Section 5.

5. **Out-of-state Service**. For members who began membership before January 1, 1976, additional service credit shall be allowed for out-of-state service, subject to the following conditions.

A. **20 Years of Creditable Service**. The member must have creditable service in the Retirement System of at least 20 years in the aggregate;

B. **Last 10 Years in Maine; 10 Year Limit**. The member's last 10 years of creditable service before the date of retirement must be in the State and no more than 10 years of service credit may be allowed for out-of-state service; and

C. **Payment of Contributions**. Upon complete payment of the back contributions under Section 5, subsection 1, paragraph H, subparagraph 2, the member shall be granted service credit for the period of time for which the contributions have been made. Upon making partial payment of the back contributions under Section 5, subsection 1, paragraph H, subparagraph 2, the member shall be granted service credit on a pro rata basis in accordance with rules adopted by the board.

D. **Alternative**. If service credit for out-of-state service is not allowed under paragraph A and B, service credit for out-of-state service shall be allowed if the member, before any retirement benefit becomes effective for that member, pays into the Members' Contribution Fund, an amount that, together with regular interest on that amount, is the actuarial equivalent, at the effective date of the retirement benefit, of the portion of the retirement benefit based on the additional creditable service. Payments must be made consistent with Chapter 406 (94-411 CMR 406) of the rules of the Board.

(1) Additional amounts paid under this subsection shall become a part of the member's accumulated contributions.

(2) If any retirement benefit becomes effective before the completion of the payment under this subsection, the member is entitled to service credit for that portion of the additional creditable service that the total amount of payments actually made, plus regular interest on those payments to the date the retirement benefit becomes effective, bears to the actuarial

equivalent of the total portion of the retirement benefit based on the additional creditable service.

E. **Service Credit not to be Used in Another State**. Any application for a retirement benefit for which out-of-state service credit is to be granted must be accompanied by a certified statement from the appropriate retirement system that the out-of-state service credit granted has not been or will not be used to obtain benefits in another state.

6. **Disability Retirement Service Credit**. A recipient of a disability retirement benefit shall receive service credit for the purpose of determining benefits under The Plan for the period of time following termination of service during which disability retirement benefits are being received under 5 M.R.S. Chapter 425, subchapter V, article 3-A.

7. **Unused Sick Leave or Vacation Leave**

A. **Earnable Compensation.** A member’s earnable compensation does not include payment for unused accumulated or accrued sick leave, unused vacation time, or a combination of both, or any other payment that is not compensation for actual services rendered or that is not paid at the time the actual services are rendered, except that for a member with at least 20 years of creditable service under The Plan at the effective date of the member’s retirement, and for a recipient of a disability retirement benefit, earnable compensation includes payment for unused accumulated or accrued sick leave, unused vacation time, or a combination of both, up to a maximum of 30 days, if paid upon the member’s last termination before the member applies for retirement benefits.

B. **Service Credit.** A member may not receive service credit for unused accumulated or accrued sick leave, unused vacation leave, or a combination of both, for which a member is credited on termination of service, but for which the member does not receive payment, except under the following conditions.

(1) Leave, up to a lifetime maximum of 90 days, qualifies for service credit for a member with at least 20 years of creditable service under The Plan, before the application of this sub-paragraph, at the effective date of the member’s retirement.

(2) Leave, up to a lifetime maximum of 90 days, qualifies for service credit for a recipient of a disability retirement benefit, at the effective date of the member’s disability retirement.

(3) Leave, including leave beyond 90 days, may qualify for service credit, up to the maximum number of days of leave, set by personnel rules or by contract, that a person is allowed to accumulate, if, the member, before any retirement benefit becomes effective for the member, pays into the Members' Contribution Fund, a single payment which is the actuarial equivalent, at the effective date of the member's retirement benefit, of the portion of the member's retirement benefit based on the additional creditable service beyond 90 days.

8. **Teachers in Private, Parochial and Other Schools**. A member who taught in a parochial school or in a public or private academy may purchase up to 10 years of service credit for that service under the following conditions.

A. The member must have taught in a school approved by the Department of Education or the education department of another state while holding an appropriate teaching certificate;

B. **20 Years of Creditable Service**. The member must have 20 years of creditable service as a member of the participating local district;

C. **Membership before January 1, 1976**. The member must have begun membership before January 1, 1976;

D. **Last 10 Years in Participating Local District**. The member's last 10 years of creditable service before the date of retirement must be as a member of the participating local district; and

E. **Payment of Contributions**. Upon complete payment of the back contributions under Section 5, subsection 1, paragraph K, subparagraph 2, the member shall be granted service credit for the period of time for which the contributions have been made. Upon making partial payment of the back contributions under Section 5, subsection 1, paragraph K, subparagraph 2, the member shall be granted service credit on a pro rata basis in accordance with rules adopted by the board.

F. **Alternative**. If service credit for private, parochial or other school service is not allowed under paragraphs B and C, additional service credit is allowed for any member who meets the requirements of paragraphs A and D, if the member, before any retirement benefit becomes effective for that member, pays into the Members' Contribution Fund an amount that, together with regular interest on that amount, is the actuarial equivalent, at the effective date of the retirement benefit, of the portion of the retirement benefit based on the additional creditable service. Payments must be made consistent with Chapter 406 (94-411 CMR 406) of the rules of the Board.

(1) Additional amounts paid under this subsection shall become a part of the member's accumulated contributions.

(2) If any retirement benefit becomes effective before the completion of the payment under this subsection, the member is entitled to service credit for that portion of the additional creditable service that the total amount of payments actually made, plus regular interest on those payments to the date the retirement benefit becomes effective, bears to the actuarial equivalent of the total portion of the retirement benefit based on the additional creditable service.

9. **Other Schools and Programs**. A member who terminates service in the State and teaches under the Volunteers in Service to America Program, the Fulbright Exchange Program or the Peace Corps, foreign or domestic, or teaches children of United States Foreign Corps personnel outside the continental limits of the United States is entitled to service credit for that service under the following conditions.

A. **2 Year Limit**. The service credit may not exceed 2 years.

B. **Return to Active Service**. The member must return to active service as a member of the retirement system within one year of the completion of the teaching outside of the State described in this section.

C. **Payment of Contributions**. The member, before any retirement benefit becomes effective for that member, must pay into the Members' Contribution Fund an amount that, together with regular interest on that amount, is the actuarial equivalent, at the effective date of the retirement benefit, of the portion of the retirement benefit based on the additional creditable service. Payments must be made consistent with Chapter 406 (94-411 CMR 406) of the rules of the Board.

10. **Law enforcement service before becoming a member.** A member who served as a full-time law enforcement officer with a federal, state, county or local law enforcement agency before becoming a member, and who did not decline membership under section 3, subsection 2, during the period of prior law enforcement service, is entitled under this subsection to purchase service credit for the period of time that the member served as a law enforcement officer under the following conditions:

A. **15 years of creditable service.** The member must have at least 15 years of creditable service at the time of retirement.

B. **4 year limit.** Service credit purchased under this subsection is limited to 4 years.

C. **Service credit not to be used for other benefits.** The member must provide a certified statement from the appropriate retirement system that the service credit to be granted has not been and will not be used to obtain other retirement benefits.

D. **Payment of contributions.** The member must complete payment of contributions as required by Section 5, subsection 1, paragraph M.

(1) Additional amounts paid under this subsection shall become a part of the member's accumulated contributions.

(2) If any retirement benefit becomes effective before the completion of the payment under this subsection, the member is entitled to service credit for that portion of the additional creditable service that the total amount of payments actually made, plus regular interest on those payments to the date the retirement benefit becomes effective, bears to the actuarial equivalent of the total portion of the retirement benefit based on the additional creditable service.

SECTION 7. REGULAR SERVICE RETIREMENT BENEFIT PLANS

Payment of benefits to members under The Plan is subject to the provisions of 5 M.R.S. §§ 18403 – 18405-A, 18409 - 18413.

1. **Regular Benefit Plan AC**. Regular Benefit Plan AC may be elected by any participating local district or local district.

A. **Contribution Rate**. Subject to Section 15, subsection 1, and the rate caps under Section 9, employer and employee contributions shall be set annually by the Board based on the recommendations of the System's actuary in accordance with the following:

(1) The Plan's unfunded actuarial liability as of June 30, 2018, shall be paid in an actuarially sound manner and allocated between the employer and

employee in a ratio approved by the Board based on the recommendation of the Participating Local District Advisory Committee;

(2) Any Plan unfunded actuarial liability created beginning July 1, 2018, shall be paid through employer and employee contributions allocated 58% to the employer and 42% to the employee;

(3) The normal cost shall be paid through employer and employee contributions allocated 58% to the employer and 42% to the employee.; and

(4) Rates shall reflect any differences in actuarial assumptions and experience and shall be based on whether the member is subject to paragraphs B or B-1.

B. **Qualification for Benefit Prior to July 1, 2014**. A member of The Plan prior to July 1, 2014 qualifies for a service retirement benefit under this paragraph when one of the following occurs:

(1) The member is in service when reaching 60 years of age, or is in service after reaching 60 years of age, and has been in service for a minimum of one-year immediately before retirement or except as provided in sub-paragraph 4 has at least 10 years of creditable service, which may include creditable service as a member of the Legislative Retirement Program under 3 M.R.S. §701, sub-§8;

(2) The member is not in service when reaching 60 years of age, and except as provided in sub-paragraph 4 has at least 10 years of creditable service, which may include creditable service as a member of the Legislative Retirement Program under 3 M.R.S. §701, sub-§8; or

(3) The member has completed 25 or more years of creditable service, which may include, for the purpose of meeting eligibility requirements, creditable service as a member of the Legislative Retirement Program under 3 M.R.S. §701, sub-§8.

(4) The member has at least 5 years of creditable service, which, for the purpose of determining completion of the 5-year requirement, may include creditable service as a member of the Legislative Retirement Program, and:

(a) Was in service on October 1, 1999;

(b) Had left prior to October 1, 1999 with or without withdrawing contributions and on or after October 1, 1999 returned to service; or

(c) Was first in service on or after October 1, 1999.

B-1. **Qualification for Benefit after July 1, 2014**. A member who was not covered by The Plan prior to July 1, 2014 qualifies for a service retirement benefit under this paragraph when one of the following occurs:

(1) The member is in service when reaching 65 years of age, or is in service after reaching 65 years of age, and has been in service for a minimum of one year immediately before retirement or has at least 5 years of creditable

service, which may include creditable service as a member of the Legislative Retirement Program under 3 M.R.S. §701, sub-§8;

(2) The member is not in service when reaching 65 years of age and has at least 5 years of creditable service, which may include creditable service as a member of the Legislative Retirement Program under 3 M.R.S. §701, sub-§8; or

(3) The member has completed 25 or more years of creditable service, which may include, for the purpose of meeting eligibility requirements, creditable service as a member of the Legislative Retirement Program under 3 M.R.S. §701, sub-§8.

C. **Computation of Benefit - Retirement at Normal Retirement Age or Later**. Subject to the requirements of Section 4, subsection 6, the total amount of the service retirement benefit for a member qualified under paragraph B, subparagraphs 1, 2 or 4 or under paragraph B-1, equals:

(1) 1/50 of the member's average final compensation multiplied by the number of years of creditable service under The Plan; and

(2) If the member had creditable service, with the member's current employer before that employer's employees were under The Plan, the benefit for that creditable service is calculated on the basis of:

(a) 1/50 of the member's average final compensation multiplied by the number of years of creditable service, if, before being under The Plan, the service retirement benefit for that employer's employees was based upon the 1/50 formula;

(b) 1/60 of the member's average final compensation multiplied by the number of years of creditable service, if, before being under The Plan, the service retirement benefit for that employer's employees was based upon the 1/60 formula;

(c) 1/70 of the member's average final compensation multiplied by the number of years of creditable service, if, before being under The Plan, the service retirement benefit for that employer's employees was based upon the 1/70 formula;

(3) If the member had creditable service with an employer other than the member's current employer before becoming a member under The Plan for which the member's current employer has not accepted liability, and for which the member has not made the election under 5 M.R.S. §18253, sub-§1, paragraph E, the benefit for that creditable service is calculated on the basis of creditable service and earnable compensation with the previous employer and in accordance with the previous employer's regular service retirement plan immediately before the previous employer's employees became members under The Plan or the previous employer withdrew from the System. If the previous employer has neither begun participation in The Plan nor withdrawn from the System, the benefit is calculated on the basis of the previous employer's plan at the time of the member's retirement.

(4) If the member has prior service credit, the benefit for that service is calculated on the basis of the applicable formula of paragraph C (2) above, as adopted by the district for prior service credit.

D. **Computation of Benefit - Retirement before Normal Retirement Age - With Creditable Service of 25 Years or More**. Subject to the requirements of Section 4, subsections 5 and 6, the amount of the service retirement benefit for a member who retires prior to normal retirement age shall be computed as follows:

(1) The amount of the service retirement benefit for a member qualified under paragraph B, subparagraph 3, who has 20 or more years of creditable service under The Plan as of July 1, 2019, shall be computed in accordance with paragraph C, except that:

(a) The amount arrived at under paragraph C shall be reduced by applying to that amount the percentage that a life annuity due at age 60 bears to the life annuity due at the age of retirement.

(b) For the purpose of making the computation under division a, the Board-approved tables of annuities in effect at the date of the member's retirement shall be used.

(2) The amount of the service retirement benefit for a member qualified under paragraph B-1, subparagraph 3, who, pursuant to Title 5, Section 18253, has 20 or more years of creditable service under The Plan as of July 1, 2019, shall be computed in accordance with paragraph C, except that the benefit is reduced by 6% for each year that the member's age precedes 65 years of age.

(3) The amount of the service retirement benefit for all other members shall be computed in accordance with paragraph C, except that the amount arrived at under paragraph C shall be reduced to reflect the full actuarial impact of the early retirement. At the election of the member, any cost of living adjustments pursuant to Section 9 shall not be applied until the member has reached age 60, for a member to whom paragraph B applies, or age 65, for a member to whom paragraph B-1 applies, and the actuarial impact shall reflect this election.

E. **Cost of Living Adjustments**. Subject to paragraph D, subparagraph 2, all benefits based upon creditable service under this service retirement benefit plan are subject to cost of living adjustments as provided by Section 9. Benefits based upon creditable service earned before a member was under The Plan will be subject to cost of living adjustments only if the employer's plan provided for cost of living adjustments.

2. **Regular Benefit Plan AN**. Regular Benefit Plan AN may be elected by any participating local district or local district.

This benefit plan is the same as Regular Benefit Plan AC, except that there is no provision for cost of living adjustments.

3. **Regular Benefit Plan BC**. Regular Benefit Plan BC may be elected by any participating local district or local district which covers its employees under the Federal Social Security program under a Section 218 Agreement. Any current employee who was a member under a plan which provided benefits under the 1/50 or 1/60 formula with a cost of living adjustment may elect to

be under Regular Benefit Plan A and any current employee who was under a plan which provided benefits under the 1/50 or 1/60 or 1/70 formula without cost of living adjustments may elect to be under Regular Benefit Plan AN. Regular Benefit Plans AC and AN require that members make contributions at the rate as set forth in subsections 1 and 2. For the purposes of this subsection, "current employee" means a person whose employment with a participating local district began prior to the date on which participation in The Plan for that district's employees begins and who is a member as an employee of that district on that date.

A. **Contribution Rate**. Employer and employee contribution rates are set in the same manner and subject to the same requirements as Regular Benefit Plan AC.

B. **Qualification for Benefit**. The requirements for a member to qualify for a service retirement benefit under this paragraph are exactly the same as under Regular Benefit Plan AC - subsection 1, paragraphs B and B-1.

C. **Computation of Benefit - Retirement at Normal Retirement Age or Later**. Subject to the requirements of Section 4, subsection 6, the total amount of the service retirement benefit for a member qualified as specified in subsection 1, paragraph B, subparagraph 1, 2 or 4 or under subsection 1, paragraph B-1 equals:

(1) 1/100 of the member's average final compensation multiplied by the number of years of membership service under The Plan; and

(2) If the member had creditable service, with the member's current employer before that employer's employees were under The Plan, the benefit for that creditable service is calculated on the basis of:

(a) 1/50 of the member's average final compensation multiplied by the number of years of creditable service, if, before being under The Plan, the service retirement benefit for that employer's employees was based upon the 1/50 formula;

(b) 1/60 of the member's average final compensation multiplied by the number of years of creditable service, if, before being under The Plan, the service retirement benefit for that employer's employees was based upon the 1/60 formula;

(c) 1/70 of the member's average final compensation multiplied by the number of years of creditable service, if, before being under The Plan, the service retirement benefit for that employer's employees was based upon the 1/70 formula;

(3) If the member had creditable service with an employer other than the member's current employer before becoming a member under The Plan for which the member's current employer has not accepted liability, and for which the member has not made the election under 5 M.R.S. §18253, sub-§1, paragraph E, the benefit for that creditable service is calculated on the basis of creditable service and earnable compensation with the previous employer and in accordance with the previous employer's regular service retirement plan immediately before the previous employer's employees became members under The Plan or the previous employer withdrew from the System. If the previous employer has neither begun participation in The

Plan nor withdrawn from the System, the benefit is calculated on the basis of the previous employer's plan at the time of the member's retirement.

(4) If the member has prior service credit, the benefit for that service is calculated on the basis of the applicable formula of paragraph C (2) above, as adopted by the district for prior service credit.

D. **Computation of Benefit - Retirement before Normal Retirement Age - With Creditable Service of 25 Years or More**. Subject to the requirements of Section 4, subsections 5 and 6, the amount of the service retirement benefit for a member who retires prior to normal retirement age shall be computed as follows:

(1) The amount of the service retirement benefit for a member qualified as specified in subsection 1, paragraph B, subparagraph 3, who has 20 or more years of creditable service under The Plan as of July 1, 2019, shall be computed in accordance with paragraph C, except that:

(a) The amount arrived at under paragraph C shall be reduced by applying to that amount the percentage that a life annuity due at age 60 bears to the life annuity due at the age of retirement.

(b) For the purpose of making the computation under subparagraph 1, the board-approved tables of annuities in effect at the date of the member's retirement shall be used.

(2) The amount of the service retirement benefit for a member qualified under subsection 1, paragraph B-1, subparagraph 3, who, pursuant to Title 5, Section 18253, has 20 or more years of creditable service under The Plan as of July 1, 2019, shall be computed in accordance with subsection 1, paragraph C, except that the benefit is reduced by 6% for each year that the member’s age precedes 65 years of age.

(3) The amount of the service retirement benefit for all other members shall be computed in accordance with paragraph C, except that the amount arrived at under Paragraph C shall be reduced to reflect the full actuarial impact of the early retirement. At the election of the member, any cost of living adjustments pursuant to Section 9 shall not be applied until the member has reached age 60, for a member to whom subsection 1, paragraph B applies, or age 65, for a member to whom subsection 1, paragraph B-1 applies, and the actuarial impact shall reflect this election.

E. **Cost of Living Adjustments**. Subject to paragraph D, subparagraph 2, all benefits based upon creditable service under this service retirement benefit plan are subject to cost of living adjustments as provided by Section 9. Benefits based upon creditable service earned before a member was under The Plan will be subject to cost of living adjustments only if the employer's plan provided for cost of living adjustments.

4. **Minimum Benefit**. Any member under The Plan who has 10 or more years of creditable service at retirement is entitled to a minimum service retirement benefit of $100 per month.

SECTION 8. SPECIAL SERVICE RETIREMENT BENEFIT PLANS

Payment of benefits to members under The Plan is subject to the provisions of 5 M.R.S. §§ 18403 – 18405-A, 18409-18413. If, upon electing to participate in The Plan, a participating local district elects a special benefit plan other than the special benefit plan that a member is then covered under, the member may elect to continue under the special benefit plan under which the member is then covered. The member's election must be made as of the date on which the district's participation in The Plan begins and may not be changed thereafter. Members having membership service under special plans prior to July 1, 1977, are entitled to the alternative benefit computation based on that service in accordance with the applicable provision of 5 M.R.S. §18453. A member who does not qualify to retire under a special service retirement plan may retire under a regular service retirement plan at any time after the member qualifies under Section 7. The service retirement benefit for all service is computed as provided in Section 7.

1. **Special Benefit Plan 1C**. Special Benefit Plan 1C may be elected by any participating local district or local district for police officers, firefighters, sheriffs, full-time deputy sheriffs, county corrections employees who are employed at a county jail and whose duties include contact with prisoners or juvenile detainees, and emergency medical services persons as defined in Title 32 M.R.S. §83, sub-§12, including but not limited to first responders, emergency medical technicians, advanced emergency medical technicians and paramedics.

   A. **Contribution Rate**. Subject to Section 15, subsection 1, and to the rate caps under Section 9, employer and employee contributions shall be set annually by the Board based on the recommendations of the System’s actuary in accordance with the following:

      (1) The Plan’s unfunded actuarial liability as of June 30, 2018, shall be paid in an actuarially sound manner and allocated between the employer and employee in a ratio approved by the Board based on the recommendation of the Participating Local District Advisory Committee;

      (2) Any Plan unfunded actuarial liability created beginning July 1, 2018, shall be paid through employer and employee contributions allocated 58% to the employer and 42% to the employee; and

      (3) The normal cost shall be paid through employer and employee contributions allocated 58% to the employer and 42% to the employee.

   B. **Qualification for Benefit**

      (1) A member qualifies for a service retirement benefit under this subsection when the member has completed 20 years of creditable service as an employee in one or more of the types of employment specified in this subsection and specified by the district as covered under this plan. If the member had creditable service under a special plan with the member's current employer before that employer's employees became members under The Plan, that creditable service is counted when determining the member's qualification for this benefit;

      (2) A member who has accrued service credits under a regular service retirement plan before accruing service under this plan, and for whom the regular plan service credits are considered service under The Plan as provided by Section 4, subsection 1, may use those service credits toward

qualifying to retire under this plan at the rate of one year of special plan service credit for each two years of regular plan service credit; and

(3) Except for employees who are entitled, under the current employer's plan in effect before the employer's employees become members under The Plan, to use military service credits to qualify for service retirement benefits, service credits for service in the Armed Forces before becoming a member, under Section 6, subsection 4, paragraph B, apply only to additional retirement benefits under this plan and the service credits do not apply to service requirements to qualify for retirement benefits.

(4) Service credits for law enforcement service before becoming a member, under Section 6, subsection 10, apply only to additional retirement benefits under this plan and the service credits do not apply to service requirements to qualify for retirement benefits.

C. **Computation of Benefit**. Subject to the requirements of Section 4, subsections 5 and 6, the total amount of the service retirement benefit for a member qualified under paragraph B, equals 1/2 of the member's average final compensation and, subject to the limitations of subsection J, an additional 2% of the member's average final compensation for each year of creditable service not included in determining qualification under paragraph B.

(1) If the member had creditable service under a special plan, with the member's current employer, before that employer's employees became members under The Plan, that creditable service is used when calculating the benefit under this paragraph.

(2) If the member had creditable service with an employer other than the member's current employer before becoming a member under The Plan for which the member's current employer has not accepted liability, and for which the member has not made the election under 5 M.R.S. §18253, sub-§1, paragraph E, the benefit for that creditable service is calculated on the basis of creditable service and earnable compensation with the previous employer and in accordance with the previous employer's regular service retirement plan immediately before the previous employer's employees became members under The Plan or the previous employer withdrew from the System. If the previous employer has neither begun participation in The Plan nor withdrawn from the System, the benefit is calculated on the basis of the previous employer's plan at the time of the member's retirement.

D. **Cost of Living Adjustments**. All benefits based upon creditable service under this service retirement benefit plan are subject to cost of living adjustments as provided by Section 9. Benefits based upon creditable service earned before a member was under The Plan will be subject to cost of living adjustments only if the employer's plan provided for cost of living adjustments.

2. **Special Benefit Plan 1N**. Special Benefit Plan 1N may be elected by any participating local district or local district.

This benefit plan is identical to Special Benefit Plan 1C, except that there is no provision for cost of living adjustments.

3. **Special Benefit Plan 2C**. Special Benefit Plan 2C may be elected by any participating local district or local district for police officers, firefighters, sheriffs, full-time deputy sheriffs, county corrections employees who are employed at a county jail and whose duties include contact with prisoners or juvenile detainees, emergency medical services persons as defined in Title 32 M.R.S. §83, sub-§12, including but not limited to first responders, emergency medical technicians, advanced emergency medical technicians and paramedics, and dispatchers as defined in 5 M.R.S. §18313, sub-§1. A district may also elect this plan for all of its employees.

A. **Contribution Rate**. Subject to Section 15, subsection 1, and to the rate caps under Section 9, employer and employee contributions shall be set annually by the Board based on the recommendations of the System's actuary in accordance with the following:

(1) The Plan's unfunded actuarial liability as of June 30, 2018, shall be paid in an actuarially sound manner and allocated between the employer and employee in a ratio approved by the Board based on the recommendation of the Participating Local District Advisory Committee;

(2) Any Plan unfunded actuarial liability created beginning July 1, 2018, shall be paid through employer and employee contributions allocated 58% to the employer and 42% to the employee; and

(3) The normal cost shall be paid through employer and employee contributions allocated 58% to the employer and 42% to the employee.

B. **Qualification for Benefit**

(1) A member qualifies for a service retirement benefit under this subsection when the member has completed 25 years of creditable service as an employee in one or more of the types of employment specified in this subsection and specified by the district as covered under this plan. If the member had creditable service under a special plan with the member's current employer before that employer's employees became members under The Plan, that creditable service is counted when determining the member's qualification for this benefit; and

(2) A member who has accrued service credits under a regular service retirement plan before accruing service under this plan, and for whom the regular plan service credits are considered service under The Plan as provided by Section 4, subsection 1, may use those service credits toward qualifying to retire under this plan at the rate of two years of special plan service credit for each three years of regular plan service credit.

C. **Computation of Benefit**. Subject to the requirements of Section 4, subsections 5 and 6, the total amount of the service retirement benefit for a member qualified under paragraph 2, equals 1/2 of the member's average final compensation and, subject to the limitations of subsection J, an additional 2% of the member's average final compensation for each year of creditable service not included in determining qualification under paragraph B.

(1) If the member had creditable service under a special plan, with the member's current employer, before that employer's employees became members under

The Plan, that creditable service is used when calculating the benefit under this paragraph.

(2) If the member had creditable service with an employer other than the member's current employer before becoming a member under The Plan for which the member's current employer has not accepted liability, and for which the member has not made the election under 5 M.R.S. §18253, sub-§1, paragraph E, the benefit for that creditable service is calculated on the basis of creditable service and earnable compensation with the previous employer and in accordance with the previous employer's regular service retirement plan immediately before the previous employer's employees became members under The Plan or the previous employer withdrew from the System. If the previous employer has neither begun participation in The Plan nor withdrawn from the System, the benefit is calculated on the basis of the previous employer's plan at the time of the member's retirement.

D. **Cost of Living Adjustments**. All benefits based upon creditable service under this service retirement benefit plan are subject to cost of living adjustments as provided by Section 9. Benefits based upon creditable service earned before a member was under The Plan will be subject to cost of living adjustments only if the employer's plan provided for cost of living adjustments.

4. **Special Benefit Plan 2N**. Special Benefit Plan 2N may be elected by any participating local district or local district.

This benefit plan is identical to Special Benefit Plan 2C, except that there is no provision for cost of living adjustments.

5. **Special Benefit Plan 3C**. Special Benefit Plan 3C may be elected by any participating local district or local district for police officers, firefighters, sheriffs, full-time deputy sheriffs, county corrections employees who are employed at a county jail and whose duties include contact with prisoners or juvenile detainees, emergency medical services persons as defined in Title 32 M.R.S. §83, sub-§12, including but not limited to first responders, emergency medical technicians, advanced emergency medical technicians and paramedics, and dispatchers as defined in 5 M.R.S. §18313, sub-§1.

A. **Contribution Rate**. The contribution rate for members under Special Benefit Plan 3C is as set out below until the completion of 25 years of creditable service under this special benefit plan, after which the members contribute at the same rate of earnable compensation as paid by members who contribute under Regular Plan AC as set forth in Section 7, subsection 1, paragraph A. Subject to Section 15, subsection 1, and to the rate caps under Section 9, employer and employee contributions shall be set annually by the Board based on the recommendations of the System’s actuary in accordance with the following:

(1) The Plan’s unfunded actuarial liability as of June 30, 2018, shall be paid in an actuarially sound manner and allocated between the employer and employee in a ratio approved by the Board based on the recommendation of the Participating Local District Advisory Committee;

(2) Any Plan unfunded actuarial liability created beginning July 1, 2018, shall be paid through employer and employee contributions allocated 58% to the employer and 42% to the employee; and

(3) The normal cost shall be paid through employer and employee contributions allocated 58% to the employer and 42% to the employee.

B. **Qualification for Benefit**

(1) A member qualifies for a service retirement benefit under this subsection when the member has completed 25 years of creditable service as an employee in one or more of the types of employment specified in this subsection and specified by the district as covered under this plan. If the member had creditable service under a special plan with the member's current employer before that employer's employees became members under The Plan, that creditable service is counted when determining the member's qualification for this benefit; and

(2) A member who has accrued service credits under a regular service retirement plan before accruing service under this plan, and for whom the regular plan service credits are considered service under The Plan as provided by Section 4, subsection 1, may use those service credits toward qualifying to retire under this plan at the rate of two years of special plan service credit for each three years of regular plan service credit.

C. **Computation of Benefit**. Subject to the requirements of Section 4, subsections 5 and 6, the total amount of the service retirement benefit for a member qualified under paragraph 2, equals 2/3 of the member's average final compensation and, subject to the limitations of subsection J, an additional 2% of the member's average final compensation for each year of creditable service not included in determining qualification under paragraph B.

(1) If the member had creditable service under a special plan, with the member's current employer, before that employer's employees became members under The Plan, that creditable service is used when calculating the benefit under this paragraph.

(2) If the member had creditable service with an employer other than the member's current employer before becoming a member under The Plan for which the member's current employer has not accepted liability, and for which the member has not made the election under 5 M.R.S. §18253, sub-§1, paragraph E, the benefit for that creditable service is calculated on the basis of creditable service and earnable compensation with the previous employer and in accordance with the previous employer's regular service retirement plan immediately before the previous employer's employees became members under The Plan or the previous employer withdrew from the System. If the previous employer has neither begun participation in The Plan nor withdrawn from the System, the benefit is calculated on the basis of the previous employer's plan at the time of the member's retirement.

D. **Cost of Living Adjustments**. All benefits based upon creditable service under this service retirement benefit plan are subject to cost of living adjustments as provided by Section 9. Benefits based upon creditable service earned before a member was under The Plan will be subject to cost of living adjustments only if the employer's plan provided for cost of living adjustments.

6. **Special Benefit Plan 3N**. Special Benefit Plan 3N may be elected by any participating local district or local district.

   This benefit plan is identical to Special Benefit Plan 3C, except that there is no provision for cost of living adjustments.

7. **Special Benefit Plan 4C**. Special Benefit Plan 4C may be elected by any participating local district or local district for police officers, firefighters, sheriffs, full-time deputy sheriffs, county corrections employees who are employed at a county jail and whose duties include contact with prisoners or juvenile detainees, emergency medical services persons as defined in Title 32 M.R.S. §83, sub-§12, including but not limited to first responders, emergency medical technicians, advanced emergency medical technicians and paramedics, and dispatchers as defined in 5 M.R.S. §18313, sub-§1 .

   A. **Contribution Rate**. The contribution rate for members under Special Benefit Plan 4C is as set out below until the completion of 25 years of creditable service under this special benefit plan, after which the members contribute at the same rate of earnable compensation as paid by members who contribute under Regular Plan AC as set forth in Section 7, subsection 1, paragraph A. Subject to Section 15, subsection 1, and to the rate caps under Section 9, employer and employee contributions shall be set annually by the Board based on the recommendations of the System's actuary in accordance with the following:

      (1) The Plan's unfunded actuarial liability as of June 30, 2018, shall be paid in an actuarially sound manner and allocated between the employer and employee in a ratio approved by the Board based on the recommendation of the Participating Local District Advisory Committee;

      (2) Any Plan unfunded actuarial liability created beginning July 1, 2018, shall be paid through employer and employee contributions allocated 58% to the employer and 42% to the employee; and

      (3) The normal cost shall be paid through employer and employee contributions allocated 58% to the employer and 42% to the employee.

   B. **Qualification for Benefit**

      (1) A member qualifies for a service retirement benefit under this subsection when the member has completed 25 years of creditable service as an employee in one or more of the types of employment specified in this subsection and specified by the district as covered under this plan. If the member had creditable service under a special plan with the member's current employer before that employer's employees became members under The Plan, that creditable service is counted when determining the member's qualification for this benefit; and

      (2) A member who has accrued service credits under a regular service retirement plan before accruing service under this plan, and for whom the regular plan service credits are considered service under The Plan as provided by Section 4, subsection 1, may use those service credits toward qualifying to retire under this plan at the rate of two years of special plan service credit for each three years of regular plan service credit.

C. **Computation of Benefit**. Subject to the requirements of Section 4, subsections 5 and 6, the total amount of the service retirement benefit for a member qualified under paragraph B, equals:

(1) If the member retires after reaching age 55, 1/50 of the member's average final compensation multiplied by the number of years of creditable service;

(2) If the member retires before reaching age 55, 1/50 of the member's average final compensation multiplied by the number of years of creditable service reduced as follows:

(a) For a member who was covered by The Plan prior to July 1, 2014, who has 20 or more years of creditable service under The Plan as of July 1, 2019, the benefit is reduced by applying to that amount the percentage that a life annuity due at age 55 bears to the life annuity due at the age of retirement.

(b) For a member who was not covered by The Plan prior to July 1, 2014, but who, pursuant to Title 5, Section 18253, has 20 or more years of creditable service under The Plan as of July 1, 2019, the benefit is reduced by 6% for each year that the member’s age precedes 55 years of age.

(c) For all other members, the benefit is reduced to reflect the full actuarial impact of the early retirement. At the election of the member, any cost of living adjustments pursuant to Section 9 shall not be applied until the member has reached age 55, and the actuarial impact shall reflect this election.

(3) If the member had creditable service under a special plan, with the member's current employer, before that employer's employees became members under The Plan, that creditable service is used when calculating the benefit under this paragraph.

(4) If the member had creditable service with an employer other than the member's current employer before becoming a member under The Plan for which the member's current employer has not accepted liability, and for which the member has not made the election under 5 M.R.S. §18253, sub-§1, paragraph E, the benefit for that creditable service is calculated on the basis of creditable service and earnable compensation with the previous employer and in accordance with the previous employer's regular service retirement plan immediately before the previous employer's employees became members under The Plan or the previous employer withdrew from the System. If the previous employer has neither begun participation in The Plan nor withdrawn from the System, the benefit is calculated on the basis of the previous employer's plan at the time of the member's retirement.

D. **Cost of Living Adjustments**. Subject to paragraph C, subparagraph 2, all benefits based upon creditable service under this service retirement benefit plan are subject to cost of living adjustments as provided by Section 9. Benefits based upon creditable service earned before a member was under The Plan will be subject to cost of living adjustments only if the employer's plan provided for cost of living adjustments.

8. **Special Benefit Plan 4N**. Special Benefit Plan 4N may be elected by any participating local district or local district.

   This benefit plan is identical to Special Benefit Plan 4C, except that there is no provision for cost of living adjustments.

9. **Transfer from Special Plan Position to Non-Special Plan Position Due to Disability**. A member who has not completed the service requirements for retirement under a special service retirement benefit plan, upon becoming disabled as defined in section 18521, and upon becoming reemployed in a position not under a special service retirement benefit plan shall upon retirement receive retirement benefits as follows:

   A. The part of the member's service retirement based upon membership service before becoming disabled shall be computed according to the formula for computing benefits under the member's previous special plan.

   B. The part of the member's service retirement based upon membership service after becoming reemployed in a position not under a special plan shall be computed according to the formula for computing benefits under the member's previous special plan.

   C. If the member is found to be no longer disabled, as defined in section 18521, the member may:

      (1) Return to a position in the member's previous special plan; or

      (2) Remain in the position which is not under a special plan and have the part of the member's service retirement benefit based upon post-disability service computed in accordance with the applicable regular service retirement benefit plan under Section 7.

   D. The executive director may require that a member subject to this subsection submit records and undergo medical examinations or tests to determine the member's disability for purposes of paragraph C.

      (1) If the member refuses to submit records or undergo the examination or tests under this paragraph, the member's retirement benefit shall be based upon the applicable regular service retirement benefit plan under Section 7 until the member withdraws the refusal.

      (2) If the member's refusal under subparagraph 1 continues for one year, all the member's rights to any further benefit under this subsection shall cease.

10. **Additional 2% Benefit**. The additional 2% of average final compensation benefit provided to members under the special service retirement plans in this section is applicable only to service credits earned with relation to service rendered after a member becomes a member under The Plan. A member is also entitled to this benefit for service rendered before becoming a member under The Plan to the extent that the member was entitled to the benefit under the member's current employer's retirement plan that was in effect immediately before the employer's employees became members under The Plan.

SECTION 9. COST OF LIVING ADJUSTMENTS; CONTRIBUTION CAPS

1. **Cost of Living Adjustments.** Subject to subsections 2, ~~and~~ 3 and 4, the cost-of-living adjustment shall be determined as follows.

   A. Except as provided in subsections 2, ~~and~~ 3 and 4, whenever there is a percentage increase in the Consumer Price Index from July 1 of the previous year to June 30 of the current year, the Board shall automatically make an equal percentage increase in retirement benefits, beginning in September, up to a maximum annual increase of 2.5%.

   B. If there is a percentage decrease in the Consumer Price Index from July 1st to June 30th, the Board shall set the percentage change at 0% for that September. The adjustment for the following year must be set based on the actuarially compounded Consumer Price Index for both years in a cost-neutral manner. If the Consumer Price Index in the subsequent year or years is not sufficient to allow for the adjustment to be cost-neutral for the 2 years, then the adjustment needed for cost-neutrality must continue to be applied to following years until such time as the cost-neutrality requirement is met.

   C. The Board shall determine the costs of the adjustments under this Section and shall include those costs in the annual valuation.

   D. Cost-of-living adjustments under this Section shall be applied to the retirement benefits of retirees as follows:

      (1) For retirees who retire prior to September 1, 2019, a cost-of-living adjustment is applied if the retiree has been retired for at least 12 months before the date that the adjustment becomes payable.

      (2) For retirees who retire on or after September 1, 2019, a cost-of-living adjustment is applied if the retiree has been retired for at least 24 months before the date that the adjustment becomes payable. Beneficiaries of deceased retirees shall be eligible for the cost-of-living adjustment at the same time the deceased retiree would have become eligible.

2. **Contribution Caps.** The employer and employee contribution rates, as calculated in the aggregate across all benefit plans in The Plan, are capped at 12.5% and 9%, respectively. If the rates calculated by the System's actuary would exceed the caps for a particular year, the following shall occur:

   A. The aggregated employer and employee rates will be reduced to the cap amounts, and the Board will set individual benefit plan rates based on the System's actuary's recommendation for allocating the reductions.

   B. The cost of living adjustment calculated under subsection 1 shall be reduced to maintain cost-neutrality, but not below zero. If the reduction otherwise would have been below zero, then an adjustment will be applied to contribution rates, up to the caps set forth in this subsection, and the cost of living adjustment, but not below zero, in following years until such time as cost-neutrality is achieved.

3. Notwithstanding subsection 1, paragraph A, the cost-of-living adjustment for the period from September 1, 2021 through August 31, 2022 shall be 3.5%.

4. Notwithstanding subsection 1, paragraph A, the cost-of-living adjustment for the period from September 1, 2022 through August 31, 2022 shall be 3.5%.

SECTION 10. DISABILITY BENEFITS

1. **Members of The Plan**. Disability retirement benefits for members under The Plan are subject to 5 M.R.S., Chapter 425, subchapter V, *Benefits*, Article 3-A, *Disability Retirement Benefits After September 30, 1989*, except section 18534.

2. **Election Regarding Age-limit or No-age-limit Disability**. The election made by each member under PL 1991, c. 887 whether to be covered under age-limit or no-age-limit disability remains in effect after a member's participation in The Plan begins. Depending upon a member's election, the member is covered under the age-limit or no-age-limit version of the disability plan specified in this Section.

3. **Current Recipients of Disability Benefits**. After having begun to participate in The Plan, a participating local district which before participating in The Plan did not have as part of its plan 5 M.R.S., Chapter 425, subchapter V, *Benefits*, Article 3-A, *Disability Retirement Benefits After September 30, 1989*, may elect to adopt 5 M.R.S. §18534, thereby allowing its former employees who are recipients of disability retirement benefits under prior law the option of being governed by disability retirement provisions applicable to members under The Plan. Any former employee of a district which adopts §18534 who is a recipient of a disability retirement benefit under 5 M.R.S., Article 3, as in effect immediately before October 1, 1989, or under section 1122 of the former retirement system law, as in effect immediately before July 1, 1977, may elect to be governed by 5 M.R.S., Chapter 425, subchapter V, *Benefits*, Article 3-A, by making written application to the executive director within 6 months after adoption of this provision by the participating local district. If the disability retirement benefit recipient makes the election, Article 3-A shall apply from the date of the recipient's original eligibility for disability retirement, but any increase in benefits may only be granted from the date of election by the recipient. The district's adoption and the recipient's election are irrevocable. The additional liability resulting from the adoption of this provision will be included in the district's Additional Unpooled Unfunded Actuarial Liability.

SECTION 11. ORDINARY DEATH BENEFITS

Ordinary death benefits for members under The Plan are subject to 5 M.R.S., Chapter 425, subchapter V, *Benefits*, Article 4, *Ordinary Death Benefits*.

SECTION 12. ACCIDENTAL DEATH BENEFITS

1. **Definitions**. As used in this section, unless the context otherwise indicates, the following terms have the following meanings.

    A. **Professional firefighter**. “Professional firefighter” means an employee of a municipal fire department who is a member of the Participating Local District Retirement Program or who is a participating member under chapter 425 and who aids in the extinguishment of fires, whether or not the employee has other administrative duties.

B. **Qualifying member**. “Qualifying member” means:

(1) A member who dies as a result of an injury arising out of and in the course of employment as an employee;

(2) After October 31, 2004, an active member who is a professional firefighter who dies as a result of an injury or disease as described in Title 39-A, section 328 if the injury or disease that causes the death is the result of a condition that develops within 30 days of the active member’s participating in firefighting or training or a drill that involves firefighting. If the professional firefighter dies after 30 days but within 6 months of participating in firefighting or training or a drill that involves firefighting, there is a rebuttable presumption that the death is the result of an injury arising out of and in the course of employment as a professional firefighter; or

(3) A former member receiving a disability retirement benefit who dies as a result of an injury arising out of and in the course of employment as an employee.

2. **Qualification for Benefit**. The beneficiary of a qualifying member shall receive a benefit in accordance with section 18603.

3. **Computation of Benefit**. Benefits under this section are determined as follows:

A. **Surviving spouse; no dependent children**. If the qualifying member is survived by a spouse and no dependent child, the surviving spouse shall be paid 2/3 of the average final compensation of the qualifying member.

B. **Surviving spouse having care of dependent children**. If the qualifying member is survived by a spouse who has the care of the dependent child or dependent children of the qualifying member, the surviving spouse shall be paid an annual sum equal to the average final compensation of the qualifying member.

C. **Surviving spouse not having care of dependent children**. If the qualifying member is survived by a spouse who does not have the care of the dependent child or dependent children of the qualifying member, the surviving spouse shall share with the dependent child or dependent children an annual sum equal to the average final compensation of the qualifying member, the benefit to be divided equally among the surviving spouse and the dependent child or dependent children.

D. **No surviving spouse**. If no spouse survives the qualifying member, the dependent child or dependent children shall be paid an annual sum equal to the average final compensation of the qualifying member.

4. **Method of Payment**. All benefits paid under this section shall be paid in equal monthly installments beginning the first month after the death of the qualifying member.

5. **Adjustment of Benefits**. Benefits under this section are subject to the following adjustments:

A. **Cessation of eligibility**. When a person sharing benefits under section 18603 ceases to be eligible to receive benefits, the subsequent benefits of the remaining beneficiaries shall be recalculated as if the remaining beneficiaries had been the only beneficiaries to survive the qualifying member.

B. **Workers' compensation or similar law**. The amount payable under this section must be reduced by any amount received by the surviving spouse and dependent child or dependent children under former Title 39, the *Workers' Compensation Act* or Title 39-A, Part 1, the *Maine Workers' Compensation Act of 1992*, or a similar law.

(1) Lump-sum settlements of benefits that would reduce the accidental death benefits under this subsection must be prorated on a monthly basis in an equitable manner prescribed by the board.

(2) The prorated lump-sum settlement amounts must reduce the accidental death benefits payable monthly under this section.

C. **Cost-of-living adjustments**. Benefits under this section are subject to adjustment as provided in section 9.

6. **Termination of Benefits**. The benefits under this section shall be paid to:

A. **Surviving spouse**. The surviving spouse until the spouse dies; and

B. **Dependent children**. The dependent child or dependent children until they die or until they no longer meet the definition of "dependent child" under section 17001, subsection 12.

SECTION 13. DEFINED CONTRIBUTION/DEFERRED COMPENSATION PLANS

1. **Defined Contribution/Deferred Compensation Plans**. A participating local district may provide for the participation of its employees in a defined contribution and/or deferred compensation plan or plans for which the System is The Plan Sponsor. To provide for its employees' participation, the participating local district employer must comply with the procedure for adoption set out in paragraph 6.

2. **District is Employer**. For all purposes related to such a plan or plans, the participating local district is the employer of its employees who participate in the plan or plans.

3. **Federal Law Requirements**. The plan or plans for which the System is Plan Sponsor must meet all applicable federal law requirements.

4. **Terms and Requirements of Plan**. The rights, obligations, conditions and terms of each plan or plans for which the System is Plan Sponsor are those provided in the relevant Plan Document, as revised or amended from time to time.

5 **Plan under 5 MRSA Section 18252-B**. Adoption of a plan or plans under this section does not by itself satisfy the requirements of 5 M.R.S. §18252-B. A participating local district that intends a plan or plans that it adopts under this section to comply with 5 M.R.S. §18252-B must also meet that section's requirements.

6. **Procedure for Adoption**

A. **Adoption Agreement**. A participating local district that acts to adopt a plan or plans under this section must complete the relevant Adoption Agreement or Agreements in a form provided or authorized by the System. An Adoption Agreement constitutes documentation of the participating local district's decision to adopt the plan to which the Agreement applies and signifies its understanding and acceptance of the provisions of the plan as set out in The Plan Document.

B. **401(a) Plan: Contribution Rates**. In the case of a plan established in accordance with the requirements of Section 401(a) of the United States Internal Revenue Code of 1986, as amended,

(1) the Adoption Agreement must specify the required employee contribution as established by the participating local district employer and the employer contribution, if any; and

(2) the participating local district may change the amount of the required employee contribution annually, effective July 1 immediately following its decision to change the amount. The participating local district must document the change by amending its Adoption Agreement to state the new required employee contribution amount. An employee already participating in the district's 401(a) plan at the time the required employee contribution amount is changed has the right to continue his/her employee contribution in the amount previously required or to change to the new required contribution amount.

7. **Disability Retirement Benefits: Participants in a 401(a) Plan who are Not Members under The Plan**

A. **Applicability**. Employees who are participants in a 401(a) plan under this section and who are not members under The Plan are covered in the event of disability as set out in paragraph B.

B. **Disability Retirement Program**. The disability retirement program established under this paragraph is that established by section18521 *et seq*. and implemented by the System's related rules and policies, including but not limited to the disability application, determination and review processes, and standards for benefit eligibility and standards for continuation of benefits.

(1) Title 5 M.R.S. §18524, sub-§2, applies to an employee with fewer than 5 years of participation in the 401(a) plan.

(2) Except as provided in subparagraph 3, the amount of the disability retirement benefit is 60% of the participant's annual compensation being paid at the time the participant became disabled, subject to adjustment as provided by 5 M.R.S. §18407 and this chapter.

(3) A participant who is found eligible for a disability retirement benefit and who terminates employment may elect to withdraw the balance of the participant's 401(a) account. If such a withdrawal includes employer contributions made on behalf of the participant, the disability retirement benefit will be actuarially adjusted so that the participant receives a disability retirement benefit of not more than the amount specified in subparagraph 2.

(4) Benefits cease if the participant is found no longer eligible under the applicable statute, or on the date that the participant is required to receive a Required Minimum Distribution under federal law, whichever is earlier.

SECTION 14. RETIRING AND RETURNING TO WORK

If a person who is a recipient of a service retirement benefit under The Plan returns to employment by a participating local district of The Plan in a position for which membership would be mandatory or optional for a new hire, the person continues to receive the service retirement benefit and does not re-enter The Plan as a member. During the period that a retiree is returned to employment, contributions must be remitted to the System by the participating local district in the amount of the greater of (i) 5% of the person's earnable compensation, or (ii) the equivalent of employer and employee unfunded actuarial liability contributions at the aggregate rate on the person's earnable compensation. For purposes of this section, earnable compensation does not include Workers' Compensation earnings paid to the person.

SECTION 15. TRANSITION

1. **Rates.** Employer and employee rates for July 1, 2018, through June 30, 2019, shall be the rates set under this Rule prior to the amendment effective July 1, 2018. The transition from those rates to the rates calculated pursuant to Sections 7 and 8 shall be accomplished by smoothing in the new rates over an actuarially sound period.

2. **Unused Sick Leave or Vacation Leave.** Section 6, subsection 7, applies to those with a retirement effectiveness date on or after August 1, 2019.

3. **Retiring and Returning to Work.** Section 14 does not apply to a retiree employed by a participating local district on October 1, 2018, until the earlier of termination of employment or June 30, 2021.

4. **Membership Election.** The one-time election to join The Plan by November 1, 2021 under PL 2021, c. 286, § 6 applies only to employees of participating local districts who specifically adopt that provision in their participation agreement prior to November 1, 2021, or at the next meeting of the participating local district's executive or legislative body, whichever is later. For participating local districts adopting the provision on or after November 1, 2021, the one-time election date shall be such later date stated in the amended participation agreement.

STATUTORY AUTHORITY:
5 M.R.S. §§ 17103(4), 18200 *et seq*., 18801 *et seq*.

EFFECTIVE DATE:
May 11, 1993

AMENDED:
July 20, 1993
May 6, 1995
April 1, 2001
September 28, 2002
January 17, 2004
October 12, 2004
October 29, 2005 – filing 2005-449
October 9, 2006 – filing 2006-433
February 1, 2011 – filing 2011-45
December 9, 2013 – filing 2013-295 (header corrected March 7, 2016)

June 5, 2016 – filing 2016-099
August 30, 2017 – filing 2017-133
May 26, 2018 – filing 2018-082
September 19, 2018 – filing 2018-188
June 24, 2019 – filing 2019-101
November 4, 2019 – filing 2019-189
July 18, 2020 – Section 16 added, filing 2020-160
November 25, 2020 – filing 2020-236
October 4, 2021 – filing 2021-197
July 23, 2022 – filing 2022-137

MAINEPERS

BOARD OF TRUSTEES MEMORANDUM

TO: BOARD MEMBERS

FROM: DR. REBECCA M. WYKE, CHIEF EXECUTIVE OFFICER
JAMES A. BENNETT, CHIEF INVESTMENT OFFICER
MICHAEL COLLERAN, CHIEF OPERATING OFFICER & GENERAL COUNSEL

SUBJECT: **DIVESTMENT**

DATE: DECEMBER 1, 2022

The Board received a presentation at the November meeting on NEPC's evaluation of the impact that divestment from fossil fuel and for-profit prison companies would have on the MainePERS portfolio. A copy of NEPC's final report follows this memo.

At this month's meeting, we will provide an update on our work responding to the divestment legislation and an opportunity to consult with legal counsel in executive session on the Board's legal responsibilities.

POLICY REFERENCE

Board Policy 1.2 – Trustee Fiduciary Responsibility

Board Policy 2.1 – Investment Policy Statement

Board Policy 4.4 – Board/Consultants/Staff Relations

Board Policy 4.5 – Board/Staff Relations

Board Policy 4.6 – Communication and Support to the Board

RECOMMENDATION

No Board action is required at this time.

November 2022

MainePERS

PUBLIC EMPLOYEES RETIREMENT SYSTEM

DIVESTMENT MEMO

NEPC, LLC

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INTRODUCTION

The purpose of this report is to assist MainePERS in evaluating the divestment of certain assets as specified in Maine statutes PL2021 c.231 and PL2021 c.234. The report will cover the following items:

- A review of the divestment and climate change-related risk landscape
- Identify and quantify the System's portfolio holdings subject to divestment
- Identify and quantify direct divestment costs
- Identify and quantity divestment impact on portfolio

The information provided within is intended to give the System a more detailed understanding of the impact of the Maine legislation and the implied costs (investment and operational) of divesting as contemplated by the legislation. This report will not include alternatives to divesting, but rather focus on the impact of divesting.

SECTION A: BROAD REVIEW OF DIVESTMENT AND THE CLIMATE CHANGE-RELATED RISK LANDSCAPE

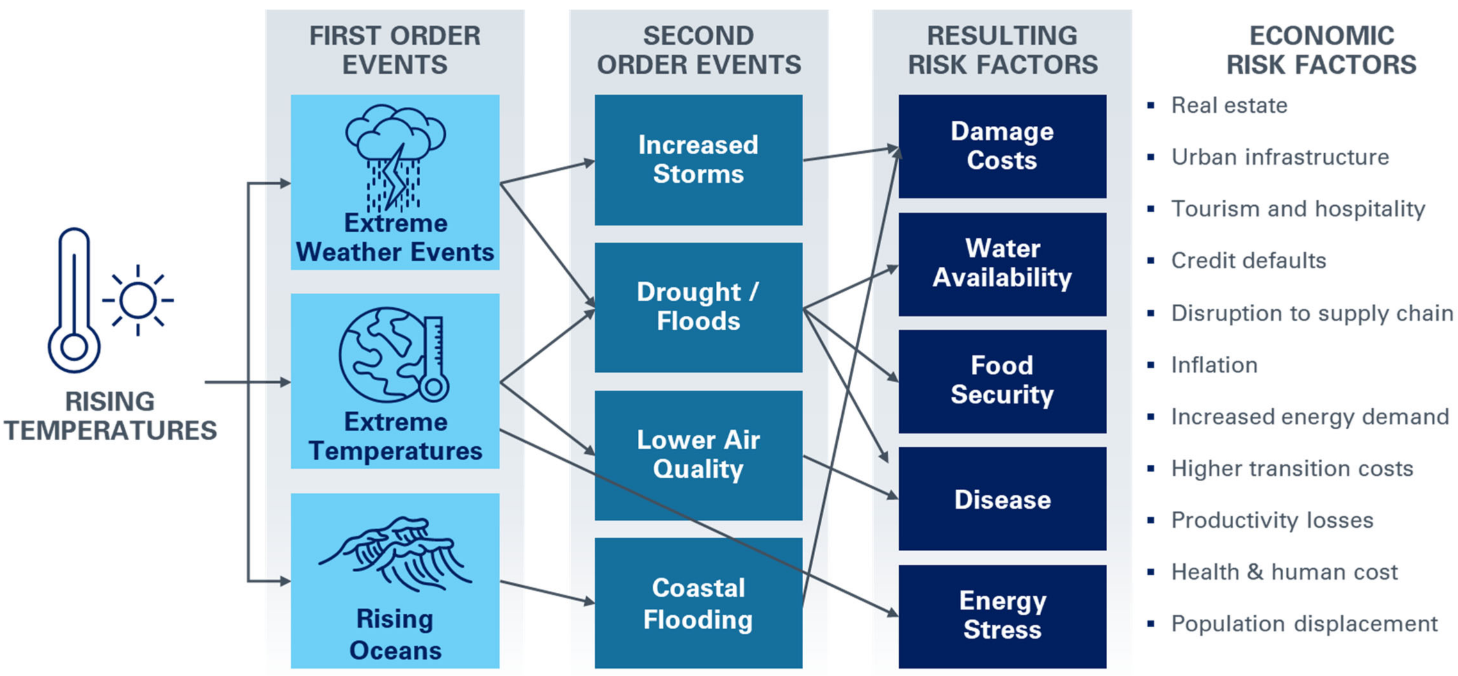
Over the last decade, investors have increased their understanding of climate related risks and have considered those risks in various ways for portfolio construction. This section will provide a brief overview of those risks, the potential investment implications, and how institutional investors are considering those implications through portfolio mandates. We will also highlight some of the state legislative trends.

Risks

As investors strive to understand the investment implications associated with climate change, it is important to begin with an understanding of *risk factors* and potential government *policy reactions* to those risks. These combine to influence the eventual investment implications.

Climate change risk factors categorize systematic exposures to long-term impacts of climate change. Vulnerability to these risk factors and each economy's ability to adapt will ultimately determine the winners and losers across geographies and industries.

Working through first and second order effects, the economic risk factors of climate change can then inform asset class views for each government policy path.

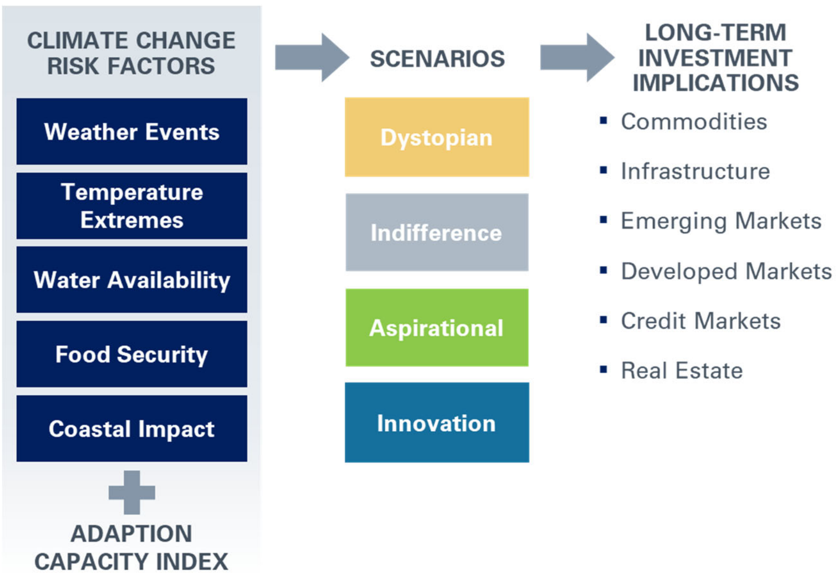


Countries may have the ability to mitigate or offset exposures to certain risk factors by taking some type of action in response to climate change. Ultimately, it depends on readiness in regard to economics (mobility of private capital), governance (stability of society and institutional arrangements), and social conditions (that help society make efficient and equitable use of capital).

We view potential policy scenarios under the following framework:

- **Dystopian**: Industrialized nations reverse current policies in place to mitigate greenhouse gas emissions. Potential global temperature change of 5°C or greater
- **Indifference**: Current mitigation policies in place continue with potential global temperature change of 3°C to 3.5°C
- **Aspirational**: Current pledges of industrialized nations are implemented along with current policies (e.g., Paris Accord) with potential global temperature change of 3°C or less
- **Innovation**: Revolutionary technological change reduces greenhouse gas emissions to 20th century levels. Potential global temperature change of 2°C or less

Investors can turn to investment implications by engaging this type of climate risk model – beginning with economic risk factors, overlaying scenario work on potential policies, leading to varied outcomes depending on the asset class.



Climate change is expected to have an effect on asset classes as it will impact the core building blocks of capital markets: Inflation, Real Growth, Profit Margins, and Credit Defaults. Wealthier countries are most able to adapt to climate change, exacerbating global wealth inequality. Emerging markets are most vulnerable with higher sensitivity to climate change risk factors, especially nations with fragile socio-economic profiles.

Climate change transition costs are likely to pressure profit margins across industries with physical costs of climate change having a potentially inflationary effect. Credit markets may be most exposed with higher defaults associated with climate events and large disruptions to business models. The capital market risks of climate change can be seen today but it is still to be determined when the market may fully discount the range of outcomes associated with climate change costs.

Investor Response

As investors grapple with how to evaluate exposure to climate risks and consider portfolio implications, multiple approaches are typically discussed. The four most reviewed include negative screening, ESG integration, thematic investing, and engagement. A description of each of these approaches follows, with a note about the adoption of each by pension plans.

Approach 1: Cancel

Strategy: Negative Screening

Description: Avoid companies, products, or industries that you don't support. This strategy has been around for decades because it's a straightforward approach.

Example: Historically, lots of people have sought to avoid 'sin stocks' like guns, liquor, or tobacco. More recently, many investors with a particular concern about climate change have sought to divest from companies that produce or are dependent on fossil fuels, as opposed to renewable energy sources.

Suitable for: Negative-screening portfolios place blunt limits on portfolio managers and are not necessarily designed to find the best long-term investments. For that reason, negative-screening strategies are best used by organizations with strong missions or specific philanthropic goals, such as religious institutions. Screening can be challenging to implement as it is often accompanied by higher investment management fees and a more restricted universe of options. At times, sector exclusion may pose a challenge from a fiduciary standpoint.

Approach 2: Consider

Strategy: ESG Integration

Description: ESG integration looks at a firm's environmental, social and governance data to glean intelligence on its long-term viability and value. In addition to portfolio managers assessing each company on the basis of its financial fundamentals, they also consider material information about its environmental impacts, stakeholder relationships, and governance record. Investments that are strong on these counts are viewed as quality investments that are less likely to be derailed by unforeseen risks.

Example: The implosion of Equifax in 2017, when a data breach exposed the personal information of 145.5 million Americans and wreaked havoc on its reputation and its stock price. Monitoring the firm's ESG data could have helped in forming a clearer picture of the true risks of investing in Equifax.

Suitable for: This strategy has the broadest appeal for most investors because it builds on traditional analysis, rather than trying to replace or constrain it. A well-developed ESG rating system allows investors to benefit from a firm's financial gains while being aware of risks that might not show up on a balance sheet. It also gives investors an opportunity to get an early look at firms that are exploring–and potentially utilizing–impact-related opportunities.

Approach 3: Sharpen your focus

Strategy: Thematic Investing

Description: A specialized approach that prioritizes specific impact issues, such as expanding the use of renewable energy, improving access to healthcare, or addressing racial equity. Unlike negative screening, these strategies tend to take a more constructive approach, actively investing in firms that have solutions to offer while also achieving financial goals.

Example: As environmental concerns have become more severe, investment managers are responding by presenting public and private investments that target companies offering sustainable solutions. We have seen a variety of themes here, ranging from agriculture technology, energy efficiency, water and waste management, to food security and access. Investors also are increasingly focused on DEI, that is, diversity, equity, and inclusion, and are taking steps to view and assess their portfolio through this lens.

Suitable for: The idea with thematic investing is to be proactive with your capital. The approach is a good fit for investors with a specific interest, especially those who prefer to focus on investing in companies offering solutions rather than avoiding firms deemed problematic.

Approach 4: Progress by proxy

Strategy: Engagement

Description: Invest in the firms you like but take an active approach to discussing ESG and impact issues with company management, and/or utilize proxy votes to focus the company's attention on matters of concern. This strategy tends to work best when investors join forces in voting blocs or other organized campaigns to communicate with the company.

Example: Shareholder initiatives by large institutional investors, like New York City's pension fund, which has pressured major companies to release workforce data on race and gender or face a shareholder vote.

Suitable for: Engagement demands time and organization, so the strategy is best employed by professionals with the time and resources to build alliances and see the strategy through.

These approaches are not mutually exclusive, and investors often explore multiple options depending on their goals and objectives. When pension plans are considered specifically, the following trends emerge:

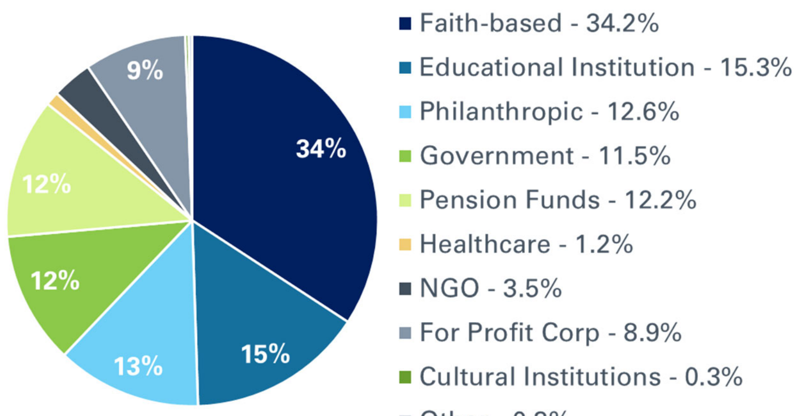
- Negative screening: Some plans explore this option for low-carbon or fossil fuel free mandates. Sector exclusion may pose a challenge from a fiduciary standpoint.
- ESG Integration: An ongoing area of focus.
- Thematic investing: An increasing area of focus as some pensions explore emission targets and diversity mandates.
- Engagement: Pension plans dominate this segment. Most engagement efforts are geared towards emissions, equity, and governance issues.

Taking these four approaches and applying them specifically to climate may result in the following types of portfolio mandates.

Reduce Carbon Emissions	Benefit from decarbonization trend	Carbon Offset Reduce Emissions	Engage with companies on lowering emissions and the Net Zero agenda
Fund's portfolio would exclude investments or screen out investments in all or key fossil fuel emitters	Investment mandates benefiting from industry winner/losers due to climate transition	Replacing fossil fuel/carbon exposure with renewable energy, control total emissions at portfolio level	Collaboration at company level with similar minded allocators
Low carbon index	*ESG integrated products*	*Environment focused funds (renewable energy, water, etc.)*	*Specific situations targeted towards emissions*

Prior to selecting an approach, investors may benefit from undergoing a process to determine portfolio exposures that may be most impacted by climate risks. Depending on the investor type, a process to reduce or eliminate (divest) exposure may follow. In NEPC's 2017 paper "Fossil Fuel Divestment: Considerations for Institutional Portfolios" we described the many considerations that investors should evaluate when evaluating a divestment approach, including, but not limited to the impact on asset allocation, volatility, returns and costs.

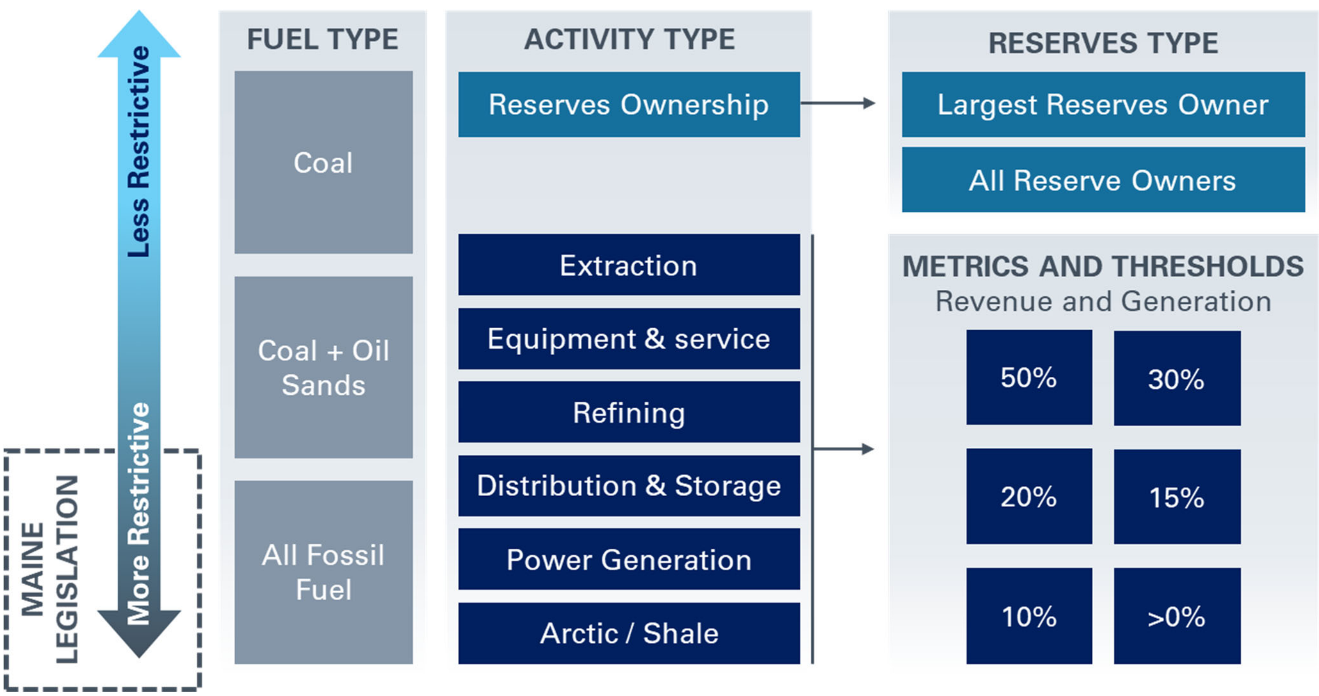
Divestment Trends



Source: divestmentdatabase.org

Nearly 1,500 institutions with approximately $40.56 trillion in assets are considering a spectrum of divestment approaches. Implementation varies widely – on scope, flexibility, and timeline. As seen to the right, the majority of these institutions are mission related (faith-based, education, philanthropic, etc.) and may not be subject to the same regulations as pension plans. Relating this back to the possible negative outcomes of a divestment approach on portfolio returns, in the case of public pension funds the government (and ultimately taxpayers) are generally the backstop if returns aren't met, which is an important distinction between public pensions and the other institutions in the chart above.

If a determination is made to divest, in this case from fossil fuels, there are still several decisions to make. The below graphic highlights some of these points, including what types of fuels, what type of activity, reserves, and if thresholds will be utilized based on revenue and/or generation.



Source: MSCI

Even after the above points are evaluated, there is a spectrum of divestment commitments among investors which range from less to more restrictive. These implementation approaches may be based on industry membership or only following a security-by-security review on fundamental investment characteristics, often through the lens of a long-term business plan or potential to adapt to the energy transition.

As indicated, many commitments may be partial – such as focusing on the largest fossil fuel companies by reserve, or focusing on a specific asset class. As investors evaluate their portfolios for exposure, we may see commitments become more comprehensive. Importantly, an announcement by an investor does not indicate divestment action is complete. In practice, announcements are usually followed by significant evaluation and discussion about implementation plans.

Less Restrictive

Fossil Free	An institution or corporation that does not currently have any investments in fossil fuel companies and committed to avoid any fossil fuel investments in the future. Often, those in "The Carbon Underground: The World's Top 200 Companies, Ranked by the Carbon Content of their Fossil Fuel Reserves" have been prioritized for divestment.
Full	An institution or corporation that made a commitment to divest (direct ownership, shares, funds containing shares, corporate bonds or any assets classes) from any fossil fuel company within a set timeline.
Partial	An institution or corporation that made a commitment to divest across asset classes from some but not all types of fossil fuel companies or to divest from all fossil fuel companies, but only in specific and not all asset classes (e.g. direct investments, domestic equity).
Coal and Tar Sands	An institution that has made a commitment to divest (direct ownership, shares, commingled mutual funds containing shares, corporate bonds or any asset classes) from any thermal coal and tar sands companies.
Coal only	An institution or corporation that made a commitment to divest (direct ownership, shares, commingled mutual funds containing shares, corporate bonds or any assets classes) from any thermal coal companies.

More Restrictive

Source: divestmentdatabase.org

Importantly, investors rely on flexibility in their divestment statements to accommodate implementation challenges. Areas that require specificity for implementation:

- Define fossil fuels intended for divestment
- Set a time horizon – a longer time horizon leaves room for incremental change rather than forced selling
- Address asset class differences – ability to adopt within an asset class, availability of investment strategies to help achieve goals, the impact that asset classes have on total portfolio construction, etc.
- Scope of divestment within portfolio – active vs. passive, direct vs. indirect holdings, cost effectiveness of implementation in current market

- Determine if engagement will have a role (or not)

A thorough review of the above items would address operational complexity for the investor and anticipated costs. Maximum flexibility assumes no legislation is forcing a specific approach. While many divestment announcements have been made over the last several years, the legislation outcomes are mixed.

For a summary of legislation being explored or implemented by states, Ropes & Gray has periodically published a survey of "State Regulation of ESG Investment Decision-Making by Public Retirement Plans". For this report, the August 2022 update was reviewed, specifically looking at "Actions Promoting Divestment from Fossil Fuel and/or Firearms/Ammunition Companies". We found the following:

Topic	Number
States with initiatives	12
Legislative announcements only	3
Initiatives currently referred to committee	8
Initiatives currently in committee	1
Initiatives that died in committee	3
Initiatives currently in effect	2

Notably, only two states have legislation currently in effect – Connecticut and Maine. Connecticut has a Responsible Gun Policy, which applies to Connecticut Retirement Plans and Trust Funds. Maine stands alone as the only state with enacted fossil fuel divestment legislation. This will be important to keep in mind whenever comparisons are made to peers.

SECTION B: IDENTIFY AND QUANTIFY THE SYSTEM'S PORTFOLIO HOLDINGS SUBJECT TO DIVESTMENT

This section of the report will outline the process conducted to identify and quantify the System's portfolio holdings subject to divestment, across both public and private markets.

Divestment Legislation

The Maine divestment legislation covers fossil fuels and for-profit prison exposures. The law defines fossil fuels as coal, petroleum, natural gas or any derivative of coal, petroleum or natural gas that is used for fuel:

1. Is among the 200 publicly traded companies with the largest fossil fuel reserves in the world;
2. Is among the 30 largest public company owners in the world of coal-fired power plants;
3. Has as its core business the construction or operation of fossil fuel infrastructure [oil or gas wells, oil or gas pipelines and refineries; oil, coal or gas-fired power plants; oil and gas storage tanks; fossil fuel export terminals; and any other infrastructure used exclusively for fossil fuels];
4. Has as its core business the exploration, extraction, refining, processing or distribution of fossil fuels; or
5. Receives more than 50% of its gross revenue from companies that meet the definition under (1), (2), (3) or (4).

"Fossil fuel infrastructure" means oil or gas wells, oil or gas pipelines and refineries; oil, coal or gas-fired power plants; oil and gas storage tanks; fossil fuel export terminals; and any other infrastructure used exclusively for fossil fuels.

As noted in the legislation, a final report to the joint standing committee regarding the completion of divestment is due on January 1, 2026.

Process to Identify Current Holdings – as of June 30, 2022

NEPC worked in partnership with MSCI to produce a comprehensive analysis of the MainePERS public market holdings. MSCI created a customized screen to map the Maine legislation into their proprietary ESG Manager portal. All public market holdings were uploaded to the MSCI ESG Manager portal to run through the custom screen. This is a repeatable process for the future, but does come at a cost for access to the MSCI ESG Manager portal. Note that this tool is only useful for the public market, not the private market, holdings.

MainePERS Staff provided information regarding private market portfolio holdings that are subject to divestment. The Staff assessment of holdings was based on fossil fuel Global Industry Classification Standard (GICS) codes.

The fossil fuel and private prison (FF/PP) exposure across the total fund is summarized below. As shown (refer appendix for additional details), the total exposure across the fund is 7.63% (or $1,375.5 million) with the majority in the Private Markets allocation.

Asset	Estimated FF/PP [$M]	Weighted Exposure
Public Markets	$445.5	2.47%
Private Markets	$930.0	5.16%
Total	**$1,375.5**	**7.63%**

It should be noted that Fossil fuel-related investments represent the vast majority of exposure in the total fund. Private prison exposure accounts for 0.0009% or $0.2M of total Fund market value, so we will primarily focus on Fossil fuel related exposure throughout this report.

Public Markets Divestment Exposure

As shown in the table below, the divestment exposure of 2.47% in Public Markets is spread across US Equity, International Equity and Traditional Credit. The total market value is $445.5 million. The majority of the public market divestment exposure is concentrated in the public equity allocation.

Asset	Policy Target (A)	Portfolio Weight (B)	Estimated FF/PP [% of (B)]	Estimated FF/PP [$M]	Weighted Exposure	Source
Domestic Equity	18%	14.78%	7.73%	$205.8	**1.14%**	MSCI ESG Manager
International Equity	12%	9.74%	11.32%	$198.7	**1.10%**	MSCI ESG Manager
TOTAL PUBLIC EQUITY	**30%**	**24.5%**		**$404.5**	**2.24%**	
Traditional Credit	5%	5.71%	3.98%	$41.0	**0.23%**	MSCI ESG Manager
US Govt. securities	10%	7.68%	No exposure	$0	**0%**	Staff
Risk Diversifiers	7.5%	7.17%	No exposure	$0	**0%**	Staff
TOTAL PUBLIC MARKETS	**52.5%**	**45.1%**		**$445.5**	**2.47%**	

Diving deeper into the Public Markets, the table below details the dollar amount and the number of holdings within each Asset of Public Markets. While the number of holdings is highest in Traditional Credit, the dollar amount is small. The table also notes where the limited amount of Private Prison exposure is held, within the Russell 2000 allocation.

Asset Exposure	Portfolio Allocation ($M)	Total Number of Holdings	Number of Holdings Tagged for Divestment	Fossil Fuel Exposure ($M)	Private Prison Exposure ($M)	Source
Russell 1000	$2,491.4	1,033	69	$192.6	$0.0	MSCI ESG Manager
Russell 2000	$171.5	1,978	97	$13.1	$0.2	MSCI ESG Manager
ACWI ex US	$1,755.2	2,371	218	$198.7	$0.0	MSCI ESG Manager
Traditional Credit	$1,029.3	14,355	913	$41.0	$0.0	MSCI ESG Manager
TOTAL				**$445.4**	**$0.2**	

Going one step further into specific holdings, the top 3 holdings across the Public Markets (along with their dollar exposure) are noted below. Exxon Mobil shows up in both the Russell 1000 and Traditional Credit as a top holding. We have included a full listing of exposures in the Appendix of this report, and noted which aspect of the Maine legislation caused each holding to be tagged.

Russell 1000	Russell 2000	ACWI ex US	Traditional Credit
1. Berkshire Hathaway Inc. ($32.6M)	1. Murphy USA Inc. ($0.4M)	1. Shell PLC ($15.6M)	1. Energy Transfer LP ($2.0M)
2. Exxon Mobil Corporation ($23.9M)	2. Matador Resources Company ($0.4M)	2. BHP Group Limited ($11.4M)	2. Exxon Mobil Corporation ($2.0M)
3. Chevron Corporation ($18.8M)	3. Black Hills Corporation ($0.4M)	3. Total Energies SE ($10.3M)	3. Enterprise Products Operating LLC ($1.7M)

Private Markets Divestment Exposure

As shown in the table below, the divestment exposure of 5.16% in Private Markets is spread across Infrastructure, Private Equity, Private Credit and Natural Resources. The total market value is $930.0 million. The majority of the private market divestment exposure is concentrated in the infrastructure allocation.

Asset	Policy Target (A)	Portfolio Weight (B)	Estimated FF/PP [% of (B)]	Estimated FF/PP [$M]	Weighted Exposure	Source
Infrastructure	10%	11.20%	34.86%	$703.2	**3.90%**	Staff
Private Equity	12.5%	21.05%	5.20%	$197.3	**1.09%**	Staff
Private Credit	10%	6.77%	1.83%	$22.3	**0.12%**	Staff
Natural Resources	5%	5.01%	0.80%	$7.2	**0.04%**	Staff
Real Estate	10%	10.46%	No exposure	$0	**0%**	Staff
TOTAL PRIVATE MARKETS	**47.5%**	**54.5%**		**$930.0**	**5.16%**	

Diving deeper into the Private Markets, the table below details the dollar amount and the number of funds within each segment of Private Markets. Out of 302 Private Market funds that MainePERS owns, 58 funds have fossil fuel exposure, three of which are co-investments. For further reference, these 58 funds include 25 funds in infrastructure (including two co-investments), 22 funds in private equity (including one co-investment), 8 in private credit, and 3 in natural resources. The number of holdings and market value are the highest in infrastructure.

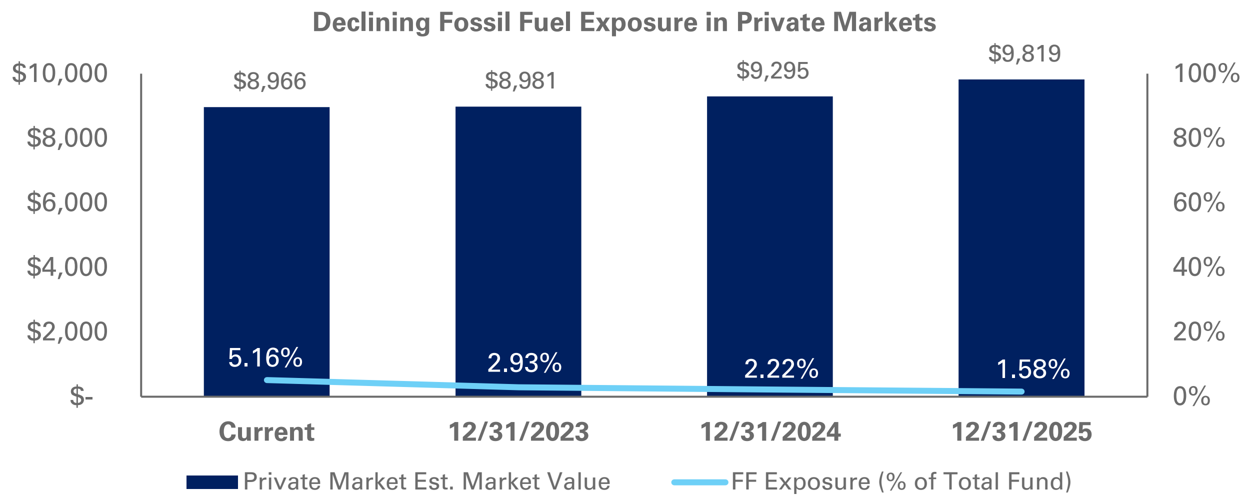
Asset Exposure	Portfolio Allocation ($M)	Total Number of Funds	Number of Funds Tagged for Divestment	Fossil Fuel Exposure ($M)	Weighted Exposure	NAV of Funds with FF Exposure ($M)
Infrastructure	$2,017.3	49	25	$703.2	**3.90%**	$1,355.4
Private Equity	$3,793.5	149	22	$197.3	**1.09%**	$648.7
Private Credit	$1,219.0	45	8	$22.3	**0.12%**	$455.7
Natural Resources	$902.9	16	3	$7.2	**0.04%**	$26.7
Real Estate	$1,884.6	43	0	$0	**0%**	$0
TOTAL PRIVATE MARKETS	**$9,817.3**	**302**	**58**	**$930.0**	**5.16%**	**$2,486.5**

Since existing private market fossil fuel exposures are held in fixed-life funds, an additional evaluation was run to estimate how these holdings may change through the end of 2025 (keeping in mind that the legislation calls for the completion of divestment to occur by January 1, 2026). NEPC used our internal forecasts to estimate how each fund would wind down over the next three years. Several assumptions were included in this forecast:

- MainePERS continues to make commitments to private market investment opportunities at the 47.5% target
- No new commitments are made to fossil fuel strategies
- Forecasts based on fund lifecycle and a natural wind down of existing investments
- Forecasts apply only to current holdings, and not any subsequent commitments
- No transaction costs are associated with this decline in fossil fuel exposure

The following table and chart summarize the estimated decline of divestment exposure within Private Markets over the next three years. As shown, our forecasts indicate that the number of funds will decrease from 58 to 48, and the market value exposure will drop significantly from $930.0 million to $327.2 million.

	Projected # of Funds with Exposure	Projected FF Exposure ($M)	Projected Total NAV of FF Funds ($M)
Current	58	$930.0	$2,486.5
12/31/2023	52	$560.9	$1,929.2
12/31/2024	50	$441.7	$1,548.9
12/31/2025	48	$327.2	$1,166.2



The chart above demonstrates the impact that this decline in private market exposure will have on the total fossil fuel exposure, declining from 5.16% of the total fund to 1.58% of the total fund. While the above exercise can aid in understanding the anticipated shift in private markets, it is important to highlight that these are only estimates and results could differ significantly depending on market conditions and each manager's results.

SECTION C: IDENTIFY AND QUANTIFY THE DIRECT INVESTMENT COSTS

In this section of the report, we will discuss the potential costs and considerations to divest completely from fossil fuels and private prisons across the public and private market allocations.

Public Market Exposure

Currently, 2.47% of the MainePERS total public market allocation is estimated to be from fossil fuels and private prisons. Most of this exposure is from fossil fuel investments within domestic equity, followed by international equity, and then the traditional credit allocation. The typical paths to implement divestment would include either exploring fossil-free products and/or customizing a Separately Managed Account (SMA). While off-the-shelf fossil fuel free products exist in the market today, they may not meet the divestment criteria defined within the State of Maine's legislation nor would they exclude private prisons from the investment mandate. As such, for implementing divestment within its public market allocation, MainePERS will need to consider Separately Managed Accounts (SMAs). SMAs have additional costs and considerations that need to be evaluated such as:

- On average, SMA's incur higher management fees, higher trading costs, legal paperwork, creating custodian accounts, proxy voting expenses, and an increase in time/resource commitment from the staff.
- The predicted tracking error for an SMA account tends be higher relative to its comparable index fund. A fund manager can optimize the portfolio to reduce the tracking error however, the exclusion of sectors or investments from a portfolio limits the diversification benefit as well as the ability to replicate an index holding.
- Other considerations such as retaining other ad-hoc services and licensing expenses such as an updated list of securities/screens to provide to the SMA manager, on-going reporting on exposures and monitoring for compliance.

The table below summarizes the estimations for cost increases for using SMAs and the associated considerations for implementation.

Consideration for SMAs	
US Equity	▪ Increase in management fees on average could range 1-2 bps higher ▪ Own custody account and expect increased transaction costs ▪ Relatively easy to set up and implement an SMA
International Equity (ACWI)	▪ Increase in management fees on average of 2-3 bps higher than US Equity ▪ Challenging to set up and implement efficiently as MainePERS will need to set up individual custody accounts in each of the underlying countries. This may take an estimated 6-12 months to open all custody accounts. In addition, there will be licensing requirements to invest directly in some emerging market countries ▪ Potentially higher tracking error
Traditional Credit	▪ Potentially higher trading costs for fixed income ▪ Relatively easy to set up and implement

Following is a summary of costs that will need to be considered when implementing an SMA vehicle:

- **Custody and Administrative Fees:** These fees generally cover custody, accounting, and audit fees and accrue in a fund on a daily basis. MainePERS would be directly responsible for negotiating and paying these fees in a SMA
- **Conversion Costs:** Moving developed non-US assets from a Fund to a SMA will incur operational costs. In addition, the Emerging Market exposure in a fund may need to be sold and comparable securities re-purchased in a SMA, thereby incurring additional transaction costs in the current market environment
- **Ongoing Annual Costs:** Management fees will be higher in a SMA over a Fund. Additionally, due to the inability to cross-trade, the ongoing trading costs will typically be higher
- **Predicted Tracking Error:** will be higher in a SMA over a comparable Fund due to lower AUM and screens
- **Securities Lending:** Typically, in a SMA the custodian will be the securities lending agent. MainePERS will need to assume responsibility for comparing relative lending yields
- **Other Administrative Considerations:** MainePERS will be directly responsible for account opening and maintenance with their custodian for all markets, including Emerging Markets (currently 49 in MSCI ACWI) for the SMA. This can be particularly challenging with Emerging Markets where account opening can be time intensive and local tax agents and licensing may be required

Private Market Exposure

Currently, 5.16% of MainePERS fossil fuel exposure is from the private market allocation. Since private market fossil fuel exposures are held in fixed-life funds, our analysis was focused on two options:

Option#1 was to estimate how these fossil fuel exposures are likely to change before the timeline laid out in the legislation (January 2026). This estimate is outlined in Section B.

Option#2 was to evaluate the potential discounts in valuation if the funds containing fossil exposures were sold in the secondary market. For clarification, secondary purchases involve one party (a secondaries manager) buying an existing limited partnership (LP) interest in one or more private markets funds from another party (such as MainePERS, for example). Many LPs have explored this avenue to access liquidity or to rebalance a portfolio or as a return seeking/risk management tool. Secondaries managers typically purchase these LP interests at a discount or premium based on their underwriting of fund holdings and market valuations. The secondaries market has grown rapidly over the past few years as more LPs and GPs explore ways to manage liquidity and access opportunities within private market investments.

For Option #2, NEPC contacted four established secondaries fund managers to obtain tentative valuation ranges for the private market portfolio. Initial feedback from these managers provided the following assessment:

	Infrastructure	Energy PE & Natural Resources	General PE	Private Credit and Special Situations
Fossil Fuel Exposure ($M)	**$703.2**	**$154.0**	**$50.5**	**$22.3**
Pricing Range	70%-90%	40%-80%	70%-80%	60%-80%

Note: Feedback based on NAVs that were communicated as 3/31/2022 GP valuations cash adjusted through end of Q2 2022. Also, keep in mind that the above percentages estimated were percentages of these cash adjusted Q2 2022 NAV values – actual proceeds received in any sale would be further adjusted to reflect any capital calls or distributions that have occurred after 6/30/2022.

Based on the valuation estimates provided by these managers, on average, infrastructure funds held value relatively well as the underlying assets remain attractive in this market environment. This is important to note because most of the fossil fuel exposure within private markets is from the plan's infrastructure investments. In contrast, Energy fund interest was low. For those few fund managers with dedicated Energy or Real Asset secondary funds, interest varied based on the quality of the assets with suggested valuation discounts ranging from 30% to 50+%. Finally, Private Equity (PE) funds in general are expected to be discounted in the range of 20%-30% of fund valuation. This is higher than usual due to the lag in PE valuations fully reflecting the current public market and economic outlook. If MainePERS decides to explore a secondary sale, it should be noted that the best practice would dictate retaining services of a third-party broker service for best execution (additional cost). In addition to these one-time costs, there will be other costs to consider such as the on-going monitoring for compliance with the legislation as well as the opportunity cost of significantly reducing the infrastructure allocation for the future.

SECTION D: IDENTIFY AND QUANTIFY THE DIRECT INVESTMENT IMPACT ON MAINEPERS PORTFOLIO

In this section of the report, we will discuss the impact on MainePERS portfolio return, risk, and asset exposures, from implementing divestment measures.

The overall impact on the portfolio from implementing screening involves three aspects: Reduced diversification benefit which will impact portfolio volatility, increased cost, reduced or lost investment opportunity in the future.

Public Market Portfolio

To understand the impact on the public market portfolio, NEPC conducted a (back-tested) hypothetical scenario analysis. In this analysis, two portfolios were compared - one (Benchmark Portfolio) consisting of the existing public equity allocation and the other (Divested Portfolio) consisting of the Benchmark Portfolio that was divested from fossil fuel and private prison investments as defined in the state's legislation. This hypothetical performance was prepared for NEPC by the investment firm Parametric at NEPC's request. This performance represents back-tested historical returns based on the exclusion of fossil fuels and private prisons (following Maine's legislative directive), with trailing periods calculated as of June 30, 2022.

The results indicate that the variability of returns (volatility), will be different than the index due to loss of diversification benefit from sector exclusion. Over the long term, the hypothetical Divested Portfolio delivers a marginally higher return with a slightly higher volatility. In the short term, the hypothetical Divested Portfolio experiences a higher drawdown and a higher associated volatility.

Performance	1- Year	3-Year	5-Year	10-Year	25-Year
Divested Portfolio*	-17.77%	7.03%	7.87%	10.48%	7.56%
Benchmark**	-15.74%	6.91%	7.75%	9.80%	7.49%
Relative Performance	-2.03%	0.13%	0.12%	0.67%	0.07%
Standard Dev.	**1- Year**	**3-Year**	**5-Year**	**10-Year**	**25-Year**
Divested Portfolio*	15.53%	18.05%	16.32%	13.44%	16.14%
Benchmark**	15.37%	18.20%	16.37%	13.46%	15.93%
Relative Vol.	0.16%	-0.15%	-0.05%	-0.02%	0.21%
Tracking Error	1.46%	1.21%	1.03%	1.00%	1.23%

*Divested Portfolio - Benchmark based hypothetical back-tested portfolio with exclusion screens applied and proceeds re-invested. ** Benchmark: 56.4% Russell 1000 / 3.9% Russell 2000 / 39.7% MSCI ACWI ex US without any screens.

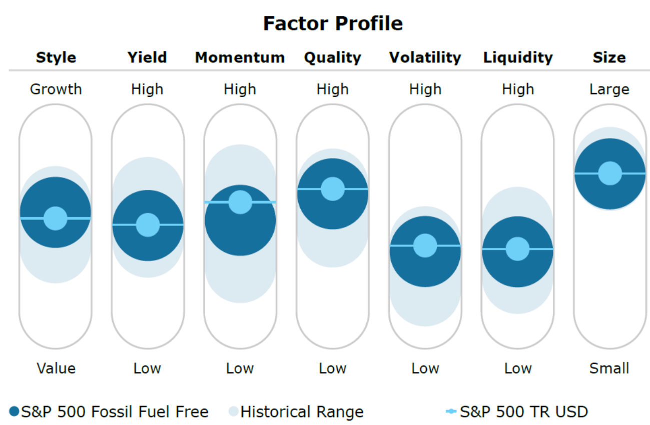
The primary reason for this increase in variability of returns is that the composition of the portfolio changes as sectors are excluded from the investment mandate. Contribution to return varies by sector from year to year as seen in the exhibit below. An increase in portfolio concentration in certain sectors will change the return-risk profile for the portfolio going forward.

2013	2014	2015	2016	2017	2018	2019	2020	2021	2022[1*]
Consumer Discretionary 42.72	Utilities 28.59	Consumer Discretionary 9.94	Energy 28.01	Technology 34.28	Health Care 6.29	Technology 49.97	Technology 43.57	Energy 53.02	Energy 33.87
Health Care 41.24	Health Care 25.18	Health Care 6.86	Financials 22.69	Materials 23.94	Utilities 4.03	Financials 31.90	Consumer Discretionary 29.58	Real Estate 45.97	Utilites -6.58
Industrials 40.44	Technology 17.75	Consumer Staples 6.83	Industrials 19.95	Industrials 23.84	Consumer Discretionary 1.65	S&P 500 31.49	Communication Services 26.82	Financials 34.77	Consumer Staples -11.89
Financials 35.37	Consumer Staples 15.86	Technology 5.63	Materials 16.66	Consumer Discretionary 22.77	Technology -1.57	Communication Services 31.23	Materials 20.34	Technology 34.53	Healthcare -13.12
S&P 500 32.39	Financials 15.03	S&P 500 1.38	Utilities 16.00	Financials 22.04	Real Estate -2.27	Industrials 29.12	S&P 500 18.40	NYSE Equal Sector Weight 29.46	NYSE Equal Sector Weight -18.20
NYSE Equal Sector Weight 30.81	S&P 500 13.69	NYSE Equal Sector Weight -1.37	Technology 14.82	S&P 500 21.83	S&P 500 -4.38	Real Estate 28.84	Healthcare 13.27	S&P 500 28.71	Industrials -20.76
Consumer Staples 26.27	NYSE Equal Sector Weight 13.41	Financials -1.60	NYSE Equal Sector Weight 14.31	Health Care 21.70	NYSE Equal Sector Weight -6.74	Consumer Discretionary 28.42	NYSE Equal Sector Weight 11.29	Consumer Discretionary 27.83	Financials -21.24
Energy 26.16	Industrials 10.45	Industrials -4.25	S&P 500 11.96	NYSE Equal Sector Weight 18.27	Consumer Staples -8.00	NYSE Equal Sector Weight 28.21	Industrials 10.83	Materials 27.43	Materials -23.77
Technology 25.97	Consumer Discretionary 9.49	Utilities -4.86	Consumer Discretionary 5.88	Consumer Staples 12.92	Financials -13.09	Consumer Staples 27.45	Consumer Staples 10.13	Healthcare 25.92	S&P 500 -23.87
Materials 25.83	Materials 7.31	Materials -8.58	Consumer Staples 5.00	Utilities 12.02	Industrials -13.10	Utilites 26.08	Utilites 0.35	Industrials 20.93	Real Estate -28.90
Utilities 13.00	Energy -8.60	Energy -21.46	Real Estate 3.19	Real Estate 10.70	Materials -14.78	Materials 24.18	Financials -1.83	Utilites 17.58	Consumer Discretionary -29.88
			Health Care -2.83	Energy -1.06	Communication Services** -16.98	Heath Care 20.65	Real Estate -2.27	Consumer Staples 17.10	Technology -31.23
					Energy -18.15	Energy 11.85	Energy -32.81	Communication Services 15.89	Communication Services -37.92

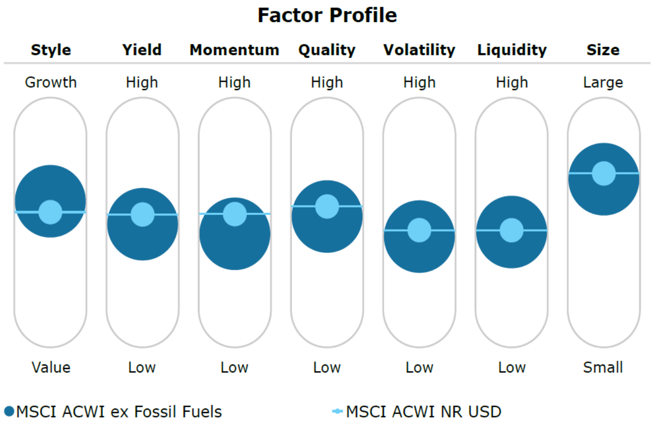
Source: Bloomberg. Data shown in percentages. 2022 data as of September 30, 2022.

In addition, the Divested portfolio may also exhibit variability with respect to a variety of measures, such as Value/Growth tilt, dividend yield, and other such valuation metrics. For example, when we compare an ex-fossil fuel index with a broad index we find the following difference in characteristics, indicating a growth tilt to ex-fossil fuel index.

	S&P 500 ex Fossil Fuel	S&P 500
P/E	18.42	17.98
P/B	3.41	3.38
Dividend Yield	1.89%	1.98%
Standard Deviation	18.02	18.07
Sharpe Ratio	0.52	0.51
# of Holdings	489	503



	MSCI ACWI ex Fossil Fuel	MSCI ACWI
P/E	15.42	14.51
P/B	2.36	2.27
Dividend Yield	2.66%	2.84%
Standard Deviation	17.07	17.15
Sharpe Ratio	0.27	0.27
# of Holdings	2,750	2,899



Source: Morningstar, eVestment and/or Strategy materials. Past performance is no guarantee of future results. As of 9/30/2022.

Private Market Portfolio

To understand the impact of divestment on the private market portfolio, NEPC used the discount estimates provided by the four secondaries investment managers to arrive at the estimated average dollar loss from discount. The table below provides the break-down of the estimated dollar value of discount across private market holdings. It should be noted that, in private funds, to implement divestment completely, the entire interest in the fund containing fossil exposure would need to be sold or wound down. As such, for Maine to divest the full $930 million fossil fuel exposure through secondaries transactions, it would require selling off the entire $2,486.5 million of NAV (full fund value). The approximate loss from the discount from such transactions would be around $565 million, which is subject to change at the time of actual execution.

	Infrastructure	Energy PE & Natural Resources	General PE	Private Credit and Special Situations	Total ($M)
Fossil Fuel Exposure ($M)	$703.2	$154.0	$50.5	$22.3	**$930.0**
Fund NAV ($M)	$1,355.4	$154.8	$520.6	$455.7	**$2,486.5**
Average Discount	~19%	~39%	~23%	~29%	**Average: ~28%**
Estimated Discount* ($M)	$254.1	$60.0	$120.4	$131.0	**$565.5**

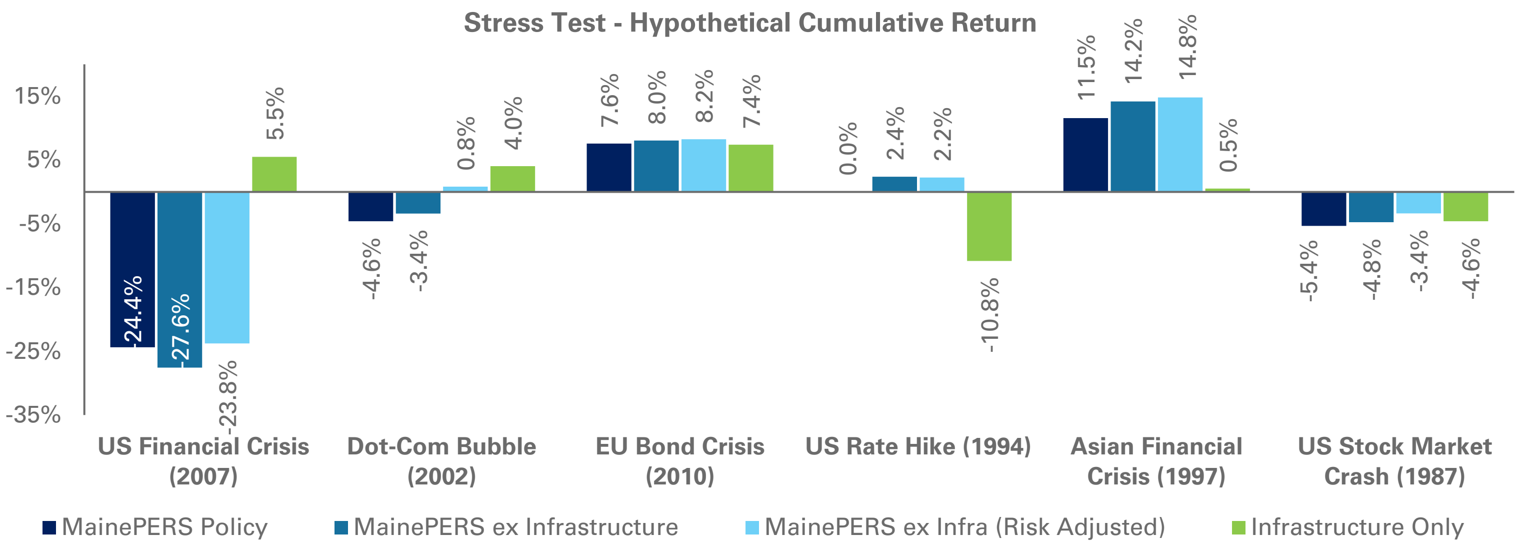
*Estimated Discount was calculated using the middle of each offered range where applicable

NEPC also conducted an asset allocation analysis to understand the impact on the expected portfolio risk and return if MainePERS excluded infrastructure assets from its portfolio. We limited this analysis to just infrastructure because it is the largest contributor to fossil fuel exposure within the portfolio. In the table below, we show three portfolio mixes – one with the Policy mix, second with the portfolio ex-infrastructure and the third being a risk-adjusted ex-infrastructure portfolio. For clarification, MainePERS ex-infrastructure represents a proportional re-allocation of the infrastructure allocation across the remaining private market asset classes. And MainePERS ex-infrastructure (risk adjusted) assumes a consistent private market allocation based on the ex-infrastructure mix and adjusts the public equity and fixed income allocations to bring volatility in-line with the Policy portfolio.

The table below highlights the three portfolio mixes and the difference in allocations across various asset classes and the ultimate impact on the return, risk, and Sharpe ratio (excess return per unit of risk). We also show the results of a stress test that demonstrates the hypothetical impact on these three portfolios during periods of historical market crisis. The results indicate an increase in return variability, which when controlled in the risk-adjusted portfolio may have an impact on future returns due to a reduction in the equity allocation.

Asset Group	MainePERS Policy	MainePERS ex Infrastructure	MainePERS ex Infrastructure (Risk Adjusted)
Global Equity	30.0	30.0	24.0
Private Equity	12.5	15.8	15.8
Equity	**42.5**	**45.8**	**39.8**
IG Credit	5.0	5.0	7.0
US Gov	10.0	10.0	14.0
Private Credit	10.0	12.7	12.7
Fixed Income	**25.0**	**27.7**	**33.7**
Real Estate	10.0	12.7	12.7
Infrastructure	10.0		
Natural Resources	5.0	6.3	6.3
Real Assets	**25.0**	**19.0**	**19.0**
Risk Diversifiers	7.5	7.5	7.5
Multi-Asset	**7.5**	**7.5**	**7.5**

Measure	MainePERS Policy	MainePERS ex Infrastructure	MainePERS ex Infrastructure (Risk Adjusted)
Expected Return 10 Yr (Geometric)	7.4%	7.7%	7.5%
Standard Deviation (Asset)	13.5%	14.5%	13.5%
Sharpe Ratio (10 Years)	0.34	0.33	0.35

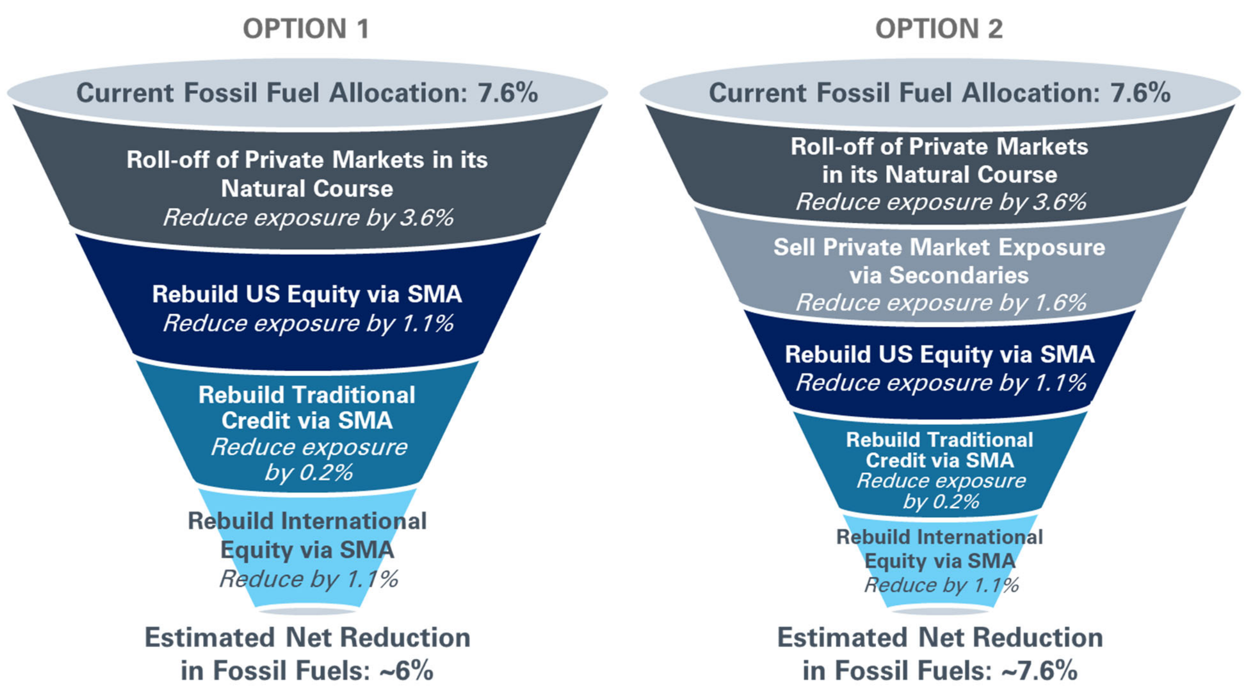


SUMMARY

In summary, MainePERS currently has 7.6% in holdings that fall within the scope of the new legislation (refer to Appendix for more details). Two options that can decrease this exposure, in order of ease of implementation, are the following:

- Option 1: Do nothing with the public market allocations, allow the existing private markets to roll-off and make no new commitments to private markets that fall under the legislation. This should, over the next three years, reduce the exposure by 3.6%.
- Option 2: Do nothing with the public market allocations, allow the existing private markets to roll-off and make no new commitments to private markets that fall under the legislation (that is, follow Option 1 to reduce by 3.6%). Then, following the roll-off in three years, explore a secondaries sale of remaining Private Markets holdings to reduce the exposure by the outstanding 1.6%. While this approach provides a faster way to reduce the additional exposure from private markets, its implementation may result in a loss (valuation discount).
- Additional actions that can be taken, alongside each option above:
  - Restructure US Equity with specific screening through a separately managed account. This will bring down the fossil fuel exposure by 1.1%. This will involve some operational complexity and cost considerations.
  - Restructure Traditional Credit with specific screening through a separately managed account. This will bring down the fossil fuel exposure by 0.2%. This will involve some operational complexity and cost considerations.
  - Restructure International Equity with specific screening through a separately managed account. This will bring down the fossil fuel exposure by 1.1%. This will be a costly and operationally challenging option.

The chart below depicts these two options (with add-ons) to reduce fossil fuel exposure:



As indicated, Option 1 will not bring the FF exposure to 0% by 2026. Option 2 can bring the FF exposure to 0% by 2026, but would involve a secondary sale. Further analysis would need to be done to evaluate alternatives that could help minimize some of the costs borne by the Plan. The purpose of this report was to clarify the total exposure across the portfolio and to provide a summary of the anticipated costs to divest pursuant to the legislation.

APPENDIX: FOSSIL FUEL/PRIVATE PRISON EXPOSURE-RUSSELL 1000

Strategy	Issuer Name	Portfolio Weight	O&G Reserves	Coal Reserves	Coal Generate Output	Energy Supplier	Energy Producer	O&G Extraction Producer	O&G Refining	O&G Distribution	O&G Equip Services	O&G Storage Transport	Max Rev Fossil Fuels	Max Rev Coal	Private Prisons
Russell 1000	ALCOA CORPORATION	0.02%			x										
Russell 1000	ALLIANT ENERGY CORPORATION	0.04%			x										
Russell 1000	AMEREN CORPORATION	0.06%			x										
Russell 1000	AMERICAN ELECTRIC POWER COMPANY, INC.	0.13%			x									x	
Russell 1000	ANTERO MIDSTREAM CORPORATION	0.01%				x						x			
Russell 1000	ANTERO RESOURCES CORPORATION	0.02%	x				x	x							
Russell 1000	APA CORPORATION	0.03%	x				x	x							
Russell 1000	ATMOS ENERGY CORPORATION	0.04%								x					
Russell 1000	BAKER HUGHES COMPANY	0.07%				x					x				
Russell 1000	BERKSHIRE HATHAWAY INC.	1.31%		x	x										
Russell 1000	CASEY'S GENERAL STORES, INC.	0.02%								x					
Russell 1000	CENTERPOINT ENERGY, INC.	0.05%			x										
Russell 1000	CHENIERE ENERGY, INC.	0.09%				x				x					
Russell 1000	CHESAPEAKE ENERGY CORPORATION	0.03%	x				x	x							
Russell 1000	CHEVRON CORPORATION	0.76%	x				x	x							
Russell 1000	CMS ENERGY CORPORATION	0.05%			x										
Russell 1000	CONOCOPHILLIPS	0.31%	x				x	x							
Russell 1000	CONTINENTAL RESOURCES, INC.	0.01%	x				x	x							
Russell 1000	Coterra Energy Inc.	0.05%	x				x	x							
Russell 1000	DEVON ENERGY CORPORATION	0.10%	x				x	x							
Russell 1000	DIAMONDBACK ENERGY, INC.	0.06%	x				x	x							
Russell 1000	Dominion Energy, Inc.	0.17%			x										
Russell 1000	DT MIDSTREAM, INC.	0.01%				x						x			
Russell 1000	DTE ENERGY COMPANY	0.06%			x										
Russell 1000	DUKE ENERGY CORPORATION	0.22%			x										
Russell 1000	ENTERGY CORPORATION	0.06%			x										
Russell 1000	EOG RESOURCES, INC.	0.17%	x				x	x							
Russell 1000	EQT CORPORATION	0.03%	x				x	x							
Russell 1000	Evergy, Inc.	0.04%			x										
Russell 1000	EXXON MOBIL CORPORATION	0.96%	x				x		x						
Russell 1000	FIRSTENERGY CORP.	0.06%			x										
Russell 1000	FREEPORT-MCMORAN INC.	0.11%	x												
Russell 1000	HALLIBURTON COMPANY	0.08%				x					x				
Russell 1000	HESS CORPORATION	0.08%	x				x	x							
Russell 1000	HF SINCLAIR CORPORATION	0.02%					x		x						
Russell 1000	IDACORP, INC.	0.01%			x										
Russell 1000	KINDER MORGAN, INC.	0.09%				x						x			
Russell 1000	MARATHON OIL CORPORATION	0.04%	x				x	x							
Russell 1000	MARATHON PETROLEUM CORPORATION	0.12%					x		x						
Russell 1000	MDU RESOURCES GROUP, INC.	0.01%			x										
Russell 1000	NATIONAL FUEL GAS COMPANY	0.02%	x												
Russell 1000	NEW FORTRESS ENERGY INC.	0.01%				x				x					
Russell 1000	NEXTERA ENERGY, INC.	0.40%			x										
Russell 1000	NISOURCE INC.	0.03%			x					x					
Russell 1000	NOV INC.	0.02%				x					x				
Russell 1000	NRG ENERGY, INC.	0.02%			x										
Russell 1000	OCCIDENTAL PETROLEUM CORPORATION	0.13%	x				x	x							
Russell 1000	OGE ENERGY CORP.	0.02%			x										
Russell 1000	ONEOK, INC.	0.07%				x						x			
Russell 1000	OVINTIV INC.	0.03%	x				x	x							
Russell 1000	PDC ENERGY, INC.	0.02%	x				x	x							
Russell 1000	PHILLIPS 66	0.10%					x			x					
Russell 1000	PINNACLE WEST CAPITAL CORPORATION	0.02%			x										
Russell 1000	PIONEER NATURAL RESOURCES COMPANY	0.14%	x				x	x							
Russell 1000	PPL CORPORATION	0.05%			x								x		
Russell 1000	RANGE RESOURCES CORPORATION	0.02%	x				x	x							
Russell 1000	Schlumberger N.V.	0.13%				x					x				
Russell 1000	SEMPRA ENERGY	0.13%										x			
Russell 1000	SOUTHWESTERN ENERGY COMPANY	0.02%	x				x	x							
Russell 1000	TARGA RESOURCES CORP.	0.04%				x						x			
Russell 1000	Texas Pacific Land Corp	0.02%					x								
Russell 1000	THE AES CORPORATION	0.04%			x								x		
Russell 1000	THE SOUTHERN COMPANY	0.20%			x								x		
Russell 1000	THE WILLIAMS COMPANIES, INC.	0.10%				x						x			
Russell 1000	UGI CORPORATION	0.02%								x					
Russell 1000	VALERO ENERGY CORPORATION	0.11%					x		x						
Russell 1000	VISTRA CORP.	0.03%			x										
Russell 1000	WEC ENERGY GROUP, INC.	0.08%			x										
Russell 1000	Xcel Energy Inc.	0.10%			x										

APPENDIX: FOSSIL FUEL/PRIVATE PRISON EXPOSURE-RUSSELL 2000

Strategy	Issuer Name	Portfolio Weight	O&G Reserves	Coal Reserves	Coal Generate Output	Energy Supplier	Energy Producer	O&G Extraction Producer	O&G Refining	O&G Distribution	O&G Equip Services	O&G Storage Transport	Max Rev Fossil Fuels	Max Rev Coal	Private Prisons
Russell 2000	ALLETE, INC.	0.15%		×	×									×	
Russell 2000	ALPHA METALLURGICAL RESOURCES, INC.	0.10%		×										×	
Russell 2000	ALTO INGREDIENTS, INC.	0.01%					×								
Russell 2000	ARCH RESOURCES, INC.	0.10%		×										×	
Russell 2000	Archaea Energy Inc	0.04%					×								
Russell 2000	ARCHROCK INC.	0.05%				×					×				
Russell 2000	ARKO CORP.	0.03%								×					
Russell 2000	AVISTA CORPORATION	0.13%			×										
Russell 2000	BERRY CORPORATION (BRY)	0.03%	×				×	×							
Russell 2000	BLACK HILLS CORPORATION	0.21%		×	×							×		×	
Russell 2000	Borr Drilling Limited	0.03%				×									
Russell 2000	BRIGHAM MINERALS, INC.	0.06%	×				×								
Russell 2000	BRISTOW GROUP INC.	0.02%				×									
Russell 2000	BROOKFIELD INFRASTRUCTURE CORPORATION	0.18%										×			
Russell 2000	CACTUS, INC.	0.10%				×					×				
Russell 2000	CALIFORNIA RESOURCES CORPORATION	0.13%	×				×	×							
Russell 2000	CALLON PETROLEUM COMPANY	0.08%	×				×	×							
Russell 2000	CENTENNIAL RESOURCE DEVELOPMENT, INC.	0.05%	×				×	×							
Russell 2000	CHAMPIONX CORPORATION	0.18%				×					×				
Russell 2000	CHESAPEAKE UTILITIES CORPORATION	0.09%								×					
Russell 2000	CIVITAS RESOURCES, INC.	0.17%	×				×	×							
Russell 2000	CLEAN ENERGY FUELS CORP.	0.03%					×			×					
Russell 2000	CNX RESOURCES CORPORATION	0.14%	×				×	×							
Russell 2000	COMSTOCK RESOURCES, INC.	0.05%	×				×	×							
Russell 2000	CONSOL ENERGY INC.	0.07%		×										×	
Russell 2000	CORECIVIC, INC.	0.06%													×
Russell 2000	CRESCENT ENERGY COMPANY	0.02%	×				×	×							
Russell 2000	CVR ENERGY, INC.	0.04%					×		×						
Russell 2000	DELEK US HOLDINGS, INC.	0.08%					×		×						
Russell 2000	DENBURY INC.	0.13%	×				×	×							
Russell 2000	DMC GLOBAL INC.	0.01%				×					×				
Russell 2000	Dorian LPG Ltd.	0.02%				×						×			
Russell 2000	DRIL-QUIP, INC.	0.04%				×					×				
Russell 2000	EARTHSTONE ENERGY, INC.	0.03%	×				×	×							
Russell 2000	Equitrans Midstream Corporation	0.11%				×						×			
Russell 2000	EXPRO GROUP HOLDINGS N.V.	0.04%				×					×				
Russell 2000	FLEX LNG LTD.	0.03%				×						×			
Russell 2000	FRONTLINE LTD.	0.05%				×						×			
Russell 2000	GEVO, INC.	0.02%					×								
Russell 2000	GREEN PLAINS INC.	0.04%					×								
Russell 2000	GULFPORT ENERGY CORPORATION	0.04%	×				×	×							
Russell 2000	HELIX ENERGY SOLUTIONS GROUP, INC.	0.02%				×					×				
Russell 2000	HELMERICH & PAYNE, INC.	0.19%				×		×							
Russell 2000	INTERNATIONAL SEAWAYS, INC.	0.05%				×						×			
Russell 2000	KINETIK HOLDINGS INC.	0.02%				×						×			
Russell 2000	KOSMOS ENERGY LTD.	0.12%	×				×	×							
Russell 2000	LAREDO PETROLEUM, INC	0.05%	×				×	×							
Russell 2000	LIBERTY ENERGY INC.	0.08%				×					×				
Russell 2000	MAGNOLIA OIL & GAS CORPORATION	0.15%	×				×	×							
Russell 2000	MATADOR RESOURCES COMPANY	0.23%	×				×	×							
Russell 2000	MGE ENERGY, INC.	0.12%			×										
Russell 2000	Montauk Renewables Inc	0.03%								×					
Russell 2000	MURPHY OIL CORPORATION	0.20%	×				×	×							
Russell 2000	MURPHY USA INC.	0.23%								×					
Russell 2000	NABORS INDUSTRIES LTD.	0.05%				×		×							
Russell 2000	NEW JERSEY RESOURCES CORPORATION	0.19%								×					
Russell 2000	NextDecade Corp	0.01%				×						×			
Russell 2000	NEXTIER OILFIELD SOLUTIONS INC.	0.07%				×					×				
Russell 2000	NOBLE CORPORATION	0.04%				×		×							
Russell 2000	NORTHERN OIL AND GAS, INC.	0.07%	×				×								
Russell 2000	NORTHWEST NATURAL HOLDING COMPANY	0.08%								×					
Russell 2000	NORTHWESTERN CORPORATION	0.14%	×		×										
Russell 2000	NOW INC.	0.05%									×				
Russell 2000	OCEANEERING INTERNATIONAL, INC.	0.05%				×					×				
Russell 2000	ONE GAS, INC.	0.19%								×					
Russell 2000	Otter Tail Corporation	0.12%			×										
Russell 2000	PAR PACIFIC HOLDINGS, INC.	0.03%	×				×		×						
Russell 2000	PATTERSON-UTI ENERGY, INC.	0.15%				×		×							
Russell 2000	PBF ENERGY INC.	0.12%					×		×						
Russell 2000	PEABODY ENERGY CORPORATION	0.11%		×										×	
Russell 2000	PNM RESOURCES, INC.	0.18%			×										
Russell 2000	PORTLAND GENERAL ELECTRIC COMPANY	0.19%			×										
Russell 2000	PROPETRO HOLDING CORP.	0.04%				×					×				
Russell 2000	RAMACO RESOURCES, INC.	0.01%												×	
Russell 2000	Ranger Oil Corporation	0.03%	×				×	×							
Russell 2000	REX AMERICAN RESOURCES CORPORATION	0.02%					×								
Russell 2000	RPC, INC.	0.02%				×					×				
Russell 2000	SANDRIDGE ENERGY, INC.	0.01%	×				×	×							
Russell 2000	SELECT ENERGY SERVICES, INC.	0.02%				×					×				
Russell 2000	SILVERBOW RESOURCES, INC.	0.01%	×				×	×							
Russell 2000	SM ENERGY COMPANY	0.18%	×				×	×							
Russell 2000	SOUTH JERSEY INDUSTRIES, INC.	0.18%								×					
Russell 2000	Spire Inc.	0.17%								×					
Russell 2000	TALOS ENERGY INC.	0.05%	×				×	×							
Russell 2000	TEEKAY CORPORATION	0.01%				×						×			
Russell 2000	TELLURIAN INC.	0.07%	×				×	×							
Russell 2000	THE GEO GROUP, INC.	0.03%													×
Russell 2000	TIDEWATER INC.	0.04%				×					×				
Russell 2000	TRAVELCENTERS OF AMERICA INC.	0.02%								×					
Russell 2000	U.S. SILICA HOLDINGS, INC.	0.04%				×					×				
Russell 2000	UNITED STATES LIME & MINERALS, INC.	0.01%	×												
Russell 2000	Valaris Limited	0.11%				×		×							
Russell 2000	W&T OFFSHORE, INC.	0.02%	×				×	×							
Russell 2000	WARRIOR MET COAL, INC.	0.07%		×											
Russell 2000	WEATHERFORD INTERNATIONAL PUBLIC LIMITED COMPANY	0.06%				×					×				
Russell 2000	WHITING PETROLEUM CORPORATION	0.12%	×				×	×							
Russell 2000	WORLD FUEL SERVICES CORPORATION	0.06%					×			×					

APPENDIX: FOSSIL FUEL/PRIVATE PRISON EXPOSURE - ACWI EX-US

Strategy	Issuer Name	Portfolio Weight	O&G Reserves	Coal Reserves	Coal Generate Output	Energy Supplier	Energy Producer	O&G Extraction Producer	O&G Refining	O&G Distribution	O&G Equip Services	O&G Storage Transport	Max Rev Fossil Fuels	Max Rev Coal	Private Prisons
ACWI ex US	ABOITIZ EQUITY VENTURES INC.	0.01%			x										
ACWI ex US	ABU DHABI NATIONAL OIL COMPANY FOR DISTRIBUTION PJ:	0.02%								x					
ACWI ex US	AC Energy Corporation	0.01%											x		
ACWI ex US	ACWA POWER Company	0.01%			x								x		
ACWI ex US	ADANI ENTERPRISES LIMITED	0.04%												x	
ACWI ex US	ADANI POWER LIMITED	0.01%											x		
ACWI ex US	ADANI TOTAL GAS LIMITED	0.04%								x					
ACWI ex US	ADANI TRANSMISSION LIMITED	0.04%			x										
ACWI ex US	AFRICAN RAINBOW MINERALS LIMITED	0.01%		x										x	
ACWI ex US	AK ALROSA PAO	0.00%	x												
ACWI ex US	AKER BP ASA	0.04%	x				x	x							
ACWI ex US	ALFA, S.A.B. de C.V.	0.01%	x												
ACWI ex US	ALIMENTATION COUCHE-TARD INC.	0.15%								x					
ACWI ex US	AltaGas Ltd.	0.03%						x							
ACWI ex US	Aluminum Corporation of China Limited	0.01%												x	
ACWI ex US	Aluminum Corporation of China Limited	0.00%												x	
ACWI ex US	AMPOL LIMITED	0.03%					x		x						
ACWI ex US	APA Group	0.04%										x			
ACWI ex US	ARC RESOURCES LTD.	0.04%	x				x	x							
ACWI ex US	AYALA CORPORATION	0.01%			x										
ACWI ex US	B.Grimm Power Public Company Limited	0.00%											x		
ACWI ex US	BASF SE	0.17%	x												
ACWI ex US	BEIJING ENTERPRISES HOLDINGS LIMITED	0.01%										x			
ACWI ex US	BHARAT PETROLEUM CORPORATION LIMITED	0.02%					x		x						
ACWI ex US	BHP GROUP LIMITED	0.65%	x	x										x	
ACWI ex US	BP P.L.C.	0.42%	x				x		x						
ACWI ex US	CANADIAN NATURAL RESOURCES LIMITED	0.29%	x				x	x							
ACWI ex US	Cenovus Energy Inc.	0.12%	x				x								
ACWI ex US	Centrais Eletricas Brasileiras S.A.	0.04%			x										
ACWI ex US	Centrais Eletricas Brasileiras S.A.	0.01%			x										
ACWI ex US	CEZ, a.s.	0.04%		x	x									x	
ACWI ex US	China Coal Energy Company Limited	0.01%		x	x									x	
ACWI ex US	CHINA GAS HOLDINGS LIMITED	0.02%										x			
ACWI ex US	CHINA LONGYUAN POWER GROUP CORPORATION LIMITED	0.03%			x										
ACWI ex US	China Oilfield Services Limited	0.01%				x					x				
ACWI ex US	China Petroleum & Chemical Corporation	0.05%	x				x								
ACWI ex US	China Petroleum & Chemical Corporation	0.01%	x				x								
ACWI ex US	China Power International Development Limited	0.02%			x								x		
ACWI ex US	CHINA RESOURCES GAS GROUP LIMITED	0.02%								x					
ACWI ex US	China Resources Power Holdings Company Limited	0.02%			x								x		
ACWI ex US	China Shenhua Energy Company Limited	0.04%		x	x									x	
ACWI ex US	China Shenhua Energy Company Limited	0.01%		x	x									x	
ACWI ex US	China Suntien Green Energy Corporation Limited	0.00%				x						x			
ACWI ex US	Chubu Electric Power Company, Incorporated	0.03%			x										
ACWI ex US	CITIC Limited	0.03%	x		x									x	
ACWI ex US	CK HUTCHISON HOLDINGS LIMITED	0.08%	x												
ACWI ex US	CK INFRASTRUCTURE HOLDINGS LIMITED	0.02%			x										
ACWI ex US	CLP HOLDINGS LIMITED	0.06%			x										
ACWI ex US	COAL INDIA LTD	0.02%		x										x	
ACWI ex US	COMPAGNIE PETROLIERE IMPERIALE LTEE	0.05%	x				x		x						
ACWI ex US	COSAN S.A.	0.02%					x			x					
ACWI ex US	COSCO Shipping Energy Transportation Co., Ltd.	0.00%				x						x			
ACWI ex US	DCC PUBLIC LIMITED COMPANY	0.03%								x					
ACWI ex US	DIALOG GROUP BERHAD	0.01%				x					x				
ACWI ex US	E.ON SE	0.08%			x										
ACWI ex US	ECOPETROL S.A.	0.02%	x				x		x						
ACWI ex US	EDP - Energias de Portugal, S.A.	0.06%			x										
ACWI ex US	ELECTRICITE DE FRANCE SA	0.02%			x										
ACWI ex US	ELECTRICITY GENERATING PUBLIC COMPANY LIMITED	0.01%		x	x								x	x	
ACWI ex US	EMERA INCORPORATED	0.06%			x								x		
ACWI ex US	Empresas Copec S.A.	0.01%					x			x					
ACWI ex US	Enagas, S.A.	0.02%										x			
ACWI ex US	Enbridge Inc.	0.39%				x						x			
ACWI ex US	Endesa, Sociedad Anonima	0.03%			x										
ACWI ex US	ENEL - SPA	0.20%			x										
ACWI ex US	Enel Americas S.A.	0.01%			x										
ACWI ex US	Enel Chile S.A.	0.00%			x										
ACWI ex US	ENEOS Holdings, Inc.	0.05%	x				x		x					x	
ACWI ex US	ENGIE BRASIL ENERGIA S.A.	0.01%			x										
ACWI ex US	ENGIE SA	0.09%	x		x							x			
ACWI ex US	ENI S.P.A.	0.14%	x				x								
ACWI ex US	ENN ENERGY HOLDINGS LIMITED	0.06%								x					
ACWI ex US	ENN Natural Gas Co., Ltd.	0.00%								x					
ACWI ex US	EQUINOR ASA	0.15%	x				x		x						
ACWI ex US	EXXARO RESOURCES LIMITED	0.01%		x										x	
ACWI ex US	FORMOSA PETROCHEMICAL CORPORATION	0.02%					x		x						
ACWI ex US	Fortis Inc.	0.10%			x										
ACWI ex US	Fortum Oyj	0.03%			x										
ACWI ex US	FOSUN INTERNATIONAL LIMITED	0.01%	x												
ACWI ex US	Franco-Nevada Corporation	0.11%	x												
ACWI ex US	GAIL (INDIA) LIMITED	0.01%	x							x					
ACWI ex US	Galp Energia, SGPS, S.A.	0.03%	x				x								
ACWI ex US	GAZPROM PAO	0.00%	x				x								
ACWI ex US	GD POWER DEVELOPMENT CO., LTD.	0.00%			x								x		
ACWI ex US	GLENCORE PLC	0.24%	x	x										x	
ACWI ex US	Global Power Synergy Public Company Limited	0.01%			x								x		

APPENDIX: FOSSIL FUEL/PRIVATE PRISON EXPOSURE - ACWI EX-US

Strategy	Issuer Name	Portfolio Weight	O&G Reserves	Coal Reserves	Coal Generate Output	Energy Supplier	Energy Producer	O&G Extraction Producer	O&G Refining	O&G Distribution	O&G Equip Services	O&G Storage Transport	Max Rev Fossil Fuels	Max Rev Coal	Private Prisons
ACWI ex US	GMK NORIL'SKIY NIKEL' PAO	0.00%	x												
ACWI ex US	GUANGDONG INVESTMENT LIMITED	0.02%			x										
ACWI ex US	Guanghui Energy Co., Ltd.	0.00%	x	x			x	x						x	
ACWI ex US	Gulf Energy Development Public Company Limited	0.02%											x		
ACWI ex US	HD HYUNDAI CO.,LTD.	0.01%					x		x						
ACWI ex US	HENAN SHENHUO COAL & POWER CO.,LTD	0.00%		x	x										
ACWI ex US	HINDUSTAN PETROLEUM CORPORATION LIMITED	0.01%	x				x		x						
ACWI ex US	HK ELECTRIC INVESTMENTS LIMITED	0.01%			x								x		
ACWI ex US	Huadian Power International Corporation Limited	0.00%		x	x								x	x	
ACWI ex US	Huaibei Mining Holdings Co.,Ltd.	0.00%												x	
ACWI ex US	HUANENG POWER INTERNATIONAL, INC.	0.01%			x								x		
ACWI ex US	HUANENG POWER INTERNATIONAL, INC.	0.00%			x								x		
ACWI ex US	HYUNDAI GLOVIS Co., LTD.	0.01%												x	
ACWI ex US	Iberdrola, S.A.	0.27%			x										
ACWI ex US	Idemitsu Kosan Co.,Ltd.	0.02%	x				x		x					x	
ACWI ex US	INDIAN OIL CORPORATION LIMITED	0.01%	x				x		x						
ACWI ex US	Indraprastha Gas Ltd	0.01%								x					
ACWI ex US	INNER MONGOLIA DIAN TOU ENERGY CORPORATION LIMITEI	0.00%												x	
ACWI ex US	Inner Mongolia ERDOS Resources Co.,Ltd.	0.00%		x										x	
ACWI ex US	INNER MONGOLIA YITAI COAL CO., LTD	0.01%		x										x	
ACWI ex US	INPEX CORPORATION	0.05%	x				x	x							
ACWI ex US	INTER RAO YEES PAO	0.00%			x										
ACWI ex US	ITOCHU Corporation	0.14%		x										x	
ACWI ex US	JARDINE MATHESON HOLDINGS LIMITED	0.05%												x	
ACWI ex US	JINDAL STEEL AND POWER LIMITED	0.01%		x	x										
ACWI ex US	Jizhong Energy Resources Co., Ltd.	0.00%		x										x	
ACWI ex US	JSW STEEL LIMITED	0.02%			x										
ACWI ex US	KEPPEL CORPORATION LIMITED	0.03%	x												
ACWI ex US	KEYERA CORP.	0.02%				x				x					
ACWI ex US	KOC HOLDING ANONIM SIRKETI	0.01%												x	
ACWI ex US	KOREA ELECTRIC POWER CORPORATION	0.02%			x										
ACWI ex US	KUNLUN ENERGY COMPANY LIMITED	0.01%	x							x					
ACWI ex US	MISC BERHAD	0.01%										x			
ACWI ex US	Mitsubishi Corporation	0.17%	x	x										x	
ACWI ex US	MITSUI & CO., LTD.	0.14%	x	x										x	
ACWI ex US	MOL Magyar Olaj- es Gazipari Nyilvanosan Mukodo Reszvenyt	0.02%	x				x		x						
ACWI ex US	Naturgy Energy Group, S.A.	0.02%			x					x					
ACWI ex US	Neste Oyj	0.08%					x								
ACWI ex US	NK LUKOIL PAO	0.00%	x				x		x						
ACWI ex US	NK ROSNEFT' PAO	0.00%	x				x		x						
ACWI ex US	NOVATEK PAO	0.00%	x				x	x							
ACWI ex US	NTPC LIMITED	0.03%		x	x								x		
ACWI ex US	OFFSHORE OIL ENGINEERING CO.,LTD.	0.00%				x					x				
ACWI ex US	OIL AND NATURAL GAS CORPORATION LIMITED	0.02%	x				x		x						
ACWI ex US	OK RUSAL MKPAO	0.00%		x											
ACWI ex US	OMV Aktiengesellschaft	0.03%	x				x		x						
ACWI ex US	ORIGIN ENERGY LIMITED	0.03%	x		x										
ACWI ex US	Orsted A/S	0.09%			x										
ACWI ex US	OSAKA GAS CO., LTD.	0.03%										x			
ACWI ex US	PARKLAND CORPORATION	0.02%					x			x					
ACWI ex US	PEMBINA PIPELINE CORPORATION	0.09%				x						x			
ACWI ex US	PETRO RIO S.A.	0.01%	x				x	x							
ACWI ex US	PetroChina Company Limited	0.04%	x				x								
ACWI ex US	PetroChina Company Limited	0.00%	x				x								
ACWI ex US	Petroleo Brasileiro S.A. (Petrobras)	0.11%	x				x		x						
ACWI ex US	Petroleo Brasileiro S.A. (Petrobras)	0.10%	x				x		x						
ACWI ex US	PETRONAS DAGANGAN BERHAD	0.01%					x			x					
ACWI ex US	PETRONET LNG LIMITED	0.01%				x				x					
ACWI ex US	PGE POLSKA GRUPA ENERGETYCZNA SPOLKA AKCYJNA	0.01%			x										
ACWI ex US	PINGDINGSHAN TIANAN COAL. MINING CO., LTD.	0.00%												x	
ACWI ex US	POLSKI KONCERN NAFTOWY ORLEN SPOLKA AKCYJNA	0.02%	x		x		x								
ACWI ex US	POLSKIE GORNICTWO NAFTOWE I GAZOWNICTWO SPOLKA /	0.01%	x		x		x					x			
ACWI ex US	POSCO Holdings Inc.	0.06%			x										
ACWI ex US	Power Assets Holdings Limited	0.04%			x										
ACWI ex US	PT Adaro Energy Indonesia Tbk	0.01%		x										x	
ACWI ex US	PT Aneka Tambang Tbk	0.00%		x										x	
ACWI ex US	PT Astra International Tbk	0.04%		x										x	
ACWI ex US	PT United Tractors Tbk	0.01%		x										x	
ACWI ex US	PTT EXPLORATION AND PRODUCTION PUBLIC COMPANY LIM	0.03%	x				x	x							
ACWI ex US	PTT Oil and Retail Business PCL	0.01%								x					
ACWI ex US	PTT Public Company Limited	0.04%	x	x	x		x							x	
ACWI ex US	PUBLIC POWER CORPORATION S.A.	0.00%			x										
ACWI ex US	Qatar Fuel Company QPSC	0.01%					x			x					
ACWI ex US	Qatar Gas Transport Company Limited (Nakilat)QPSC	0.01%				x						x			
ACWI ex US	Rabigh Refining and Petrochemical Company SJSC	0.01%					x		x						
ACWI ex US	RATCH GROUP PUBLIC COMPANY LIMITED	0.01%			x								x		
ACWI ex US	RELIANCE INDUSTRIES LIMITED	0.47%	x				x								
ACWI ex US	Repsol S.A.	0.10%	x				x								
ACWI ex US	Ressources Teck Limitee	0.07%	x												
ACWI ex US	RWE Aktiengesellschaft	0.10%			x										
ACWI ex US	Samsung Engineering Co., Ltd.	0.01%									x				
ACWI ex US	SANTOS LIMITED	0.07%	x				x	x							
ACWI ex US	SASOL LIMITED	0.06%	x	x										x	
ACWI ex US	Saudi Arabian Oil Company	0.11%	x				x	x							

APPENDIX: FOSSIL FUEL/PRIVATE PRISON EXPOSURE - ACWI EX-US

Strategy	Issuer Name	Portfolio Weight	O&G Reserves	Coal Reserves	Coal Generate Output	Energy Supplier	Energy Producer	O&G Extraction Producer	O&G Refining	O&G Distribution	O&G Equip Services	O&G Storage Transport	Max Rev Fossil Fuels	Max Rev Coal	Private Prisons
ACWI ex US	Saudi Electricity Company SJSC	0.02%											x		
ACWI ex US	SDIC Power Holdings Co., Ltd.	0.00%			x										
ACWI ex US	SEVERSTAL' PAO	0.00%												x	
ACWI ex US	Shaanxi Coal Industry Company Limited	0.01%		x										x	
ACWI ex US	SHAN XI HUA YANG GROUP NEW ENERGY CO., LTD.	0.00%		x	x									x	
ACWI ex US	Shanxi Coking Coal Energy Group Co., Ltd.	0.00%			x									x	
ACWI ex US	Shanxi Lu'an Environmental Energy Dev. Co., Ltd	0.00%		x										x	
ACWI ex US	SHELL PLC	0.89%	x				x		x						
ACWI ex US	Shenzhen Energy Group Co., Ltd.	0.00%			x								x		
ACWI ex US	SICHUAN CHUANTOU ENERGY CO., LTD.	0.00%			x										
ACWI ex US	Sinopec Shanghai Petrochemical Company Limited	0.00%							x						
ACWI ex US	SK Inc.	0.03%												x	
ACWI ex US	SK Innovation Co., Ltd.	0.04%					x		x						
ACWI ex US	SNAM S.P.A.	0.05%										x			
ACWI ex US	S-Oil Corporation	0.02%					x		x						
ACWI ex US	SOUTH32 LIMITED	0.06%		x										x	
ACWI ex US	SSE PLC	0.09%	x												
ACWI ex US	SUMITOMO CORPORATION	0.07%												x	
ACWI ex US	Suncor Energy Inc.	0.23%	x				x		x						
ACWI ex US	SURGUTNEFTEGAZ PAO	0.00%	x				x	x							
ACWI ex US	SURGUTNEFTEGAZ PAO	0.00%	x				x	x							
ACWI ex US	TATNEFT' PAO	0.00%	x				x								
ACWI ex US	TBEA CO., LTD.	0.00%												x	
ACWI ex US	TC Energy Corporation	0.23%				x						x			
ACWI ex US	TENAGA NASIONAL BERHAD	0.02%											x		
ACWI ex US	TENARIS S.A.	0.03%				x					x				
ACWI ex US	Thai Oil Public Company Limited	0.01%					x		x						
ACWI ex US	THE HONG KONG AND CHINA GAS COMPANY LIMITED	0.05%	x							x				x	
ACWI ex US	The Kansai Electric Power Company, Incorporated	0.03%			x										
ACWI ex US	THE TATA POWER COMPANY LIMITED	0.02%		x	x								x	x	
ACWI ex US	Tokyo Electric Power Company Holdings, Incorporated	0.03%			x										
ACWI ex US	TOKYO GAS CO.,LTD.	0.04%								x					
ACWI ex US	TotalEnergies SE	0.59%	x				x								
ACWI ex US	TOURMALINE OIL CORP.	0.07%	x				x	x							
ACWI ex US	TURKIYE PETROL RAFINERILERI ANONIM SIRKETI	0.01%					x		x						
ACWI ex US	ULTRAPAR PARTICIPACOES S.A.	0.01%				x				x					
ACWI ex US	Uniper SE	0.01%			x										
ACWI ex US	VALE S.A.	0.26%		x										x	
ACWI ex US	VEDANTA LIMITED	0.01%	x	x	x										
ACWI ex US	VEOLIA ENVIRONNEMENT SA	0.07%			x										
ACWI ex US	VERBUND AG	0.03%			x										
ACWI ex US	VIBRA ENERGIA S/A	0.02%								x					
ACWI ex US	WASHINGTON H. SOUL PATTINSON AND COMPANY LIMITED	0.02%	x	x										x	
ACWI ex US	WOODSIDE ENERGY GROUP LTD	0.19%	x				x	x							
ACWI ex US	Yankuang Energy Group Company Limited	0.02%		x	x									x	
ACWI ex US	Yankuang Energy Group Company Limited	0.00%		x	x									x	
ACWI ex US	Yantai Jereh Oilfield Services Group Co., Ltd.	0.00%				x					x				
ACWI ex US	Zijin Mining Group Company Limited	0.01%		x											

APPENDIX: FOSSIL FUEL/PRIVATE PRISON EXPOSURE – TRADITIONAL CREDIT

Strategy	Issuer Name	Portfolio Weight	O&G Reserves	Coal Reserves	Coal Generate Output	Energy Supplier	Energy Producer	O&G Extraction Producer	O&G Refining	O&G Distribution	O&G Equip Services	O&G Storage Transport	Max Rev Fossil Fuels	Max Rev Coal	Private Prisons
Maine Agg	Alabama Power Company	0.04%			x								x		
Maine Agg	AMEREN CORPORATION	0.01%			x										
Maine Agg	AMERICAN ELECTRIC POWER COMPANY, INC.	0.02%			x									x	
Maine Agg	APACHE CORPORATION	0.00%	x					x							
Maine Agg	Appalachian Power Company	0.02%			x								x		
Maine Agg	ARIZONA PUBLIC SERVICE COMPANY	0.03%			x								x		
Maine Agg	ATMOS ENERGY CORPORATION	0.03%								x					
Maine Agg	AVISTA CORPORATION	0.00%			x										
Maine Agg	BERKSHIRE HATHAWAY ENERGY COMPANY	0.09%		x	x										
Maine Agg	BERKSHIRE HATHAWAY INC.	0.02%		x	x										
Maine Agg	BLACK HILLS CORPORATION	0.02%		x	x							x		x	
Maine Agg	CANADIAN NATURAL RESOURCES LIMITED	0.05%	x				x	x							
Maine Agg	Cenovus Energy Inc.	0.05%	x				x								
Maine Agg	CENTERPOINT ENERGY, INC.	0.01%			x										
Maine Agg	CHEVRON CORPORATION	0.07%	x				x	x							
Maine Agg	CMS ENERGY CORPORATION	0.01%			x										
Maine Agg	CONOCOPHILLIPS	0.02%	x				x	x							
Maine Agg	CONTINENTAL RESOURCES, INC.	0.01%	x				x	x							
Maine Agg	Coterra Energy Inc.	0.02%	x				x	x							
Maine Agg	DEVON ENERGY CORPORATION	0.04%	x				x	x							
Maine Agg	DIAMONDBACK ENERGY, INC.	0.03%	x				x	x							
Maine Agg	DOMINION ENERGY SOUTH CAROLINA, INC.	0.01%			x								x		
Maine Agg	Dominion Energy, Inc.	0.06%			x										
Maine Agg	DTE ELECTRIC COMPANY	0.04%			x										
Maine Agg	DTE ENERGY COMPANY	0.02%			x										
Maine Agg	Duke Energy Carolinas, LLC	0.08%			x										
Maine Agg	DUKE ENERGY CORPORATION	0.07%			x										
Maine Agg	DUKE ENERGY FLORIDA, LLC	0.04%			x								x		
Maine Agg	DUKE ENERGY INDIANA, LLC	0.02%			x								x		
Maine Agg	Duke Energy Progress, LLC	0.05%			x										
Maine Agg	ENABLE MIDSTREAM PARTNERS, LP	0.02%										x			
Maine Agg	ENBRIDGE ENERGY PARTNERS, L.P.	0.02%										x			
Maine Agg	Enbridge Inc.	0.06%				x						x			
Maine Agg	Enel Americas S.A.	0.00%			x										
Maine Agg	Enel Chile S.A.	0.01%			x										
Maine Agg	Enel Generacion Chile S.A.	0.00%			x										
Maine Agg	ENERGY TRANSFER LP	0.20%		x		x						x			
Maine Agg	ENTERGY ARKANSAS, LLC	0.02%			x										
Maine Agg	ENTERGY CORPORATION	0.02%			x										
Maine Agg	ENTERGY LOUISIANA, LLC	0.05%			x								x		
Maine Agg	ENTERGY MISSISSIPPI, LLC	0.01%			x								x		
Maine Agg	ENTERGY TEXAS, INC.	0.01%			x								x		
Maine Agg	ENTERPRISE PRODUCTS OPERATING LLC	0.17%				x						x			
Maine Agg	EOG RESOURCES, INC.	0.02%	x				x	x							
Maine Agg	EQT CORPORATION	0.02%	x				x	x							
Maine Agg	EQUINOR ASA	0.09%	x				x		x						
Maine Agg	EVERGY KANSAS CENTRAL, INC.	0.01%											x		
Maine Agg	Evergy Metro, Inc.	0.01%			x										
Maine Agg	Evergy, Inc.	0.01%			x										
Maine Agg	EXXON MOBIL CORPORATION	0.19%	x				x		x						
Maine Agg	FLORIDA POWER & LIGHT COMPANY	0.09%			x								x		
Maine Agg	Fortis Inc.	0.01%			x										

APPENDIX: FOSSIL FUEL/PRIVATE PRISON EXPOSURE – TRADITIONAL CREDIT

Strategy	Issuer Name	Portfolio Weight	O&G Reserves	Coal Reserves	Coal Generate Output	Energy Supplier	Energy Producer	O&G Extraction Producer	O&G Refining	O&G Distribution	O&G Equip Services	O&G Storage Transport	Max Rev Fossil Fuels	Max Rev Coal	Private Prisons
Maine Agg	FREEPORT-MCMORAN INC.	0.04%	x												
Maine Agg	GEORGIA POWER COMPANY	0.04%			x										
Maine Agg	GULF POWER COMPANY	0.00%			x								x		
Maine Agg	HALLIBURTON COMPANY	0.06%				x					x				
Maine Agg	HELMERICH & PAYNE, INC.	0.01%				x		x							
Maine Agg	HESS CORPORATION	0.04%	x				x	x							
Maine Agg	HF SINCLAIR CORPORATION	0.01%					x		x						
Maine Agg	INDIANA MICHIGAN POWER COMPANY	0.02%			x										
Maine Agg	IPALCO ENTERPRISES INC	0.01%											x		
Maine Agg	KENTUCKY UTILITIES COMPANY	0.01%			x								x		
Maine Agg	KINDER MORGAN, INC.	0.08%				x						x			
Maine Agg	LOUISVILLE GAS AND ELECTRIC COMPANY	0.00%			x								x		
Maine Agg	MAGELLAN MIDSTREAM PARTNERS, L.P.	0.03%				x						x			
Maine Agg	MARATHON OIL CORPORATION	0.02%	x				x	x							
Maine Agg	MARATHON PETROLEUM CORPORATION	0.05%					x		x						
Maine Agg	MIDAMERICAN ENERGY COMPANY	0.04%			x										
Maine Agg	MPLX LP	0.12%				x						x			
Maine Agg	NATIONAL FUEL GAS COMPANY	0.01%	x												
Maine Agg	NEVADA POWER COMPANY	0.01%											x		
Maine Agg	NISOURCE INC.	0.07%			x					x					
Maine Agg	Northern States Power Company (Minnesota)	0.04%			x										
Maine Agg	NORTHWESTERN CORPORATION	0.00%	x		x										
Maine Agg	NOV INC.	0.01%				x					x				
Maine Agg	OGLETHORPE POWER CORP	0.02%			x								x		
Maine Agg	OKLAHOMA GAS AND ELECTRIC COMPANY	0.01%			x								x		
Maine Agg	ONE GAS, INC.	0.01%								x					
Maine Agg	ONEOK, INC.	0.06%				x						x			
Maine Agg	OVINTIV INC.	0.01%	x				x	x							
Maine Agg	PHILLIPS 66	0.06%					x			x					
Maine Agg	Piedmont Natural Gas Company, Inc.	0.01%								x					
Maine Agg	PINNACLE WEST CAPITAL CORPORATION	0.00%			x										
Maine Agg	PIONEER NATURAL RESOURCES COMPANY	0.02%	x				x	x							
Maine Agg	PLAINS ALL AMERICAN PIPELINE, L.P.	0.05%				x						x			
Maine Agg	Progress Energy, Inc.	0.01%			x								x		
Maine Agg	PUBLIC SERVICE COMPANY OF COLORADO	0.03%			x										
Maine Agg	PUGET ENERGY, INC.	0.01%			x										
Maine Agg	PUGET SOUND ENERGY, INC.	0.02%			x										
Maine Agg	Ressources Teck Limitee	0.02%	x												
Maine Agg	SABINE PASS LIQUEFACTION, LLC	0.07%								x					
Maine Agg	SEMPRA ENERGY	0.05%										x			
Maine Agg	SIERRA PACIFIC POWER COMPANY	0.00%			x										
Maine Agg	SOUTHWESTERN ELECTRIC POWER COMPANY	0.02%			x								x		
Maine Agg	SOUTHWESTERN PUBLIC SERVICE COMPANY	0.01%			x										
Maine Agg	Suncor Energy Inc.	0.04%	x				x		x						
Maine Agg	TAMPA ELECTRIC COMPANY	0.01%			x								x		
Maine Agg	TARGA RESOURCES CORP.	0.02%				x						x			
Maine Agg	TC PIPELINES, LP	0.01%										x			
Maine Agg	TENNESSEE GAS PIPELINE COMPANY, L.L.C.	0.01%										x			
Maine Agg	TEXAS EASTERN TRANSMISSION, LP	0.00%										x			
Maine Agg	THE AES CORPORATION	0.01%			x								x		
Maine Agg	THE SOUTHERN COMPANY	0.06%			x								x		
Maine Agg	THE WILLIAMS COMPANIES, INC.	0.10%				x						x			
Maine Agg	TRANSCANADA PIPELINES LIMITED	0.10%										x			
Maine Agg	TRANSCONTINENTAL GAS PIPE LINE COMPANY, LLC	0.02%										x			
Maine Agg	TUCSON ELECTRIC POWER COMPANY	0.01%			x								x		
Maine Agg	UNION ELECTRIC COMPANY	0.04%			x								x		
Maine Agg	VALE S.A.	0.01%		x										x	
Maine Agg	VALERO ENERGY CORPORATION	0.05%					x		x						
Maine Agg	VEOLIA ENVIRONNEMENT SA	0.00%			x										
Maine Agg	Virginia Electric and Power Company	0.11%			x								x		
Maine Agg	WEC ENERGY GROUP, INC.	0.01%			x										
Maine Agg	WISCONSIN POWER AND LIGHT COMPANY	0.01%			x								x		
Maine Agg	WISCONSIN PUBLIC SERVICE CORPORATION	0.01%			x								x		
Maine Agg	Xcel Energy Inc.	0.04%			x										

DISCLOSURES

Past performance is no guarantee of future results.

All investments carry some level of risk. Diversification and other asset allocation techniques do not ensure profit or protect against losses.

Some of the information presented herein has been obtained from external sources NEPC believes to be reliable. While NEPC has exercised reasonable professional care in preparing this content, we cannot guarantee the accuracy of all source information contained within.

The opinions presented herein represent the good faith views of NEPC as of the publication date and are subject to change at any time.

This presentation contains summary information regarding the investment management approaches described herein but is not a complete description of the investment objectives, portfolio management and research that supports these approaches. This analysis does not constitute a recommendation to implement any of the aforementioned approaches.

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: DECEMBER 1, 2022

Following this memo is the MaineSTART Quarterly Review for the quarter ending 9/30/2022.

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

MAINESTART INVESTMENT OPTIONS REVIEW

Slide 4 of the following presentation lists the available funds in the MaineSTART investment lineup. Relative to the other fund choices, the STAR fund is an outlier, in that it is actively managed and charges a relatively high management fee. The Investment Team is currently reviewing the decision to include the STAR fund as an investment option and expects to bring a recommendation concerning this fund at the January board meeting.

RECOMMENDATION

No Board action is required.

MAINE START

MaineSTART Quarterly Review

For the Quarter Ending 09/30/2022

MainePERS
PUBLIC EMPLOYEES RETIREMENT SYSTEM

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

Participation and Value as of 09/30/2022

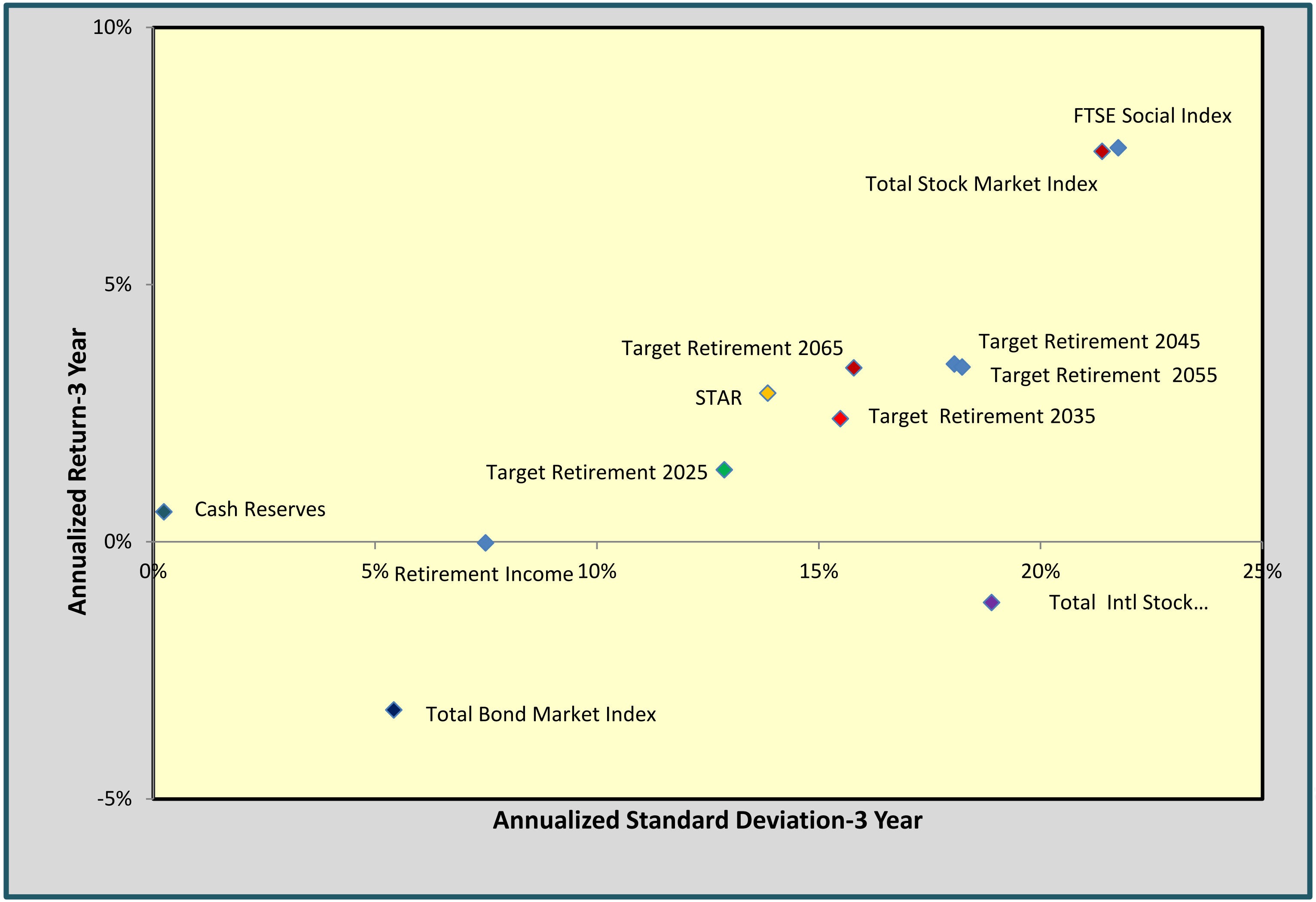
	401(a)	403(b)	457(b)	Total	Change from 09/30/2021
Participating Employers	7	1	72	80*	2
Participating Employees	93	567	951	1,611	89
Total Market Value	$5,514,367	$14,666,366	$30,660,601	$50,841,335	-$10,188,429

*26% of PLDs

MaineSTART Investment Options

Fund
Target Retirement
Vanguard Target Retirement 2025
Vanguard Target Retirement 2035
Vanguard Target Retirement 2045
Vanguard Target Retirement 2055
Vanguard Target Retirement 2065
Vanguard Target Retirement Income
US Equity
Vanguard Total Stock Market Index
Vanguard FTSE Social Index
Non-US Equity
Vanguard Total International Stock Index
Balanced
Vanguard STAR
Fixed Income
Vanguard Total Bond Market Index
Cash
Vanguard Cash Reserves Federal Money Market

Risk Profiles – 3 Years Ending 09/30/2022



Performance as of 09/30/2022
(Target Date Funds)

Total Fund	$ 50,841,335	% Total	Quarter	1 Yr	3 Yrs	5 Yrs	10 Yrs
Target Retirement Funds							
Target Retirement 2025	$ 12,781,626	25.1%	-5.6%	-17.5%	1.4%	3.2%	6.0%
Target Retirement 2025 Benchmark			-5.3%	-17.1%	2.0%	3.6%	6.3%
Target Retirement 2035	$ 8,044,244	15.8%	-6.1%	-18.9%	2.4%	3.8%	7.0%
Target Retirement 2035 Benchmark			-5.8%	-18.5%	2.9%	4.2%	7.3%
Target Retirement 2045	$ 4,777,574	9.4%	-6.5%	-19.9%	3.5%	4.4%	7.6%
Target Retirement 2045 Benchmark			-6.1%	-19.6%	4.0%	4.9%	8.0%
Target Retirement 2055	$ 965,574	1.9%	-6.6%	-20.2%	3.4%	4.4%	7.6%
Target Retirement 2055 Benchmark			-6.2%	-19.8%	4.0%	4.8%	8.0%
Target Retirement 2065	$ 128,105	0.3%	-6.6%	-20.1%	3.4%	4.4%	
Target Retirement 2065 Benchmark			-6.2%	-19.8%	4.0%	4.8%	
Target Retirement Income	$ 4,173,460	8.2%	-4.6%	-14.2%	0.0%	2.0%	3.3%
Target Retirement Income Benchmark			-4.6%	-14.0%	0.3%	2.2%	3.5%

Performance as of 09/30/2022

(Index and Balanced Funds)

Total Fund	$ 50,841,335	% of Total	Quarter	1 Yr	3 Yrs	5 Yrs	10 Yrs
US Equity							
Total Stock Market Index	$ 10,167,241	20.0%	-4.5%	-18.0%	7.6%	8.6%	11.3%
Dow Jones Total Stock Market Index			-4.4%	-18.0%	7.6%	8.6%	11.3%
FTSE Social Index	$ 685,203	1.3%	-5.2%	-20.1%	7.7%	9.3%	12.7%
FTSE4Good US Select Index			-5.2%	-20.0%	7.8%	9.4%	12.8%
Non-US Equity							
Total International Stock Index	$ 1,832,777	3.6%	-10.5%	-25.2%	-1.2%	-0.7%	3.3%
Total International Stock Index			-9.7%	-25.2%	-0.9%	-0.5%	3.4%
Balanced							
STAR	$ 2,538,532	5.0%	-5.8%	-21.3%	2.9%	4.2%	6.8%
STAR Composite Index			-5.1%	-16.7%	3.0%	4.2%	6.3%
Fixed Income							
Total Bond Market Index	$ 1,875,256	3.7%	-4.7%	-14.7%	-3.3%	-0.3%	0.9%
Barclays Capital Aggregate Bond Index			-4.7%	-14.6%	-3.2%	-0.2%	0.9%
Total Cash							
Cash Reserves Federal Money Market	$ 2,871,744	5.6%	0.5%	0.7%	0.6%	1.2%	0.7%
Citigroup 90 Day T-Bill Index			0.4%	0.5%	0.7%	1.3%	0.9%

The STAR fund has demonstrated weak performance over the past year. Tracking Error on the other funds remains within expected range.

Investment Option Fees

Fund Name	Ticker	Market Value	MaineSTART Expense Ratio	Next Threshold Amount	Next Expense Ratio
Vanguard Total Stock Market Index	VITSX	$10,167,241	0.03%	$100,000,000	0.02%
Vanguard Total International Stock Index	VTIAX	$1,832,777	0.11%	$5,000,000	0.10%
Vanguard STAR	VGSTX	$2,538,532	0.31%	N/A	0.31%
Vanguard FTSE Social Index	VFTAX	$685,203	0.14%	$5,000,000	0.12%
Vanguard Target Retirement 2025	VTTVX	$12,781,626	0.08%	N/A	0.08%
Vanguard Target Retirement 2035	VTTHX	$8,044,244	0.08%	N/A	0.08%
Vanguard Target Retirement 2045	VTIVX	$4,777,574	0.08%	N/A	0.08%
Vanguard Target Retirement 2055	VFFVX	$965,574	0.08%	N/A	0.08%
Vanguard Target Retirement 2065	VLXVX	$128,105	0.08%	N/A	0.08%
Vanguard Retirement Income	VTINX	$4,173,460	0.08%	N/A	0.08%
Vanguard Total Bond Market Index	VBTLX	$1,875,256	0.05%	N/A	0.05%
Vanguard Cash Reserves Federal MM	VMRXX	$2,871,744	0.10%	N/A	0.10%
		$50,841,335			

Record-Keeper and Administrative Fees

- **Newport Annual Participant Fees: $50 per participant and 3 basis points on assets**
- **Newport Distribution Fees: $75 paid by the participant for a non-periodic distribution; no fee for periodic distributions**
- **MainePERS Administrative Fees: $244,600 annually charged to PLDs (equates to .03685% of total PLD payroll)**

Compliance and Operations

- **One employer non-compliance with participation agreements remains**
- **The first non-PLD school unit has joined MaineSTART**
- **Vanguard STAR Fund review is underway**

MAINEPERS

BOARD OF TRUSTEES MEMORANDUM

TO: BOARD MEMBERS

FROM: MICHAEL J. COLLERAN, CHIEF OPERATING OFFICER AND GENERAL COUNSEL

SUBJECT: **FINANCE AND AUDIT COMMITTEE APPOINTMENTS**

DATE: DECEMBER 1, 2022

Board Policy 1.6 governs the membership and responsibilities of the Finance and Audit Committee of the Board. The policy says in relevant part:

> The Committee consists of at least three members of the Board of Trustees, at least one of whom must be qualified through training or experience in the field of investments, accounting, banking or insurance, or as actuaries. Committee members will be appointed or removed by the Board Chair with the concurrence of the number of Board members required by law for Board action. The Board Chair may appoint him/herself as a Committee member, but may not serve as Chair of the Committee. Appointments are for two years and may be renewed without limit. Vacancies within a term shall be filled in the same manner. The Committee shall select the Chair and Vice Chair in February of each year.
>
> *   *   *
>
> The members of the Committee, individually or as a group, must, in the Board's determination, possess sufficient financial knowledge and experience to understand the nature of the work performed by the System's external and internal auditors and the reports prepared by them.

The Board's work plan calls for appointments to be considered at this meeting and subsequently every two years. The current members are Shirrin Blaisdell, Chair; Brian Noyes; and Dick Metivier.

POLICY REFERENCE

Board Policy 1.6 – Finance and Audit Committee of the Board

Board Policy 4.5 – Board/Staff Relations

Board Policy 4.6 – Communications and Support to the Board

RECOMMENDATION

That the Board Chair appoint the members of the Finance and Audit Committee and the Board concur in the Chair's appointments.

MAINEPERS

BOARD OF TRUSTEES ADMINISTRATION MEMORANDUM

TO: BOARD MEMBERS

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

SUBJECT: OPERATIONS AND MEMBER SERVICES REPORT

DATE: DECEMBER 1, 2022

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

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 data about routine member services are attached to this report in both the customary format and using an updated format.

2. PLD PLAN COLA. Preparations are being made to implement the retroactive 1 percent cost of living adjustment for PLD plan participants pending rulemaking and approval by the Board of Trustees. Payment of this special COLA currently is expected to occur with the payroll in February.

3. MEMBER PORTAL PROJECT. An interdisciplinary team at MainePERS is exploring the possibility of an inaugural online member portal. This effort is bolstered by member feedback indicating an estimated 74 percent of active members and 67 percent of retirees – and growing – would welcome such secure access to information about their MainePERS account and benefits. This effort is in its early stages. This is in keeping with Goal IV (Cultivation of a Member Centric Organization, objective E in particular) and many other components of the Strategic Plan.

4. LINE OF BUSINESS SOFTWARE REVIEW. A team chartered by CEO Rebecca Wyke this month is beginning a multi-year project to review and potentially replace or update MainePERS core pension software. Information technology, Finance, Communications, Operations, and Member Services are helping to lead this initiative. This is in keeping with Goal IV (Cultivation of a Member Centric Organization) and Goal III (Security and Integrity of our Information Systems) and many other components of the Strategic Plan.

FINANCIAL PROGRAMS

1. Accounting and Finance. The Annual Comprehensive Financial Report is with our publishing vendor for compiling. The supplemental audits related to GASB 67 and GASB 74 continue, with reports expected by the end of January.

2. Employer Reporting. Employers submitted defined benefit payrolls on time at an 86.8% rate in November, which is slightly below the fiscal year to date monthly average of 89.1% and last November's 89%.

3. Employer Auditing. Four audits were initiated in November, and five were completed, three of which revealed contribution errors that staff are working to resolve with the employers. Ninety-two percent of all findings to date have been resolved satisfactorily.

4. Internal Audit. CliftonLarsonAllen has completed the internal audit of the disability retirement program, and we expect to receive the report any day.

5. Line of Business. We remain on track to implement the new form W-4P at the end of the month.

6. Contributions and Disbursements. Attached is a report of contributions and member disbursements for the combined defined benefit plans fiscal year to date with a comparison to the same period in FY22.

ADMINISTRATION

1. Human Resources. We completed performance assessments on all confidential= employees, which will be conducted annually going forward. We have one new hire starting= next week and nine positions in recruitment. We have received approval from the State's= Office of Employee Health and Wellness to have earlier eligibility for health and related= benefits for new hires.

2. Facilities. We are researching emergency generator options, particularly for information= technology equipment and related environmental control equipment. The Director of= Administration responded to an early morning security alarm when our custodial vendor was= in the building after authorized hours.

3. Document Center. Staff continue to make progress updating member addresses in V3 and= researching and resolving returned mail, email bounce-backs, and National Address= Database mismatches.

INFORMATION TECHNOLOGY

1. Board Software. We have contracted with Govenda on the new Board software and will begin onboarding this month.

RECOMMENDATION

No Board action is recommended at this time.

[OLD FORMAT]

DECEMBER 2022 BOT SUPPLEMENTAL NUMBERS

BENEFITS PAYROLL. Monthly pension payments were made to 47,106 recipients in November, totaling $99,301,667.

RETIREMENT SERVICES. One twenty-eight (128) individuals received their first benefit payment in November, with the typical benefit amount being $2,048. First time recipients averaged 21 years of service. The count of new recipients, payment amount, and service are in line with what has been seen during the same month in recent prior years.

Two hundred forty (240) former members received a refund of their contributions in November. The average refund was $7,563 as the result of three (3) years of service. The aggregate amount refunded was $1,815,175.

DISABILITY SERVICES. Fifteen (15) intake interviews were completed with varying levels of detail and duration. Intakes included seven (7) State members, four (4) Teacher and four (4) PLD members. Five (5) new disability retirement applications were received in November.

SURVIVOR SERVICES. Forty-eight (48) life insurance claims were sent to our carrier (The Hartford) in November, with a total value of $916,000 in payments due to beneficiaries.

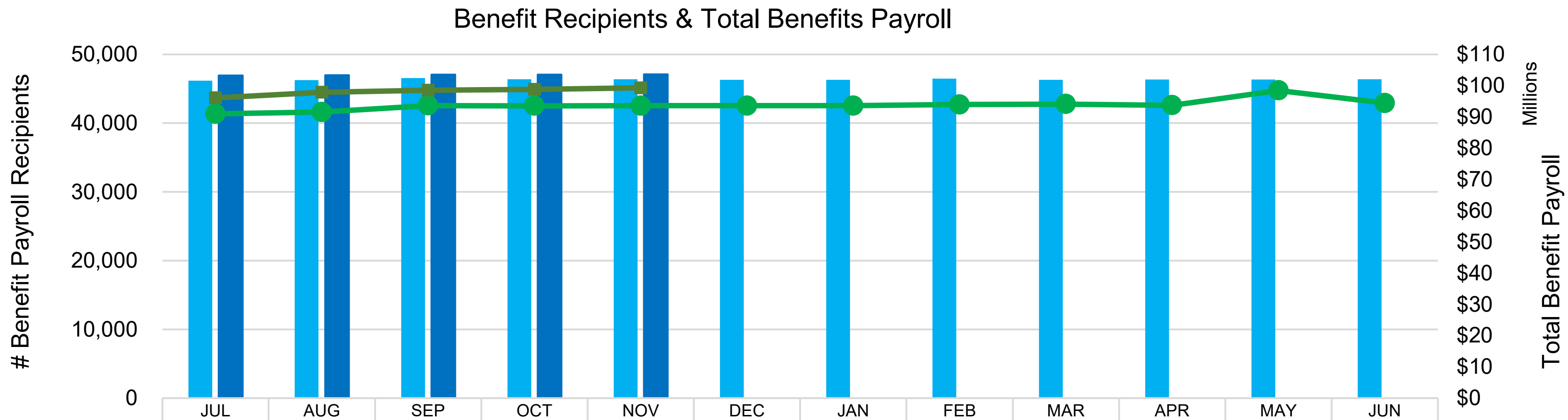
DEFINED CONTRIBUTION PLAN SERVICES. MaineSTART had 1,626 participants at the end of November, with $54,892,043 of investment assets in the program.

PLD PLAN ADMINISTRATION. One new employers joined the PLD Retirement Program. Two employers made plan changes (adding full coverage for dispatchers and police unit support staff; and adding Law Enforcement Officers. Both were effective November, 2022. *Note: This metric has transitioned to reflect PLD employer changes (joining, returning, adopting plan changes) in the month of their implementation. Prior reporting included PLD changes occurring in future months. This new format is consistent with MainePERS activity reporting to our actuary.*

NEW FORMAT - **DECEMBER 2022 BOT SUPPLEMENTAL NUMBERS**

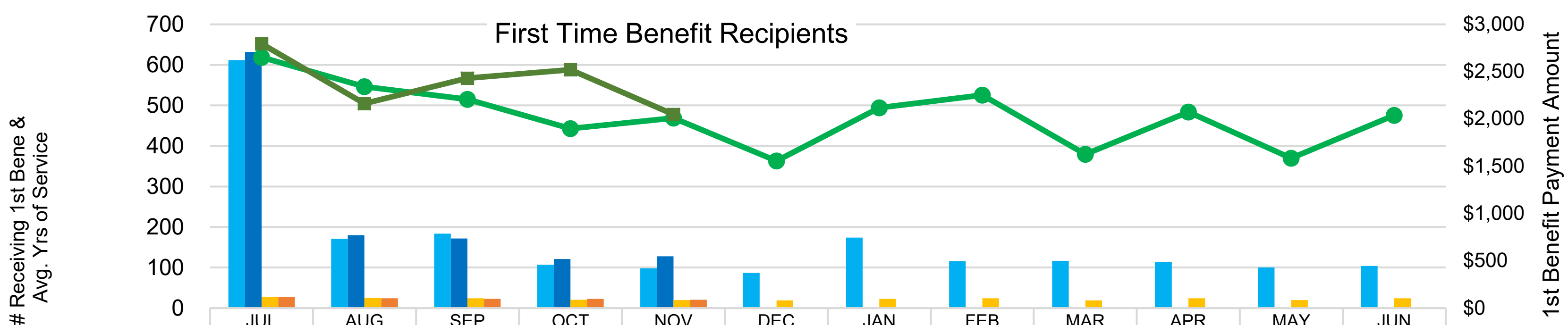
RETIREMENT SERVICES

BENEFITS PAYROLL. Monthly pension payments were made to 47,106 recipients in November, totaling $99,301,667.



	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN
FY22 Benefit Recipients (#)	46,157	46,273	46,557	46,383	46,372	46,294	46,305	46,453	46,322	46,344	46,362	46,390
FY23 Benefit Recipients (#)	46,924	46,986	47,049	47,073	47,106							
FY22 Benefits Payroll	$90,981,866	$91,530,971	$93,618,579	$93,515,788	$93,585,082	$93,580,970	$93,561,274	$93,959,837	$94,091,259	$93,732,973	$98,441,894	$94,406,978
FY23 Benefits Payroll	$96,074,419	$97,911,533	$98,525,514	$98,774,481	$99,301,667							

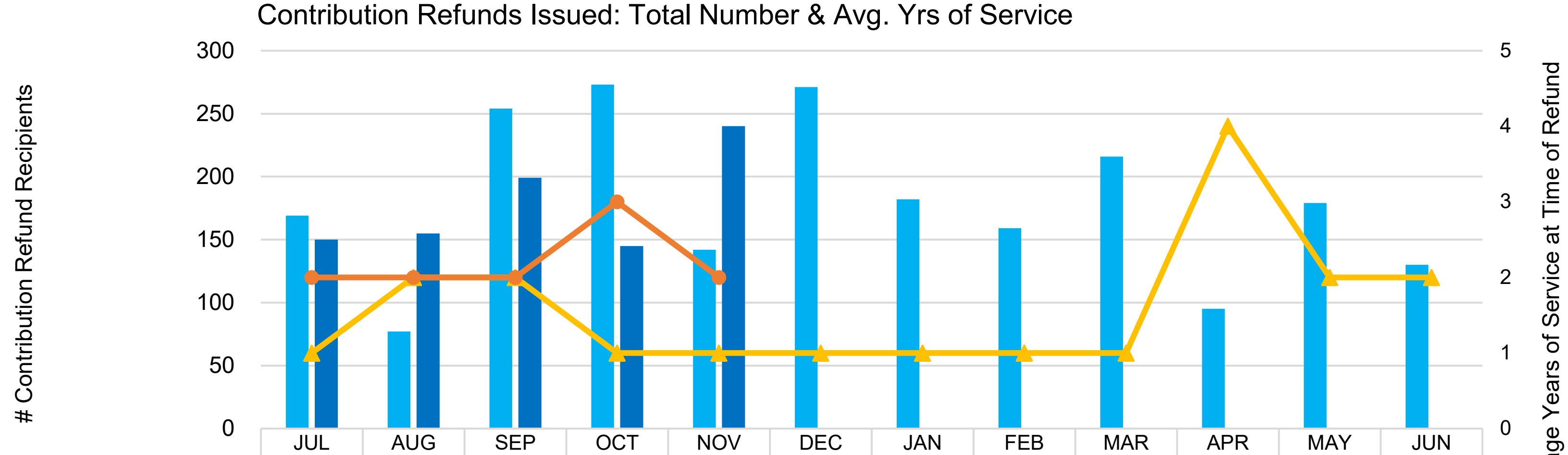
FIRST TIME BENEFIT RECIPIENTS. One twenty-eight (128) individuals received their first benefit payment in November, with the typical benefit amount being $2,048. First time recipients averaged 21 years of service. The count of new recipients, payment amount, and service are in line with what has been seen during the same month in recent prior years.



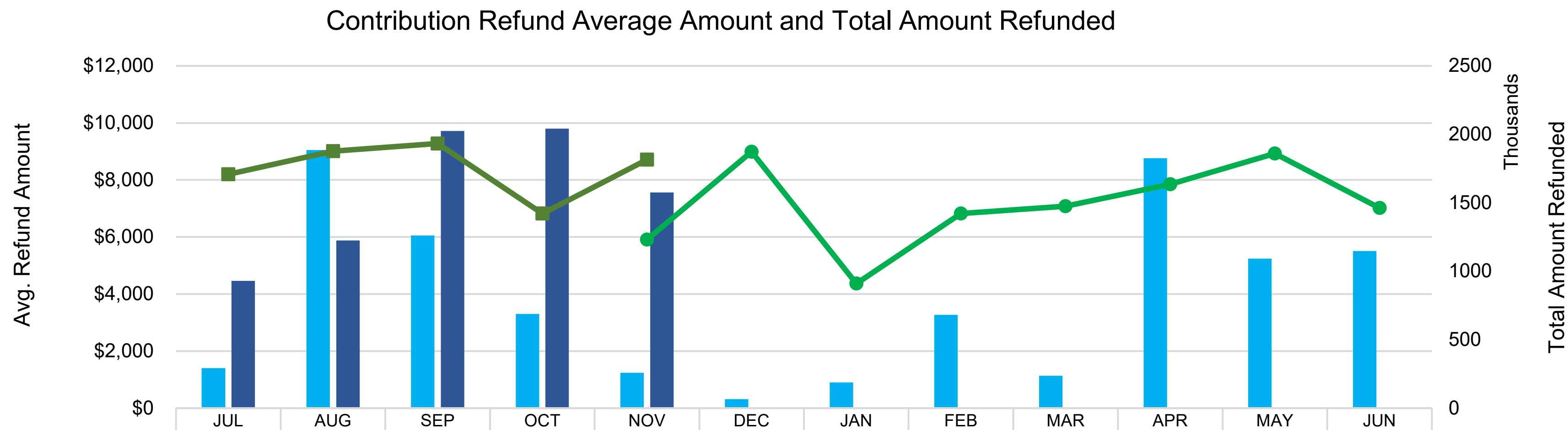
	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN
FY22 # Receiving 1st Benefit Pmt	612	171	184	107	98	87	174	116	117	114	100	104
FY23 # Receiving 1st Benefit Pmt	632	180	172	121	128							
FY22 Avg Years of Svc @1st Benefit Pmt	27	25	24	21	20	19	23	24	19	24	20	24
FY23 Avg Years of Svc @1st Benefit Pmt	27	24	23	23	21							
FY22 Avg. 1st Benefit Pmt Amount	$2,652	$2,341	$2,206	$1,897	$2,008	$1,556	$2,118	$2,253	$1,628	$2,073	$1,584	$2,038
FY23 Avg. 1st Benefit Pmt Amount	$2,795	$2,163	$2,431	$2,519	$2,048							

Retirement Services: Continued

Contribution Refund Issues: Two hundred forty (240) former members received a refund of their contributions in November. The average refund was $7,563 as the result of three years of service. The aggregate amount refunded was $1,815,175.

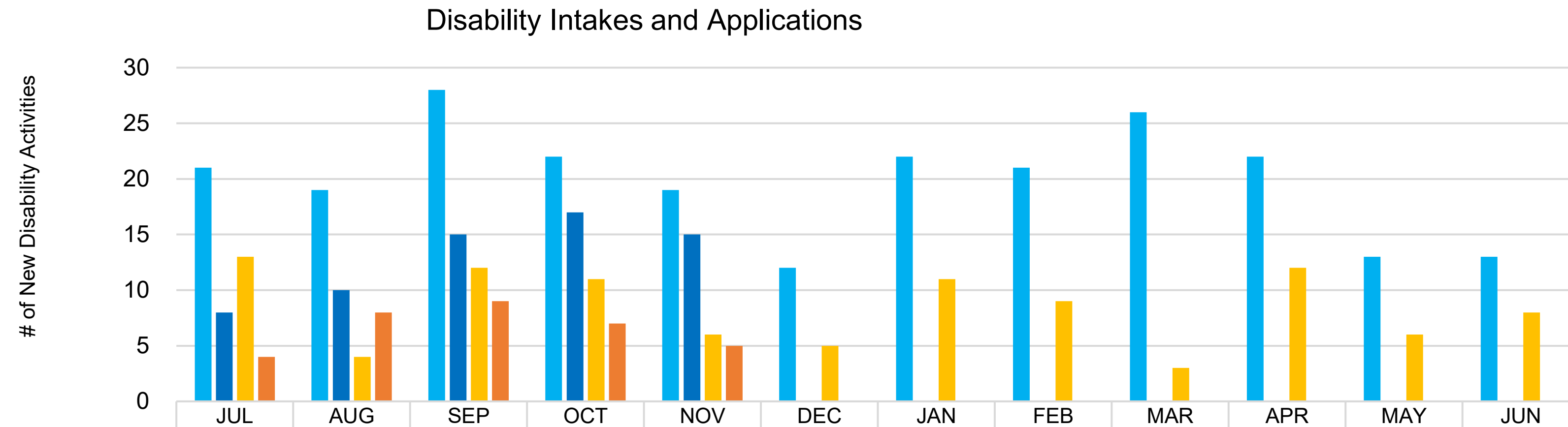


	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN
FY22 # of Contribution Refund Recipients	169	77	254	273	142	271	182	159	216	95	179	130
FY23 # of Contribution Refund Recipients	150	155	199	145	240							
FY22 Avg. YRs of Service at Time of Refund	1	2	2	1	1	1	1	1	1	4	2	2
FY23 Avg. YRs of Service at Time of Refund	2	2	2	3	2							



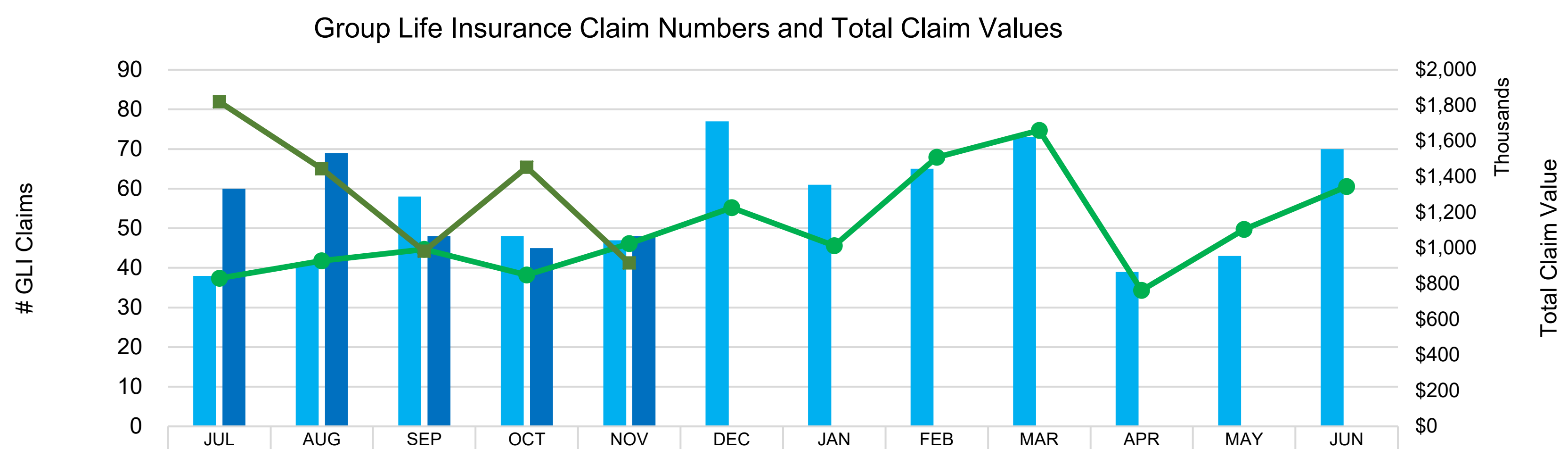
	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN
FY22 Avg. Refund Amount	$1,408	$9,047	$6,054	$3,304	$1,240	$313	$897	$3,272	$1,141	$8,766	$5,240	$5,506
FY23 Avg. Refund Amount	$4,463	$5,879	$9,715	$9,801	$7,563							
FY22 Total Amount Refunded					$1,231,956	$1,873,289	$909,804	$1,421,562	$1,475,250	$1,635,042	$1,860,801	$1,461,766
FY23 Total Amount Refunded	$1,708,414	$1,877,641	$1,933,334	$1,421,169	$1,815,175							

DISABILITY SERVICES. Fifteen (15) intake interviews were completed with varying levels of detail and duration. Intakes included seven (7) State members, four (4) Teacher and four (4) PLD members. Five (5) new disability retirement applications were received in November.



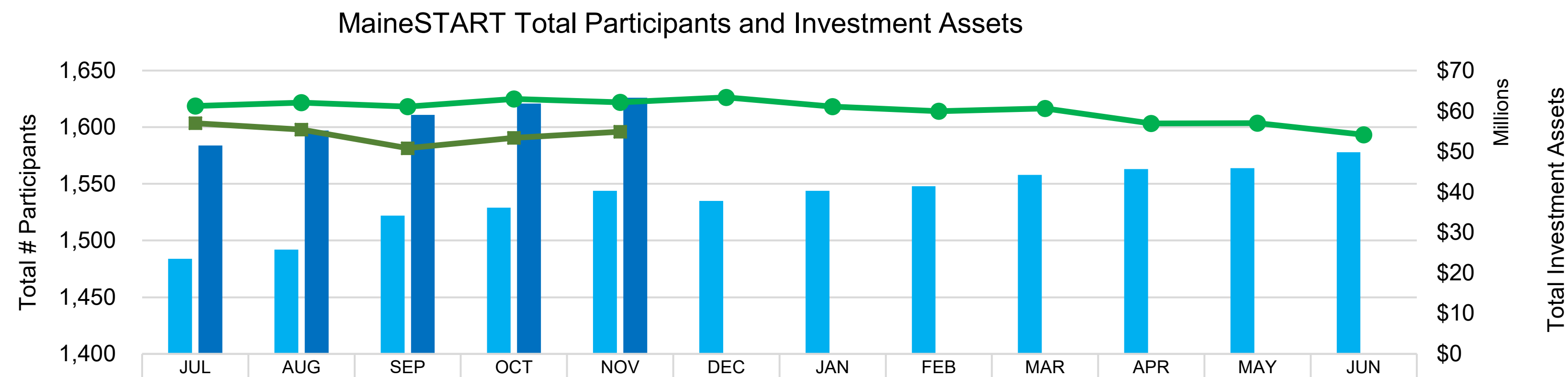
	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN
FY22 # Disability Intake Interviews	21	19	28	22	19	12	22	21	26	22	13	13
FY23 # Disability Intake Interviews	8	10	15	17	15							
FY22 # Disability Retirement Applications	13	4	12	11	6	5	11	9	3	12	6	8
FY23 # Disability Retirement Applications	4	8	9	7	5							

SURVIVOR SERVICES. Forty-eight (48) life insurance claims were sent to our carrier (The Hartford) in November, with a total value of $916,000 in payments due to beneficiaries.



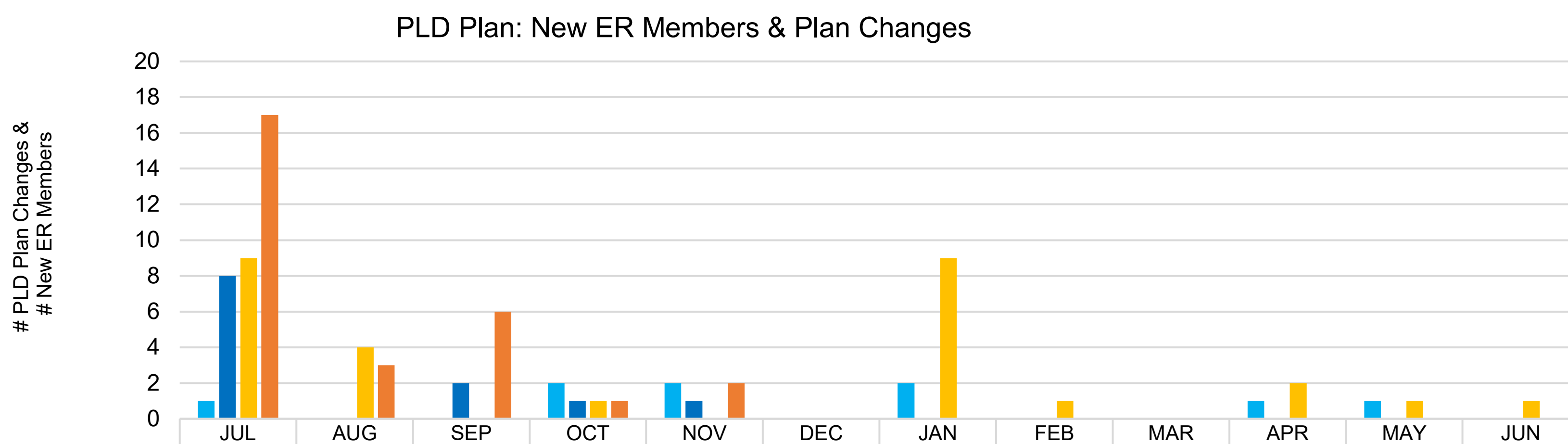
	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN
FY22 # Life Insurance Claims Filed	38	41	58	48	47	77	61	65	73	39	43	70
FY23 # Life Insurance Claims Filed	60	69	48	45	48							
FY22 Total Claim Value	$830,400	$928,180	$993,600	$848,665	$1,024,430	$1,226,560	$1,012,780	$1,509,130	$1,660,260	$762,745	$1,104,050	$1,345,580
FY23 Total Claim Value	$1,820,300	$1,444,925	$983,345	$1,452,840	$916,000							

<u>DEFINED CONTRIBUTION PLAN SERVICES</u>. MaineSTART had 1,626 participants at the end of November, with $54,892,043 of investment assets in the program.



	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN
FY22 # MaineSTART Participants	1,484	1,492	1,522	1,529	1,544	1,535	1,544	1,548	1,558	1,563	1,564	1,578
FY23 # MaineSTART Participants	1,584	1,597	1,611	1,621	1,626							
FY22 Total Investment Assets	$61,274,93	$62,044,85	$61,110,03	$62,992,96	$62,145,24	$63,376,09	$61,101,48	$59,982,90	$60,660,02	$56,908,22	$56,993,61	$54,147,04
FY23 Total Investment Assets	$56,988,17	$55,406,63	$50,831,63	$53,388,35	$54,892,04							

<u>PLD PLAN ADMINISTRATION</u>. One new employers joined the PLD Retirement Program. Two employers made plan changes (adding full coverage for dispatchers and police unit support staff; and adding Law Enforcement Officers. Both were effective November, 2022. *<u>Note:</u> This metric has transitioned to reflect PLD employer changes (joining, returning, adopting plan changes) in the month of their implementation. Prior reporting included PLD changes occurring in future months. This new format is consistent with MainePERS activity reporting to our actuary.*



	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN
FY22 # New PLD Plan Employers	1	0	0	2	2	0	2	0	0	1	1	0
FY23 # New PLD Plan Employers	8	0	2	1	1	0						
FY22 # PLD's Adopting Plan Changes	9	4	0	1	0		9	1	0	2	1	1
FY23 # PLD's Adopting Plan Changes	17	3	6	1	2							

Maine Public Employees Retirement System
Contributions and Disbursements - Defined Benefit Plans
For the Four Months Ended October 31, 2022 and October 31, 2021

	Current	Year to Date	Prior Year to Date
Contributions			
Employer Contributions[1]	$ 42,621,807	$ 179,508,431	$ 171,448,196
Member Contributions	15,079,431	65,774,187	64,973,685
Member Repurchases	148,604	1,446,457	2,991,792
Total Contributions	**$ 57,849,842**	**$ 246,729,075**	**$ 239,413,673**
Member Disbursements			
Benefits Payroll	$ 98,797,752	$ 391,317,246	$ 369,438,996
Member Refunds	1,602,335	6,971,762	7,603,653
Total Member Disbursements	**$ 100,400,087**	**$ 398,289,008**	**$ 377,042,649**
Net	**$ (42,550,245)**	**$ (151,559,933)**	**$ (137,628,976)**

[1] Employer Contributions include both normal cost and UAL contributions.