

## **Investment Committee Meeting June 5, 2025**

### Meeting Items

- Agenda
- Total Fund Performance Review for period ending March 31, 2025
- Asset Class Review: Private Equity for period ending December 31, 2024
- Risk Budgeting
- Approval of Minutes – February 18, 2025

Board Packet Documents are available to the public for inspection on the Employees' Retirement System's Website: <https://ers.ehawaii.gov/board-and-committee-agendas-and-meeting-packets>, and in the Employees' Retirement System's Office, 201 Merchant Street, Suite 1400, Honolulu, HI 96813

## NOTICE OF REGULAR MEETING

AGENCY: Investment Committee of the Board of Trustees of the  
Employees' Retirement System of the State of Hawaii

DATE: Thursday, June 5, 2025; 9:00 a.m.

PLACE: City Financial Tower, 201 Merchant Street, Suite 1200, Honolulu, Hawaii 96813

The meeting will be conducted pursuant to HRS § 92-3.7, under which Members of the Investment Committee of the Board of Trustees may participate via interactive conference technology; and members of the public may also participate via interactive conference technology or in person at the meeting place stated above.

Members of the public may also attend the meeting in person to testify or provide testimony by teleconference either audio or video, at the following link and phone number:

[https://teams.microsoft.com/l/meetup-join/19%3ameeting\\_ZWI3M2M0MzItODNmMy00ZDA4LTlIzJtN2M0NDQzZDEwN2M1%40thread.v2/0?context=%7b%22Tid%22%3a%223847dec6-63b2-43f9-a6d0-58a40aaa1a10%22%2c%22Oid%22%3a%228f795840-377f-479d-bb5d-6ec41c4a01bc%22%7d](https://teams.microsoft.com/l/meetup-join/19%3ameeting_ZWI3M2M0MzItODNmMy00ZDA4LTlIzJtN2M0NDQzZDEwN2M1%40thread.v2/0?context=%7b%22Tid%22%3a%223847dec6-63b2-43f9-a6d0-58a40aaa1a10%22%2c%22Oid%22%3a%228f795840-377f-479d-bb5d-6ec41c4a01bc%22%7d)

*or*

[+1 808-829-4853,,955595938#](tel:+18088294853955595938) United States, Honolulu  
Phone conference ID: 955 595 938#

Individuals testifying at the meeting are requested to limit their testimony to three minutes or an amount of time otherwise designated by the Chairperson.

In the event audiovisual communication cannot be maintained with participating Trustees and quorum is lost, the meeting shall be automatically recess for up to 30 minutes, during which time, an attempt to restore audiovisual communication will be made. If such attempt is unsuccessful, all Trustees, members of the public, staff and other interested individuals may continue to participate in the meeting via telephone using the above listed telephone and conference ID numbers, whereby audio-only communication will be established for all participants and the meeting will continue. If reconvening the meeting is not possible because neither audiovisual nor audio-only communication can be re-established, the meeting will be terminated.

## AGENDA

### CALL TO ORDER/QUORUM

### PUBLIC COMMENT

Members of the public may submit written testimony on these agenda items via e-mail or postal mail with receipt recommended by 4:30 p.m. on Wednesday, June 4, 2025, in order to ensure it is distributed in time for consideration. Please address written testimony if by e-mail to [diana.gomes@hawaii.gov](mailto:diana.gomes@hawaii.gov) or by postal mail to: Employees' Retirement System of the State of Hawaii, Investment Committee, 201 Merchant Street, Suite 1400, Honolulu, Hawaii 96813.

### PRESENTATIONS

1. Total Fund Performance Review for period ending March 31, 2025.  
Kristin Varela, ERS Chief Investment Officer and Meketa Investment Group, Inc.

## ERS Investment Committee Meeting Agenda

June 5, 2025

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Pursuant to HRS § 88-27.5(a)(1), 92-5(a)(4) and (8), the Board of Trustees may enter into Executive Session to conduct discussions and deliberations relating to, and if appropriate, to make a decision on investments or prospective investments by the system that requires the consideration of information or records that are exempt from disclosure under HRS Chapter 92F, including information and records that are proprietary information or confidential business information, and to consult with the Board's attorneys on questions and issues pertaining to the Board's powers, duties, privileges, immunities, and liabilities with respect to this matter.

2. Rotating Alternative Asset Class Review: Private Equity Quarterly Review for period ending December 31, 2024.

Aaron Au, ERS Investment Officer and Hamilton Lane Advisors, LLC

Pursuant to HRS § 88-27.5(a)(1) and HRS § 92-5(a)(4), the Board of Trustees may enter into Executive Session to conduct discussions and deliberations relating to, and if appropriate, to make a decision on investments or prospective investments by the system that requires the consideration of information or records that are exempt from disclosure under HRS Chapter 92F, including information and records that are proprietary information or confidential business information, and to consult with the Board's attorneys on questions and issues pertaining to the Board's powers, duties, privileges, immunities, and liabilities with respect to this matter.

3. Education: Risk Budgeting (Continued)

Lynn Kamimoto, ERS Investment Officer and Meketa Investment Group

Pursuant to HRS § 88-27.5(a)(1) and HRS § 92-5(a)(4), the Board of Trustees may enter into Executive Session to conduct discussions and deliberations relating to, and if appropriate, to make a decision on investments or prospective investments by the system that requires the consideration of information or records that are exempt from disclosure under HRS Chapter 92F, including information and records that are proprietary information or confidential business information, and to consult with the Board's attorneys on questions and issues pertaining to the Board's powers, duties, privileges, immunities, and liabilities with respect to this matter.

### REPORTS BY STAFF

1. Chief Investment Officer Update

### APPROVAL OF MINUTES – February 18, 2025

### EXECUTIVE SESSION

1. Executive Session, pursuant to HRS § 88-27.5(a)(1), 92-5(a)(4) and (8), to conduct discussions and deliberations relating to, and if appropriate, to make a decision on investments or prospective investments by the system that require the consideration of information or records that are exempt from disclosure under HRS Chapter 92F, including information and records that are proprietary information or confidential business information, and to consult with the Board's attorneys on questions and issues pertaining to the Board's powers, duties, privileges, immunities, and liabilities with respect to Confidential ERS Investment Portfolio activity to include (1) Stanley Capital Partners Fund Investment Update, (2) Investment Office updates.
2. Executive Session, pursuant to HRS § 88-27.5(a)(1), 92-5(a)(4) and (8), to Review and Approval of Executive Session Minutes of February 18, 2025.

## ERS Investment Committee Meeting Agenda

June 5, 2025

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### ADJOURNMENT

If you require auxiliary aid/service or other accommodation due to a disability, contact Diana Gomes at (808) 586-0175 or [diana.gomes@hawaii.gov](mailto:diana.gomes@hawaii.gov) as soon as possible, preferably by Wednesday, June 4, 2025, and the ERS will try to obtain the auxiliary aid/service or accommodation, but cannot guarantee that the request can be fulfilled.

Upon request, this notice can be made available in large print.



# Employees' Retirement System of the State of Hawaii

June 2, 2025

2025 Q1 Performance Report

### Agenda

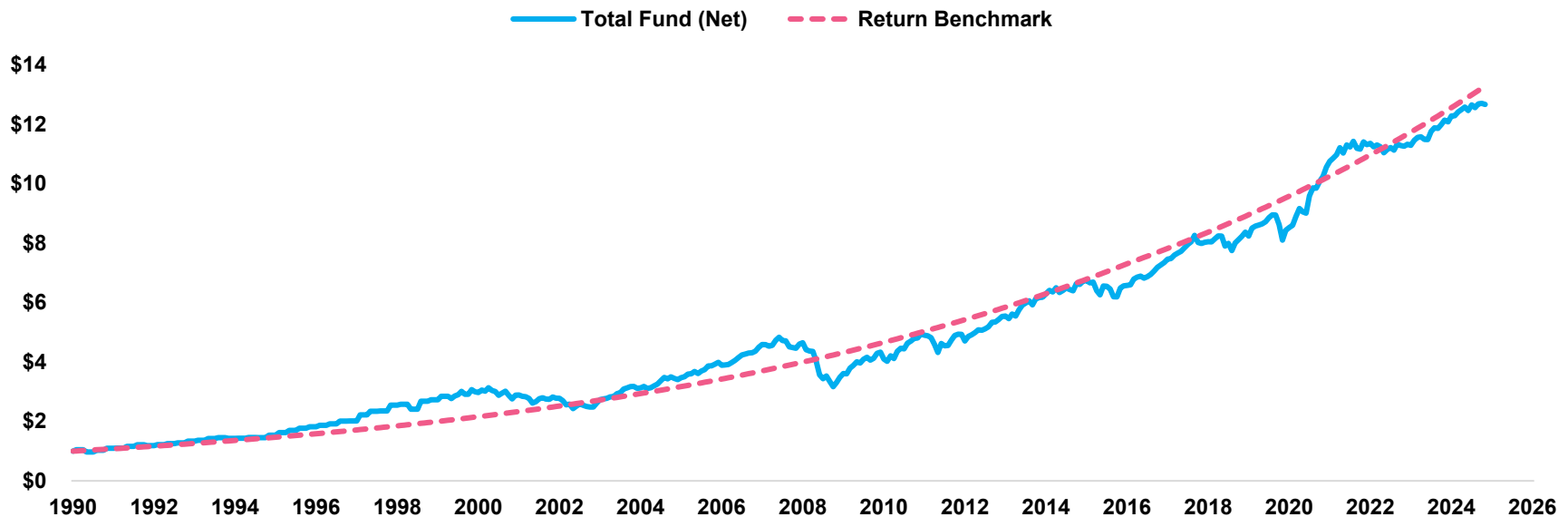
1. Introduction
2. ERS Portfolio Review
3. Plan Sponsor Peer Group Analysis
4. Appendix

# Introduction

### Executive Summary

- The ERS Board has constructed the investment portfolio to produce steady, compounding returns over time.
- Risk mitigation is critical in order to ensure the long-term sustainability and growth of the ERS.
- Within the ERS's Investment Policy Statement, success is defined as achieving the long-term return that is needed in conjunction with actuarially defined contributions to fund the plan over time.
- As detailed below, ERS has consistently generated steady, compounded growth since its performance inception.

### Since Inception Growth of \$1





### Executive Summary (Continued)

→ When considering risk assumed per unit of return received, ERS steadily outpaces its national peer set.

#### Risk-Adjusted Performance<sup>1</sup> of Hawaii ERS vs. Median Public Fund

	Since Inception	30 Yrs	20 Yrs	10 Yrs	5 Yrs	3 Yrs	1 Yr	FYTD	QTD
<b>Total Fund</b>	<b>7.6</b>	<b>7.3</b>	<b>6.7</b>	<b>6.7</b>	<b>9.3</b>	<b>3.5</b>	<b>4.3</b>	<b>3.1</b>	<b>0.8</b>
<i>Risk-Adjusted Peer Median<sup>2</sup></i>	<i>7.5</i>	<i>7.2</i>	<i>5.9</i>	<i>5.0</i>	<i>5.8</i>	<i>1.4</i>	<i>2.8</i>	<i>2.2</i>	<i>0.1</i>
Excess Return	0.1	0.1	0.8	1.7	3.5	2.1	1.6	1.0	0.7

<sup>1</sup> Performance shown is net of fees since October 1, 2014, and a mix of net and gross of fees prior to October 1, 2014. Fiscal Year begins on July 1. Inception date is June 1, 1990.

<sup>2</sup> The risk-adjusted median normalizes the median fund to the ERS's exhibited volatility. Calculated as: risk-adjusted median return = unadjusted median return × (ERS volatility ÷ median fund volatility), where volatility is measured as standard deviation. Figures for periods greater than one year are annualized.

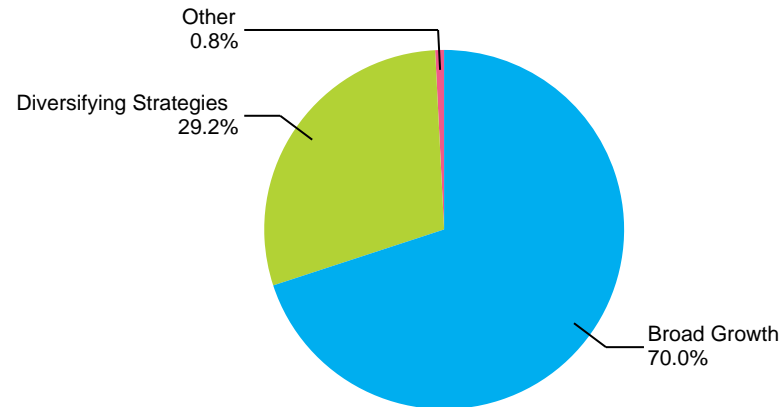
Total Fund | As of March 31, 2025

	Portfolio Valuation	
	Quarter-to-Date	One Year
<b>Total Fund</b>		
Beginning Market Value	23,758,118,053	23,167,606,475
Net Cash Flow	-90,810,074	-314,872,867
Capital Appreciation	340,602,966	1,155,177,336
<b>Ending Market Value</b>	<b>24,007,910,944</b>	<b>24,007,910,944</b>

	ERS Total Fund Relative Performance								
	Inception	30 Yrs	20 Yrs	10 Yrs	5 Yrs	3 Yrs	1 Yr	FYTD	QTD
<b>Total Fund</b>	<b>7.6</b>	<b>7.3</b>	<b>6.7</b>	<b>6.7</b>	<b>9.3</b>	<b>3.5</b>	<b>4.3</b>	<b>3.1</b>	<b>0.8</b>
Return Benchmark	7.7	7.7	7.5	7.1	7.0	7.0	7.0	5.2	1.7
Excess Return	-0.1	-0.4	-0.8	-0.4	2.3	-3.5	-2.7	-2.1	-0.9
<b>Total Fund</b>	<b>7.6</b>	<b>7.3</b>	<b>6.7</b>	<b>6.7</b>	<b>9.3</b>	<b>3.5</b>	<b>4.3</b>	<b>3.1</b>	<b>0.8</b>
Market Benchmark	7.9	7.6	6.9	6.8	9.6	5.7	7.6	5.6	-1.0
Excess Return	-0.3	-0.3	-0.2	-0.1	-0.3	-2.1	-3.4	-2.5	1.9
<b>Total Fund</b>	<b>7.6</b>	<b>7.3</b>	<b>6.7</b>	<b>6.7</b>	<b>9.3</b>	<b>3.5</b>	<b>4.3</b>	<b>3.1</b>	<b>0.8</b>
Peer Benchmark	7.9	7.6	6.7	6.7	9.9	4.0	5.5	4.3	0.3
Excess Return	-0.3	-0.3	0.0	0.0	-0.6	-0.5	-1.2	-1.2	0.5
Total Fund Rank	79	78	49	48	75	74	92	96	27

Total Fund performance consists of net of fees returns. Fiscal year begins on July 1. Inception date is June 1, 1990. Current Market Benchmark composition (effective January 1, 2024) is 70% Broad Growth Benchmark and 30% Diversifying Strategies Benchmark. Please see the Appendix for current and historical custom benchmark compositions. Return Benchmark represents the ERS's actuarial assumption rate, which is 7.0% since July 2016, 7.65% from July 2015 to July 2016, 7.75% July 2011 to July 2015, 8.00% prior to July 2011. Peer Benchmark represents the plan sponsor peer group InvMetrics Public DB >\$1B Net universe and includes BNY Mellon Total Public Fund >\$1B universe and Investment Metrics client data.

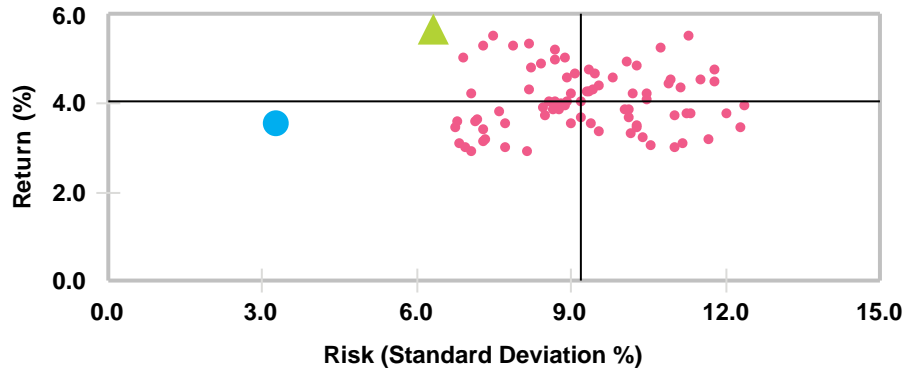
Asset Allocation vs. Target As of March 31, 2025					
	Balance (\$)	Current Allocation (%)	Policy (%)	Difference (%)	Policy Range (%)
<b>Broad Growth</b>	<b>16,795,769,470</b>	<b>70.0</b>	<b>70.0</b>	<b>0.0</b>	<b>60.0 - 80.0</b>
Global Equity	9,170,403,362	38.2	39.0	-0.8	19.0 - 59.0
Global Credit	2,943,022,655	12.3	12.0	0.3	6.0 - 18.0
Real Assets	4,682,343,453	19.5	19.0	0.5	9.0 - 29.0
<b>Diversifying Strategies</b>	<b>7,019,460,635</b>	<b>29.2</b>	<b>30.0</b>	<b>-0.8</b>	<b>20.0 - 40.0</b>
Liquid Defensive/Diversifying	6,156,755,931	25.6	26.0	-0.4	15.0 - 30.0
Illiquid Diversifying	862,704,704	3.6	4.0	-0.4	0.0 - 9.0
<b>Other</b>	<b>192,680,839</b>	<b>0.8</b>	<b>0.0</b>	<b>0.8</b>	<b>0.0 - 0.0</b>
Other	192,680,839	0.8	0.0	0.8	0.0 - 0.0
<b>Total</b>	<b>24,007,910,944</b>	<b>100.0</b>	<b>100.0</b>	<b>0.0</b>	



Policy targets effective January 1, 2024. "Other" includes ERS Operating Account and transitional or residual proceeds from liquidating or terminated accounts.

Total Fund | As of March 31, 2025

Annualized Return vs. Annualized Standard Deviation  
3 Years Ending March 31, 2025

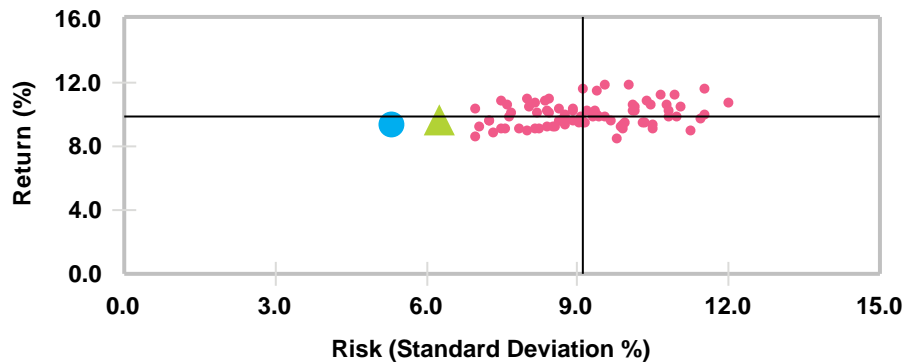


Peer Benchmark Total Fund Market Benchmark

Annualized Risk-Return

	3 Years Return	3 Years Standard Deviation	3 Years Sharpe Ratio
Total Fund	3.5	3.3	-0.2
Market Benchmark	5.7	6.3	0.3
Peer Benchmark Median	4.0	9.2	0.0

Annualized Return vs. Annualized Standard Deviation  
5 Years Ending March 31, 2025



Peer Benchmark Total Fund Market Benchmark

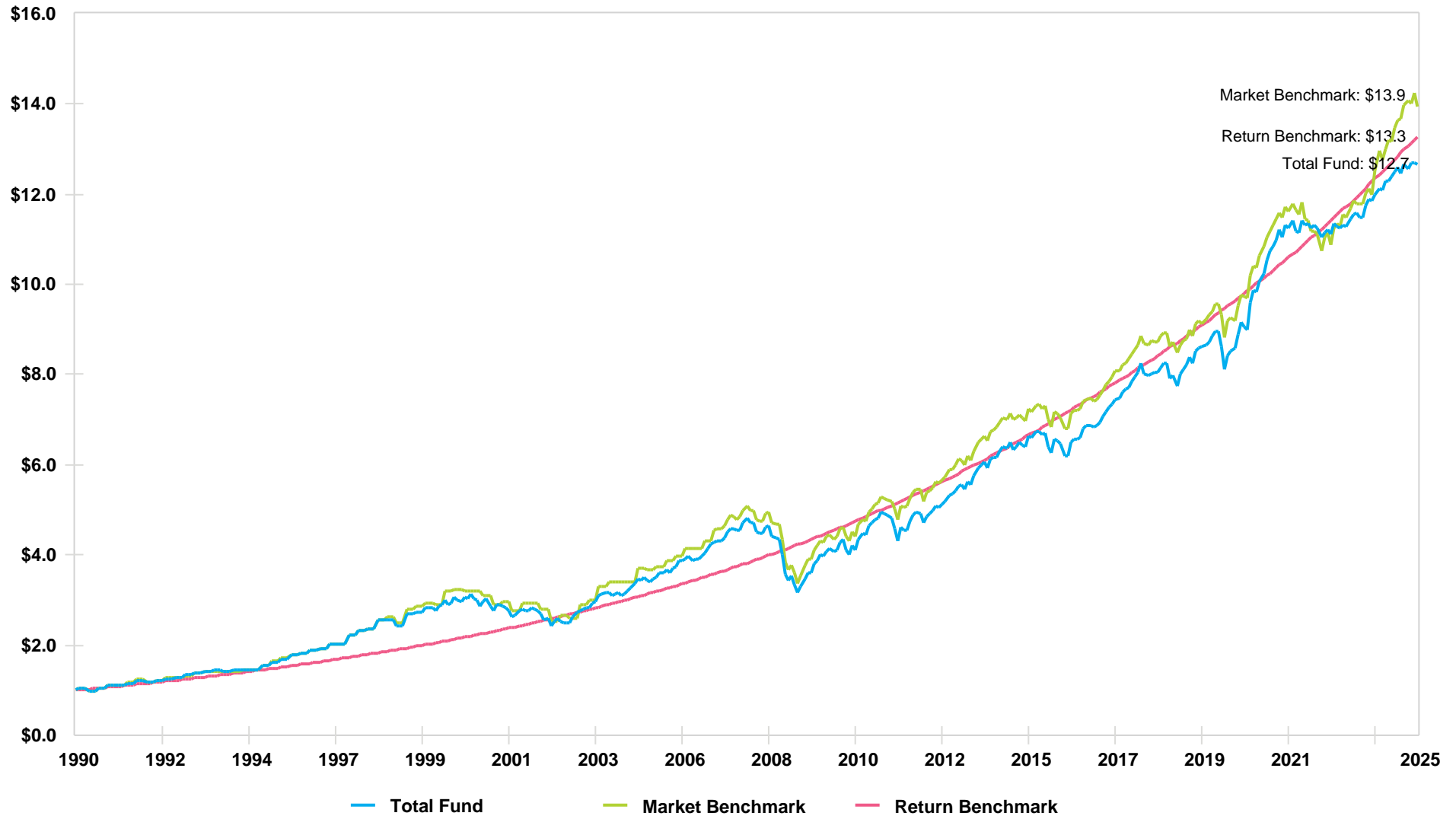
Annualized Risk-Return

	5 Years Return	5 Years Standard Deviation	5 Years Sharpe Ratio
Total Fund	9.3	5.3	1.2
Market Benchmark	9.6	6.3	1.1
Peer Benchmark Median	9.9	9.1	0.8

Peer Benchmark represents the plan sponsor peer group InvMetrics Public DB >\$1B Net universe and includes BNY Mellon Total Public Fund >\$1B universe and Investment Metrics client data.

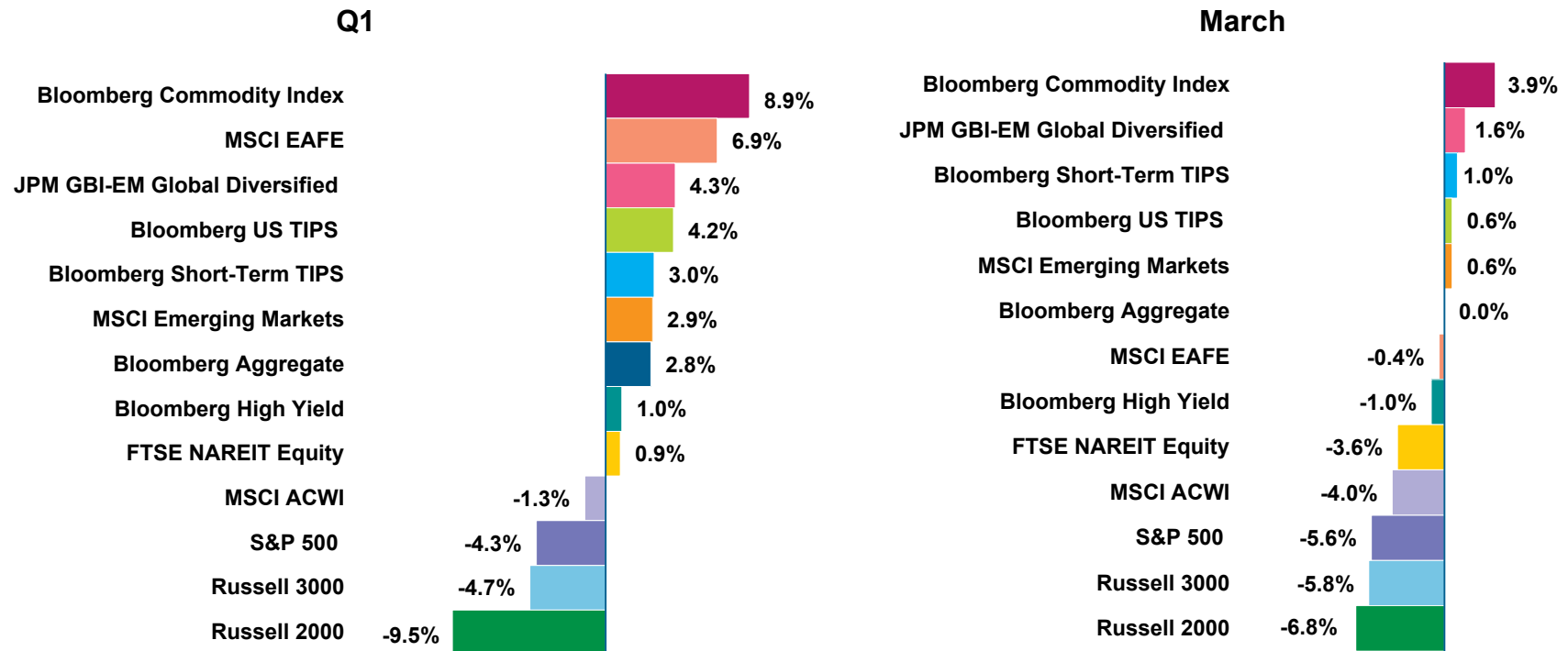
Total Fund | As of March 31, 2025

Since Inception Growth of \$1



Inception date is June 1, 1990. Return Benchmark represents the ERS's actuarial assumption rate, which is 7.0% since July 2016, 7.65% from July 2015 to July 2016, 7.75% July 2011 to July 2015, 8.00% prior to July 2011.

### Index Returns<sup>1</sup>



- At the end of the first quarter, global investors rotated away from the US, with domestic equities in negative territory (particularly small cap), while other asset classes were positive.
- Commodities led the way during the quarter due to safe havens like gold, while non-US developed markets followed, driven by strong results in Europe.
- In March, ahead of tariff announcements in the US, riskier assets generally sold off.

<sup>1</sup> Source: Bloomberg. Data is as of March 31, 2025.

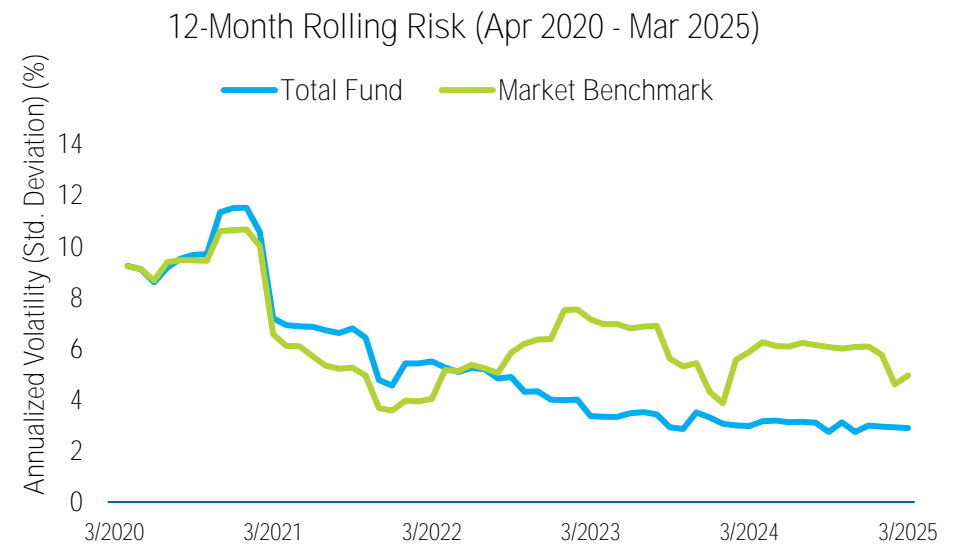
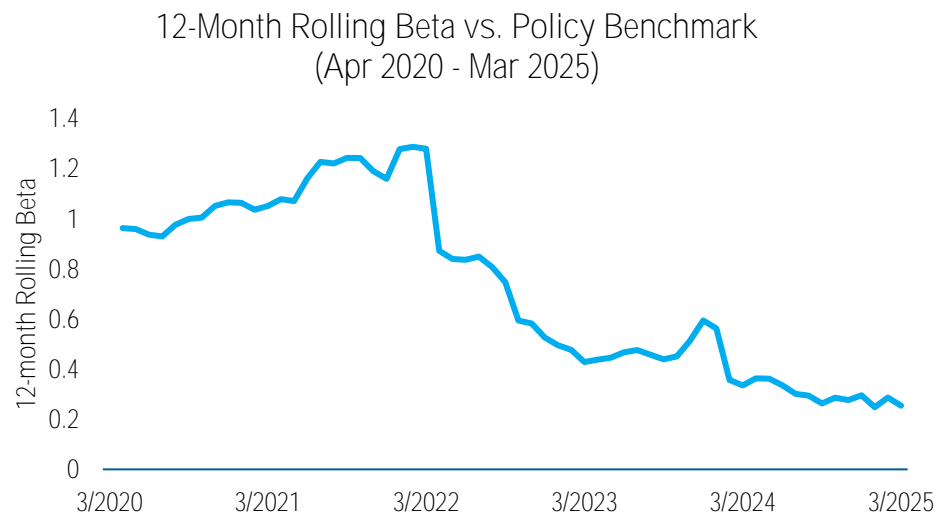
## Summary

### Key Trends:

- According to the International Monetary Fund's (IMF) January report, global growth in 2025 is expected to be slightly higher than 2024 (3.3% versus 3.2%). Growth forecast in the US (+2.7%) and China (+4.6%) are lower for this year compared to last, while growth in the EU (+1.0%) is projected to be slightly higher in 2025.
- Elevated levels of uncertainty along with higher tariffs could weigh on growth while at the same time fan inflation. Inflation levels will likely lead to a slower pace of interest rate cuts by the Fed. Uncertainty in the US and the potential for slower growth could continue the rotation out of US assets and the pressure on the dollar.
- Signs of stress have started to emerge on the US consumer with sentiment weakening. Consumers are particularly concerned about losing their jobs and the potential for higher prices. Overall risk to economic growth and to inflation from tariffs, as well as elevated borrowing costs, could put further pressure on consumers and lead to a weaker job market.
- US equities have recently come under pressure. A focus going forward will be whether earnings can remain resilient if growth slows. Also, the future paths of the large technology companies that have driven market gains will continue to be important.
- Trade tensions between the US and China will remain a key focus. As tariffs have soared on both sides, China has allowed its currency to weaken against the dollar. Outside of tariffs, China continues to focus on supporting its economy/asset prices with a suite of fiscal and financial policy stimulus measures. Advances in AI technologies have also contributed to some optimism. Despite the policy support, consumer spending is still weak and issues remain in the real estate sector.

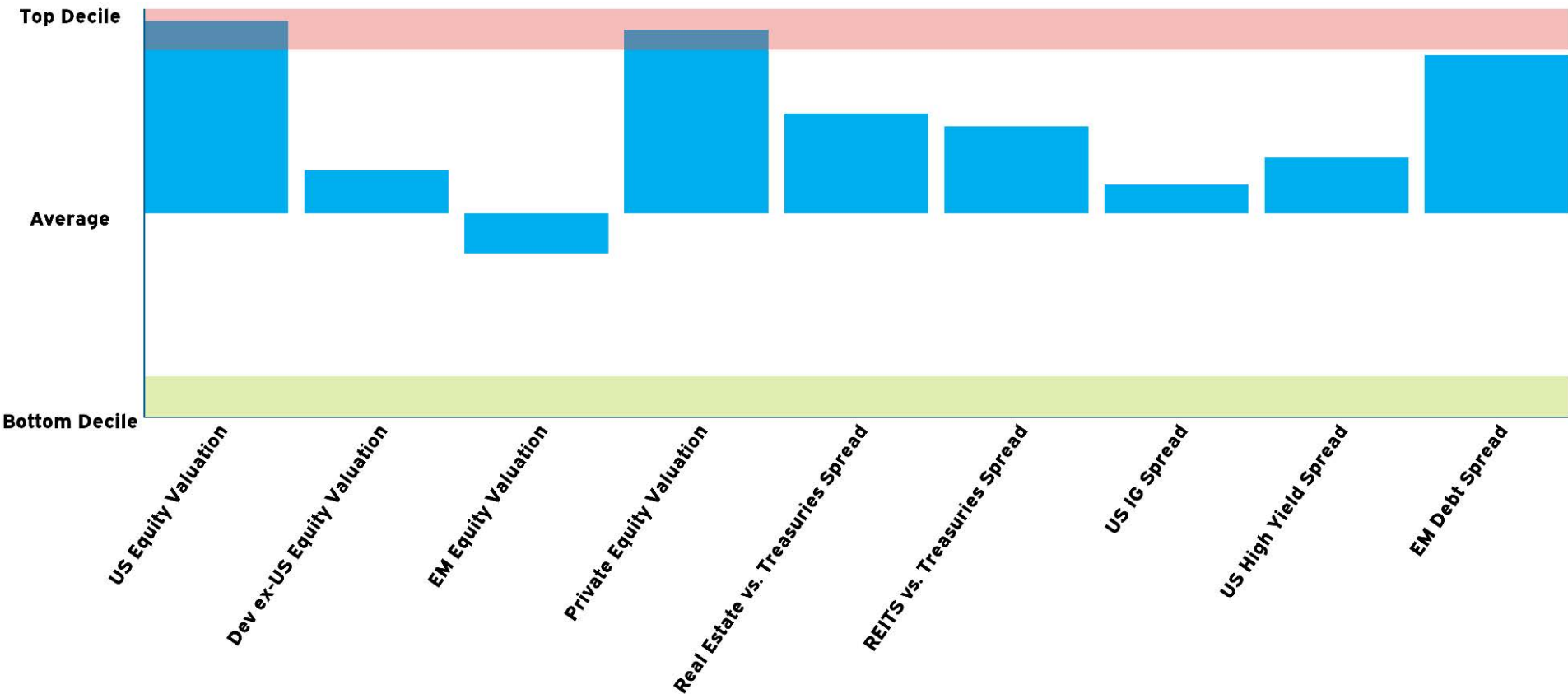
### Macro Risk Analytics – Key Takeaways

- Trade tensions and tariffs as well as projections for monetary and fiscal policy decisions are front-and-center with respect to market reactions at the moment. The Federal Reserve kept the US interest rates steady in March with inflation, while improving, remaining above target and with the unemployment rate at near historic lows. Signs of stress have started to emerge on the US consumer with sentiment weakening. Overall risk to economic growth and to inflation from tariffs, as well as elevated borrowing costs, could put further pressure on consumers and lead to a weaker job market. Uncertainty in the US and the potential for slower growth could continue the rotation out of US assets and the pressure on the dollar.
- Meketa's Market Sentiment Indicator remained **green** (i.e., positive) during Q1.
- The Actual Portfolio's beta (on a 12-month basis relative to the Policy Portfolio) decreased in Q1 and remains at extremely low levels. Related, trailing 12-month volatility for the Actual Portfolio and Policy Portfolio remain at a relatively widespread. Of note, a new policy benchmark was implemented on 1/1/2024.

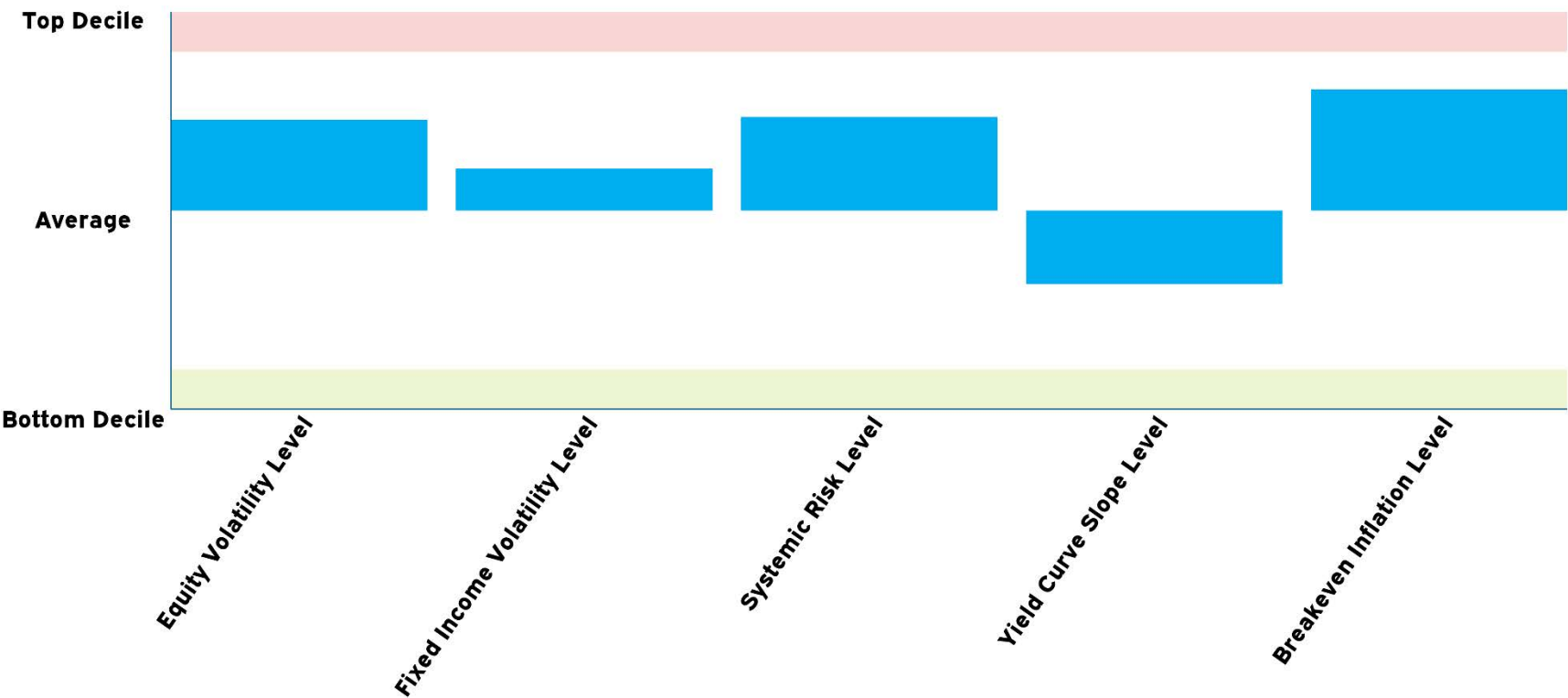




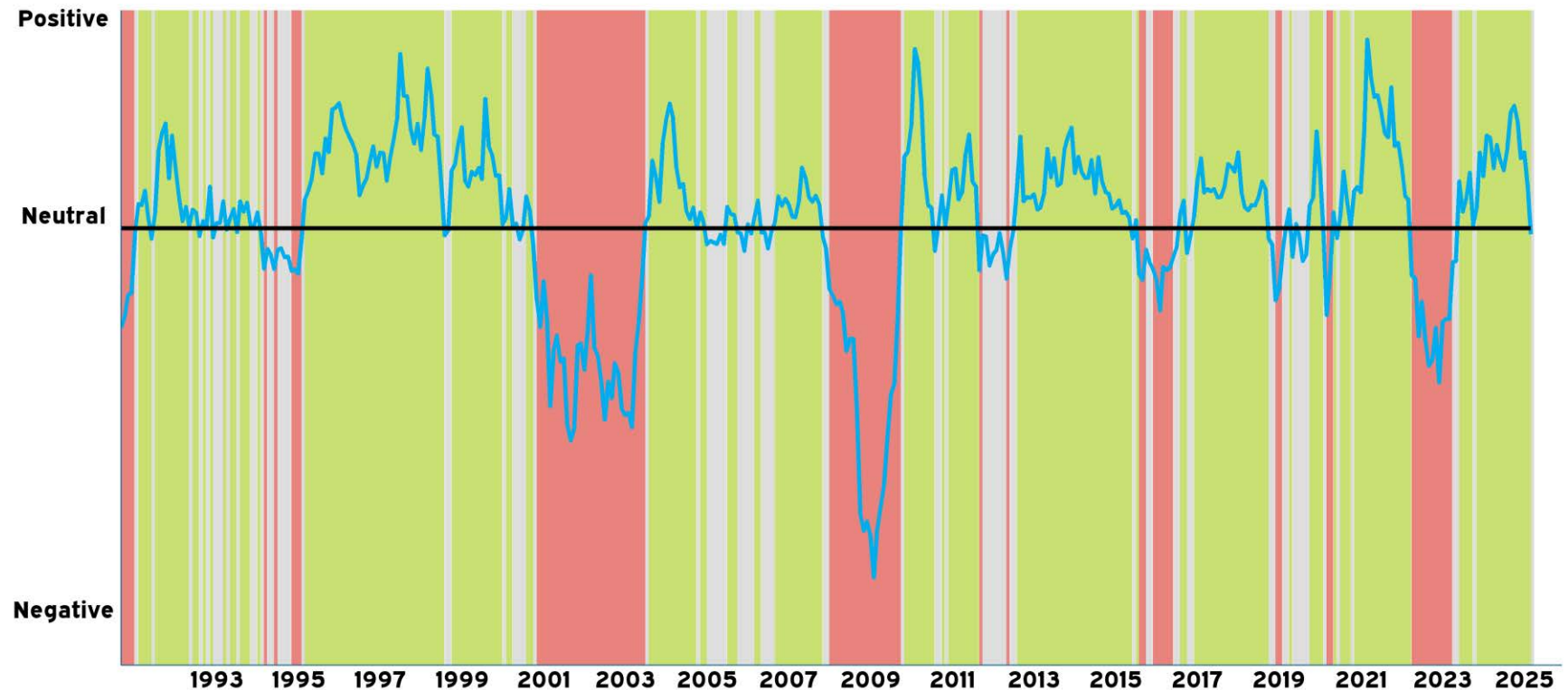
Valuation Metrics Dashboard  
(current measures relative to history)



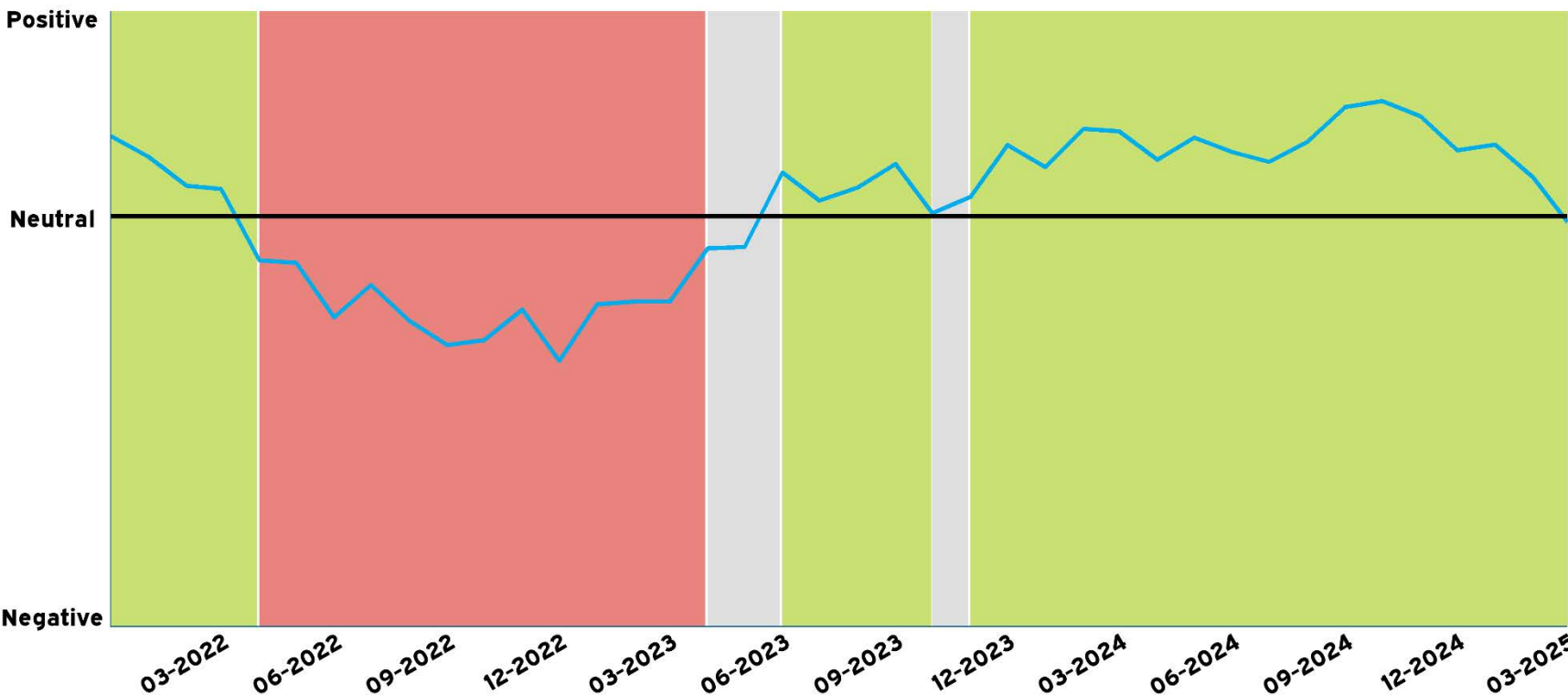
Other Market Metrics Dashboard  
(current measures relative to history)



**Market Sentiment Indicator (All History)**



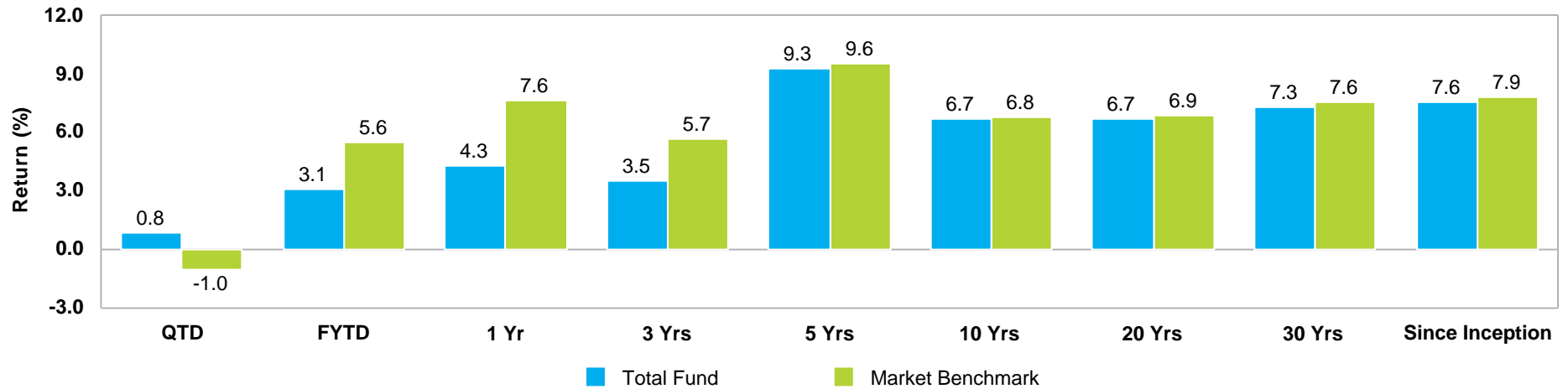
Market Sentiment Indicator (Last Three Years)



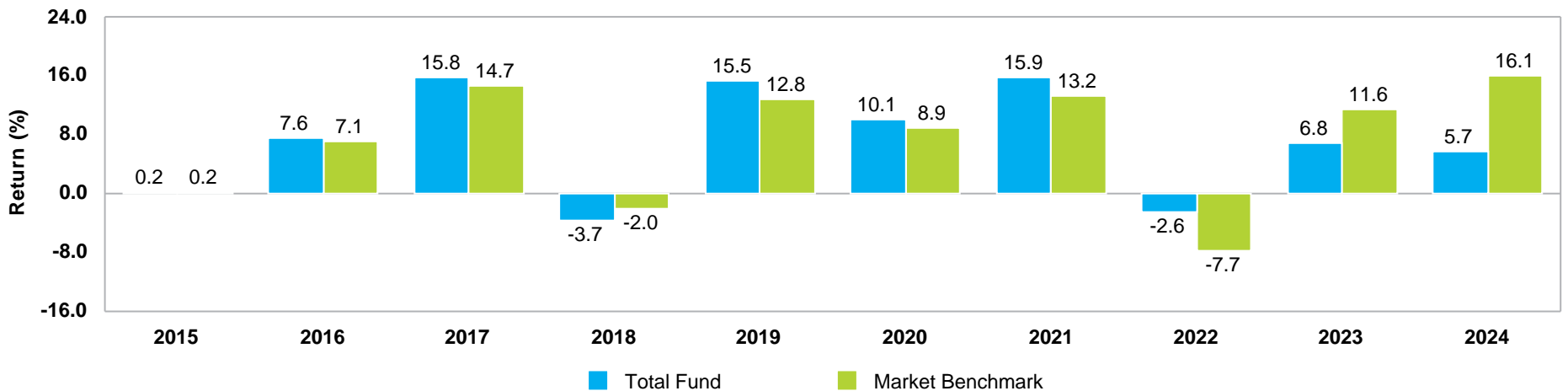
## ERS Portfolio Review

Total Fund | As of March 31, 2025

### Trailing Performance



### Calendar Year Performance



Performance shown is net of fees. Inception date is 6/1/1990. Please see the Appendix for the Market Benchmark's composition history.

### Performance Attribution<sup>1</sup> vs. Policy Benchmark Quarter ending March 31, 2025

	Policy <sup>2</sup>		Portfolio <sup>3</sup>		Impact on Return		
	Allocation (%)	Return	Allocation (%)	Return	Weighting	Implementation	Total <sup>4</sup>
<b>Broad Growth</b>	<b>70.0</b>	<b>(2.2)</b>	<b>70.1</b>	<b>0.7</b>	<b>0.0</b>	<b>2.0</b>	<b>2.0</b>
Global Equity	39.2	(1.4)	38.9	0.1	0.0	0.5	0.5
Global Credit	11.9	1.5	11.8	1.5	0.0	0.0	0.0
Real Assets	18.9	(6.3)	19.4	1.3	0.0	1.5	1.5
<b>Diversifying Strategies</b>	<b>30.0</b>	<b>1.4</b>	<b>28.9</b>	<b>1.3</b>	<b>0.0</b>	<b>0.0</b>	<b>(0.1)</b>
Liquid Defensive/Diversifying	26.1	1.5	25.2	1.2	0.0	(0.1)	(0.1)
Illiquid Diversifying	3.9	1.0	3.7	1.7	0.0	0.0	0.0
<b>Other Assets</b>	<b>0.0</b>	<b>1.0</b>	<b>1.0</b>	<b>1.1</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>
<b>Total<sup>5</sup></b>	<b>100.0</b>	<b>(1.0)</b>	<b>100.0</b>	<b>0.9</b>	<b>0.0</b>	<b>2.0</b>	<b>2.0</b>

<sup>1</sup> The underlying data points (asset values and net-of-fees returns) for performance attribution calculation are from BNY Mellon. Performance attribution is calculated using average allocation over the period measure and the period's annualized trailing return. Total impacts may not match period excess return (difference between Portfolio Return and Policy Return) due to rounding, rebalancing, and measurement frequencies. Please see "Performance Attribution Glossary" page in the Appendix for the definition and formula of the Impact on Return factors.

<sup>2</sup> Policy Allocation and Return columns represent those of each component's corresponding primary benchmarks ("Historical Benchmarks") as shown in the other parts of this report and are used in the attribution calculations. For Other Assets, ICE BofA 3-Month US T-Bills Index is used as benchmark.

<sup>3</sup> Portfolio Allocation column illustrates the average beginning-of-month allocation of each component over the period measured.

<sup>4</sup> Total impacts may not sum to excess return due to rounding, rebalancing, and measurement frequencies.

<sup>5</sup> Policy Return and Portfolio Return values for the "Total" row are those of the Market Benchmark (policy benchmark of the total portfolio) and the Total Fund respectively. Values in the Impact on Return columns for "Total" row are the sums of calculated Impact on Return values in each column for Broad Growth, Diversifying Strategies, and Other Assets components. The sum of sub-composites (Global Equity, Global Credit, Real Assets, Liquid Defensive/Diversifying, and Illiquid Diversifying) along with Other Assets may not yield the same figure as obsolete sub-composites are excluded and the recalculated composite asset values may not contain the terminated accounts.

### Performance Attribution<sup>1</sup> vs. Policy Benchmarks 1-Year ending March 31, 2025

	Policy <sup>2</sup>		Portfolio <sup>3</sup>		Impact on Return		
	Allocation (%)	Return	Allocation (%)	Return	Weighting	Implementation	Total
<b>Broad Growth</b>	<b>70.0</b>	<b>9.3</b>	<b>69.7</b>	<b>6.0</b>	<b>0.0</b>	<b>(2.2)</b>	<b>(2.2)</b>
Global Equity	39.2	11.3	39.9	5.6	0.0	(2.3)	(2.2)
Global Credit	11.9	9.2	11.2	9.7	0.0	0.1	0.0
Real Assets	18.9	4.7	18.6	4.8	0.0	0.0	0.0
<b>Diversifying Strategies</b>	<b>30.0</b>	<b>2.8</b>	<b>28.2</b>	<b>0.3</b>	<b>0.1</b>	<b>(0.7)</b>	<b>(0.6)</b>
Liquid Defensive/Diversifying	26.1	1.3	24.1	(1.0)	0.1	(0.6)	(0.4)
Illiquid Diversifying	3.9	13.3	4.0	9.0	0.0	(0.2)	(0.2)
<b>Other Assets</b>	<b>0.0</b>	<b>5.0</b>	<b>2.1</b>	<b>3.1</b>	<b>(0.1)</b>	<b>(0.0)</b>	<b>(0.1)</b>
<b>Total<sup>4</sup></b>	<b>100.0</b>	<b>7.6</b>	<b>100.0</b>	<b>4.3</b>	<b>0.0</b>	<b>(3.0)</b>	<b>(2.9)</b>

<sup>1</sup> The underlying data points (asset values and net-of-fees returns) for performance attribution calculation are from BNY Mellon. Performance attribution is calculated using average allocation over the period measure and the period's annualized trailing return. Total impacts may not match period excess return (difference between Portfolio Return and Policy Return) due to rounding, rebalancing, and measurement frequencies. Please see "Performance Attribution Glossary" page in the Appendix for the definition and formula of the Impact on Return factors.

<sup>2</sup> Policy Allocation and Return columns represent those of each component's corresponding primary benchmarks ("Historical Benchmarks") as shown in the other parts of this report and are used in the attribution calculations. For Other Assets, ICE BofA 3-Month US T-Bills Index is used as benchmark. Policy Allocation column illustrates the average beginning-of-month target allocation of each component over the period measured; thus, the values may not match any particular set of targets.

<sup>3</sup> Portfolio Allocation column illustrates the average beginning-of-month allocation of each component over the period measured.

<sup>4</sup> Policy Return and Portfolio Return values for the "Total" row are those of the Market Benchmark (policy benchmark of the total portfolio) and the Total Fund respectively. Values in the Impact on Return columns for "Total" row are the sums of calculated Impact on Return values in each column for Broad Growth, Diversifying Strategies, and Other Assets components. The sum of sub-composites (Global Equity, Global Credit, Real Assets, Liquid Defensive/Diversifying, and Illiquid Diversifying) along with Other Assets may not yield the same figure as obsolete sub-composites are excluded and the recalculated composite asset values may not contain the terminated accounts.



### Performance Attribution<sup>1</sup> vs. Policy Benchmarks 3-Year ending March 31, 2025

	Policy <sup>2</sup>		Portfolio <sup>3</sup>		Impact on Return		
	Allocation (%)	Return	Allocation (%)	Return	Weighting	Implementation	Total
<b>Broad Growth</b>	<b>65.9</b>	<b>6.4</b>	<b>67.1</b>	<b>3.8</b>	<b>0.0</b>	<b>(1.8)</b>	<b>(1.8)</b>
Global Equity	39.5	6.5	39.6	4.2	0.0	(0.9)	(0.9)
Global Credit	7.2	7.2	7.8	6.0	0.0	(0.1)	(0.1)
Real Assets	14.3	6.9	15.7	3.6	0.0	(0.5)	(0.5)
<b>Diversifying Strategies</b>	<b>34.1</b>	<b>3.3</b>	<b>30.3</b>	<b>3.2</b>	<b>0.1</b>	<b>0.0</b>	<b>0.1</b>
Liquid Defensive/Diversifying	29.3	0.4	25.8	2.7	0.2	0.6	0.8
Illiquid Diversifying	4.9	10.6	4.5	5.8	0.0	(0.2)	(0.2)
<b>Other Assets</b>	<b>0.0</b>	<b>4.2</b>	<b>2.6</b>	<b>1.5</b>	<b>0.0</b>	<b>(0.1)</b>	<b>(0.1)</b>
<b>Total<sup>4</sup></b>	<b>100.0</b>	<b>5.7</b>	<b>100.0</b>	<b>3.6</b>	<b>0.1</b>	<b>(1.9)</b>	<b>(1.9)</b>

<sup>1</sup> The underlying data points (asset values and net-of-fees returns) for performance attribution calculation are from BNY Mellon. Performance attribution is calculated using average allocation over the period measure and the period's annualized trailing return. Total impacts may not match period excess return (difference between Portfolio Return and Policy Return) due to rounding, rebalancing, and measurement frequencies. Please see "Performance Attribution Glossary" page in the Appendix for the definition and formula of the Impact on Return factors.

The current plan structure became effective 01/01/2024. Global Equity, Global Credit, and Liquid Defensive/Diversifying composites were not used in the current form prior to 2024. To calculate performance attribution for the prior periods, reconstructed or approximated information is used; this may include but not limited to policy allocation targets reflected in the reconstructed historical benchmarks, the reconstructed historical benchmark returns, and composite asset values as reconstituted and recalculated by BNY Mellon. This reconstituted portfolio structure and asset values (and therefore Portfolio Allocation values) may not include all the underlying historical accounts such as those previously terminated.

<sup>2</sup> Policy Allocation and Return columns represent those of each component's corresponding primary benchmarks ("Historical Benchmarks") as shown in the other parts of this report and are used in the attribution calculations. For Other Assets, ICE BofA 3-Month US T-Bills Index is used as benchmark. Policy Allocation column illustrates the average beginning-of-month target allocation of each component over the period measured; thus, the values may not match any particular set of targets.

<sup>3</sup> Portfolio Allocation column illustrates the average beginning-of-month allocation of each component over the period measured.

<sup>4</sup> Policy Return and Portfolio Return values for the "Total" row are those of the Market Benchmark (policy benchmark of the total portfolio) and the Total Fund respectively. Values in the Impact on Return columns for "Total" row are the sums of calculated Impact on Return values in each column for Broad Growth, Diversifying Strategies, and Other Assets components. The sum of sub-composites (Global Equity, Global Credit, Real Assets, Liquid Defensive/Diversifying, and Illiquid Diversifying) along with Other Assets may not yield the same figure as obsolete sub-composites are excluded and the recalculated composite asset values may not contain the terminated accounts.

### Performance Attribution<sup>1</sup> vs. Policy Benchmarks 5-Year ending March 31, 2025

	Policy <sup>2</sup>		Portfolio <sup>3</sup>		Impact on Return		
	Allocation (%)	Return	Allocation (%)	Return	Weighting	Implementation	Total
<b>Broad Growth</b>	<b>71.0</b>	<b>12.3</b>	<b>74.1</b>	<b>11.6</b>	<b>0.1</b>	<b>(0.5)</b>	<b>(0.4)</b>
Global Equity	45.8	14.4	51.5	14.7	0.3	0.2	0.4
Global Credit	8.2	8.7	6.6	8.8	0.0	0.0	0.0
Real Assets	12.2	6.8	10.2	6.4	0.1	0.0	0.0
<b>Diversifying Strategies</b>	<b>29.0</b>	<b>2.8</b>	<b>22.6</b>	<b>1.6</b>	<b>0.4</b>	<b>(0.3)</b>	<b>0.2</b>
Liquid Defensive/Diversifying	30.3	0.7	25.5	1.4	0.4	0.2	0.6
Illiquid Diversifying	3.5	--	2.2	--	0.1	0.0	0.1
<b>Other Assets</b>	<b>0.0</b>	<b>2.6</b>	<b>4.0</b>	<b>6.9</b>	<b>(0.3)</b>	<b>0.2</b>	<b>(0.1)</b>
<b>Total<sup>4</sup></b>	<b>100.0</b>	<b>9.6</b>	<b>100.0</b>	<b>9.4</b>	<b>0.2</b>	<b>(0.6)</b>	<b>(0.4)</b>

<sup>1</sup> The underlying data points (asset values and net-of-fees returns) for performance attribution calculation are from BNY Mellon. Performance attribution is calculated using average allocation over the period measure and the period's annualized trailing return. Total impacts may not match period excess return (difference between Portfolio Return and Policy Return) due to rounding, rebalancing, and measurement frequencies. Please see "Performance Attribution Glossary" page in the Appendix for the definition and formula of the Impact on Return factors.

The current plan structure became effective 01/01/2024. Global Equity, Global Credit, and Liquid Defensive/Diversifying composites were not used in the current form prior to 2024. To calculate performance attribution for the prior periods, reconstructed or approximated information is used; this may include but not limited to policy allocation targets reflected in the reconstructed historical benchmarks, the reconstructed historical benchmark returns, and composite asset values as reconstituted and recalculated by BNY Mellon. This reconstituted portfolio structure and asset values (and therefore Portfolio Allocation values) may not include all the underlying historical accounts such as those previously terminated.

<sup>2</sup> Policy Allocation and Return columns represent those of each component's corresponding primary benchmarks ("Historical Benchmarks") as shown in the other parts of this report and are used in the attribution calculations. For Other Assets, ICE BofA 3-Month US T-Bills Index is used as benchmark. Policy Allocation column illustrates the average beginning-of-month target allocation of each component over the period measured; thus, the values may not match any particular set of targets. The major functional allocation categories of Broad Growth and Diversifying Strategies were adopted starting 07/2020; sum of their corresponding predecessors' policy allocations are assigned to for this calculation (i.e., Broad Growth [2019] and Real Returns as Broad Growth; Crisis Risk Offset and Principal Protection as Diversifying Strategies).

<sup>3</sup> Portfolio Allocation column illustrates the average beginning-of-month allocation of each component over the period measured.

<sup>4</sup> Policy Return and Portfolio Return values for the "Total" row are those of the Market Benchmark (policy benchmark of the total portfolio) and the Total Fund respectively. Values in the Impact on Return columns for "Total" row are the sums of calculated Impact on Return values in each column for Broad Growth, Diversifying Strategies, and Other Assets components. The sum of sub-composites (Global Equity, Global Credit, Real Assets, Liquid Defensive/Diversifying, and Illiquid Diversifying) along with Other Assets may not yield the same figure as obsolete sub-composites are excluded and the recalculated composite asset values may not contain the terminated accounts.

Total Fund | As of March 31, 2025

Asset Class Performance Summary					
	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	7 Yrs (%)
<b>Total Fund</b>	<b>0.8</b>	<b>4.3</b>	<b>3.5</b>	<b>9.3</b>	<b>6.8</b>
<i>Market Benchmark</i>	<i>-1.0</i>	<i>7.6</i>	<i>5.7</i>	<i>9.6</i>	<i>7.0</i>
<b>Broad Growth</b>	<b>0.7</b>	<b>6.0</b>	<b>3.8</b>	<b>11.6</b>	<b>7.8</b>
<i>Broad Growth Historical Benchmark</i>	<i>-2.2</i>	<i>9.3</i>	<i>6.4</i>	<i>12.3</i>	<i>8.2</i>
<b>Global Equity</b>	<b>0.1</b>	<b>5.6</b>	<b>4.2</b>	<b>14.7</b>	<b>9.9</b>
<i>Global Equity Historical Benchmark</i>	<i>-1.4</i>	<i>11.3</i>	<i>6.5</i>	<i>14.4</i>	<i>9.7</i>
<b>Global Credit</b>	<b>1.5</b>	<b>9.7</b>	<b>6.0</b>	<b>8.8</b>	<b>6.7</b>
<i>Global Credit Historical Benchmark</i>	<i>1.5</i>	<i>9.2</i>	<i>7.2</i>	<i>8.7</i>	<i>6.2</i>
<b>Real Assets</b>	<b>1.3</b>	<b>4.8</b>	<b>3.6</b>	<b>6.4</b>	<b>6.8</b>
<i>Real Assets Historical Benchmark</i>	<i>-6.3</i>	<i>4.7</i>	<i>6.9</i>	<i>6.8</i>	<i>6.6</i>
<b>Diversifying Strategies</b>	<b>1.3</b>	<b>0.3</b>	<b>3.2</b>	<b>1.6</b>	<b>3.6</b>
<i>Diversifying Strategies Historical Benchmark</i>	<i>1.4</i>	<i>2.8</i>	<i>3.3</i>	<i>2.8</i>	<i>3.7</i>
<b>Liquid Defensive/Diversifying</b>	<b>1.2</b>	<b>-1.0</b>	<b>2.7</b>	<b>1.4</b>	<b>3.4</b>
<i>Liquid Defensive Historical Benchmark</i>	<i>1.5</i>	<i>1.3</i>	<i>0.4</i>	<i>0.7</i>	<i>2.6</i>
<b>Illiquid Diversifying</b>	<b>1.7</b>	<b>9.0</b>	<b>5.8</b>	<b>--</b>	<b>--</b>
<i>Illiquid Diversifying Historical Benchmark</i>	<i>1.0</i>	<i>13.3</i>	<i>10.6</i>	<i>--</i>	<i>--</i>

Total Fund performance shown is net of fees.

Relevant valuations may not have been available for all underlying Global Equity, Real Assets, and Diversifying Strategies managers at the time this report was produced; in such cases, most recent available data is used.

Benchmarks for Broad Growth and its underlying components contain lagged index returns. Please see the Appendix for current and historical custom benchmark compositions.

Asset Class Performance Summary						
	Market Value (\$)	% of Portfolio	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)
<b>Global Equity</b>	<b>9,170,403,362</b>	<b>100.0</b>	<b>0.1</b>	<b>5.6</b>	<b>4.2</b>	<b>14.7</b>
<i>Global Equity Historical Benchmark</i>			<i>-1.4</i>	<i>11.3</i>	<i>6.5</i>	<i>14.4</i>
<b>Public Equity</b>	<b>4,335,779,772</b>	<b>47.3</b>	<b>-1.5</b>	<b>4.4</b>	<b>5.4</b>	<b>14.6</b>
<i>MSCI AC World IMI Index (Net)</i>			<i>-1.6</i>	<i>6.3</i>	<i>6.3</i>	<i>15.0</i>
<b>Active Public Equity</b>	<b>2,660,174,991</b>	<b>29.0</b>	<b>-1.7</b>	<b>3.0</b>	<b>4.4</b>	<b>14.2</b>
Alliance Bernstein	455,383,560	5.0	1.6	6.3	5.6	12.5
Longview	526,850,427	5.7	-1.4	0.7	6.4	14.8
Wellington (Mid-Large Cap)	514,777,867	5.6	0.1	9.0	8.8	14.9
<i>MSCI AC World Index (Net)</i>			<i>-1.3</i>	<i>7.2</i>	<i>6.9</i>	<i>15.2</i>
Wasatch	487,499,485	5.3	-8.8	0.0	0.1	14.9
Wellington (Small Cap)	511,746,690	5.6	-1.6	-0.8	2.5	15.9
<i>MSCI ACWI Small Cap (Net)</i>			<i>-4.0</i>	<i>-0.5</i>	<i>1.6</i>	<i>13.7</i>
Hillhouse China A Shares	163,916,962	1.8	4.0	2.5	--	--
<i>MSCI China A Onshore Index (Net)</i>			<i>0.1</i>	<i>12.5</i>	<i>-5.6</i>	<i>3.0</i>
<b>Passive Public Equity</b>	<b>1,675,604,781</b>	<b>18.3</b>	<b>-1.1</b>	<b>7.4</b>	<b>7.6</b>	<b>16.0</b>
BlackRock Alpha Tilt	674,545,160	7.4	-0.6	7.9	8.3	16.5
Legal & General	841,611,101	9.2	-1.2	7.4	7.2	15.5
Parametric Equity Overlay	159,448,519	1.7	--	--	--	--
<i>MSCI AC World Index (Net)</i>			<i>-1.3</i>	<i>7.2</i>	<i>6.9</i>	<i>15.2</i>
<b>Private Equity</b>	<b>4,834,623,590</b>	<b>52.7</b>	<b>1.5</b>	<b>6.5</b>	<b>3.2</b>	<b>14.3</b>
Hamilton Lane	4,419,848,686	48.2	1.6	6.7	3.3	14.4
HITIP I Stafford	9,438,708	0.1	0.6	2.4	-2.5	-1.0
HITIP II Stafford	39,830,629	0.4	-1.4	-8.4	-1.9	9.3
HITIP III Stafford	48,539,166	0.5	4.1	-1.0	-1.2	-9.6
Other Equity	316,966,400	3.5	0.7	6.5	5.9	13.3
<i>Private Equity Historical Benchmark</i>			<i>-1.2</i>	<i>16.4</i>	<i>6.1</i>	<i>11.3</i>

Performance shown is net of fees. Please see the Appendix for current and historical custom benchmark compositions.

Asset Class Performance Summary						
	Market Value (\$)	% of Portfolio	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)
<b>Global Credit</b>	<b>2,943,022,655</b>	<b>100.0</b>	<b>1.5</b>	<b>9.7</b>	<b>6.0</b>	<b>8.8</b>
<i>Global Credit Historical Benchmark</i>			<i>1.5</i>	<i>9.2</i>	<i>7.2</i>	<i>8.7</i>
<b>Private Credit</b>	<b>1,804,099,869</b>	<b>61.3</b>	<b>1.6</b>	<b>9.8</b>	<b>6.1</b>	<b>10.6</b>
<i>Private Credit Historical Benchmark</i>			<i>1.8</i>	<i>9.7</i>	<i>7.0</i>	<i>9.0</i>
<b>Public Credit</b>	<b>1,138,922,785</b>	<b>38.7</b>	<b>1.3</b>	<b>9.5</b>	<b>6.8</b>	<b>7.6</b>
HPS Credit	1,055,561,243	35.9	1.5	7.6	6.2	6.8
Parametric Credit Overlay	83,361,542	2.8	--	--	--	--
<i>Public Credit Historical Benchmark</i>			<i>0.8</i>	<i>8.1</i>	<i>6.7</i>	<i>7.9</i>

Performance shown is net of fees. Please see the Appendix for current and historical custom benchmark compositions.

Real Assets | As of March 31, 2025

Asset Class Performance Summary						
	Market Value (\$)	% of Portfolio	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)
<b>Real Assets</b>	<b>4,682,343,453</b>	<b>100.0</b>	<b>1.3</b>	<b>4.8</b>	<b>3.6</b>	<b>6.4</b>
<i>Real Assets Historical Benchmark</i>			<i>-6.3</i>	<i>4.7</i>	<i>6.9</i>	<i>6.8</i>
<b>Real Estate</b>	<b>2,082,684,225</b>	<b>44.5</b>	<b>-0.2</b>	<b>-2.0</b>	<b>0.7</b>	<b>4.9</b>
<i>Real Estate Historical Benchmark</i>			<i>-8.9</i>	<i>2.8</i>	<i>5.4</i>	<i>5.4</i>
<b>Core Real Estate</b>	<b>1,083,243,768</b>	<b>23.1</b>	<b>0.0</b>	<b>-1.7</b>	<b>3.0</b>	<b>6.3</b>
<i>Core Real Estate Historical Benchmark</i>			<i>-8.9</i>	<i>2.8</i>	<i>5.2</i>	<i>7.1</i>
<b>Non-Core Real Estate</b>	<b>999,440,457</b>	<b>21.3</b>	<b>-0.6</b>	<b>-2.3</b>	<b>-1.6</b>	<b>3.5</b>
<i>Non-Core Real Estate Historical Benchmark</i>			<i>-8.9</i>	<i>2.8</i>	<i>5.8</i>	<i>2.5</i>
<b>Agriculture</b>	<b>392,810,822</b>	<b>8.4</b>	<b>0.8</b>	<b>1.7</b>	<b>2.9</b>	<b>--</b>
<i>Agriculture Historical Benchmark</i>			<i>1.7</i>	<i>0.4</i>	<i>3.8</i>	<i>--</i>
<b>Timber</b>	<b>228,242,838</b>	<b>4.9</b>	<b>0.4</b>	<b>18.0</b>	<b>13.8</b>	<b>7.7</b>
<i>Timber Historical Benchmark</i>			<i>-11.1</i>	<i>-4.1</i>	<i>7.7</i>	<i>6.5</i>
<b>Infrastructure</b>	<b>1,978,605,568</b>	<b>42.3</b>	<b>3.1</b>	<b>12.1</b>	<b>9.5</b>	<b>14.1</b>
<b>Private Infrastructure</b>	<b>911,120,259</b>	<b>19.5</b>	<b>4.2</b>	<b>11.4</b>	<b>8.6</b>	<b>13.5</b>
<i>Infrastructure Historical Benchmark</i>			<i>-3.1</i>	<i>9.9</i>	<i>12.3</i>	<i>11.3</i>
<b>Public Infrastructure</b>	<b>347,229,482</b>	<b>7.4</b>	<b>7.2</b>	<b>19.1</b>	<b>--</b>	<b>--</b>
Morgan Stanley Infrastructure	347,229,482	7.4	7.2	19.1	--	--
<i>Dow Jones Brookfield Global Infrastructure</i>			<i>7.4</i>	<i>18.6</i>	<i>--</i>	<i>--</i>
<b>Other Real Assets</b>	<b>720,255,826</b>	<b>15.4</b>	<b>-0.4</b>	<b>8.0</b>	<b>2.3</b>	<b>--</b>
Morgan Stanley Olomana	642,013,712	13.7	-0.3	8.3	2.4	--
Parametric Real Assets Overlay	78,242,114	1.7	--	--	--	--
<i>Infrastructure Historical Benchmark</i>			<i>-3.1</i>	<i>9.9</i>	<i>12.3</i>	<i>--</i>

Performance shown is net of fees. Both performance and benchmark data for Real Assets component are sourced from BNY Mellon's time-weighted data. Please see the Appendix for current and historical custom benchmark compositions.

## Liquid Defensive/Diversifying | As of March 31, 2025

Asset Class Performance Summary						
	Market Value (\$)	% of Portfolio	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)
<b>Liquid Defensive/Diversifying</b>	<b>6,156,755,931</b>	<b>100.0</b>	<b>1.2</b>	<b>-1.0</b>	<b>2.7</b>	<b>1.4</b>
<i>Liquid Defensive Historical Benchmark</i>			<i>1.5</i>	<i>1.3</i>	<i>0.4</i>	<i>0.7</i>
<b>Defensive Return Capture</b>	<b>593,284,964</b>	<b>9.6</b>	<b>0.8</b>	<b>-6.4</b>	<b>0.2</b>	<b>--</b>
P/E Global Macro	201,690,901	3.3	3.1	-5.5	7.8	-4.5
Saba	190,379,090	3.1	1.2	-0.6	-5.1	--
36 South Cap Adv	201,214,973	3.3	-1.8	-11.5	2.1	--
<i>Defensive Return Capture Benchmark</i>			<i>2.5</i>	<i>5.3</i>	<i>5.3</i>	<i>4.2</i>
<b>Discretionary Alpha</b>	<b>1,008,397,631</b>	<b>16.4</b>	<b>1.5</b>	<b>3.5</b>	<b>6.0</b>	<b>3.3</b>
Aequim Relative Value Arbitrage	293,732,312	4.8	4.1	12.7	11.1	--
Aristeia Relative Value Arbitrage	234,834,827	3.8	2.8	4.2	5.4	--
Melqart Relative Value Arbitrage	241,607,521	3.9	3.5	6.1	--	--
Monashee Relative Value Arbitrage	136,546,580	2.2	-12.9	-31.2	-8.3	--
Myam Asian Opportunity	101,676,390	1.7	8.7	32.0	10.7	--
<i>Discretionary Alpha Benchmark</i>			<i>2.5</i>	<i>5.3</i>	<i>5.3</i>	<i>4.2</i>
<b>Intermediate Duration Treasury</b>	<b>1,932,479,041</b>	<b>31.4</b>	<b>2.4</b>	<b>5.2</b>	<b>--</b>	<b>--</b>
Bank of Hawaii	288,899,060	4.7	2.4	5.3	1.6	0.2
First Hawaiian Bank	177,332,782	2.9	2.4	5.1	1.3	0.0
SLC Intermediate Treasury	1,466,247,199	23.8	2.4	5.4	--	--
Parametric Treasury Overlay	56,979,969	0.9	--	--	--	--
<i>Blmbg. U.S. Treasury: Intermediate</i>			<i>2.5</i>	<i>5.3</i>	<i>1.8</i>	<i>-0.1</i>
<b>Long Duration Treasury</b>	<b>987,891,360</b>	<b>16.0</b>	<b>4.5</b>	<b>1.0</b>	<b>-4.4</b>	<b>-4.2</b>
SLC Long Treasury	987,891,360	16.0	4.5	1.0	-7.3	-6.7
<i>Long Treasury Historical Benchmark</i>			<i>4.7</i>	<i>1.3</i>	<i>-7.2</i>	<i>-6.7</i>

Performance shown is net of fees. Please see the Appendix for current and historical custom benchmark compositions.

## Liquid Defensive/Diversifying | As of March 31, 2025

	Market Value (\$)	% of Portfolio	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)
<b>Systematic Trend Following</b>	<b>1,634,702,934</b>	<b>26.6</b>	<b>-1.7</b>	<b>-9.2</b>	<b>0.9</b>	<b>5.5</b>
AlphaSimplex	195,897,805	3.2	-8.4	-19.1	-4.0	6.3
Aspect	226,629,486	3.7	-5.0	-10.5	5.7	8.1
Brevan Howard Disc Global Macro	249,225,181	4.0	-2.9	-3.3	-0.1	--
Broad Reach	193,505,403	3.1	-1.7	-2.4	--	--
Crabel Advanced Trend	205,669,833	3.3	-3.0	-13.2	-2.7	1.4
Graham Quant Macro	232,263,286	3.8	8.5	-10.7	6.2	11.4
Mount Lucas	206,268,040	3.4	-2.1	-6.4	-4.3	1.6
Parametric Trend Overlay	68,263,931	1.1	--	--	--	--
<i>MLM Global Index EV Blend 15V</i>			<i>-1.9</i>	<i>-6.0</i>	<i>-1.2</i>	<i>2.7</i>

Performance shown is net of fees. Please see the Appendix for current and historical custom benchmark compositions.



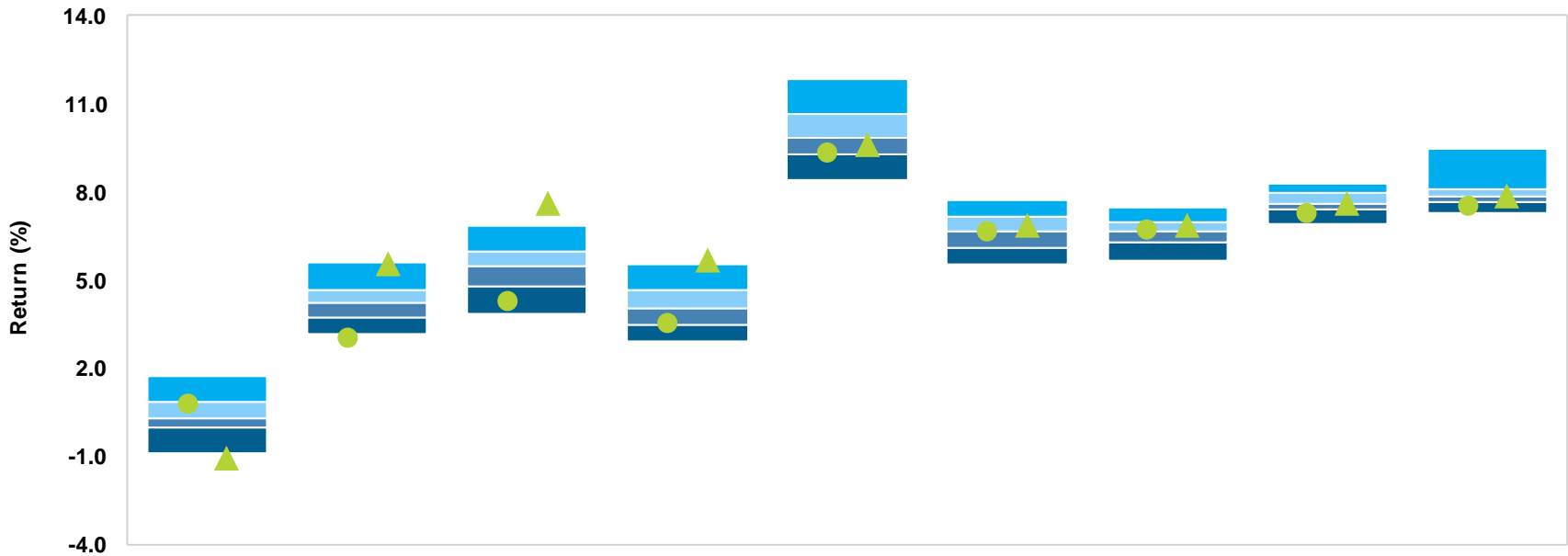
## Illiquid Diversifying | As of March 31, 2025

Asset Class Performance Summary					
	Market Value (\$)	% of Portfolio	QTD (%)	1 Yr (%)	3 Yrs (%)
<b>Illiquid Diversifying</b>	<b>862,704,704</b>	<b>100.0</b>	<b>1.7</b>	<b>9.0</b>	<b>5.8</b>
<i>Illiquid Diversifying Historical Benchmark</i>			<i>1.0</i>	<i>13.3</i>	<i>10.6</i>
<b>Idiosyncratic Return Capture</b>	<b>468,886,032</b>	<b>54.4</b>	<b>3.1</b>	<b>9.7</b>	<b>6.1</b>
<i>Idiosyncratic Return Capture Historical Benchmark</i>			<i>1.0</i>	<i>13.3</i>	<i>10.3</i>
<b>Insurance Linked</b>	<b>393,818,672</b>	<b>45.6</b>	<b>0.1</b>	<b>8.0</b>	<b>5.4</b>
<i>Swiss Re Global Catastrophe Bond Index (Hedged)</i>			<i>1.0</i>	<i>13.3</i>	<i>11.4</i>

Performance shown is net of fees. Please see the Appendix for current and historical custom benchmark compositions.

## **Plan Sponsor Peer Group Analysis**

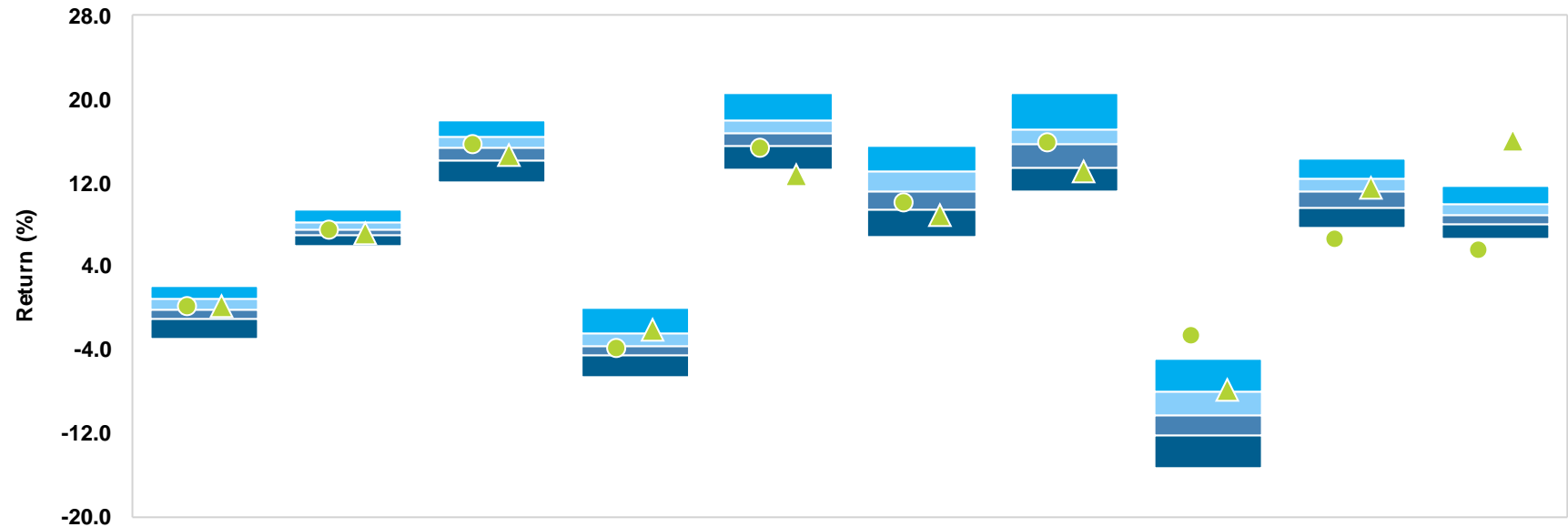
#### Peer Group Performance Comparison Trailing Periods Ending March 31, 2025



	QTD	FYTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	20 Yrs	30 Yrs	Since Inception
● Total Fund	0.8 (27)	3.1 (96)	4.3 (92)	3.5 (74)	9.3 (75)	6.7 (48)	6.7 (49)	7.3 (78)	7.6 (79)
▲ Market Benchmark	-1.0 (97)	5.6 (6)	7.6 (3)	5.7 (5)	9.6 (61)	6.8 (41)	6.9 (33)	7.6 (51)	7.9 (57)
5th Percentile	1.7	5.6	6.9	5.5	11.9	7.8	7.5	8.3	9.5
1st Quartile	0.9	4.7	6.0	4.7	10.7	7.2	7.0	8.0	8.1
Median	0.3	4.3	5.5	4.0	9.9	6.7	6.7	7.6	7.9
3rd Quartile	0.0	3.7	4.8	3.5	9.3	6.1	6.3	7.4	7.7
95th Percentile	-0.8	3.2	3.9	2.9	8.4	5.6	5.7	6.9	7.3
Population	103	103	103	101	97	92	68	25	12

Calculation based on monthly periodicity. Fiscal year begins on July 1. The plan sponsor peer group, InvMetrics Public DB >\$1B Net universe, includes BNY Mellon Total Public Fund >\$1B universe and Investment Metrics client data. Parenthesized numbers represent peer group percentile ranking.

#### Peer Group Performance Comparison Calendar Year Returns



	2015 (%)	2016 (%)	2017 (%)	2018 (%)	2019 (%)	2020 (%)	2021 (%)	2022 (%)	2023 (%)	2024 (%)
● Total Fund	0.2 (41)	7.6 (50)	15.8 (44)	-3.7 (55)	15.5 (78)	10.1 (72)	15.9 (48)	-2.6 (3)	6.8 (98)	5.7 (98)
▲ Market Benchmark	0.2 (43)	7.1 (72)	14.7 (64)	-2.0 (22)	12.8 (97)	8.9 (83)	13.2 (77)	-7.7 (22)	11.6 (41)	16.1 (1)
5th Percentile	2.2	9.5	18.0	0.0	20.7	15.7	20.7	-4.9	14.4	11.7
1st Quartile	1.0	8.3	16.4	-2.3	18.1	13.1	17.2	-8.0	12.5	10.1
Median	-0.1	7.6	15.5	-3.5	16.9	11.3	15.8	-10.3	11.3	9.0
3rd Quartile	-1.0	7.1	14.2	-4.5	15.6	9.6	13.5	-12.2	9.6	8.1
95th Percentile	-2.9	6.0	12.0	-6.6	13.3	6.9	11.3	-15.3	7.8	6.7
Population	178	184	190	179	203	226	217	187	197	182

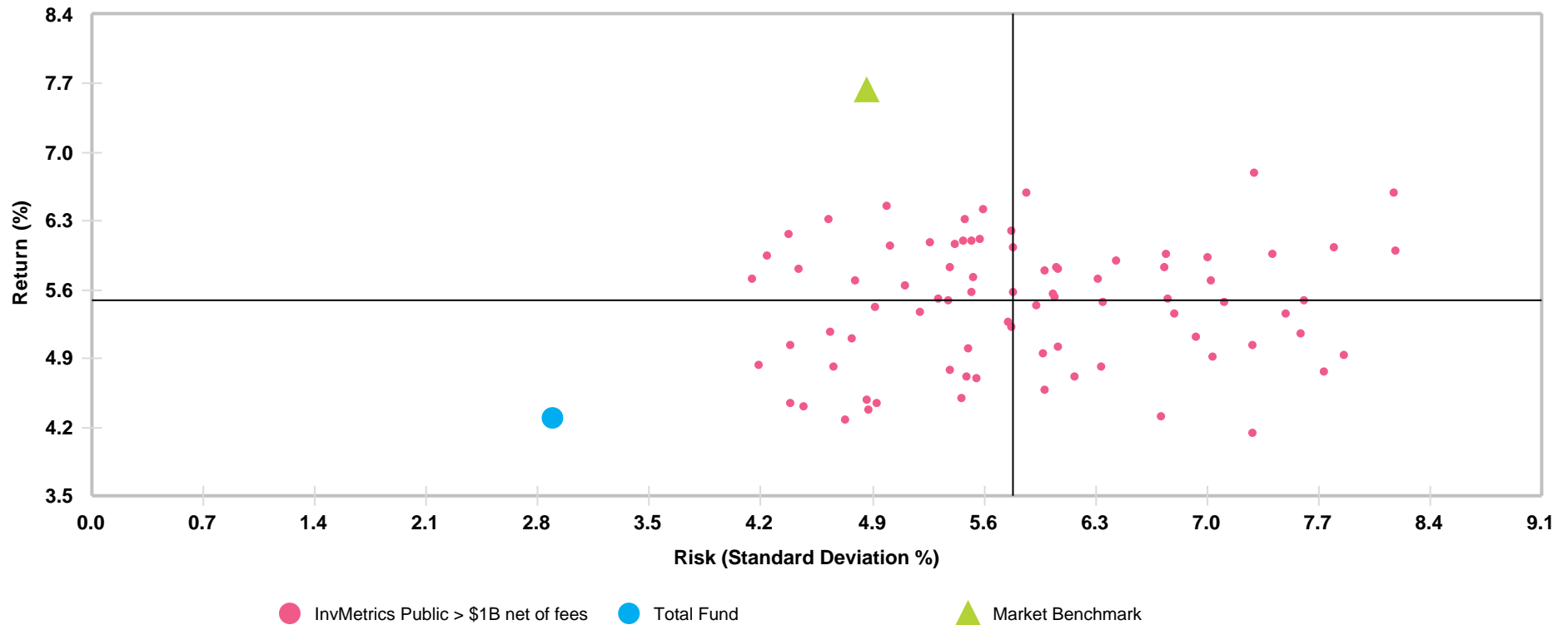
Calculation based on monthly periodicity. The plan sponsor peer group, InvMetrics Public DB >\$1B Net universe, includes BNY Mellon Total Public Fund >\$1B universe and Investment Metrics client data. Parenthesized numbers represent peer group percentile ranking.

## Risk/Return Statistics | As of March 31, 2025

	Risk/Return Statistics									
	1 Yr		3 Yrs		5 Yrs		7 Yrs		10 Yrs	
	Total Fund	Benchmark	Total Fund	Benchmark	Total Fund	Benchmark	Total Fund	Benchmark	Total Fund	Benchmark
<b>RETURN SUMMARY STATISTICS</b>										
Return	4.3	7.6	3.5	5.7	9.3	9.6	6.8	7.0	6.7	6.8
Excess Performance	-3.4	0.0	-2.1	0.0	-0.3	0.0	-0.2	0.0	-0.1	0.0
<b>RISK SUMMARY STATISTICS</b>										
Standard Deviation	2.9	4.9	3.3	6.3	5.3	6.3	6.2	6.5	6.3	6.4
Beta	0.3	1.0	0.4	1.0	0.7	1.0	0.8	1.0	0.9	1.0
<b>RISK/RETURN SUMMARY STATISTICS</b>										
Information Ratio	-0.7	-	-0.5	-	-0.1	-	-0.1	-	0.0	-
Sharpe Ratio	-0.2	0.5	-0.2	0.3	1.2	1.1	0.7	0.7	0.8	0.8
Tracking Error	4.5	0.0	4.5	0.0	3.8	0.0	3.4	0.0	2.9	0.0

Net of fees performance is shown or used in calculating the statistics on this page.

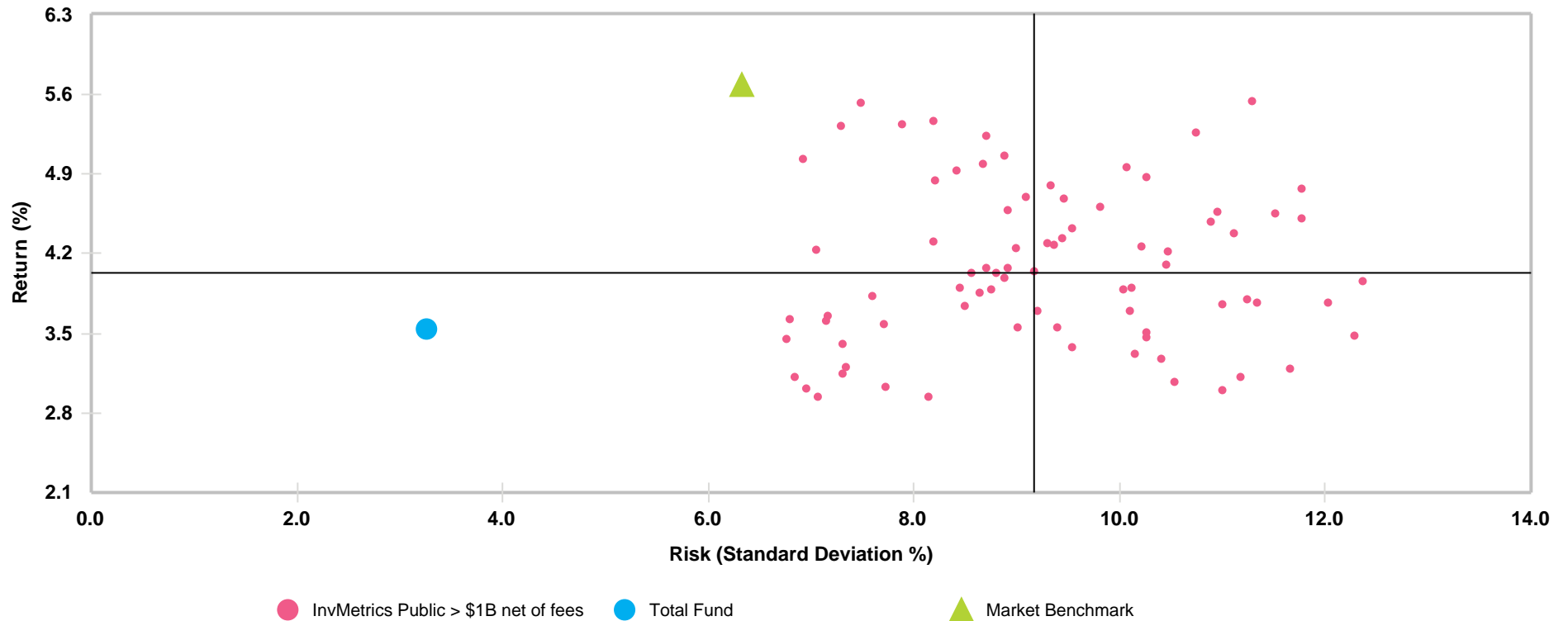
Annualized Return vs. Annualized Standard Deviation  
1 Year ending March 31, 2025



	Return	Standard Deviation	Sharpe Ratio	Information Ratio
Total Fund	4.3 (92)	2.9 (2)	-0.2 (99)	-0.7 (98)
Market Benchmark	7.6 (3)	4.9 (20)	0.5 (3)	-
Peer Benchmark Median	5.5	5.8	0.1	-0.4

Peer Benchmark represents the plan sponsor peer group Peer Benchmark Net universe. Includes BNY Mellon Total Public Fund >\$1B universe and Investment Metrics client data. Parenthesized numbers represent peer group percentile rank.

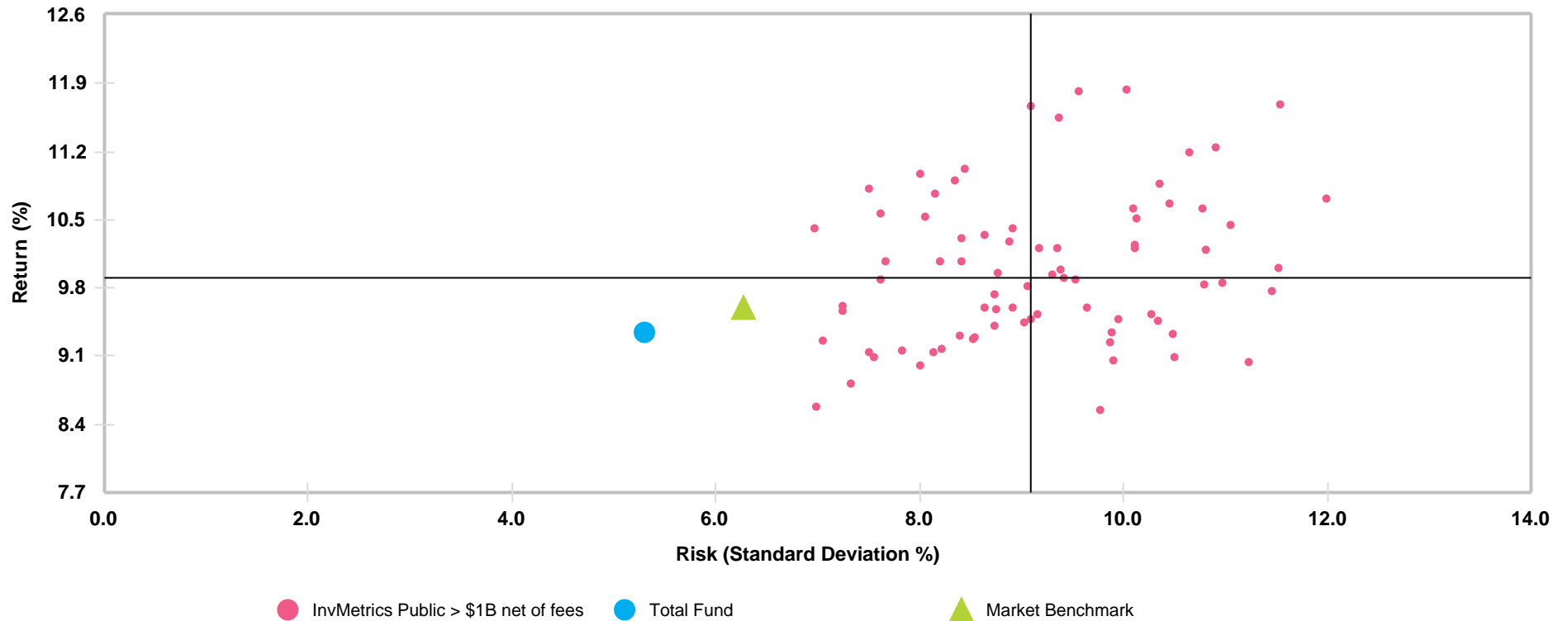
Annualized Return vs. Annualized Standard Deviation  
3 Years ending March 31, 2025



	Return	Standard Deviation	Sharpe Ratio	Information Ratio
Total Fund	3.5 (74)	3.3 (1)	-0.2 (99)	-0.5 (99)
Market Benchmark	5.7 (5)	6.3 (4)	0.3 (3)	-
Peer Benchmark Median	4.0	9.2	0.0	-0.2

Peer Benchmark represents the plan sponsor peer group Peer Benchmark Net universe. Includes BNY Mellon Total Public Fund >\$1B universe and Investment Metrics client data. Parenthesized numbers represent peer group percentile rank.

Annualized Return vs. Annualized Standard Deviation  
5 Years ending March 31, 2025

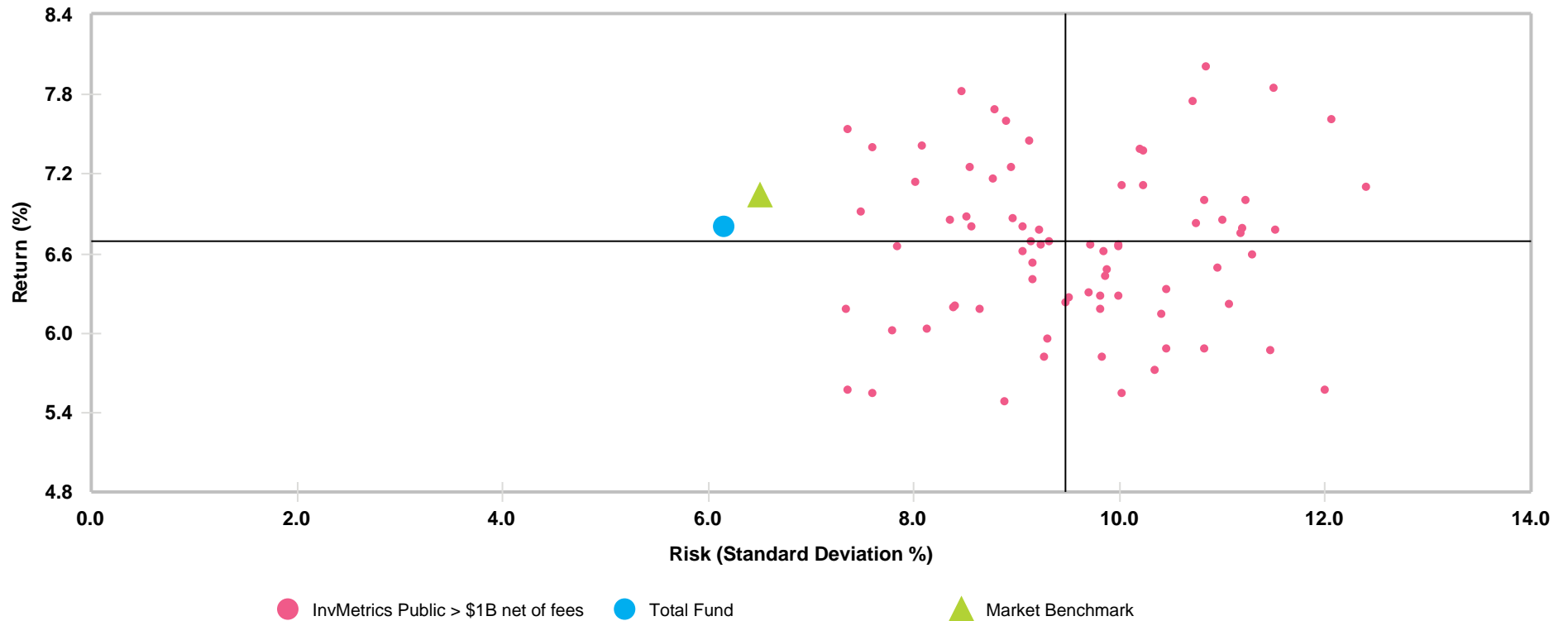


	Return	Standard Deviation	Sharpe Ratio	Information Ratio
Total Fund	9.3 (75)	5.3 (1)	1.2 (2)	-0.1 (90)
Market Benchmark	9.6 (61)	6.3 (1)	1.1 (4)	-
Peer Benchmark Median	9.9	9.1	0.8	0.1

Peer Benchmark represents the plan sponsor peer group Peer Benchmark Net universe. Includes BNY Mellon Total Public Fund >\$1B universe and Investment Metrics client data. Parenthesized numbers represent peer group percentile rank.



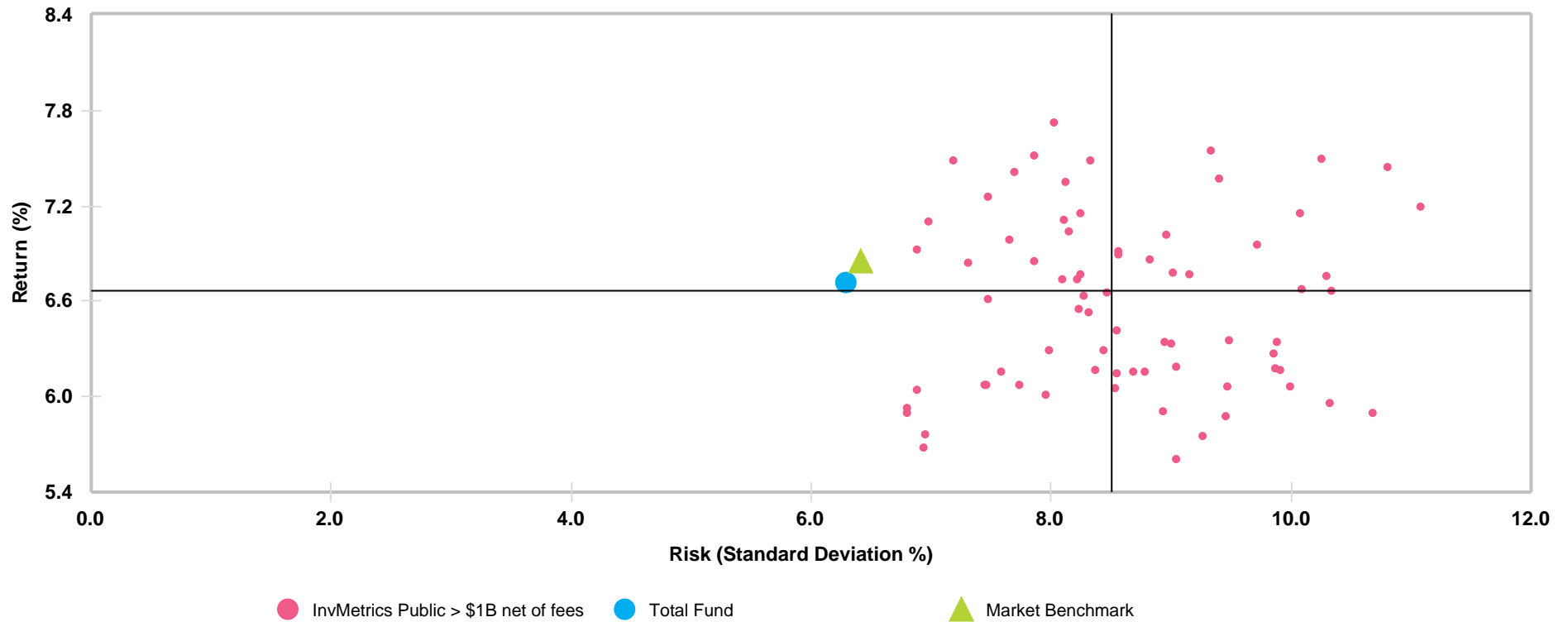
Annualized Return vs. Annualized Standard Deviation  
7 Years ending March 31, 2025



	Return	Standard Deviation	Sharpe Ratio	Information Ratio
Total Fund	6.8 (43)	6.2 (1)	0.7 (6)	-0.1 (66)
Market Benchmark	7.0 (33)	6.5 (1)	0.7 (5)	-
Peer Benchmark Median	6.7	9.5	0.5	0.0

Peer Benchmark represents the plan sponsor peer group Peer Benchmark Net universe. Includes BNY Mellon Total Public Fund >\$1B universe and Investment Metrics client data. Parenthesized numbers represent peer group percentile rank.

Annualized Return vs. Annualized Standard Deviation  
10 Years ending March 31, 2025



	Return	Standard Deviation	Sharpe Ratio	Information Ratio
Total Fund	6.7 (48)	6.3 (1)	0.8 (7)	0.0 (58)
Market Benchmark	6.8 (41)	6.4 (2)	0.8 (6)	-
Peer Benchmark Median	6.7	8.5	0.6	0.0

Peer Benchmark represents the plan sponsor peer group Peer Benchmark Net universe. Includes BNY Mellon Total Public Fund >\$1B universe and Investment Metrics client data. Parenthesized numbers represent peer group percentile rank.

## Appendix

### Definition of Benchmarks

**Bloomberg Aggregate** is an index comprised of approximately 6,000 publicly traded investment-grade bonds including US Government, mortgage-backed, corporate, and yankee bonds with an approximate average maturity of 10 years.

**Bloomberg Global High Yield** is a multi-currency measure of the global high yield debt market. The Index is comprised of the US High Yield, the Pan-European High Yield, and Emerging Markets Hard Currency High Yield Indices. The high yield and emerging markets sub-components are mutually exclusive.

**Bloomberg High Yield** covers the universe of fixed rate, non-investment grade debt. Eurobonds and debt issues from countries designated as emerging markets (e.g., Argentina, Brazil, Venezuela, etc.) are excluded, but Canadian and global bonds (SEC registered) of issuers in non-EMG countries are included. Original issue zeroes, step-up coupon structures, 144-As and pay-in-kind bonds (PIKs, as of October 1, 2009) are also included. Must be rated high yield (Ba1/BB+ or lower) by at least two of the following ratings agencies: Moody's, S&P, Fitch. If only two of the three agencies rate the security, the lower rating is used to determine index eligibility. All issues must have at least one year to final maturity regardless of call features and have at least \$150 million par amount outstanding.

**Bloomberg Multiverse Non-US Hedged** provides a broad-based measure of the international fixed-income bond market. The index represents the union of the BC Global Aggregate Index and the BC Global High Yield Index. In this sense, the term "Multiverse" refers to the concept of multiple universes in a single macro index.

**Bloomberg US Credit** includes publicly issued US corporate and foreign debentures and secured notes that which are rated investment grade or higher by Moody's Investor Services, Standard and Poor's Corporation, or Fitch Investors Service, with all issues having at least one year to maturity and an outstanding par value of at least \$250 million. Issues must be publicly issued, dollar-denominated and non-convertible.

**Bloomberg Universal** includes market coverage by the Aggregate Bond Index fixed rate debt issues, which are rated investment grade or higher by Moody's Investor Services, Standard and Poor's Corporation, or Fitch Investors Service, with all issues having at least one year to maturity and an outstanding par value of at least \$100 million) and includes exposures to high yield CMBS securities. All returns are market value weighted inclusive of accrued interest.

**Bloomberg World Govt Inflation-Linked Bond (WGILB)** measures the performance of the major government inflation-linked bond markets. The index is designed to include only those markets in which a global government linker fund is likely and able to invest. To be included a market must have aggregate issuance of \$4 billion or more and have minimum rating of A3/A- for G7 and euro-zone issuers, Aa3/AA- otherwise, using the middle rating from Moody's, S&P and Fitch ("two out of three" rule). The index is available in local currency and in most major currencies hedged or un-hedged.

**CBOE S&P 500 Buy Write Index (BXM)** is a benchmark index designed to track the performance of a hypothetical buy-write strategy on the S&P 500 Index. Announced in April 2002, the BXM Index was developed by the CBOE in cooperation with Standard & Poor's. To help in the development of the BXM Index, the CBOE commissioned Professor Robert Whaley to compile and analyze relevant data from the time period from June 1988 through December 2001. Data on daily BXM prices now is available from June 30, 1986, to the present time (see below). The BXM is a passive total return index based on (1) buying an S&P 500 stock index portfolio, and (2) "writing" (or selling) the near-term S&P 500 Index (SPXSM) "covered" call option, generally on the third Friday of each month. The SPX call written will have about one month remaining to expiration, with an exercise price just above the prevailing index level (i.e., slightly out of the money). The SPX call is held until expiration and cash settled, at which time a new one-month, near-the-money call is written. Please visit the BXM FAQ for more information about the construction of the index.

**CBOE S&P 500 Put Write Index (PUT)** is a benchmark index designed to track the performance of a hypothetical cash-secured put-write strategy on the S&P 500 Index. Announced in June 2007, the PUT strategy is designed to sell a sequence of one-month, at-the-money, S&P 500 Index puts and invest cash at one- and three-month Treasury Bill rates. The number of puts sold varies from month to month, but is limited so that the amount held in Treasury Bills can finance the maximum possible loss from final settlement of the S&P 500 Index puts.

**ICE BofA 3-Month US Treasury Bills (90-Day T-bills)** tracks the performance of US Treasury bills with 3-month maturity.

### Definition of Benchmarks (continued)

**MLM Global Index** is the first passive index of returns to futures investing. The objective of the Index strategy is to provide pure systematic trending following exposure in a consistent, efficient, and cost effective manner which captures the price risk premium offered by those who seek price certainty.

**MSCI ACWI** is a free float-adjusted market capitalization weighted index that is designed to measure the equity market performance of developed and emerging markets. The Index captures large and mid-cap representation across 47 country indices comprising 23 developed and 24 emerging market country indices. The developed market country indices included are Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Hong Kong, Ireland, Israel, Italy, Japan, Netherlands, New Zealand, Norway, Portugal, Singapore, Spain, Sweden, Switzerland, the United Kingdom and the United States. The emerging market country indices included are: Brazil, Chile, China, Colombia, Czech Republic, Egypt, Greece, Hungary, India, Indonesia, Korea, Malaysia, Mexico, Pakistan, Peru, Philippines, Poland, Russia, Qatar, South Africa, Taiwan, Thailand, Turkey, and the United Arab Emirates.

**MSCI ACWI ex US ND** comprises both developed and emerging markets less the United States. The index consisted of 22 countries classified as developed markets and 24 classified as emerging markets. This series approximates the minimum possible dividend reinvestment. The dividend is reinvested after deduction of withholding tax, applying the rate to non-resident individuals who do not benefit from double taxation treaties. MSCI uses withholding tax rates applicable to Luxembourg holding companies, as Luxembourg applies the highest rates.

**MSCI ACWI IMI** captures large, mid, and small cap representation across 23 developed markets and 24 emerging markets countries. The Index is comprehensive, covering approximately 99% of the global equity investment opportunity set.

**MSCI ACWI Minimum Volatility** is a global equity (developed and emerging markets) index constructed by MSCI that utilizes an estimated security co-variance matrix to produce an index that has the lowest absolute volatility for a given set of constraints. The estimated security co-variance matrix is based on the relevant Barra multi-factor equity model.

**MSCI ACWI Small Cap** is a free float-adjusted market capitalization weighted index captures the small cap representation across 23 developed markets and 24 emerging markets countries.

**MSCI EAFE Free (Europe, Australasia, Far East) ND** is a free float-adjusted market capitalization index that is designed to measure developed market equity performance, excluding the US & Canada. This series approximates the minimum possible dividend reinvestment. The dividend is reinvested after deduction of withholding tax, applying the rate to non-resident individuals who do not benefit from double taxation treaties. MSCI Barra uses withholding tax rates applicable to Luxembourg holding companies, as Luxembourg applies the highest rates.

**MSCI EM (Emerging Markets) GD** is a free float-adjusted market capitalization index that is designed to measure equity market performance in the global emerging markets. This series approximates the maximum possible dividend reinvestment. The amount reinvested is the entire dividend distributed to individuals resident in the country of the company, but does not include tax credits.

**MSCI Europe** is a free float-adjusted market capitalization weighted index that is designed to measure the equity market performance of the developed markets in Europe. As of June 2007, this index consisted of the following 16 developed market country indices: Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, the Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, and the United Kingdom.

**MSCI Pacific** is a free float-adjusted market capitalization weighted index that is designed to measure the equity market performance of the developed markets in the Pacific region. As of June 2007, this index consisted of the following 5 Developed Market countries: Australia, Hong Kong, Japan, New Zealand, and Singapore.

**MSCI USA** is a free float adjusted market capitalization index that is designed to measure large- and mid-cap US equity market performance. The MSCI USA Index is member of the MSCI Global Equity Indices and represents the US equity portion of the global benchmark MSCI ACWI Index.

**MSCI World ex US ND** is a free float-adjusted market capitalization weighted index that is designed to measure the equity market performance of developed markets. The MSCI World Index consists of the following 22 developed market country indices: Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Hong Kong, Ireland, Israel, Italy, Japan, Netherlands, New Zealand, Norway, Portugal, Singapore, Spain, Sweden, Switzerland, and the United Kingdom.

### Definition of Benchmarks (continued)

**Morningstar Leveraged Loan** (formerly **S&P Leveraged Loan**) is a capitalization-weighted syndicated loan index based upon market weightings, spreads, and interest payments. The Index covers the US market back to 1997.

**NAREIT Index** consists of all tax-qualified REITs listed on the New York Stock Exchange, American Stock Exchange, and the NASDAQ National Market System. The data is market weighted.

**NCREIF Property Index (NPI)** the NPI contains investment-grade, non-agricultural, income-producing properties which may be financed in excess of 5% gross market value; were acquired on behalf of tax exempt institutions; and are held in a fiduciary environment. Returns are gross of fees; including income, realized gains/losses, and appreciation/depreciation; and are market value weighted.

**NCREIF Timberland Index** is a quarterly time series composite return measure of investment performance of a large pool of individual timber properties acquired in the private market for investment purposes only. All properties in the Timberland Index have been acquired, at least in part, on behalf of tax-exempt institutional investors - the great majority being pension funds. As such, all properties are held in a fiduciary environment.

**Russell 1000** measures the performance of the 1,000 largest securities in the Russell 3000 Index. Russell 1000 is highly correlated with the S&P 500 Index and capitalization weighted.

**Russell 1000 Growth** measures the performance of those Russell 1000 securities with a greater-than-average growth orientation. Securities in this index tend to exhibit higher price-to-book and price-earnings ratios, lower dividend yields and higher forecasted growth values than the Value universe.

**Russell 1000 Value** measures the performance of those Russell 1000 securities with a less-than-average growth orientation. Securities in this index tend to exhibit lower price-to-book and price-earnings ratios, higher dividend yields and lower forecasted growth values than the Growth universe.

**Russell 2000** measures the performance of the 2,000 smallest companies in the Russell 3000 Index, which represents approximately 8% of the total market capitalization of the Russell 3000 Index.

**Russell 2000 Growth** measures the performance of those Russell 2000 securities with a greater-than-average growth orientation. Securities in this index tend to exhibit higher price-to-book and price-to-earnings ratios.

**Russell 2000 Value** measures the performance of those Russell 2000 securities with a less-than-average growth orientation. Securities in this index tend to exhibit lower price-to-book and price-to-earnings ratios.

**Russell 3000** represents the largest 3,000 US companies based on total market capitalization, representing approximately 98% of the investable US equity market.

**S&P 500** is an index of 500 stocks chosen for market size, liquidity and industry grouping, among other factors. The S&P 500 is designed to be a leading indicator of U.S. equities and is meant to reflect the risk/return characteristics of the large cap universe.

### Plan Structure Evolution

Prior to 10/2014, Employees' Retirement System of the State of Hawaii ("ERS" or "Plan") had an allocation policy based asset classes (such as US Large Cap Equity, Developed International Equity, Real Estate). Since 10/2014, the ERS has adopted a risk-based, functional framework which uses strategic/functional classes designed to achieve a certain goal and/or be exposed to a specific set of macroeconomic risks through various underlying asset classes and strategies. Since then, the plan structure and the nomenclature of its components have evolved over time to fit the ERS's needs. This page summarizes this evolution since 10/2014 on a high level.

10/2014-06/2016	07/2016-03/2017	04/2017-06/2020	07/2020-12/2023	01/2024-Current
<b>Total Fund</b> <ul style="list-style-type: none"><li>→ Broad Growth</li><li>→ Principal Protection</li><li>→ Real Return</li><li>→ Real Estate</li></ul>	<b>Total Fund</b> <ul style="list-style-type: none"><li>→ Broad Growth</li><li>→ Principal Protection</li><li>→ Real Return</li></ul>	<b>Total Fund</b> <ul style="list-style-type: none"><li>→ Broad Growth</li><li>→ Principal Protection</li><li>→ Real Return</li><li>→ Crisis Risk Offset (CRO)</li></ul>	<b>Total Fund</b> <ul style="list-style-type: none"><li>→ Broad Growth</li><li>→ Diversifying Strategies</li></ul>	
<b>Broad Growth</b> <ul style="list-style-type: none"><li>→ Growth-Oriented</li><li>→ Private Growth</li><li>→ Stabilized Growth</li></ul>	<b>Broad Growth</b> <ul style="list-style-type: none"><li>→ Traditional Growth</li><li>→ Private Growth</li><li>→ Stabilized Growth</li></ul>		<b>Broad Growth</b> <ul style="list-style-type: none"><li>→ Public Growth<ul style="list-style-type: none"><li>• Traditional Growth</li><li>• Stabilized Growth</li></ul></li><li>→ Private Growth</li><li>→ Real Assets</li></ul>	<b>Broad Growth</b> <ul style="list-style-type: none"><li>→ Global Equity</li><li>→ Global Credit</li><li>→ Real Assets</li></ul>
<b>Real Estate</b>				
<b>Real Return</b> <ul style="list-style-type: none"><li>→ Public Inflation-Linked</li><li>→ Private Inflation-Linked</li></ul>				
<b>Principal Protection</b>			<b>Diversifying Strategies</b> <ul style="list-style-type: none"><li>→ Liquid Defensive<ul style="list-style-type: none"><li>• Treasury / Agency Duration</li><li>• Systematic Trend</li><li>• Defensive Return</li></ul></li><li>→ Liquid Diversifying<ul style="list-style-type: none"><li>• Alternative Return</li><li>• Relative Value</li></ul></li><li>→ Illiquid Diversifying<ul style="list-style-type: none"><li>• Insurance-Linked</li><li>• Idiosyncratic Return</li></ul></li></ul>	<b>Diversifying Strategies</b> <ul style="list-style-type: none"><li>→ Liquid Defensive / Diversifying<ul style="list-style-type: none"><li>• Systematic Trend</li><li>• Defensive Return</li><li>• Intermediate Duration</li><li>• Long Duration</li><li>• Discretionary Alpha</li></ul></li><li>→ Illiquid Diversifying<ul style="list-style-type: none"><li>• Insurance-Linked</li><li>• Idiosyncratic Return</li></ul></li></ul>
		<b>Crisis Risk Offset (CRO)</b> <ul style="list-style-type: none"><li>→ Treasury Duration Capture</li><li>→ Systematic Trend Following</li><li>→ Alternative Return Capture</li></ul>		

### Custom Benchmarks

This section includes the compositions of custom benchmarks currently in use. Policy Benchmarks for Total Fund, Broad Growth, and Diversifying Strategies are presented first, followed by the benchmarks of their lower-level composites sorted according to the Plan structure. Discontinued custom benchmarks are listed separately afterward and are noted as such when they appear in this section.

#### Market Benchmark (Total Fund Policy Benchmark)

From	To	Market Benchmark (Total Fund Policy Benchmark)
01/01/2024	Current	70% Broad Growth Historical Benchmark, 30% Diversifying Strategies Historical Benchmark
07/01/2022	12/31/2023	65% Broad Growth Benchmark, 35% Diversifying Strategies Benchmark
07/01/2021	06/30/2022	67.5% Broad Growth Benchmark, 32.5% Diversifying Strategies Benchmark
07/01/2020	06/30/2021	72% Broad Growth Benchmark, 28% Diversifying Strategies Benchmark
01/01/2019	06/30/2020	68% Broad Growth Benchmark, 16% Crisis Risk Offset Benchmark, 8% Principal Protection Benchmark, 8% Real Return Benchmark
01/01/2018	12/31/2018	72% Broad Growth Benchmark, 13% Crisis Risk Offset Benchmark, 8% Principal Protection Benchmark, 7% Real Return Benchmark
04/01/2017	12/31/2017	76% Broad Growth Benchmark, 10% Crisis Risk Offset Benchmark, 9% Principal Protection Benchmark, 5% Real Return Benchmark
07/01/2016	03/31/2017	83% Broad Growth Benchmark, 12% Principal Protection Benchmark, 5% Real Return Benchmark
10/01/2014	06/30/2016	76% Broad Growth Benchmark, 12% Principal Protection Benchmark, 5% Real Return Benchmark, 7% NCREIF Property Index (Qtr Lagged)

From	To	Total Fund Asset-Based Policy Benchmarks (prior to the Functional Allocation Framework)
07/01/2013	09/30/2014	30% Russell 3000, 26% MSCI AC World ex US (Net), 15% Bloomberg Universal, 5% Bloomberg Multiverse ex US (Hedged), 7% NCREIF Property Index (Qtr Lagged), 7% ERS Private Equity Performance, 5% ERS Real Return Performance, 5% CBOE S&P 500 BuyWrite (BXM)
07/01/2012	06/30/2013	30% Russell 3000, 26% MSCI AC World ex US (Net), 15.75% Bloomberg Universal, 5.25% Bloomberg Multiverse ex US (Hedged), 7% NCREIF Property Index (Qtr Lagged), 6% ERS Private Equity Performance, 5% ERS Real Return Performance, 5% CBOE S&P 500 BuyWrite (BXM)
10/01/2011	06/30/2012	35% Russell 3000, 18% MSCI World ex US, 3% MSCI Emerging Markets, 18% Bloomberg Universal, 6% Bloomberg Multiverse ex US (Hedged), 7% NCREIF Property Index (Qtr Lagged), 5% ERS Private Equity Performance, 5% ERS Real Return Performance, 3% CBOE S&P 500 BuyWrite (BXM)
07/01/2011	09/30/2011	41% Russell 3000, 14.5% MSCI World ex US, 2.5% MSCI Emerging Markets (Net), 21% Bloomberg Universal, 7% Bloomberg Multiverse ex US (Hedged), 9% NCREIF Property Index (Qtr Lagged), 5% ERS Alternative Investments Performance
01/01/2009	06/30/2011	41% Russell 3000, 14.5% MSCI EAFE Free, 2.5% MSCI Emerging Markets (Net), 21% Bloomberg Universal, 7% Bloomberg Multiverse ex US (Hedged), 9% NCREIF Property Index (Qtr Lagged), 5% ERS Alternative Investments Performance
06/01/1990	12/31/2008	34.9% S&P 500, 4.5% S&P 400 MidCap, 4.5% Russell 2000, 14.5% MSCI EAFE Free, 2.5% MSCI Emerging Markets, 21% Bloomberg Aggregate, 7% Bloomberg Multiverse ex US (Hedged), 7.5% NCREIF Property Index (Qtr Lagged), 3.6% ERS Alternative Investments Performance



### Custom Benchmarks: Immediate Sub-Composites of Total Fund

#### Broad Growth Historical Benchmark

From	To	Broad Growth Historical Benchmark
01/01/2024	Current	56% Global Equity Historical Benchmark, 17% Global Credit Historical Benchmark, 27% Real Assets Historical Benchmark
07/01/2022	12/31/2023	50% Public Growth Benchmark, 28% Private Growth Benchmark, 22% Real Assets Historical Benchmark
07/01/2021	06/30/2022	66% Public Growth Benchmark, 20% Private Growth Benchmark, 14% Real Assets Historical Benchmark
07/01/2020	06/30/2021	70% Public Growth Benchmark, 16% Private Growth Benchmark, 14% Real Assets Historical Benchmark
01/01/2019	06/30/2020	41% Traditional Growth Benchmark, 41% Stabilized Growth Benchmark, 18% Private Growth Benchmark
01/01/2018	12/31/2018	43% Traditional Growth Benchmark, 43% Stabilized Growth Benchmark, 14% Private Growth Benchmark
07/01/2016	12/31/2017	45% Traditional Growth Benchmark, 45% Stabilized Growth Benchmark, 10% Private Growth Benchmark
01/01/2016	06/30/2016	77% Traditional Growth Benchmark, 17% Stabilized Growth Benchmark, 6% Private Growth Benchmark
10/01/2014	12/31/2015	78% Traditional Growth Benchmark, 17% Stabilized Growth Benchmark, 5% Private Growth Benchmark

For the historical components Traditional Growth Benchmark and Private Growth Benchmark please refer to Public Equity Benchmark and Private Equity Benchmark, respectively. Public Growth Benchmark and Stabilized Growth Benchmark are no longer in use. Please see their historical compositions in the "Discontinued Custom Benchmarks" section.

#### Diversifying Strategies Benchmark

From	To	Diversifying Strategies Benchmark
01/01/2024	Current	87% Liquid Defensive Historical Benchmark, 13% Illiquid Diversifying Historical Benchmark
07/01/2022	12/31/2023	45% Liquid Defensive Historical Benchmark, 40% Liquid Diversifying Benchmark, 15% Illiquid Diversifying Historical Benchmark
04/01/2017	06/30/2022	50% Liquid Defensive Historical Benchmark, 40% Liquid Diversifying Benchmark, 10% Illiquid Diversifying Historical Benchmark

Liquid Diversifying Benchmark is no longer in use. Please see its historical compositions in the "Discontinued Custom Benchmarks" section.

### Custom Benchmarks: Global Equity Composite

#### Global Equity Historical Benchmark

Global Equity composite was created effective on 01/01/2024 to aggregate the Public and Private Equity components which had previously existed within separate higher-level composites. Accordingly, the Global Equity Policy Benchmark was retroactively reconstructed for periods prior to 01/01/2024 reflecting the historical policy targets for the underlying Public and Private Equity components.

From	To	Global Equity Historical Benchmark
01/01/2024	Current	51.3% Public Equity Historical Benchmark, 48.7% Private Equity Historical Benchmark
07/01/2022	12/31/2023	54.3% Public Equity Historical Benchmark, 45.7% Private Equity Historical Benchmark
07/01/2021	06/30/2022	64.7% Public Equity Historical Benchmark, 35.3% Private Equity Historical Benchmark
07/01/2020	06/30/2021	70.8% Public Equity Historical Benchmark, 29.2% Private Equity Historical Benchmark
01/01/2019	06/30/2020	69.5% Public Equity Historical Benchmark, 30.5% Private Equity Historical Benchmark
01/01/2018	12/31/2018	75.4% Public Equity Historical Benchmark, 24.6% Private Equity Historical Benchmark
07/01/2016	12/31/2017	81.8% Public Equity Historical Benchmark, 18.2% Private Equity Historical Benchmark
01/01/2016	06/30/2016	92.8% Public Equity Historical Benchmark, 7.2% Private Equity Historical Benchmark
10/01/2014	12/31/2015	94.0% Public Equity Historical Benchmark, 6.0% Private Equity Historical Benchmark
07/01/2013	09/30/2014	88.9% Public Equity Historical Benchmark, 11.1% Private Equity Historical Benchmark

#### Public Equity Historical Benchmark

From 10/2014 through 12/2023, public equity assets have resided within the Broad Growth strategic class with names such as "Traditional Growth" or "Traditional Equity". Thus, Public Equity Benchmark may be considered the successor of Traditional Growth and Traditional Equity Benchmarks. Please note that Public Equity Benchmark is different from the discontinued Public Growth Benchmark; its historical benchmark composition is included in the "Discontinued Custom Benchmarks" section.

From	To	Public Equity Historical Benchmark
10/01/2014	Current	100% MSCI All Country World Investable Market Index (Net)
07/01/2012	09/30/2014	53.6% Russell 3000, 46.4% MSCI All Country World ex US (Net)
10/01/2011	06/30/2014	62.5% Russell 3000, 32.1% MSCI World ex US (Net), 5.4% MSCI Emerging Markets (Net)
07/01/2011	09/30/2011	70.7% Russell 3000, 25.0% MSCI World ex US (Net), 4.3% MSCI Emerging Markets (Net)
01/01/2009	06/30/2011	70.7% Russell 3000, 25.0% MSCI EAFE (Net), 4.3% MSCI Emerging Markets (Net)
03/01/2008	12/31/2008	57.3% S&P 500, 7.4% S&P Mid Cap 400, 7.4% Russell 2000, 23.8% MSCI EAFE (Net), 4.1% MSCI Emerging Markets (Net)

Custom Benchmarks: Global Equity Composite (Continued)

Private Equity Historical Benchmark

From 10/2014 through 12/2023, private equity assets have resided within the Broad Growth strategic class as “Private Growth”. Thus, Private Equity Benchmark may be considered the successor of Private Growth Benchmark.

From	To	Private Equity Historical Benchmark
01/01/2024	Current	100% MSCI ACWI IMI (Net) (Quarter Lagged)
10/01/2014	12/31/2023	100% MSCI ACWI IMI (Net) +2% (Quarter Lagged)
10/01/2011	09/30/2014	Private Equity Actual Performance

### Custom Benchmarks: Global Credit Composite

#### Global Credit Historical Benchmark

From	To	Global Credit Historical Benchmark
01/01/2024	Current	33.3% Public Credit Historical Benchmark, 66.7% Private Credit Historical Benchmark
07/01/2021	12/31/2023	50% Public Credit Historical Benchmark, 50% Private Credit Historical Benchmark
07/01/2020	06/30/2021	25% Public Credit Historical Benchmark, 75% Private Credit Historical Benchmark
10/01/2014	06/30/2020	100% Public Credit Historical Benchmark

#### Public Credit Historical Benchmark

From	To	Public Credit Historical Benchmark
07/01/2021	Current	50% Bloomberg Global High Yield (Hedged), 50% Morningstar LSTA US Leveraged Loan 100 Index
07/01/2020	06/30/2021	50% Bloomberg Global High Yield (Hedged), 50% Morningstar LSTA US Leveraged Loan 100 Index*
10/01/2014	06/30/2020	50% Bloomberg Global Credit (Hedged) 33.3% Bloomberg Global High Yield (Hedged), 16.7% Morningstar LSTA US Leveraged Loan 100 Index*

#### Private Credit Historical Benchmark

From	To	Private Credit Historical Benchmark
01/01/2024	Current	50% Bloomberg Global High Yield (Hedged) (Quarter Lagged), 50% Morningstar LSTA US Leveraged Loan 100 Index (Quarter Lagged)
07/01/2021	12/31/2023	25% Bloomberg Global High Yield (Hedged) +1% (Month Lagged), 25% Morningstar LSTA US Leveraged Loan 100 Index +1% (Month Lagged), 25% Bloomberg Global High Yield (Hedged) +1% (Quarter Lagged), 25% Morningstar LSTA US Leveraged Loan 100 Index +1% (Quarter Lagged)
07/01/2020	06/30/2021	50% Bloomberg Global High Yield (Hedged) +1% (Month Lagged), 50% Morningstar LSTA US Leveraged Loan 100 Index +1% (Month Lagged)*
11/01/2019	06/30/2020	100% Public Credit Historical Benchmark

From 11/2019 to 06/2020, Private Credit Benchmark is the same as Public Credit Benchmark.

#### Notes on Component Indices

Historically, prior to 07/01/2021, Morningstar LSTA US Leveraged Loan Index (formerly known as "S&P LSTA US Leveraged Loan Index") was used in the places where Morningstar LSTA US Leveraged Loan 100 Index occurs on this page. Due to licensing issues, Morningstar LSTA US Leveraged Loan 100 Index is applied retroactively to periods prior to 07/2021. Compositions which historically used Morningstar LSTA US Leveraged Loan Index are marked on this page with an asterisk (\*).

### Custom Benchmarks: Real Assets Composite

#### Real Assets Historical Benchmark

**Real Assets** composite contains the following asset classes: Real Estate (Core and Non-Core), Agriculture (or Farmland), Timberland, Infrastructure (Private and Public), and Other Real Assets. They existed separately under various higher level composites at different points in the Plan's history prior to the Real Asset composite's inception in 07/2020.

Prior to 07/2016, **Real Estate** was an immediate sub-composite of Total Fund. From 07/2016 through 06/2020, Core Real Estate and Non-Core Real Estate were separately subsumed into Stabilized Growth and Private Growth categories respectively (which were both contained within Broad Growth). From 10/2014 to 07/2020, **Agriculture, Timber, and Infrastructure** constituted the Private Inflation-Linked component within Real Return, an immediate subordinate of Total Fund.

The Real Assets Policy Benchmark for periods prior to 07/2020 were retroactively reconstructed using the historical policy allocation targets for the underlying components.

From	To	Real Assets Historical Benchmark
01/01/2024	Current	47% Real Estate Historical Benchmark, 7% Agriculture Historical Benchmark, 9% Timber Historical Benchmark, 37% Infrastructure Historical Benchmark
07/01/2022	12/31/2023	70% Real Estate Historical Benchmark, 10% Agriculture Historical Benchmark, 10% Timber Historical Benchmark, 10% Infrastructure Historical Benchmark
07/01/2021	06/30/2022	70% Real Estate Historical Benchmark, 8% Agriculture Historical Benchmark, 12% Timber Historical Benchmark, 10% Infrastructure Historical Benchmark
07/01/2020	06/30/2021	75% Real Estate Historical Benchmark, 5% Agriculture Historical Benchmark, 12.5% Timber Historical Benchmark, 7.5% Infrastructure Historical Benchmark
01/01/2019	06/30/2020	52% Real Estate Historical Benchmark, 48% Real Return Benchmark
01/01/2018	12/31/2018	57% Real Estate Historical Benchmark, 43% Real Return Benchmark
04/01/2017	12/31/2017	70% Real Estate Historical Benchmark, 30% Real Return Benchmark
07/01/2016	06/30/2017	75% Real Estate Historical Benchmark, 25% Real Return Benchmark
01/01/2016	06/30/2016	80% Real Estate Historical Benchmark, 20% Real Return Benchmark
10/01/2014	12/31/2015	83% Real Estate Historical Benchmark, 17% Real Return Benchmark

### Custom Benchmarks: Real Assets Composite (Continued)

#### Real Estate Historical Benchmark

Real Estate composite became effective in 01/2024 as an aggregate of the Core and Non-Core Real Estate components. The Real Estate Policy Benchmark was retroactively reconstructed for periods prior to 01/2024 reflecting the historical policy allocation targets for the underlying Core and Non-Core components.

From	To	Real Estate Historical Benchmark
01/01/2024	Current	100% FTSE EPRA NAREIT Global REITs Index (Gross) (Quarter Lagged)
07/01/2022	12/31/2023	57.1% Core Real Estate Historical Benchmark, 42.9% Non-Core Real Estate Historical Benchmark
07/01/2021	06/30/2022	55.7% Core Real Estate Historical Benchmark, 44.3% Non-Core Real Estate Historical Benchmark
07/01/2020	06/30/2021	53.3% Core Real Estate Historical Benchmark, 46.7% Non-Core Real Estate Historical Benchmark
07/01/2019	06/30/2020	60% Core Real Estate Historical Benchmark, 40% Non-Core Real Estate Historical Benchmark
07/01/2018	06/30/2019	66% Core Real Estate Historical Benchmark, 34% Non-Core Real Estate Historical Benchmark
07/01/2017	06/30/2018	73% Core Real Estate Historical Benchmark, 27% Non-Core Real Estate Historical Benchmark
07/01/2016	06/30/2017	80% Core Real Estate Historical Benchmark, 20% Non-Core Real Estate Historical Benchmark
07/01/2013	06/30/2016	100% Core Real Estate Historical Benchmark

#### Core Real Estate Historical Benchmark

From	To	Core Real Estate Historical Benchmark
01/01/2024	Current	100% FTSE EPRA NAREIT Global REITs Index (Gross) (Quarter Lagged)
01/01/2018	12/31/2023	100% NCREIF ODCE (Net) (Quarter Lagged)
07/01/2013	12/31/2017	100% NCREIF Property Index (Net) (Quarter Lagged)

#### Non-Core Real Estate Historical Benchmark

From 07/2016-06/2020, this composite sat within Private Growth segment and was benchmarked against Private Equity Benchmark (formerly, "Private Growth Benchmark").

From	To	Non-Core Real Estate Historical Benchmark
01/01/2024	Current	100% FTSE EPRA NAREIT Global REITs Index (Gross) (Quarter Lagged)
07/01/2020	12/31/2023	100% NCREIF ODCE (Net) +1% (Quarter Lagged)
07/01/2016	06/30/2020	100% Private Equity Historical Benchmark
07/01/2013	06/30/2016	100% NCREIF Property Index (Net) (Quarter Lagged)

### Custom Benchmarks: Real Assets Composite (Continued)

#### Agriculture Historical Benchmark

From	To	Agriculture Historical Benchmark
01/01/2024	Current	100% S&P GCSI Agriculture Index (Quarter Lagged)
10/01/2021	12/31/2023	100% NCREIF Farmland Index (Quarter Lagged)

#### Timber Historical Benchmark

From	To	Timber Historical Benchmark
01/01/2024	Current	100% S&P Global Timber & Forestry Index (Net) (Quarter Lagged)
09/01/1999	12/31/2023	100% NCREIF Timberland Index (Quarter Lagged)

#### Infrastructure Historical Benchmark

From	To	Infrastructure Historical Benchmark
01/01/2024	Current	100% Dow Jones Brookfield Global Infrastructure Index (Net) (Quarter Lagged)
12/01/2014	12/31/2023	100% Consumer Price Index (Seasonally Adjusted) +4%

### Custom Benchmarks: Diversifying Strategies Composite

#### Liquid Defensive Historical Benchmark

From	To	Liquid Defensive Historical Benchmark
01/01/2024	Current	30.8% MLM Global Index EV (Blend), 15.4% Bloomberg US Treasury: Long Index, 53.8% Bloomberg US Treasury: Intermediate Index
07/01/2022	12/31/2023	40% MLM Global Index EV (Blend), 40% 90-Day T-Bill +2.5%, 15% Bloomberg US Treasury: Long Index, 5% Bloomberg US Intermediate Aggregate ex Credit
07/01/2021	06/30/2022	35% MLM Global Index EV (Blend), 20% 90-Day T-Bill +2.5%, 15% Bloomberg US Treasury: Long Index, 15% Bloomberg US Intermediate Aggregate ex Credit, 15% Bloomberg US TIPS 5+ Year Index
07/01/2016	06/30/2021	40% MLM Global Index EV (Blend), 30% Bloomberg US Treasury: Long Index, 30% Bloomberg US Intermediate Aggregate ex Credit Index

#### Defensive Return Capture Historical Benchmark

Defensive Return Capture and Discretionary Alpha Benchmarks have the same underlying components since 07/01/2020.

From	To	Defensive Return Capture Historical Benchmark
01/01/2024	Current	100% Bloomberg US Treasury: Intermediate Index
07/01/2020	12/31/2023	100% 90-Day T-Bill +2.5%

#### Discretionary Alpha Benchmark

Defensive Return Capture and Discretionary Alpha Benchmarks have the same underlying components since 07/01/2020.

From	To	Discretionary Alpha Benchmark
01/01/2024	Current	100% Bloomberg US Treasury: Intermediate Index
07/01/2020	12/31/2023	100% 90-Day T-Bill +2.5%

#### Intermediate Duration Treasury Benchmark

From	To	Intermediate Duration Treasury Benchmark
01/01/2024	Current	100% Bloomberg US Treasury: Intermediate Index
04/01/2017	12/31/2023	100% Bloomberg US Intermediate Aggregate ex Credit



### Custom Benchmarks: Diversifying Strategies Composite (Continued)

#### Long Duration Treasury Historical Benchmark

From	To	Long Duration Treasury Historical Benchmark
04/01/2022	Current	100% Bloomberg US Treasury: Long Index
02/01/2021	03/31/2022	50% Bloomberg US Treasury: Long Index, 50% Bloomberg TIPS 5+ Year Index
04/01/2017	01/31/2021	100% Bloomberg US Treasury: Long Index

#### MLM Global Index EV (Blend)

MLM Global Index EV (Blend) is used as the benchmark for the Systematic Trend Following composite and as a component of other custom benchmarks.

From	To	MLM Global Index EV (Blend)
04/01/2019	Current	100% MLM Global Index EV (15V)
04/01/2017	03/31/2019	100% MLM Global Index LT 15V

#### Illiquid Diversifying Historical Benchmark

From	To	Illiquid Diversifying Historical Benchmark
01/01/2024	Current	100% Swiss RE Global Catastrophe Bond Hedged Index
07/01/2022	12/31/2023	65% 90-Day T-Bills +3.5%, 35% Swiss RE Global Catastrophe Bond Hedged Index
07/01/2021	06/30/2022	50% 90-Day T-Bills +3.5%, 50% Swiss RE Global Catastrophe Bond Hedged Index
04/01/2014	06/30/2021	65% 90-Day T-Bills +3.5%, 35% Swiss RE Global Catastrophe Bond Hedged Index

#### Idiosyncratic Return Capture Historical Benchmark

From	To	Idiosyncratic Return Capture Historical Benchmark
01/01/2024	Current	100% Swiss RE Global Catastrophe Bond Hedged Index
07/01/2020	12/31/2023	100% 90-Day T-Bills +3.5%

### Discontinued Custom Benchmarks

This section includes only the discontinued custom benchmarks which have been a component of current custom benchmarks' history and does not include all the discontinued historical custom benchmarks. The items in this section are ordered alphabetically.

#### Crisis Risk Offset (CRO) Benchmark

Crisis Risk Offset (CRO) Benchmark was a component of Total Fund Policy Benchmark from 2017 to 2020. The composite consisted of Systematic Trend Following, Alternative Return Capture, and Treasury Duration Capture (in the form of long duration treasuries) components.

From	To	Crisis Risk Offset (CRO) Benchmark
04/01/2019	06/30/2020	35% MLM Global Index EV (Blend), 40% 90-day T-Bills +2.5%, 25% Bloomberg US Treasury: Long Index
04/01/2017	03/31/2019	45% MLM Global Index EV (Blend), 30% 90-day T-Bills +5%, 25% Bloomberg US Treasury: Long Index

#### Liquid Diversifying Benchmark

Liquid Diversifying Benchmark was a component of Diversifying Strategies Benchmark from 2017 through 2023.

From	To	Liquid Diversifying Benchmark
04/01/2017	12/31/2023	100% 90-Day T-Bills +2.5%

#### Options-Based Equity Benchmark

Options-Based Equity Benchmark was a component of Public Growth Benchmark from 2020 to 2022.

From	To	Options-Based Equity Benchmark
07/01/2020	06/30/2022	50% CBOE S&P 500 PutWrite (PUT), 35% CBOE MSCI EAFE PutWrite (PXEA), 15% CBOE MSCI Emerging Markets PutWrite (PXEF)

#### Principal Protection Benchmark

Principal Protection Benchmark was a component of Total Fund Policy Benchmark from 2014 to 2020. The composite primarily consisted of intermediate duration bonds.

From	To	Principal Protection Benchmark
01/01/2018	06/30/2020	55% Bloomberg US Intermediate ex Credit Index, 45% Bloomberg Global Intermediate ex Credit Index (Hedged)
10/01/2014	12/31/2017	100% Bloomberg Global Intermediate ex Credit Index (Hedged)

### Discontinued Custom Benchmarks (Continued)

#### Public Growth Benchmark

Public Growth Benchmark was a component of Broad Growth Benchmark from 2020 through 2023. Please see Global Credit Benchmark and Traditional Growth Benchmark in the Current Custom Benchmarks section under Global Credit Benchmark and Public Equity Benchmark respectively.

From	To	Public Growth Benchmark
07/01/2022	12/31/2023	66.5% Traditional Growth Benchmark, 20% Global Credit Benchmark, 8% MSCI ACWI Minimum Volatility (Net), 5.5% ICE BofA All US Convertibles All Qualities (VXA0)
07/01/2021	06/30/2022	55.5% Traditional Growth Benchmark, 16% Options-Based Equity Benchmark, 15.5% Global Credit Benchmark, 9% MSCI ACWI Minimum Volatility (Net), 4% ICE BofA All US Convertibles All Qualities (VXA0)
07/01/2020	06/30/2021	55.5% Traditional Growth Benchmark, 20% Options-Based Equity Benchmark, 15.5% Global Credit Benchmark, 9% MSCI ACWI Minimum Volatility (Net)

#### Real Return Benchmark

Real Return Benchmark was a component of Total Fund Policy Benchmark from 2014 to 2020.

From	To	Real Return Benchmark
10/01/2014	06/30/2020	100% Consumer Price Index (Seasonally Adjusted) +3%

#### Stabilized Growth Benchmark

Stabilized Growth Benchmark was a component of Broad Growth Benchmark from 2014 to 2020.

From	To	Stabilized Growth Benchmark
01/01/2018	06/30/2020	8.5% Bloomberg Global Credit (Hedged), 5.67% Bloomberg Global High Yield (Hedged), 17% CBOE S&P 500 BuyWrite (BXM), 17% CBOE S&P 500 PutWrite (PUT), 2.83% Morningstar LSTA Leveraged Loan, 8.5% MSCI ACWI ex US (Net), 8.5% 90-day T-Bills, 17% MSCI ACWI Minimum Volatility (Net), 15% NCREIF ODCE Index (Net) (Quarter Lagged)
07/01/2016	12/31/2017	8.5% Bloomberg Global Credit (Hedged), 5.67% Bloomberg Global High Yield (Hedged), 17% CBOE S&P 500 BuyWrite (BXM), 17% CBOE S&P 500 PutWrite (PUT), 2.83% Morningstar LSTA Leveraged Loan, 8.5% MSCI ACWI ex US (Net), 8.5% 90-day T-Bills, 17% MSCI ACWI Minimum Volatility (Net), 15% NCREIF Property Index (Net) (Quarter Lagged)
10/01/2014	06/30/2016	30% Bloomberg Global Credit (Hedged), 20% Bloomberg Global High Yield (Hedged), 40% CBOE S&P 500 BuyWrite (BXM), 10% Morningstar LSTA Leveraged Loan Index

### Performance Attribution Glossary

**Performance Attribution** is the process of comparing a portfolio's performance with its benchmark identifying and quantifying the sources of differential returns (also called active returns).

**Differential Returns / Active Returns / Value Added** are the difference between the return on a portfolio and the return on the benchmark.

#### Impact on Return

Attribution Segment	Definition	Formula	Where:
<b>Weighting</b> (also called allocation, sector allocation, or pure sector allocation)	The effects of portfolio manager decisions to over/underweight each sector	$(w_i - W_i) \times (b_i - b)$	$w_i$ = portfolio segment weight $W_i$ = benchmark segment weight $b_i$ = benchmark segment return $b$ = total benchmark return
<b>Selection</b> (also called within-sector selection)	The effects of portfolio manager decision to buy specific securities	$(r_i - b_i) \times W_i$	$r_i$ = portfolio segment return $b_i$ = benchmark segment return $W_i$ = benchmark segment weight
<b>Interaction</b> (also called allocation/selection interaction)	The effects of portfolio managers decisions to security selection can inadvertently cause sector over/underweighting	$(r_i - b_i) \times (w_i - W_i)$	$r_i$ = portfolio segment return $b_i$ = benchmark segment return $w_i$ = portfolio segment weight $W_i$ = benchmark segment weight

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PERFORMANCE DATA CONTAINED HEREIN REPRESENT PAST PERFORMANCE. PAST PERFORMANCE IS NO GUARANTEE OF FUTURE RESULTS.

# Private Equity Strategic Summary

December 31, 2024

## Market Value

\$4.45b

Dec. 31, 2023

\$4.78b

Dec. 31, 2024

✓

\$330 million net capital appreciation over the 1-year period

## Asset Allocation

Strategy	Current NAV	%	Target	Notes
Buyouts	3,171	66.4%	60-80%	
Co/Direct Investments	62	1.3%	0-10%	
Growth Equity & Venture Cap.	1,228	25.7%	20-35%	
Secondaries, Special Sits, Mezz, & Distressed	313	6.6%	0-10%	[1]
Total	4,775	100.0%		

[1] Remaining amounts are legacy holdings currently being managed to maturity.

✓

Allocations in line with strategic targets

## Long-Term Appreciation

11.8%

ITD

14.3%

10-Yrs

13.8%

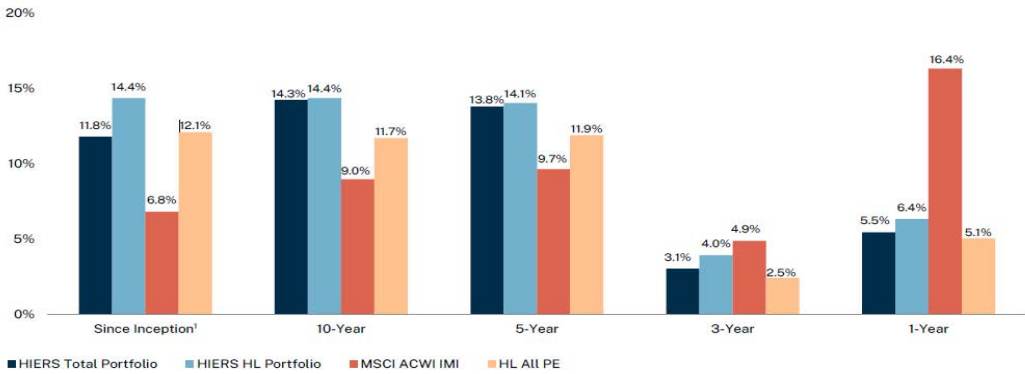
5-Yrs

✓

Consistent delivery of long-term returns

## Absolute Returns vs. Benchmarks

IRR Performance as of December 31, 2024:



✓

Long-term returns exceeding benchmarks

## Liquidity Management

	1Q 2024	2Q 2024	3Q 2024	4Q 2024	Total
Pd In	(152.3)	(215.4)	(143.8)	(152.5)	(664.0)
Cap. Dist	102.6	176.3	146.5	173.5	598.9
Net	(49.7)	(39.1)	2.7	21.0	(65.1)



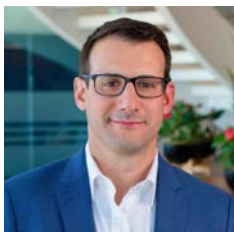
Distributions meeting contributions



# Employees' Retirement System of the State of Hawaii

May 2025 Private Equity Program Update

# Presenters



## **Matt Silverio | Managing Director**

Matt is a Managing Director on the Fund Investment & Managed Solutions team, where he is responsible for overseeing managed account relationships and primary fund investments in the Americas.

Prior to joining Hamilton Lane in 2004, Matt was an Account Representative with SEI Investments. Matt began his career with Hamilton Lane in the Monitoring and Reporting Department. He spent several years based in the firm's San Diego office serving as a contact for many of the firm's West Coast clients. More recently he was based in the firm's Hong Kong office, where he was responsible for all aspects of client relations in the Asia ex-Japan region.

Matt received a B.A. in Economics from Hamilton College.



## **Paul Yett | Managing Director**

Paul is a Managing Director at Hamilton Lane, based in the San Francisco office, working closely with clients. Paul is the Chair of the Responsible Investment Committee, providing oversight for Hamilton Lane's responsible investment activities (as defined by ESG Risk Framework, Sustainable and Impact investments). Previously, Paul was the Director of ESG & Sustainability.

Paul began his career in the private markets in 1994 with Stone Pine Asset Management. He joined Hamilton Lane in 1998 as an investment professional and later manager of the global venture capital practice before taking on the role of Relationship Manager on the client service team.

Paul served on the Board of Directors of the Robert Toigo Foundation, focused on building stronger, more diverse organizations through the inclusion and advancement of under-represented diverse talent across finance.

Paul received a B.S. in Finance from San Diego State University and currently sits on the Board of Advisors for the University's International Business School.



## **Owen Burns | Senior Associate**

Owen is a Senior Associate on the Fund Investment & Managed Solutions Team at Hamilton Lane, based in the firm's Conshohocken headquarters. In his role, he supports portfolio management and strategic planning efforts across the firm's institutional client base, including pension funds, endowments, financial institutions, and sovereign wealth funds. He also has experience in primary fund manager due diligence and monitoring.

Owen received a B.A. in Political Science from Boston College.



# Agenda

- Portfolio Review.....4
- Market Update.....14
- Appendix.....16

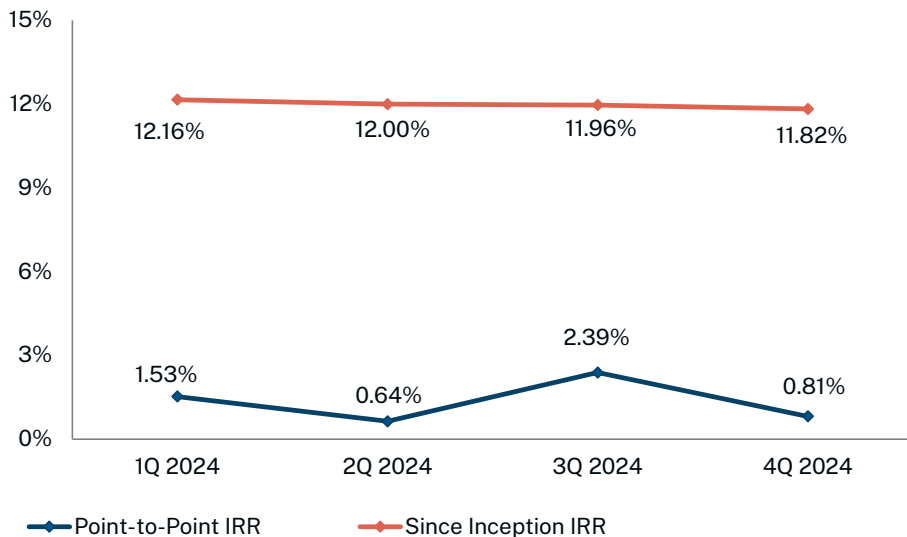
# Portfolio Review

# PE Portfolio Highlights – December 31, 2024

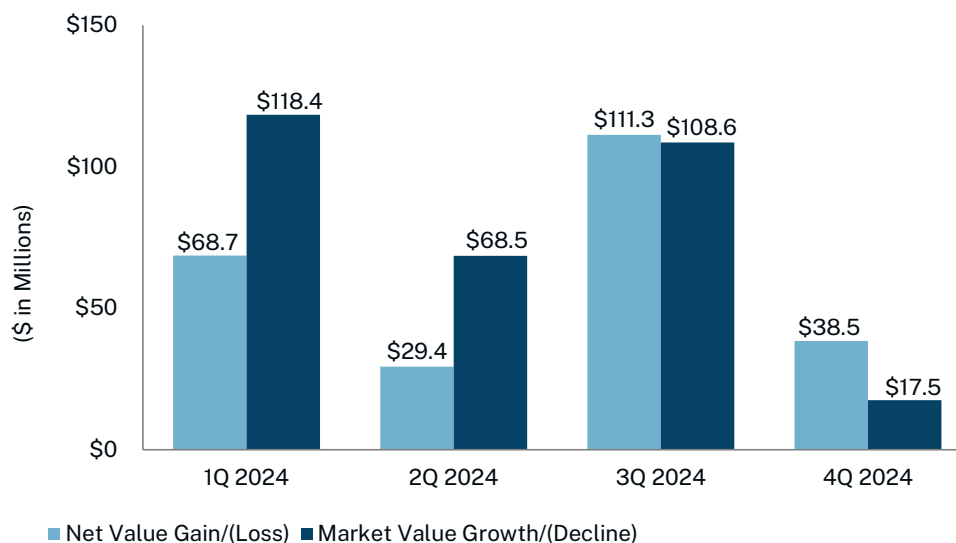
## Performance

- Portfolio generated quarterly net IRR of 0.81%, or net value increase of \$38.5M
- The Portfolio outperformed its public benchmark, MSCI ACWI IMI, by 498 bps on a since inception basis
- Portfolio generated positive performance during one-year period with gains of \$247.9M

## PE Portfolio Returns:



## PE Portfolio Value Created:



# Portfolio Snapshot

- Q4 2024: Positive performance and continued liquidity
  - Quarterly IRR of 0.81%
  - Cash flow positive: Distributions exceeded contributions by \$21.0M

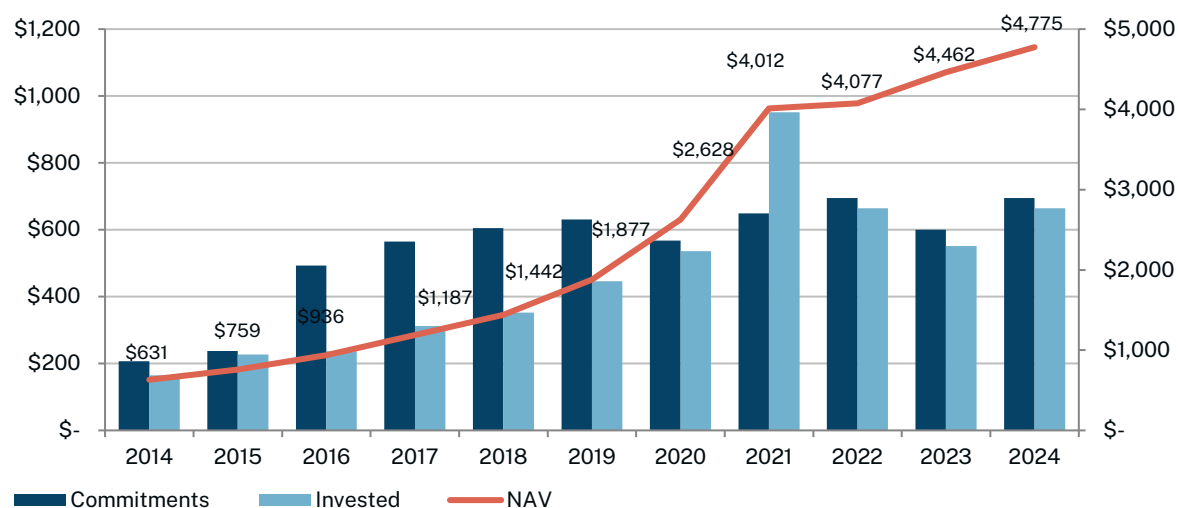
Portfolio Snapshot			
(USD in Millions)	9/30/2024	12/31/2024	Change
Total Active Partnerships	262	261	(1)
Liquidated Partnerships	94	99	5
Active GP Relationships	99	98	(1)
Capital Committed <sup>1</sup>	\$7,534.8	\$7,721.2	\$186.4
Unfunded Commitment	\$2,212.5	\$2,275.1	\$62.6
Paid-In Capital	\$5,840.6	\$5,993.1	\$152.5
Capital Distributed	\$4,406.2	\$4,579.7	\$173.5
Market Value	\$4,757.2	\$4,774.7	\$17.5
Total Value Multiple	1.6x	1.6x	(0.0x)
Realized Value Multiple	0.8x	0.8x	0.0x
Since Inception IRR	11.96%	11.82%	(14 bps)

Note: Change over the period may not sum due to rounding.

<sup>1</sup> HIERS made four new commitment during the quarter ended December 31, 2024. The change in capital committed represents this new commitments in addition to currency fluctuations from foreign denominated partnerships.

## Annual Portfolio Growth

USD in Millions



- PE portfolio represents 20.0% of total plan assets as of 12/31/2024
  - PE market value is up 7.0% over the one-year period ending 12/31/2024

# Quarterly Performance

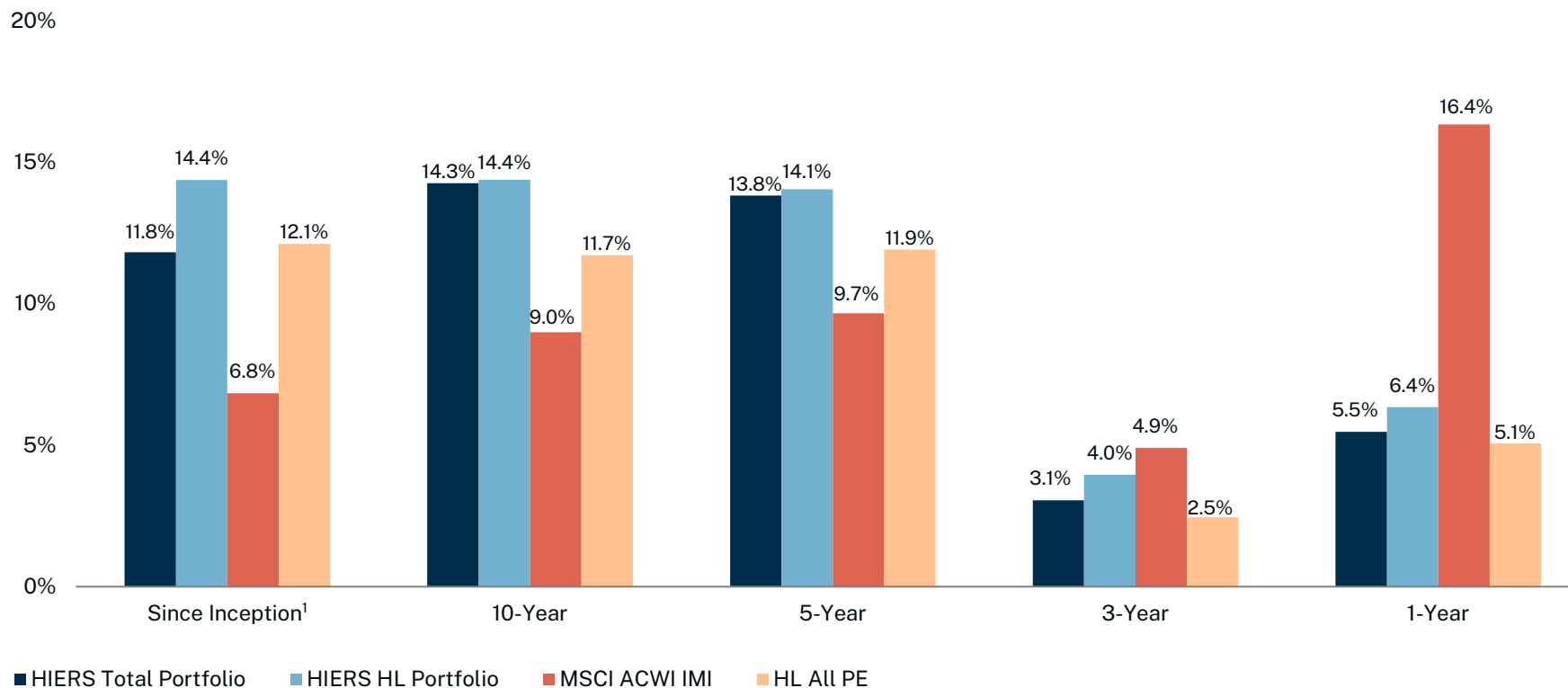
Quarterly Performance Summary					
\$ millions	Quarter Ended				Year Ended
	3/31/2024	6/30/2024	9/30/2024	12/31/2024	12/31/2024
Beginning Market Value	\$4,461.7	\$4,580.1	\$4,648.6	\$4,757.2	\$4,461.7
Paid-In Capital	152.3	215.4	143.8	152.5	664.0
Distributions	102.6	176.3	146.5	173.5	598.9
<b>Net Value Change</b>	<b>\$68.7</b>	<b>\$29.4</b>	<b>\$111.3</b>	<b>\$38.5</b>	<b>\$247.9</b>
Ending Market Value	4,580.1	4,648.6	4,757.2	4,774.7	4,774.7
Unfunded Commitments	2,313.1	2,254.8	2,212.5	2,275.1	2,275.1
Total Exposure	\$6,893.2	\$6,903.4	\$6,969.7	\$7,049.8	\$7,049.8
Point-to-Point IRR	1.53%	0.64%	2.39%	0.81%	5.47%
Since Inception IRR	12.16%	12.00%	11.96%	11.82%	11.82%

- Q4 2024 represents the 47<sup>th</sup> quarter of positive net value gain out of the last 50 quarters
- \$247.9M net value increase over LTM period with all four quarters generating gains

# Performance Against Benchmarks

HIERS' Portfolio generally outperforms benchmarks over longer time periods

IRR Performance as of December 31, 2024:



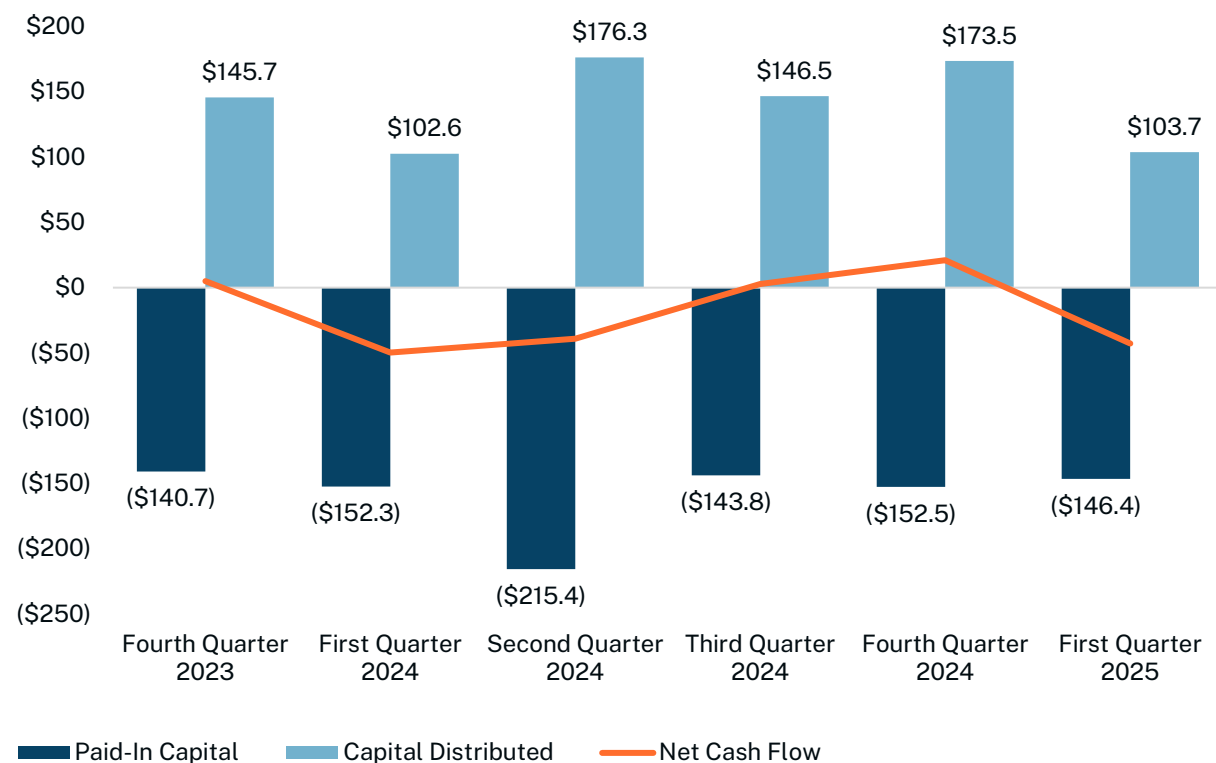
- Portfolio outperforming benchmark, MSCI ACWI IMI, across the 5-year, 10-year, and since inception periods
  - Portfolio outperforms public benchmark by 498 bps on a since inception basis
  - Average premium above MSCI of 481 bps across the 5-year, 10-year, and since inception periods

<sup>1</sup> Since Inception benchmark (MSCI ACWI IMI & HL All PE) start date is equal to HIERs Total Portfolio Since Inception start date of 9/16/1997. HIERs HL Portfolio Since Inception start date is 4/21/2014.

Note: IRR Straight Return methodology used for MSCI ACWI Public Benchmarks.

# Cash Flow Activity

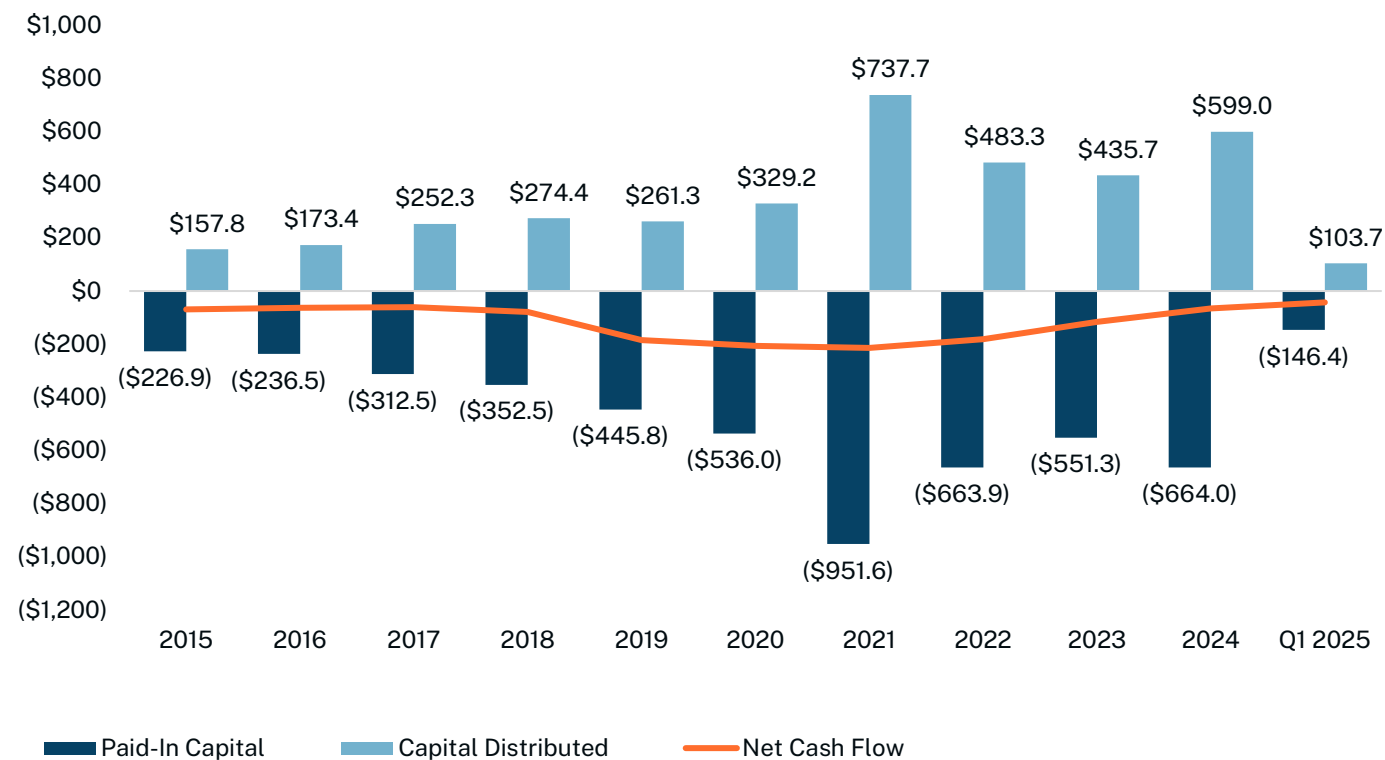
## Quarterly Contributions and Distributions



- Contributions outweighed distributions by \$42.8M in Q1 2025
  - Q1 2025 contributions down 4% from Q4 2024; distributions down 40%
  - Q1 2025 contributions and distributions are down 4% and up 1%, respectively, from Q1 2024

# Cash Flow Activity

## Annual Contributions and Distributions





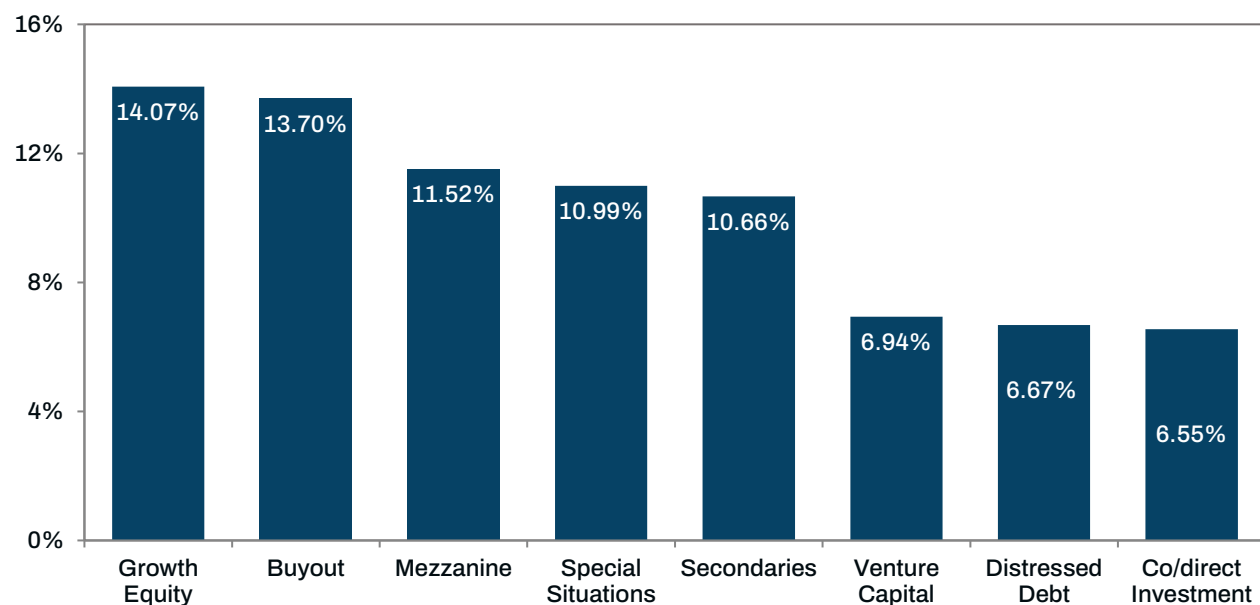
# Foundation Manager Performance – December 31, 2024

Manager	Number of Funds	Commitment	Paid-In Capital	Unfunded Commitment	Distributions	Market Value	D/PI	Multiple	IRR
Manager 1	7	\$182.0	\$153.6	\$27.9	\$136.0	\$126.3	0.89x	1.71x	16.35%
Manager 2	2	85.0	86.0	16.3	52.6	84.5	0.61x	1.59x	12.63%
Manager 3	2	85.0	29.4	55.6	0.0	38.6	0.00x	1.31x	13.70%
Manager 4	2	95.0	88.1	13.5	6.8	110.7	0.08x	1.33x	12.70%
Manager 5	10	370.7	308.7	135.2	222.1	249.7	0.72x	1.53x	14.57%
Manager 6	3	169.3	67.3	102.0	14.8	72.6	0.22x	1.30x	11.39%
Manager 7	2	115.3	82.2	33.2	61.6	70.3	0.75x	1.61x	19.31%
Manager 8	3	150.0	88.8	66.8	8.9	112.5	0.10x	1.37x	12.25%
Manager 9	8	227.4	190.0	52.7	158.2	160.3	0.83x	1.68x	20.76%
Manager 10	2	85.0	86.3	11.7	28.2	89.0	0.33x	1.36x	11.53%
Manager 11	11	135.0	95.9	39.1	0.7	111.8	0.01x	1.17x	6.67%
Manager 12	3	144.6	98.1	54.4	35.3	119.9	0.36x	1.58x	20.81%
Manager 13	8	143.5	97.6	46.6	180.4	27.5	1.85x	2.13x	14.05%
Manager 14	5	216.0	158.6	69.9	56.2	182.5	0.35x	1.51x	12.73%
Manager 15	2	80.0	45.9	34.1	1.8	64.9	0.04x	1.45x	16.37%
Manager 16	6	104.8	110.4	5.1	99.9	109.2	0.90x	1.89x	21.63%
Manager 17	4	206.6	87.1	99.8	24.7	107.7	0.28x	1.52x	14.29%
Manager 18	5	167.0	138.3	42.1	115.2	122.0	0.83x	1.71x	14.65%
Manager 19	8	186.9	160.9	49.4	146.4	141.8	0.91x	1.79x	15.22%
Manager 20	5	80.0	72.4	7.5	1.1	92.2	0.01x	1.29x	7.63%
Manager 21	11	180.0	155.6	24.3	134.6	130.9	0.87x	1.71x	8.72%
Manager 22	3	102.5	79.2	25.6	4.6	103.7	0.06x	1.37x	11.15%
Manager 23	4	155.0	132.8	34.7	54.9	123.2	0.41x	1.34x	10.62%
Manager 24	5	273.3	204.7	85.0	116.1	207.1	0.57x	1.58x	15.94%
Manager 25	5	110.0	88.2	21.9	38.9	93.1	0.44x	1.50x	10.07%
Manager 26	4	87.9	38.0	51.1	17.1	28.5	0.45x	1.20x	11.62%
Manager 27	2	94.0	99.4	11.0	36.8	102.2	0.37x	1.40x	11.15%
Manager 28	5	168.5	176.1	20.7	165.0	178.8	0.94x	1.95x	16.84%
Manager 29	12	196.3	149.5	56.5	161.8	105.9	1.08x	1.79x	17.82%
Manager 30	7	255.0	263.4	31.5	222.2	206.0	0.84x	1.63x	17.03%
Manager 31	2	100.0	63.6	37.1	2.1	70.1	0.03x	1.14x	6.14%
Manager 32	4	160.0	178.5	21.0	113.1	192.8	0.63x	1.71x	16.23%
Manager 33	7	271.3	150.7	131.6	158.2	75.9	1.05x	1.55x	9.88%
Manager 34	2	85.0	93.5	7.1	208.5	53.6	2.23x	2.80x	24.88%
Total Foundation Managers (34)	171	\$5,268.1	\$4,119.2	\$1,521.9	\$2,784.5	\$3,866.0	0.68x	1.61x	14.16%
Total HL Portfolio	141	\$5,568.8	\$4,181.9	\$1,863.6	\$2,261.6	\$4,093.7	0.54x	1.52x	14.38%
Total Portfolio	360	\$7,721.2	\$5,993.1	\$2,275.1	\$4,579.7	\$4,774.7	0.76x	1.56x	11.82%

- Foundation Managers continue to represent majority of Portfolio value
  - 68% of committed capital and 81% of NAV
- Foundation Managers outperforming total Portfolio by 234 bps
- HL Portfolio outperforming total Portfolio by 256 bps

# Performance Review by Strategy

As of December 31, 2024 (\$M)	Committed	% of Committed	Paid-In Capital	% Paid-In Capital	Capital Distributed	% Distributed	NAV	Multiple	IRR
<b>Investment Strategy</b>									
Growth Equity	\$724.6	9.4%	\$670.5	92.5%	\$530.9	79.2%	\$546.3	1.61x	14.07%
Buyout	5,084.2	65.8%	3,824.7	75.2%	3,055.6	79.9%	3,170.8	1.63x	13.70%
Small	380.6	4.9%	227.1	59.7%	120.8	53.2%	183.9	1.34x	11.33%
Mid	1,368.4	17.7%	896.1	65.5%	846.3	94.4%	634.3	1.65x	15.07%
Large	1,683.0	21.8%	1,392.7	82.8%	1,301.7	93.5%	1,108.5	1.73x	13.20%
Mega	1,652.1	21.4%	1,308.8	79.2%	786.7	60.1%	1,244.1	1.55x	13.39%
Special Situations	287.0	3.7%	259.0	90.2%	222.7	86.0%	152.6	1.45x	10.99%
Mezzanine	51.6	0.7%	49.8	96.4%	76.0	152.7%	0.8	1.54x	11.52%
Venture Capital	1,131.6	14.7%	798.0	70.5%	445.9	55.9%	682.0	1.41x	6.94%
Distressed Debt	204.8	2.7%	234.0	114.3%	205.2	87.7%	79.1	1.21x	6.67%
Co/Direct Investment	102.4	1.3%	57.0	55.6%	0.6	1.1%	62.4	1.11x	6.55%
Secondaries	135.0	1.7%	100.1	74.1%	42.7	42.7%	80.8	1.23x	10.66%
<b>Total</b>	<b>\$7,721.2</b>	<b>100.0%</b>	<b>\$5,993.1</b>	<b>77.6%</b>	<b>\$4,579.7</b>	<b>76.4%</b>	<b>\$4,774.7</b>	<b>1.56x</b>	<b>11.82%</b>



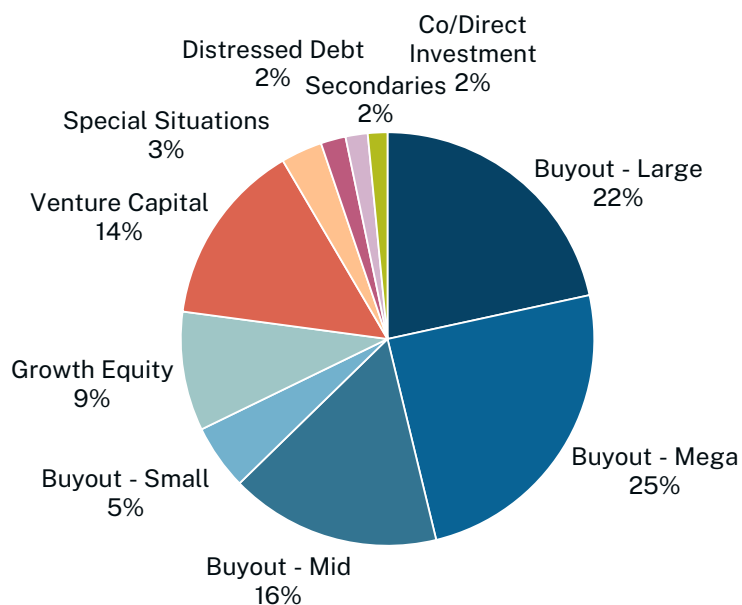
- Buyout accounts for 66% of commitments and 66% of NAV
  - Mid Buyout is Buyout's top sub-strategy by IRR at 15.07%
- Growth Equity continues to generate strong performance on an IRR and Multiple basis
- Distressed Debt fund performance lags other strategies as there have been limited distressed opportunities over the last decade

<sup>1</sup> Secondary purchases presented within their respective investment strategy except for \$100M commitment to Landmark Equity Partners XVI, L.P. and \$35M commitment to Landmark Equity Partners XVII, L.P.

# Portfolio Diversification

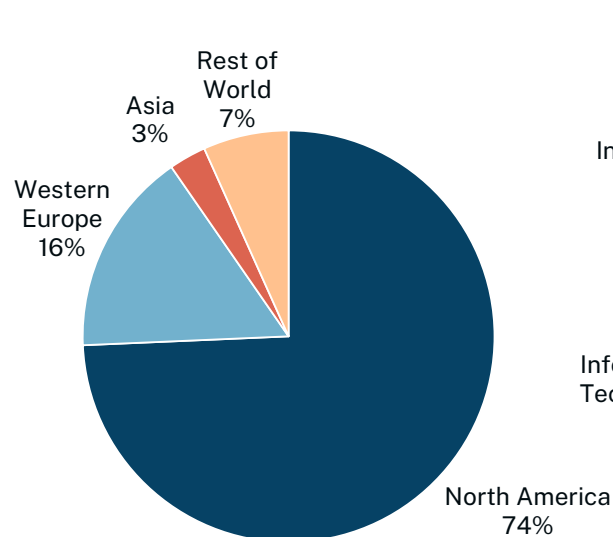
## Strategic Diversification by Total Exposure

As of December 31, 2024



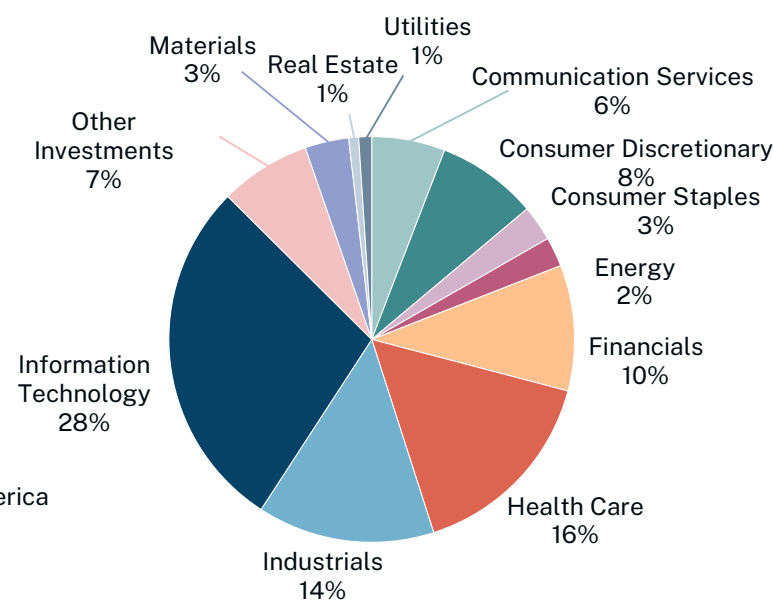
## Underlying Investment Diversification by Geography<sup>1</sup>

As of December 31, 2024



## Underlying Investment Diversification by Industry<sup>1</sup>

As of December 31, 2024



- Portfolio is prudently diversified by strategy, geography, and sector
- Strategy, geography and industry diversification remained relatively consistent QoQ and YoY
- Information Technology (28%) and Health Care (16%) remain the top two sector exposures

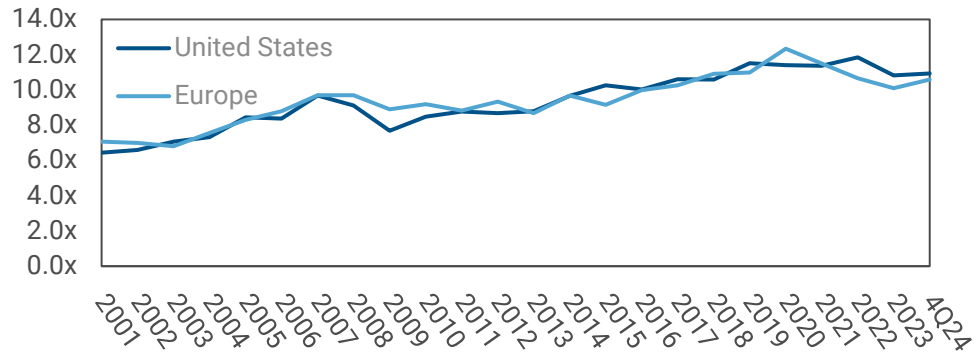
<sup>1</sup>Analysis excludes FoF holdings.

# Market Update

# Private Market Trends

## Purchase Price Multiples

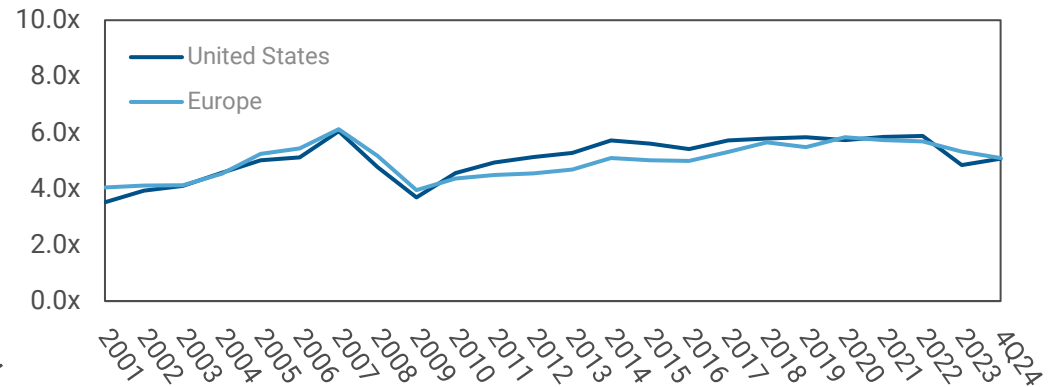
EV/EBITDA



Source: S&P LCD M&A Stats, European LBO Report (November 2024)

## Leverage Multiples

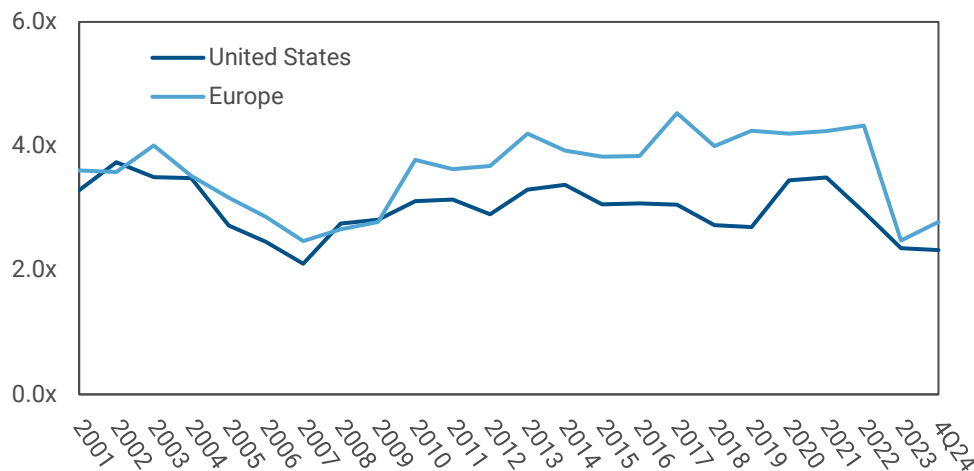
Net Debt/EBITDA



Source: S&P LCD M&A Stats, European LBO Report (November 2024)

## Coverage Ratios

EBITDA/Cash Interest Expense



- Purchase price multiples have come down from record highs in both the United States and Europe
- Leverage multiples have decreased but still remain above record lows post GFC
- Coverage ratios have compressed as a result of increased interest rates

# Appendix

# 2025 Strategic Plan

## Commitment Pacing

- **2025 commitment pacing of \$600-\$1,000M**

Includes:

- Hamilton Lane Discretion: \$350M to \$850M in primary commitments
- Stafford Ho’oulu: \$50M annual allocation
  - Includes Co-investments as well as Small-to-Mid Buyout, Venture Capital, and Growth Equity primary commitments
- Staff Discretion: \$100M to \$200M
- Hamilton Lane continues to guide towards the low-to-mid point of pacing range given uncertainty around portfolio liquidity

# 2025 Strategic Plan

## General Partner Relationships

- Continue to review existing manager relationships and cut where there is redundancy or underperformance
- Selectively add new relationships to fill strategic/geographic gaps or replace underperformers

## Commitment Sizing

- Continue to increase commitment sizes due to increased annual pacing
  - Maintain larger average commitment size for Foundation Managers

## Strategic Diversification

- Primary commitment focus on Buyout investments
- Opportunistically invest in high-conviction Venture Capital & Growth Equity managers
- No Credit/Distressed Debt investments, which are now part of ERS' Credit Portfolio
- Limited conventional energy

## Geographic Diversification

- Maintain current geographic exposure, with primary commitments to North America
- Opportunistically assess additional Western Europe and Asia relationships



# Statement of Investments as of December 31, 2024

Investment Name	Committed	Paid-In Capital <sup>1</sup>	Capital Distributed	Reported Market Value	Net IRR
Total Core Portfolio	\$7,590,002,077	\$5,896,024,975	\$4,546,615,771	\$4,678,786,417	11.86%
Total Stafford HiTip Fund I, L.P.	25,250,000	24,652,039	27,645,907	9,658,899	7.18%
Total Stafford HiTip Fund II, L.P.	31,075,000	28,343,234	4,824,207	35,915,177	9.84%
Total Stafford HiTip Fund III, L.P.	74,910,000	44,087,290	595,856	50,366,151	6.76%
Total Portfolio	\$7,721,237,077	\$5,993,107,537	\$4,579,681,742	\$4,774,726,644	11.82%

Note: The analysis was completed using available information provided by the general partner of each investment, unless otherwise noted. Cash flows are representative of HIERS' actual cash paid and received. Market values reflect HIERS' unrealized interest in each investment. The information provided is from the HIERS' custodial bank and/or its consultants and has not been provided or approved by any of the Funds' General Partners or members.

<sup>1</sup> Paid-in Capital includes both commitment and non-commitment reducing capital calls

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The following hypothetical example illustrates the effect of fees on earned returns for both separate accounts and fund-of-funds investment vehicles. The example is solely for illustration purposes and is not intended as a guarantee or prediction of the actual returns that would be earned by similar investment vehicles having comparable features. The example is as follows: The hypothetical separate account or fund-of-funds consisted of \$100 million in commitments with a fee structure of 1.0% on committed capital during the first four years of the term of the investment and then declining by 10% per year thereafter for the 12-year life of the account. The commitments were made during the first three years in relatively equal increments and the assumption of returns was based on cash flow assumptions derived from a historical database of actual private equity cash flows. Hamilton Lane modeled the impact of fees on four different return streams over a 12-year time period. In these examples, the effect of the fees reduced returns by approximately 2%. This does not include performance fees, since the performance of the account would determine the effect such fees would have on returns. Expenses also vary based on the particular investment vehicle and, therefore, were not included in this hypothetical example. Both performance fees and expenses would further decrease the return.

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**Philadelphia (Headquarters)**

Seven Tower Bridge  
110 Washington Street  
Suite 1300  
Conshohocken, PA 19428  
USA  
+1 610 934 2222

**London**

4th Floor  
10 Bressenden Place  
London SW1E 5DH  
United Kingdom  
+44 20 8152 4163

**Portland**

Kruse Woods II  
5335 Meadows Rd Suite  
280  
Lake Oswego, OR 97035  
USA  
+1 503 624 9910

**Shanghai**

One ICC  
Shanghai International  
Commerce Centre  
No. 288 South Shaanxi  
Road  
Xuhui, Shanghai  
Municipality 200031  
+021 8012 3630

**Tokyo**

13F, Marunouchi Bldg.  
2-4-1, Marunouchi  
Chiyoda-ku  
Tokyo 100-6313, Japan  
+81 (0) 3 5860 3940

**Denver**

10333 East Dry Creek Road  
Suite 310  
Englewood, CO 80112  
USA  
+1 866 361 1720

**Mexico City**

Av. Paseo de la Reforma  
333  
Espacio de oficina 417  
Cuauhtémoc, 06500  
Ciudad de México, CDMX  
Mexico  
+52 55 6828 7930

**San Diego**

7817 Ivanhoe Avenue  
Suite 310  
La Jolla, CA 92037  
USA  
+1 858 410 9967

**Singapore**

12 Marina View  
Asia Square Tower 2  
Suite 26-04  
Singapore, 018961  
+65 6856 0920

**Toronto**

40 King Street W  
Suite 3603  
Toronto, M5H 3Y2  
Canada  
+1 437 600 3006

**Frankfurt**

Schillerstr. 12  
60313 Frankfurt am Main  
Germany  
+49 69 153 259 93

**Miami**

999 Brickell Avenue  
Suite 720  
Miami, FL 33131  
USA  
+1 954 745 2780

**San Francisco**

201 California Street, Suite  
550  
San Francisco, CA 94111  
USA  
+1 415 365 1056

**Stockholm**

Östermalmstorg 1, Floor 4  
114 42 Stockholm  
Sweden  
+44 20 8152 4163

**Zürich**

Hamilton Lane (Switzerland)  
AG  
Genferstrasse 6  
8002 Zürich  
Switzerland  
+41 (0) 43 883 0352

**Hong Kong**

Room 1001-3, 10th Floor  
St. George's Building  
2 Ice House Street  
Central Hong Kong, China  
+852 3987 7191

**Milan**

Via Filippo Turati 30  
20121 Milano  
Italy  
+39 02 3056 7133

**Scranton**

54 Glenmaura National Blvd  
3rd Floor Suite 302  
Moosic, PA 18507  
USA  
+1 570 247 3739

**Sydney**

Level 33, Aurora Place  
88 Phillip Street  
Sydney NSW 2000  
Australia  
+61 2 9293 7950

**Las Vegas**

3753 Howard Hughes  
Parkway  
Suite 200  
Las Vegas, NV 89169  
USA  
+1 702 784 7690

**New York**

610 Fifth Avenue, Suite 401  
New York, NY 10020  
USA  
+1 212 752 7667

**Seoul**

12F, Gangnam Finance  
Center  
152 Teheran-ro, Gangnam-  
gu  
Seoul 06236  
Republic of Korea  
+82 2 6191 3200

**Tel Aviv**

6 Hahoshlim Street  
Building C 7th Floor  
Hertzelia Pituach, 4672201  
P.O. Box 12279  
Israel  
+972 73 2716610

# Employees' Retirement System of the State of Hawaii

Colin Bebee & Lynn Kamimoto  
Risk Budgeting Education (Continued)  
June 2, 2025



**MEKETA**

INVESTMENT GROUP

# Risk Budgeting Overview

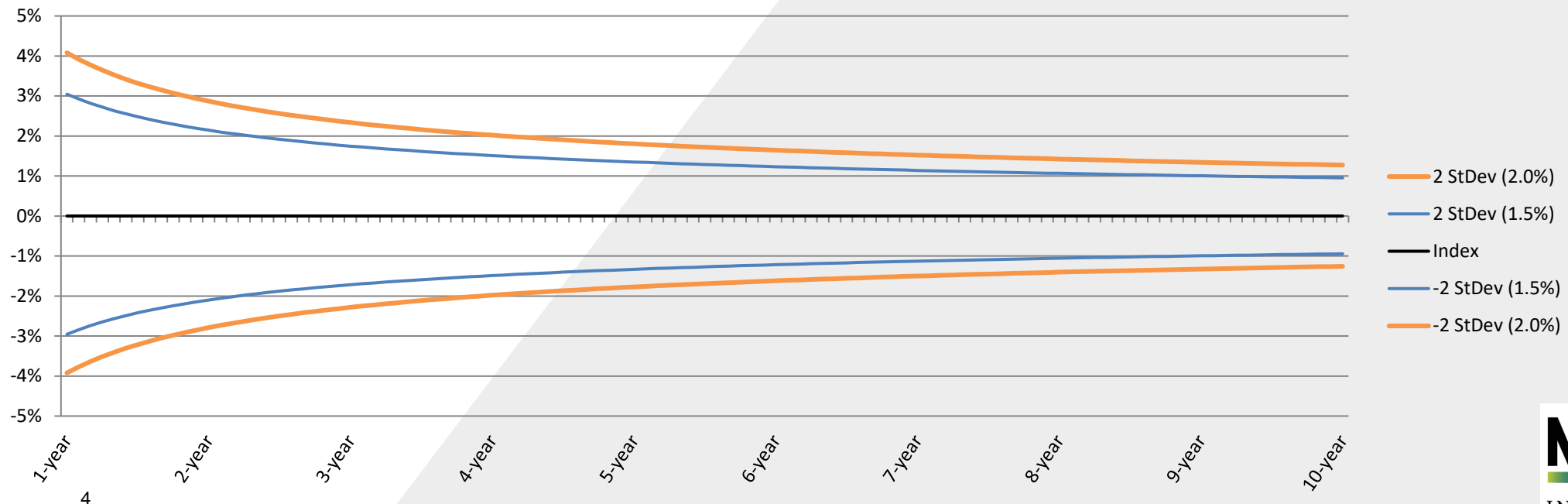
Colin Bebee, CFA

**MEKETA**  
INVESTMENT GROUP

- ▶ When institutional investors delegate manager selection to investment staff, the overarching fiduciaries (i.e., boards) require additional tools to execute their primary roles of “oversight and monitoring”.
- ▶ Risk budgeting is one of the primary tools for effective oversight and monitoring and it relates to managing a portfolio based on risk contributions/levels.
- ▶ Risk budgeting provides additional guardrails for actual implementation and helps manage expectations for actual portfolio results compared to the benchmark.
- ▶ As discussed in late-2024 and early-2025, Meketa and the ERS Staff have begun developing the processes, methodologies, and approaches for implementing a risk budgeting framework in the management of the ERS.
  - ▶ The rollout of the ERS’s risk budgeting framework will be progressive throughout 2025 and 2026.
- ▶ For most peers, risk budgets are created at various asset class levels, with the primary focus of the Board on the total fund risk budget.
  - ▶ Risk budgets at sub-levels are needed in order to develop the total fund risk budget.
- ▶ The purpose of this presentation is to provide a summary update on the work performed to-date, which has focused on public assets within *Broad Growth*.

- ▶ Meketa and ERS Staff have focused on developing a risk budget for the *Public Growth* assets within the portfolio (i.e., public equity, public credit, and public real assets).
  - ▶ This equates to roughly 25% of the Total ERS portfolio.
- ▶ Meketa and ERS Staff are moving forward with an active risk (tracking error) of 1.5% for *Public Growth*.
  - ▶ While the portfolio implementation transitions over time, there will be a maximum range of 1.5%-2.0%.
- ▶ The graphic below details annualized excess return ranges (two standard deviations), with zero net added value.

**Annualized Active Return Ranges**



- ▶ Meketa and ERS Staff are taking a very deliberate approach to the development of the risk budgets.
- ▶ This process is expected to take until the end of calendar year 2026 for full implementation.

### Important Considerations and Impacts

- Increased utilization of passive exposure in public markets, resulting in lower costs and narrower range of excess return expectations.
- Higher and more consistent hurdles for individual managers and ERS asset class composites.
- Cross-asset accountability among ERS Staff and Consultants, along with improved communication and collaboration.
- Improved rigidity and strategic action for portfolio remedies and enhancements.
- There is a learning curve for all parties involved (Board, Staff, Consultants).



# Risk Budgeting Implementation

Lynn Kamimoto, CFA, CFE, CISSP, FRM



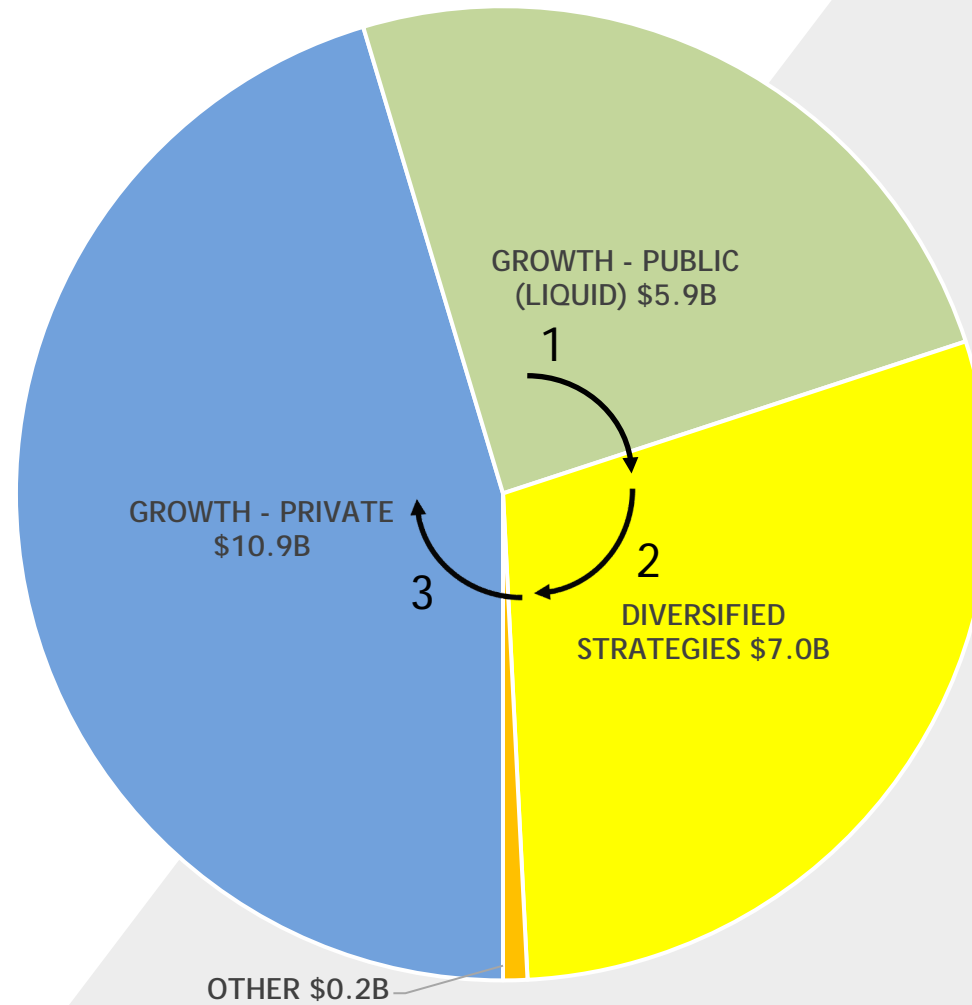
## Opportunities

- ▶ Simplified, Cost Conscious
- ▶ Consistent Risk Approach in Manager Mandates
- ▶ Listed Hurdle for Managers & Portfolio
- ▶ Cross-Asset Accountability & Communication
- ▶ Strategic Action for Remedies

## Challenges

- ▶ 2-3 Year Ramp Up Period
- ▶ Operational Clean-Up
- ▶ New Oversight Responsibilities
- ▶ Learning Curve for Board & Investment Team
- ▶ Alignment of Managers & ERS

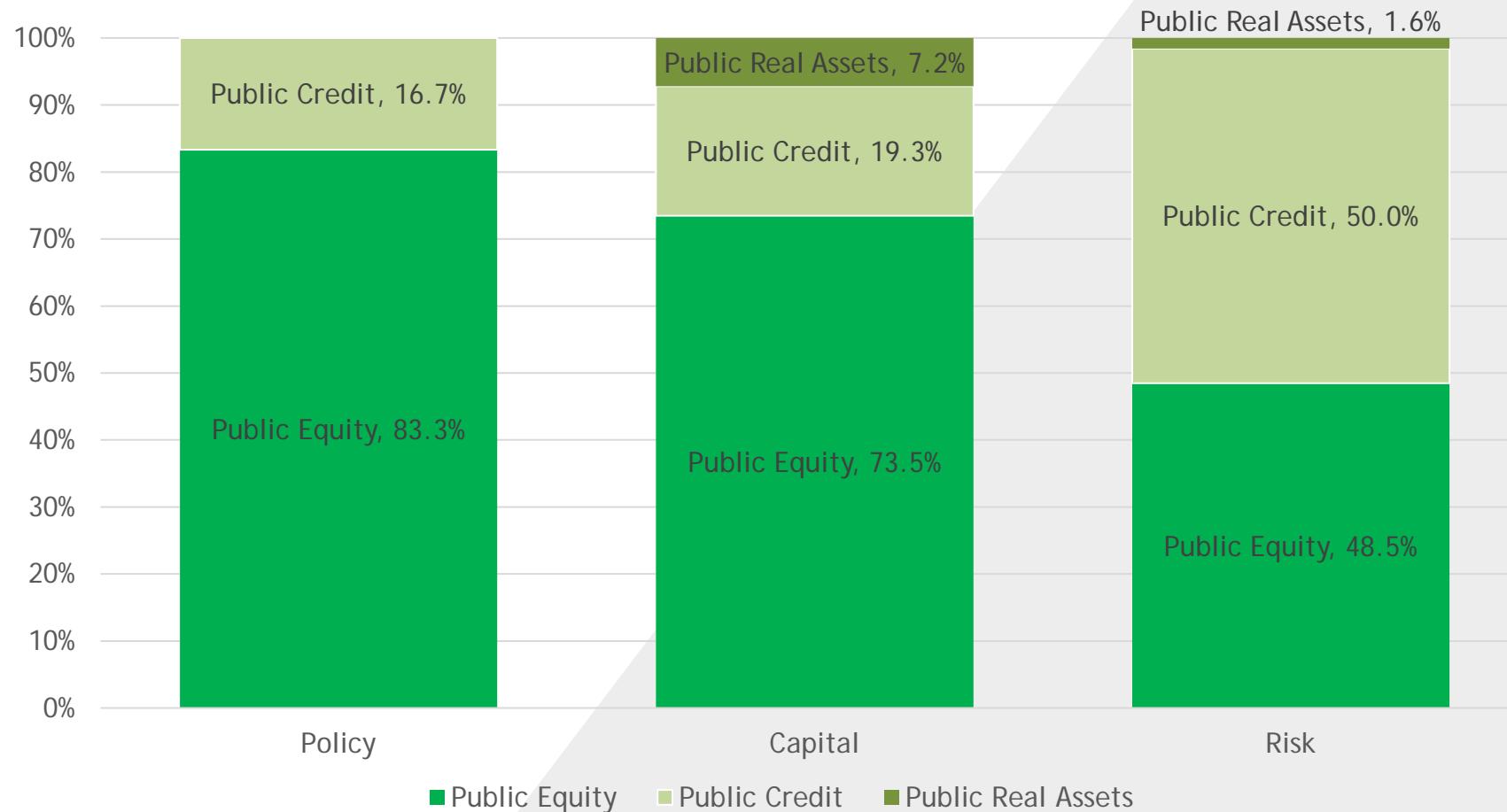
## Total Portfolio - Asset Allocation (as of 3/31/25)



Note: "Other" includes ERS Operating Account, and transitional or residual proceeds from liquidating or terminated accounts.



## Total Portfolio – Policy vs Capital vs Risk Allocation % (as of 3/31/25)



**Ex-Ante Risk for illustrative purposes only.** Compared to Growth Public Equity benchmark = 100% MSCI ACWI IMI. Reflects a liquid portfolio comprised of 75% Public Equity, 20% Public Credit, & 5% Public Infrastructure, with Public Equity Tracking Error (TE) = 1.25%, Public Credit TE = 4.50%, and Public Infrastructure TE = 0.50%..



- ▶ Culture/vernacular shift at both the oversight (i.e., Board/IC) and implementation (i.e., Staff) levels.
- ▶ Additional steps in the ERS's process:
  - ▶ Manager Alignment & Optimization to Policy Benchmarks
  - ▶ Curing Process
  - ▶ *Diversified Strategies* Risk Budget
  - ▶ *Private Markets* Risk Budget
  - ▶ *Total Fund* Risk Budget
- ▶ Monitoring, Reporting, & Escalation
- ▶ Review & update based on next Capital Markets Expectations Report



# MAHALO!

MINUTES OF THE INVESTMENT COMMITTEE OF THE  
BOARD OF TRUSTEES OF THE EMPLOYEES' RETIREMENT SYSTEM  
OF THE STATE OF HAWAII

FEBRUARY 18, 2025

CITY FINANCIAL TOWER  
201 MERCHANT STREET, SUITE 1200  
HONOLULU, HAWAII 96813

Committee Member	Mr. Lance Mizumoto, Chair
Trustees present:	Mr. Vince Barfield
(via teleconference)	Mr. Emmit Kane

Absent:	Mr. Bennett Yap, Vice Chair
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Visiting Trustees present: (via teleconference)	Dr. Genevieve Ley
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Attorneys present: (via teleconference)	Ms. Jenny Nakamoto, Deputy Attorney General
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Staff present: (City Financial Tower)	Ms. Kristin Varela, Chief Investment Officer Mr. Anthony Goo, Deputy Chief Investment Officer Mr. Aaron Au, Investment Officer – Private Equity Mr. Ian Wetzel, Investment Officer – Real Assets Ms. Christine Chang, Investment Officer – Diversifying Strategies Mr. Andrew Chen, Investment Officer - Credit Ms. Gerri Konishi, Member Home Loan Assistant Ms. Masayo Zabinski, Investment Accountant Ms. Andrea Gaspar, Administrative Assistant Ms. Lori Kim, Administrative Assistant Ms. Diana Gomes, Administrative Assistant
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Guest present: (via teleconference)	Ms. Mika Malone, Meketa Investment Group, Inc. Mr. Jonathan Daffron, Man Group Mr. Matt Silverio, Hamilton Lane Mr. Mitesh Pabari, Hamilton Lane Mr. Paul Yett, Hamilton Lane Mr. Andrew Betz, Stafford Capital
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Public present: (via teleconference)	Mr. Joe Ebisa, With Intelligence
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CALL TO ORDER

Chair Mizumoto requested Board members to identify themselves and confirm that no other individuals are present in the room. The Committee members present confirmed accordingly. Chair Mizumoto read the following statement, "Motion to hold the meeting allowing Trustees and members of the public to participate by interactive conference technology, pursuant to HRS § 92-3.7, with at least one

meeting location open to the public that has audiovisual connection.” On a motion made by Chair Mizumoto, seconded by Trustee Barfield and unanimously carried, the Investment Committee meeting commenced.

## PUBLIC COMMENT PERIOD

Chair Mizumoto called for both written and public comment. There was no public comment or written testimony submitted.

The meeting started without quorum and the Chair started the meeting with items not requiring action at 9:05 am.

## PRESENTATIONS

- MEKETA INVESTMENT GROUP, INC. – TOTAL FUND PERFORMANCE REVIEW FOR PERIOD ENDING DECEMBER 31, 2024

Ms. Mika Malone of Meketa Investment Group presented the Total Fund Performance Review for period ending December 31, 2024. The following is a summary of the presentation:

- The ERS Total Portfolio consistently outperformed the Median Public Fund across nearly all time periods.
- The portfolio efficiently improved because of recent ERS-led asset-liability studies.
- On a risk-adjusted basis, the portfolio outperformed the Median Public Fund Peer Group for the quarter and over the 3, 5 and 10-year periods.
- The portfolio’s market value as of December 31, 2024, was \$23.9 billion, with a net return of 2.2% for the quarter.

- MAN GROUP – DIVERSIFYING STRATEGIES PORTFOLIO REVIEW FOR PERIOD ENDING DECEMBER 31, 2024

IO Chang introduced the Rotating Alternative Asset Class Review for the Diversifying Strategies portfolio for period ending December 31, 2024, along with consultant Mr. Jonathan Daffron from Man Group. The following is a summary of the presentation:

- 2024 was a challenging year for Diversifying Strategies (DS) amid strong growth in equity markets. Despite this, the portfolio performed within expectation, with a loss of less than a 1% - a relatively strong result given broader market conditions.
- The portfolio had a strong first half of the year. However, a significant market downturn in April negatively impacted trend-following strategies, which were challenged during that period.
- Discretionary strategies within DS contributed positively to performance. Crisis risk indicators remained within established limits throughout the year.
- Gold rallied significantly throughout the year driven by geopolitical uncertainty, central bank actions and inflationary pressures.
- Mr. Jonathan Daffron from Man Group explained that their research team evaluates the full investment universe, narrowing options to a short list and then to an approved list. The team holds quarterly meetings with portfolio and risk management teams to assess strategies and determine optimal allocation of additional capital.

Trustee Kane joined the meeting at 9:15 am and quorum was established. The Chair continued the meeting by starting at the top of the agenda with the action items.



## NEW BUSINESS

- DISCUSSION & ELECTION OF CHAIR & VICE CHAIR OF THE INVESTMENT COMMITTEE

A discussion took place between committee members and Trustee Barfield nominated for a second term Trustee Mizumoto as Chair of the Investment Committee and Trustee Yap as Vice Chair. Trustee Kane concurred.

On a motion made by Trustee Barfield, seconded by Trustee Kane and unanimously carried, the Investment Committee approved the election of Trustee Mizumoto for Chair and Trustee Yap for Vice Chair. Chair Mizumoto thanked the committee for their confidence.

- REVIEW OF THE INVESTMENT COMMITTEE CHARTER

CIO Varela noted that the Investment Committee Charter provided in the packet was approved in February 2024. No changes to recommend.

On a motion made by Trustee Barfield, seconded by Trustee Kane and unanimously carried, the Investment Committee approved the Investment Committee Charter as presented.

- ADOPTION OF THE INVESTMENT COMMITTEE ANNUAL PERFORMANCE ASSESSMENT

CIO Varela presented the Investment Committee Annual Performance Assessment. In the Summary Assessment, present on page 2, the Committee reviewed Committee Management, Committee Effectiveness, and Notable Accomplishments over the past year.

On a motion made by Trustee Barfield, seconded by Trustee Kane and unanimously carried, the Investment Committee approved the Annual Performance Assessment as presented.

- ADOPTION OF ANNUAL INVESTMENT COMMITTEE WORKPLAN

The Annual Workplan has not changed from last year and subject to modifications at the discretion of the committee. This document outlines the goals and initiatives for the upcoming year. Some of the projects for this year include streamlining the Investment Policy Statement and creating an Investment Belief Statement both for adoption in November. The Investment Belief Statement, a foundation of ERS investment strategies, would also go to the Board of Trustees for approval.

On a motion made by Trustee Barfield, seconded by Trustee Kane and unanimously carried, the Investment Committee approved the Annual Investment Committee Workplan as presented.

## PRESENTATIONS

- EDUCATION – RISK BUDGETING (CONTINUED)

Ms. Lynn Kamimoto of ERS and Ms. Mika Malone of Meketa Investment Group presented the continuation of educational content on risk budgeting at the total portfolio level. The following is a summary of the presentation:

- Risk budgeting involves managing a portfolio based on the contribution or level of risk from each asset class component.

- Risk budgeting and active risk are closely related concepts. Risk budgeting is a strategic process where the total risk allocation is distributed among the various components of the portfolio. Active risk refers to the deviation of a portfolio's returns from its benchmark and is commonly referred to as tracking error. It should be measured and budgeted as part of the risk management process.
- Risk budgets guide the decisions that the ERS Staff makes at the implementation level relative to portfolio benchmarks.
- Risk budgeting is the process by which the Board/IC will be able to discuss, monitor, and set thresholds for various levels of active risk.
- This concept gained a lot of traction in the last seven years, particularly with large institutions as it helps simplify complex portfolio discussions.
- Volatility, a key measure of risk, reflects the degree of variation around the midpoint - higher volatility implies greater potential deviation.
- Once the risk budgeting process is finalized, the ERS Investment Committee (IC) will shift its focus to the Total Portfolio Active Risk.
- The IC will establish an acceptable range for active risk, within which ERS staff will be responsible for maintaining the portfolio.
- Active risk reports presented to IC will consist of the historical data, its sources, and forward-looking expectations. ERS staff and Meketa will provide regular updates on the progress throughout 2025.
- Risk Budgeting serves as a strategic guard rail to help direct decisions.

#### CIO UPDATE

CIO Varela informed the Investment Committee that there is nothing new to cover.

#### APPROVAL OF MINUTES – NOVEMBER 18, 2024

On a motion made by Trustee Barfield and seconded by Trustee Kane, and unanimously carried, the Investment Committee approved the minutes of November 18, 2024, meeting as presented, with the removal of Lori Tanigawa from the attendee list.

[Before entering Executive Session, Chair Mizumoto read the names of all authorized participants. All unauthorized participants were asked to leave the meeting.]

#### ENTER EXECUTIVE SESSION

On a motion made by Trustee Kane, seconded by Trustee Barfield, and unanimously carried, the Investment Committee entered Executive Session at 11:10 a.m.

#### EXECUTIVE SESSION

[At the beginning of Executive Session, Chair Mizumoto asked each participant individually to confirm no unauthorized person is present or able to hear them at their remote locations or via another audio or audiovisual connection. All responded they were by themselves.]

EXECUTIVE SESSION, PURSUANT  
TO HRS § 88-27.5(A)(1), AND HRS §  
92-5(A)(4), TO CONDUCT  
DISCUSSIONS AND  
DELIBERATIONS RELATING TO,  
AND IF APPROPRIATE, TO MAKE A

DECISION ON INVESTMENTS OR PROSPECTIVE INVESTMENTS BY THE SYSTEM THAT REQUIRE THE CONSIDERATION OF INFORMATION OR RECORDS THAT ARE EXEMPT FROM DISCLOSURE UNDER HRS CHAPTER 92F, INCLUDING INFORMATION AND RECORDS THAT ARE PROPRIETARY INFORMATION OR CONFIDENTIAL BUSINESS INFORMATION, AND TO CONSULT WITH THE BOARD'S ATTORNEYS ON QUESTIONS AND ISSUES PERTAINING TO THE BOARD'S POWERS, DUTIES, PRIVILEGES, IMMUNITIES, AND LIABILITIES WITH RESPECT TO UPDATES ON STATUS OR ISSUES RELATED TO CONFIDENTIAL ERS INVESTMENT PORTFOLIO UPDATES REGARDING CHANGES IN (1) STANLEY CAPITAL PARTNERS FUND INVESTMENT UPDATE, (2) UPDATE ON CLOSURE OF WEISS ASSET MANAGEMENT, (3) ANNUAL INVESTMENT ACTIVITY UPDATE (4) INVESTMENT OFFICE STAFFING UPDATES.

APPROVAL OF EXECUTIVE SESSION MINUTES – NOVEMBER 18, 2024

On a motion made by Trustee Kane, seconded by Trustee Barfield and unanimously carried, the Investment Committee approved the confidential Executive Session minutes of the November 18, 2024, as presented.

EXIT EXECUTIVE SESSION

On a motion made by Trustee Barfield, seconded by Trustee Kane, and unanimously carried, the Investment Committee exited Executive Session at 11:59 a.m.

SUMMARY OF EXECUTIVE SESSION

Chair Mizumoto summarized what was discussed in Executive Session:

- Update on Stanley Capital Partners Fund Investment.
- Update on closure of Weiss Asset Management.
- Annual investment activity update
- Investment office staffing update.
- Approved Executive Session minutes.

ADJOURNMENT

On a motion made by Trustee Kane, seconded by Trustee Barfield, and unanimously carried, Chair Mizumoto adjourned the meeting at 12:00 p.m.

**REDACTED  
SIGNATURE**

Kristin Varela  
Chief Investment Officer  
KV/dlg