

Joint Meeting of the Board of Trustees  
and  
Investment Advisory Committee

March 20, 2024



## Public Agenda Item #5

*Call Meeting of the ERS Board of Trustees to Order*

March 20, 2024

## Public Agenda Item #6

*Consideration of Consent Agenda - (Action)*

March 20, 2024

Discussion  
Action Item

# PUBLIC COMMENTS

March 20, 2024

## Public Agenda Item #7

### *Consideration of Annual Review of the Investment Advisory Committee Member Eligibility and Compliance*

March 20, 2024

David T. Veal, Chief Investment Officer

# IAC Eligibility and Compliance

## *Statutory Requirements*



The Investment Advisory Committee (IAC) assists the Board in carrying out its fiduciary duty with regard to the investment of the Trust and related responsibilities.

Pursuant to Texas Government Code §§ 815.5092 and 815.5093, the Board shall review the eligibility status of IAC members at least annually.

Criteria for the review of eligibility status include:

- Potential conflicts of interest between the IAC members and ERS
- Ability of IAC Members to discharge their duties fully
- Record of regular attendance at scheduled Board/IAC Meetings

# IAC Eligibility and Compliance

## *Conflicts of Interest for CY2023*



On January 4, 2024, Investment Compliance delivered its 2023 Annual IAC Attestation to all IAC members requiring them to:

- Certify receipt and compliance with ERS Investment Policy Statement
  - includes the Insider Trading and Confidentiality Policy
- Disclose outside business activities

Annually IAC members acknowledge receipt of ERS Ethics policies and affirm compliance

- IAC members must disclose outside relationships/business activities
- This process allows for internal review of any potential conflicts
- CIO determined that none of the disclosures indicated a material conflict of interest

# IAC Eligibility and Compliance

## Skills Assessment for CY2023



	Term Expiration	Investment Experience	Public Equity	Private Equity	Credit	Hedge Funds	Rates & Cash	Real Estate	Infra-structure	Special Situations
<b>IAC Chair, Gene L. Needles, Jr.</b> Former Chairman, President and CEO, Resolute Investment Managers	5/31/26	42 years	✓	✓	✓	✓		✓		✓
<b>IAC Vice-Chair, Laurie Dotter</b> Retired from Transwestern Corporate Properties as President	5/31/25	38 years						✓	✓	✓
<b>Bob Alley, CFA</b> Retired from AIM Advisors, Inc. as Chief Fixed Income Officer	8/31/24	46 years	✓	✓	✓		✓			✓
<b>Ryan Bailey, CFA, FRM, CAIA, CMT</b> CIO, Paradigm Institutional Investments, LLC	3/31/25	23 years	✓	✓	✓	✓	✓	✓	✓	✓
<b>Milton Hixson, CPA, CFP</b> Founder & President, FMP Wealth Advisers	3/31/26	49 years	✓	✓	✓	✓		✓	✓	✓
<b>Ken Mindell</b> Retired SVP, Treasurer & Dir. Investments for Rosewood Management Corporation	5/31/25	41 years	✓	✓	✓	✓		✓		✓
<b>Ruby Muñoz Dang</b> Partner and Director of Marketing & Client Services, Garcia Hamilton & Associates, L.P.	3/31/25	26 years	✓		✓		✓			✓

# IAC Eligibility and Compliance

## Meeting Attendance for CY23



Attendance by IAC Members for Calendar Year 2023					
IAC Member	ERS Board/IAC meeting dates				Quarterly IAC meetings
	1-Mar	17-May	23-Aug	5-Dec	14-Nov
Gene Needles (Chair)	✓	✓	✓	✓	✓
Laurie Dotter (Vice Chair)	✓	✓	✓	✓	✓
Robert Alley	✓	✓	✓	✓	✓
Ryan Bailey	✓	✓	✓	✓	✓
Milton Hixson	✓	✓	✓	✓	✓
Ken Mindell	✓	✓		✓	✓
Ruby Muñoz Dang	✓	✓	✓	✓	✓

Other Meetings	
Asset Class Investment Committee	TexaSaver Product Review Committee
Number of Meetings	Number of Meetings
	4
8	2
24	
6	
1	2

Notes
✓ Denotes a meeting attended
Pursuant to Texas Government Code §§ 815.5092 and 815.5093, grounds for removal of an IAC member includes absence for more than half of the scheduled meetings of the IAC. All IAC members were in compliance with this requirement for CY 2023.
The requirement for Quarterly IAC meetings became effective on September 1, 2023 with the incorporation of the IAC Charter into the ERS Investment Policy Statement by the Board. Prior to that date, quarterly briefings of the IAC were held by staff.

One or more IAC members will contribute their expertise to the Investment Consultant procurement process under way during 2024

# IAC Eligibility and Compliance



## *Conclusion*

### Staff summary assessment:

- IAC is equipped to discharge its duties fully
- Attendance at Board/IAC meetings is consistent with Policy
- Conflicts of interest are properly disclosed and not significant
- IAC members contribute meaningfully to ACICs and Texa\$aver PRC

# Discussion

## Public Agenda Item #8

*Consideration of Appointment of Chair and Vice-Chair of  
the Investment Advisory Committee – (Action)*

March 20, 2024

David T. Veal, Chief Investment Officer

# Investment Advisory Committee

## *Chair and Vice-Chair Selection*



- Exists at the discretion of the Board in Texas Administrative Code § 63.17(b)
- Has at least five members and not more than seven, with seven currently
- Chartered in the IPS to advise the Board on matters related to investments
- IAC Charter requires the Board to select the IAC Chair and Vice Chair
  - Term of office for each is two years
  - Serve as liaisons to the Board
  - Preside over IAC meetings
  - Meet with the Board IAC Working Group

# Laurie L. Dotter

## *Recommendation for IAC Chair*



- ERS IAC Member since 2019
  - 100% attendance at Board/IAC meetings
  - Participant in 36 ACIC meetings
  - Texa\$aver<sup>SM</sup> Product Review Committee member
- Comptrollers Investment Advisory Board for Texas Treasury Safekeeping Trust Company since 2009
- President, Transwestern Investment Group 2010-2016
- President, Transwestern Corp. Properties 2016-2017
- Executive Investment Officer, Hunt Realty Investments from 1998 until 2010
- Director of Real Estate Investments at the Teacher Retirement System of Texas, 1993 to 1998



# Ruby Muñoz Dang

## *Recommendation for IAC Vice-Chair*



- ERS IAC member since March 2022
  - 100% attendance at Board/IAC meetings this term
  - Texa\$aver<sup>SM</sup> Product Review Committee member
- Partner and Director of Marketing & Client Services, Garcia Hamilton & Associates LP
- GH&A for 20+ years as Portfolio Administrator, Equity Trader, Equity Research Analyst, Assistant Equity Portfolio Manager
- Former Trustee of the MTA of Harris County Non-Union Pension Plan Trust
- Mentors high school and college students
- Active volunteer in education



Discussion  
Action Item

## Public Agenda Item #9

*Call Meeting of the Investment Advisory Committee to Order*

March 20, 2024

## *Public Agenda Item #10*

*\*Consideration of the Texa\$aver Annual Investment Performance and Product Review Committee Recommendations - (Action)*

March 20, 2024

David T. Veal, Chief Investment Officer

Tom Nun, Portfolio Strategist, Empower Investments

# Texa\$aver Program

## Program Overview



### TEXA\$AVER<sup>SM</sup> 401(k) / 457 Program

- The purpose of the Program is to help participants increase their retirement savings and accumulate supplemental assets for retirement in compliance with Sections 401(k) and 457(b) of the Internal Revenue Code (IRC).
- The Program aims to provide a broad range of investment products, including target date funds, core funds and a self-directed brokerage account that allow participants to construct a diversified portfolio designed to reflect the individual's time horizon and risk tolerance.



# TexaSaver Program



## Investment Products

TexaSaver offers a range of investment products to help participants reach their individual retirement savings goals. The investment products are the same between both plan types.

### Target Date Funds

- Manager reduces investment risk over time by steadily lowering equity exposure
- Requires the lowest level of participant engagement to build and maintain portfolio
- Represents 25% of program assets

### Core Funds

- Participants or managed account platform create portfolios from asset class building blocks
- Requires a higher level of participant engagement to build and maintain portfolio
- Represents 70% of program assets

### Self Directed Brokerage Account

- Participants create their own investment portfolios using publicly traded securities
- Requires the highest level of participant engagement to build and maintain portfolio
- Represents 5% of program assets

# Texa\$aver Program

## *Target Date Funds*



- Target Date Funds (TDFs) are professionally managed to reduce market risk gradually as the target retirement date approaches
- TDFs serve as the Qualified Default Investment Alternative (QDIA) within the Texa\$aver program
- Newly hired state agency employees are automatically enrolled into the 401(k) at 1% of their monthly salary
- Employees are enrolled into the LifePath® fund vintage that corresponds to an assumed retirement age of 65

# Texa\$aver Program

## Core Investment Funds



	Core Investment Option	Asset Class	Ticker
Conservative 	BlackRock Short-Term Investment Fund W	Money Market/ Short-Term	N/A (CIT)
	BlackRock 1-3 Year Government Bond Index F	Short-Term Bond/ High Quality	N/A (CIT)
	BlackRock Bond Index Fund F	Intermediate-Term Bond/High Quality	N/A (CIT)
	AB All Market Real Return Portfolio Fund	Specialty Fund	AMTIX
	Vanguard Wellington Admiral Fund	Domestic Stock and Bond/Balanced	VWENX
	Vanguard Institutional Index Fund, Institutional Plus Shares	Domestic Stock/ Large Cap Blend	VIII X
	Vanguard Growth Index Fund Institutional Shares	Domestic Stock/ Large Cap Growth	VIGIX
	BlackRock Mid Capitalization Equity Index F	Domestic Stock/ Mid Cap Blend	N/A (CIT)
	Vanguard S&P Small-Cap 600 Index Fund Institutional	Domestic Stock/ Small Cap Blend	VSMSX
	Fidelity International Index Fund	Foreign Stock/ Large Cap Blend	FSPSX
Aggressive 	Fidelity Diversified International Fund	Foreign Stock/ Large Cap Blend	FDIVX

# 2023 Investment Review

Tom Nun CFA<sup>®</sup>

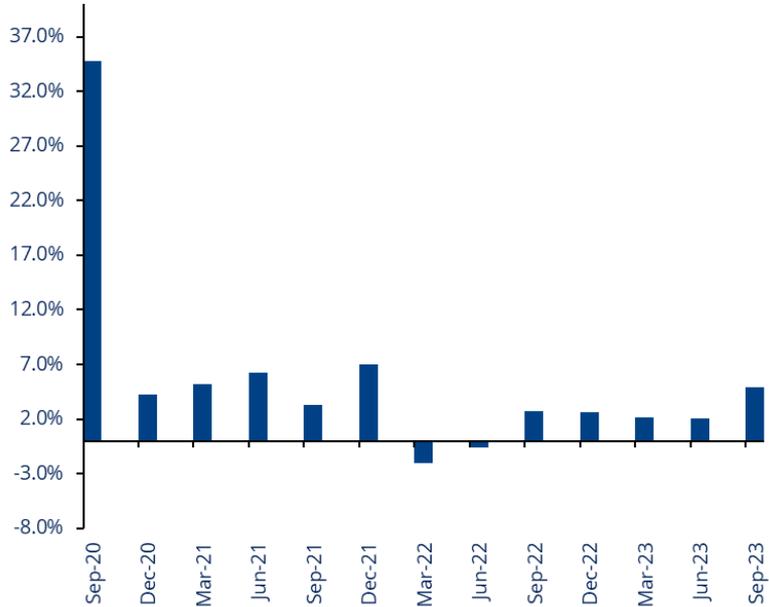
Portfolio Strategist, Empower Investments

# Capital Markets Update

# State of the US Economy

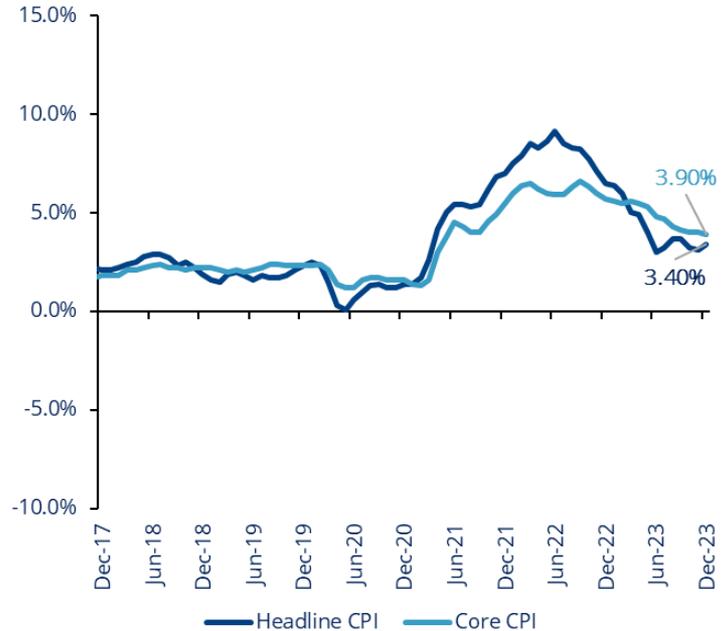
## Real GDP Growth

quarter over quarter annualized, through September 2023



## US Consumer Price Index

annual percent change, through December 2023



Source: Bloomberg, ECM Analysis.

The core measure of inflation excludes food and energy prices while the headline inflation measure does not. GDP estimates presented reflect the median estimate provided by Bloomberg.

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# Domestic Equity Market Returns

(as of December 31, 2023)

		QTD	YTD	1 Year Trailing	3 Year Trailing	5 Year Trailing	10 Year Trailing	2023	2022	2021	2020	2019	2018	2017
<b>Domestic Equity</b>														
Large Cap	S&P 500	11.7%	26.3%	26.3%	10.0%	15.7%	12.0%	26.3%	-18.1%	28.7%	18.4%	31.5%	-4.4%	21.8%
	Russell 1000 Value	9.5%	11.5%	11.5%	8.9%	10.9%	8.4%	11.5%	-7.5%	25.2%	2.8%	26.5%	-8.3%	13.7%
	Russell 1000 Growth	14.2%	42.7%	42.7%	8.9%	19.5%	14.9%	42.7%	-29.1%	27.6%	38.5%	36.4%	-1.5%	30.2%
Mid Cap	Russell Mid Cap	12.8%	17.2%	17.2%	5.9%	12.7%	9.4%	17.2%	-17.3%	22.6%	17.1%	30.5%	-9.1%	18.5%
	Russell Mid Cap Value	12.1%	12.7%	12.7%	8.4%	11.2%	8.3%	12.7%	-12.0%	28.3%	5.0%	27.1%	-12.3%	13.3%
	Russell Mid Cap Growth	14.5%	25.9%	25.9%	1.3%	13.8%	10.6%	25.9%	-26.7%	12.7%	35.6%	35.5%	-4.8%	25.3%
Small Cap	Russell 2000	14.0%	16.9%	16.9%	2.2%	10.0%	7.2%	16.9%	-20.4%	14.8%	20.0%	25.5%	-11.0%	14.6%
	Russell 2000 Value	15.3%	14.6%	14.6%	7.9%	10.0%	6.8%	14.6%	-14.5%	28.3%	4.6%	22.4%	-12.9%	7.8%
	Russell 2000 Growth	12.7%	18.7%	18.7%	-3.5%	9.2%	7.2%	18.7%	-26.4%	2.8%	34.6%	28.5%	-9.3%	22.2%

Source: Morningstar Direct, Empower Investments analysis. Past performance is not a guarantee of prediction of future results.

# International Equity Market Returns

(as of December 31, 2023)

	QTD	YTD	1 Year Trailing	3 Year Trailing	5 Year Trailing	10 Year Trailing	2023	2022	2021	2020	2019	2018	2017	
<b>International Equity</b>														
Developed Markets	MSCI EAFE	10.4%	18.2%	18.2%	4.0%	8.2%	4.3%	18.2%	-14.5%	11.3%	7.8%	22.0%	-13.8%	25.0%
	Australia	15.2%	14.8%	14.8%	6.0%	9.7%	5.0%	14.8%	-5.3%	9.4%	8.7%	22.9%	-12.0%	19.9%
	Canada	11.2%	15.4%	15.4%	8.2%	11.2%	4.6%	15.4%	-12.9%	26.0%	5.3%	27.5%	-17.2%	16.1%
	France	10.3%	21.4%	21.4%	7.9%	10.5%	5.7%	21.4%	-13.3%	19.5%	4.1%	25.7%	-12.8%	28.7%
	Germany	13.0%	23.0%	23.0%	0.2%	6.3%	2.0%	23.0%	-22.3%	5.3%	11.5%	20.8%	-22.2%	27.7%
	Japan	8.2%	20.3%	20.3%	0.7%	6.9%	5.0%	20.3%	-16.6%	1.7%	14.5%	19.6%	-12.9%	24.0%
	Switzerland	10.1%	15.7%	15.7%	4.1%	10.7%	5.9%	15.7%	-18.3%	19.3%	11.6%	32.3%	-9.1%	22.5%
	UK	6.9%	14.1%	14.1%	8.8%	6.9%	2.5%	14.1%	-4.8%	18.5%	-10.5%	21.0%	-14.2%	22.3%
Emerging Markets	MSCI Emerging Markets	7.9%	9.8%	9.8%	-5.1%	3.7%	2.7%	9.8%	-20.1%	-2.5%	18.3%	18.4%	-14.6%	37.3%
	Brazil	17.8%	32.7%	32.7%	7.8%	5.1%	2.8%	32.7%	14.2%	-17.4%	-19.0%	26.3%	-0.5%	24.1%
	China	-4.2%	-11.2%	-11.2%	-18.4%	-2.8%	0.9%	-11.2%	-21.9%	-21.7%	29.5%	23.5%	-18.9%	54.1%
	India	11.9%	20.8%	20.8%	12.0%	11.8%	9.9%	20.8%	-8.0%	26.2%	15.6%	7.6%	-7.3%	38.8%
	Indonesia	2.0%	7.3%	7.3%	4.3%	2.6%	4.4%	7.3%	3.6%	2.1%	-8.1%	9.1%	-9.2%	24.2%
	Korea	15.3%	23.2%	23.2%	-7.3%	5.3%	3.1%	23.2%	-29.4%	-8.4%	44.6%	12.5%	-20.9%	47.3%
	Mexico	18.6%	40.9%	40.9%	19.2%	13.1%	2.5%	40.9%	-2.0%	22.5%	-1.9%	11.4%	-15.5%	16.0%
	Russia	0.0%	-100.0%	-100.0%	-99.0%	-93.0%	-73.8%	0.0%	-100.0%	19.0%	-12.5%	50.9%	-0.4%	5.2%

Source: Morningstar Direct, Empower Investments analysis. Individual country returns are represented by MSCI indices and shown as USD returns. Canada is not part of the MSCI EAFE Index. Past performance is not a guarantee of prediction of future results.

# Fixed Income and Specialty Returns

(as of December 31, 2023)

	QTD	YTD	1 Year Trailing	3 Year Trailing	5 Year Trailing	10 Year Trailing	2023	2022	2021	2020	2019	2018	2017
<b>Fixed Income</b>													
Bloomberg Barclays US Aggregate	6.8%	5.5%	5.5%	-3.3%	1.1%	1.8%	5.5%	-13.0%	-1.5%	7.5%	8.7%	0.0%	3.5%
Bloomberg Barclays US Treasury	5.7%	4.1%	4.1%	-3.8%	0.5%	1.3%	4.1%	-12.5%	-2.3%	8.0%	6.9%	0.9%	2.3%
Bloomberg Barclays US Govt/ Credit Intermediate	4.6%	5.2%	5.2%	-1.6%	1.6%	1.7%	5.2%	-8.2%	-1.4%	6.4%	6.8%	0.9%	2.1%
Bloomberg Barclays US Govt/ Credit Long	13.2%	7.1%	7.1%	-8.7%	1.1%	3.2%	7.1%	-27.1%	-2.5%	16.1%	19.6%	-4.7%	10.7%
Bloomberg Barclays US TIPS	4.7%	3.9%	3.9%	-1.0%	3.2%	2.4%	3.9%	-11.8%	6.0%	11.0%	8.4%	-1.3%	3.0%
Bloomberg Barclays US Corporate High Yield	7.2%	13.4%	13.4%	2.0%	5.4%	4.6%	13.4%	-11.2%	5.3%	7.1%	14.3%	-2.1%	7.5%
FISEWGEI	8.1%	5.2%	5.2%	-7.2%	-1.4%	-0.3%	5.2%	-18.3%	-7.0%	10.1%	5.9%	-0.8%	7.5%
FISE Treasury Bill 3 Month	1.4%	5.3%	5.3%	2.2%	1.9%	1.3%	1.5%	0.0%	0.6%	2.3%	1.9%	0.8%	0.3%
<b>Specialty</b>													
Bloomberg Commodity	-4.6%	-7.9%	-7.9%	10.8%	7.2%	-1.1%	16.1%	27.1%	-3.1%	7.7%	-11.2%	1.7%	11.8%
DJUS Select REIT	16.3%	14.0%	14.0%	7.2%	6.1%	7.0%	-26.0%	45.9%	-11.2%	23.1%	-4.2%	3.8%	6.7%
FISE EPRA/ NAREIT Developed Ex US	15.0%	7.1%	7.1%	-3.9%	0.2%	1.6%	-23.8%	8.8%	-6.5%	21.8%	-5.8%	20.8%	2.0%

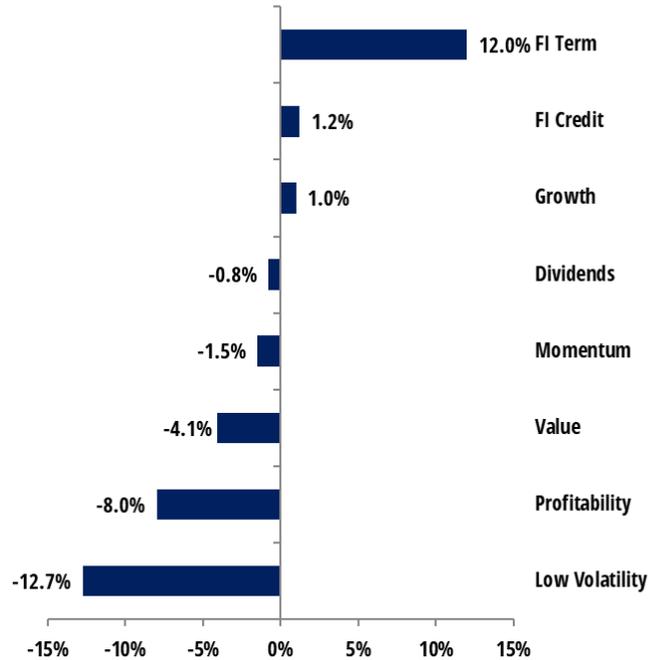
Source: Morningstar Direct, Empower Investments analysis.

Past performance is not a guarantee or prediction of future results.

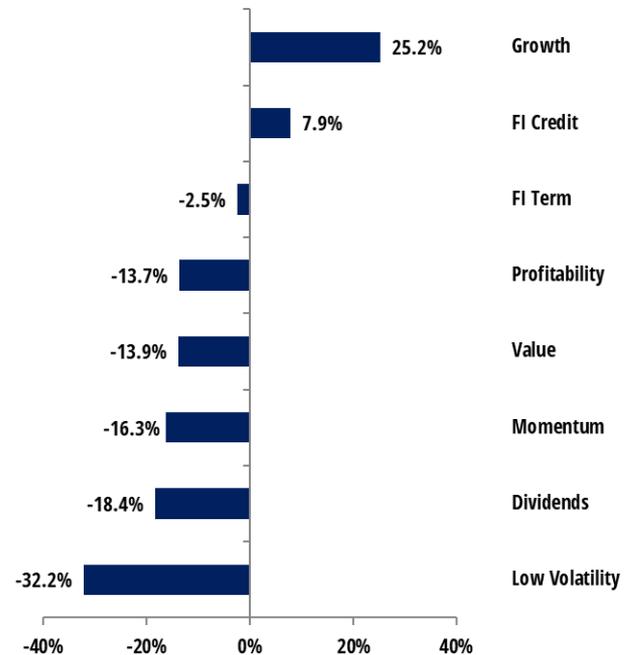
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# Factor Style Performance

QTD Returns  
as of December 31, 2023



1-Year Returns  
as of December 31, 2023



Source: Bloomberg, Empower Investments analysis.

# Returns By Style

		3 Months			1 Year			Since Pre-Covid Market Peak (February, 2020)		
		Value	Blend	Growth	Value	Blend	Growth	Value	Blend	Growth
Size	Large	9.5%	11.7%	14.2%	11.5%	26.3%	42.7%	20.0%	50.7%	44.2%
	Mid	12.1%	12.8%	14.5%	12.7%	17.2%	25.9%	31.4%	34.4%	32.6%
	Small	15.3%	14.0%	12.7%	14.6%	16.9%	18.7%	34.9%	26.8%	15.9%
		3 Year			5 Year			Since Covid Market Low (March, 2020)		
		Value	Blend	Growth	Value	Blend	Growth	Value	Blend	Growth
Size	Large	8.9%	10.0%	8.9%	10.9%	15.7%	19.5%	103.0%	119.9%	134.2%
	Mid	8.4%	5.9%	1.3%	11.2%	12.7%	13.8%	122.5%	117.3%	101.0%
	Small	7.9%	2.2%	-3.5%	10.0%	10.0%	9.2%	130.2%	110.2%	87.3%

performance as of December 31, 2023

Source: Morningstar Direct; Empower Investments Analysis; Large Blend – S&P 500 Index, Large Value – Russell 1000 Value Index, Large Growth – Russell 1000 Growth Index, Mid Blend – Russell Mid Cap Index, Mid Value – Russell Mid Cap Value Index, Mid Growth – Russell Mid Cap Growth Index, Small Blend – Russell 2000 Index, Small Value – Russell 2000 Value Index, Small Growth – Russell 2000 Growth Index. Past performance is no guarantee or prediction of future results.

# TexaSaver Fund Performance Analysis: Target Date Funds

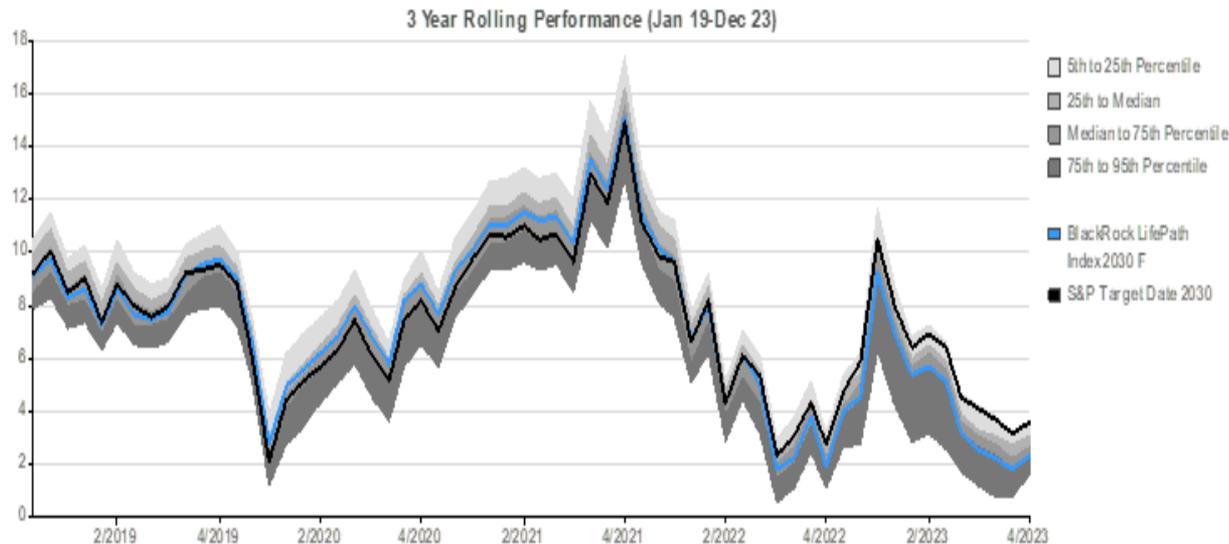
# Target Date Retirement Fund

## BlackRock LifePath Index Retire F Fund



as of December 31, 2023

Program Assets	\$285.6 million
# of Texa\$aver accounts	17,980
<b>Fund Overview</b>	
Investment type	Collective Trust
Investment strategy	Passive
Net Texa\$aver expense	0.08%
<b>Asset Allocation</b>	
Bonds	60.3%
Stocks	36.4%
Other*	3.3%
<i>*Includes real estate, commodities and other</i>	
<i>Source: BlackRock (2023 annual review)</i>	



	1Y	3Y	5Y	10Y
Fund / Peer Rank	11.21 / 27	0.56 / 54	5.68 / 12	4.52 / 13
Benchmark / Peer Rank	10.35 / 61	1.00 / 29	4.90 / 52	3.98 / 55
Excess to Benchmark	0.86	-0.44	0.78	0.54

# Target Date 2025 Fund

## BlackRock LifePath Index 2025 F Fund



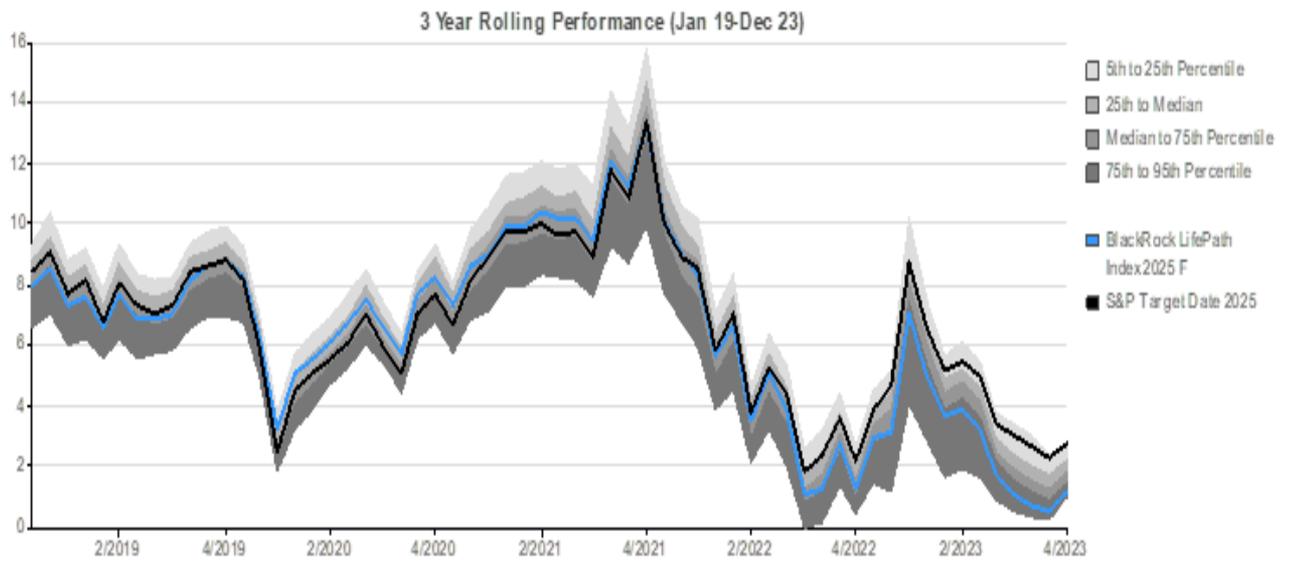
as of December 31, 2023

Program Assets	\$126.7 million
# of Texa\$aver accounts	11,755
<b>Fund Overview</b>	
Investment type	Collective Trust
Investment strategy	Passive
Net Texa\$aver expense	0.08%

<b>Asset Allocation</b>	
Bonds	56.2%
Stocks	40.3%
Other*	3.5%

\*Includes real estate, commodities and other

Source: BlackRock (2023 annual review)



	1Y	3Y	5Y	10Y
Fund / Peer Rank	12.08 / 74	1.21 / 92	6.68 / 76	5.33 / 74
Benchmark / Peer Rank	12.99 / 56	2.80 / 7	7.42 / 39	5.85 / 31
Excess to Benchmark	-0.91	-1.59	-0.74	-0.52

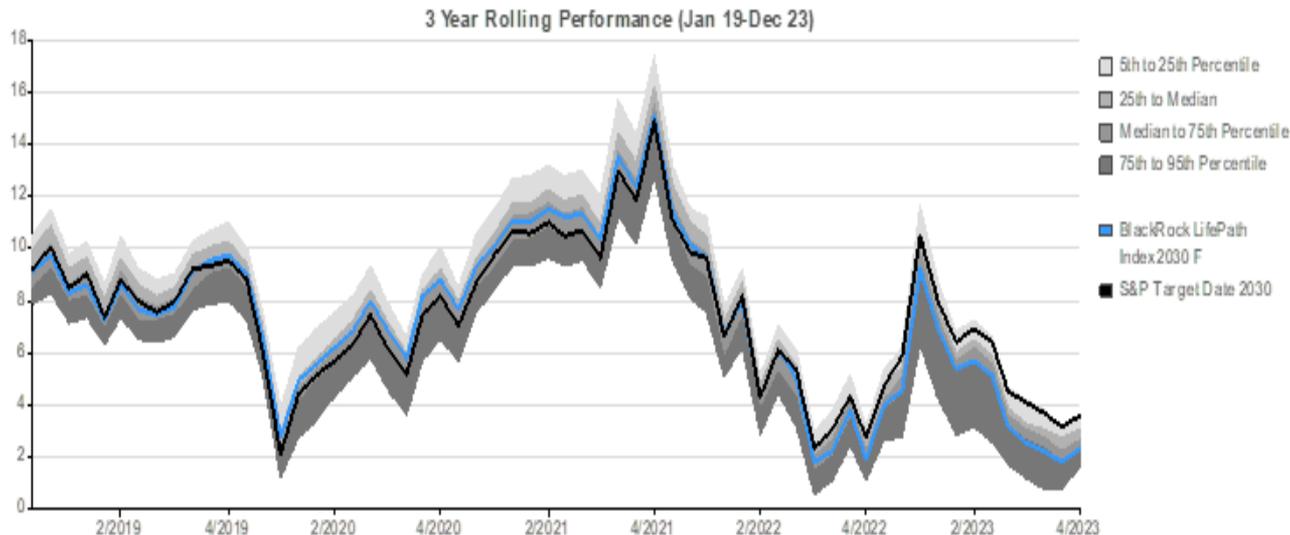
# Target Date 2030 Fund

## BlackRock LifePath Index 2030 F Fund



as of December 31, 2023

Program Assets	\$160.9 million
# of Texa\$aver accounts	16,742
<b>Fund Overview</b>	
Investment type	Collective Trust
Investment strategy	Passive
Net Texa\$aver expense	0.08%
<b>Asset Allocation</b>	
Bonds	43.3%
Stocks	52.8%
Other*	3.9%
*Includes real estate, commodities and other	
Source: BlackRock (2023 annual review)	



	1Y	3Y	5Y	10Y
Fund / Peer Rank	14.32 / 70	2.34 / 69	7.91 / 78	6.07 / 77
Benchmark / Peer Rank	14.80 / 56	3.61 / 5	8.42 / 38	6.44 / 39
Excess to Benchmark	-0.48	-1.27	-0.51	-0.37

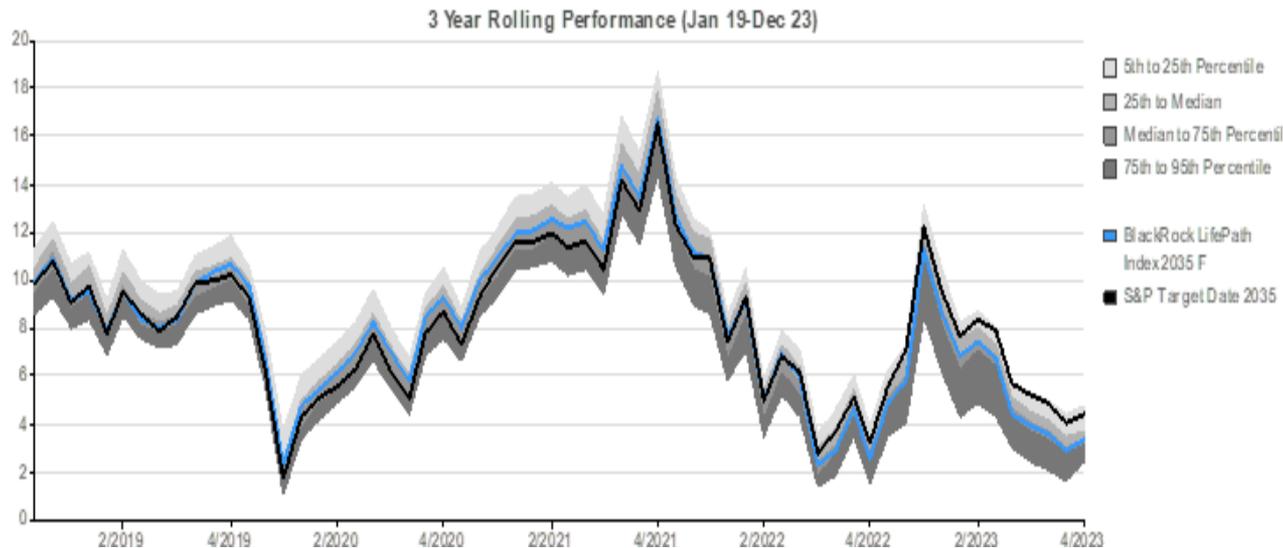
# Target Date 2035 Fund

## BlackRock LifePath Index 2035 F Fund



as of December 31, 2023

Program Assets	\$144.8 million
# of Texa\$aver accounts	20,747
<b>Fund Overview</b>	
Investment type	Collective Trust
Investment strategy	Passive
Net Texa\$aver expense	0.08%
<b>Asset Allocation</b>	
Bonds	31.6%
Stocks	64.1%
Other*	4.3%
<i>*Includes real estate, commodities and other</i>	
<i>Source: BlackRock (2023 annual review)</i>	



	1Y	3Y	5Y	10Y
Fund / Peer Rank	16.37 / 63	3.39 / 49	9.07 / 60	6.77 / 62
Benchmark / Peer Rank	16.63 / 55	4.45 / 10	9.44 / 44	7.04 / 37
Excess to Benchmark	-0.26	-1.06	-0.37	-0.27

# Target Date 2040 Fund

## BlackRock LifePath Index 2040 F Fund

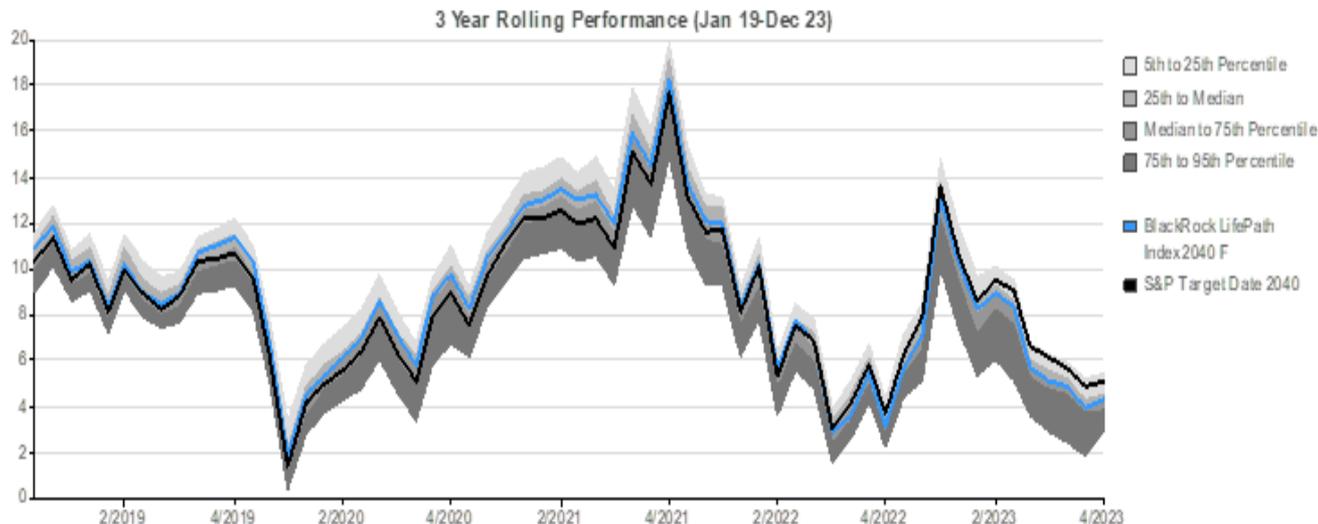


as of December 31, 2023

Program Assets	\$132.4 million
# of Texa\$aver accounts	22,150
<b>Fund Overview</b>	
Investment type	Collective Trust
Investment strategy	Passive
Net Texa\$aver expense	0.08%
<b>Asset Allocation</b>	
Bonds	16.5%
Stocks	78.9%
Other*	4.7%

\*Includes real estate, commodities and other

Source: BlackRock (2023 annual review)



	1Y	3Y	5Y	10Y
Fund / Peer Rank	18.38 / 50	4.35 / 41	10.12 / 47	7.38 / 55
Benchmark / Peer Rank	18.16 / 57	5.16 / 10	10.22 / 39	7.49 / 40
Excess to Benchmark	0.22	-0.81	-0.10	-0.11

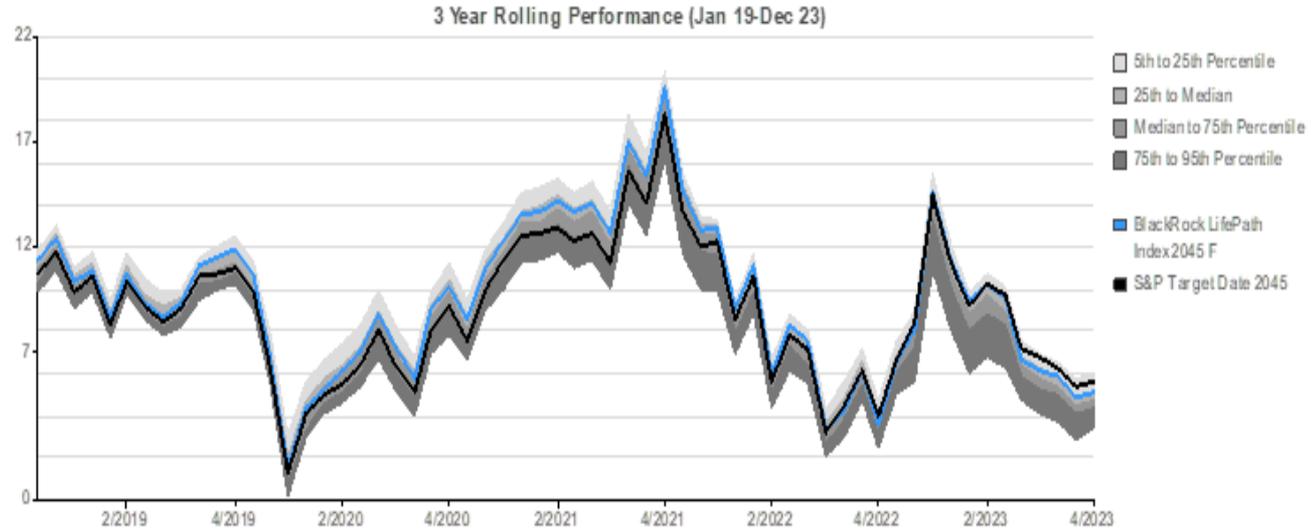
# Target Date 2045 Fund

## BlackRock LifePath Index 2045 F Fund



as of December 31, 2023

Program Assets	\$136.8 million
# of Texa\$aver accounts	27,184
<b>Fund Overview</b>	
Investment type	Collective Trust
Investment strategy	Passive
Net Texa\$aver expense	0.08%
<b>Asset Allocation</b>	
Bonds	10.3%
Stocks	85.0%
Other*	4.7%
*Includes real estate, commodities and other	
Source: BlackRock (2023 annual review)	



	1Y	3Y	5Y	10Y
Fund / Peer Rank	20.22 / 25	5.18 / 20	11.01 / 35	7.86 / 38
Benchmark / Peer Rank	19.14 / 68	5.62 / 14	10.68 / 55	7.76 / 48
Excess to Benchmark	1.08	-0.44	0.33	0.10

# Target Date 2050 Fund

## BlackRock LifePath Index 2050 F Fund



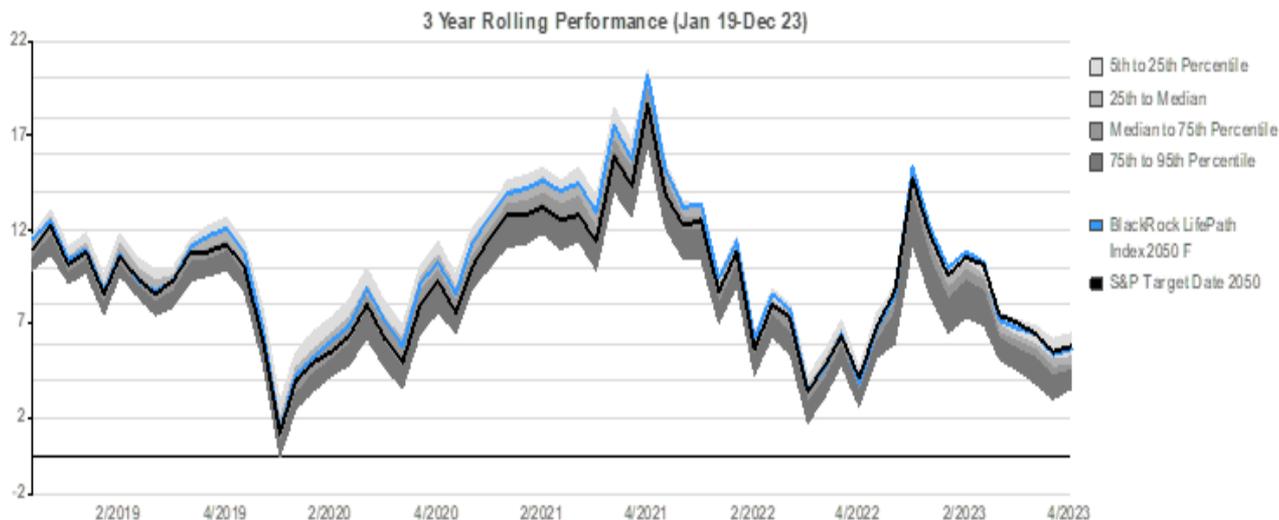
as of December 31, 2023

Program Assets	\$145.6 million
# of TexaSaver accounts	37,358
<b>Fund Overview</b>	
Investment type	Collective Trust
Investment strategy	Passive
Net TexaSaver expense	0.08%

<b>Asset Allocation</b>	
Bonds	3.6%
Stocks	91.9%
Other*	4.5%

\*Includes real estate, commodities and other

Source: BlackRock (2023 annual review)



	1Y	3Y	5Y	10Y
Fund / Peer Rank	21.30 / 9	5.64 / 15	11.47 / 5	8.10 / 21
Benchmark / Peer Rank	19.58 / 70	5.84 / 12	10.92 / 50	7.92 / 38
Excess to Benchmark	1.72	-0.20	0.55	0.18

# Target Date 2055 Fund

## BlackRock LifePath Index 2055 F Fund



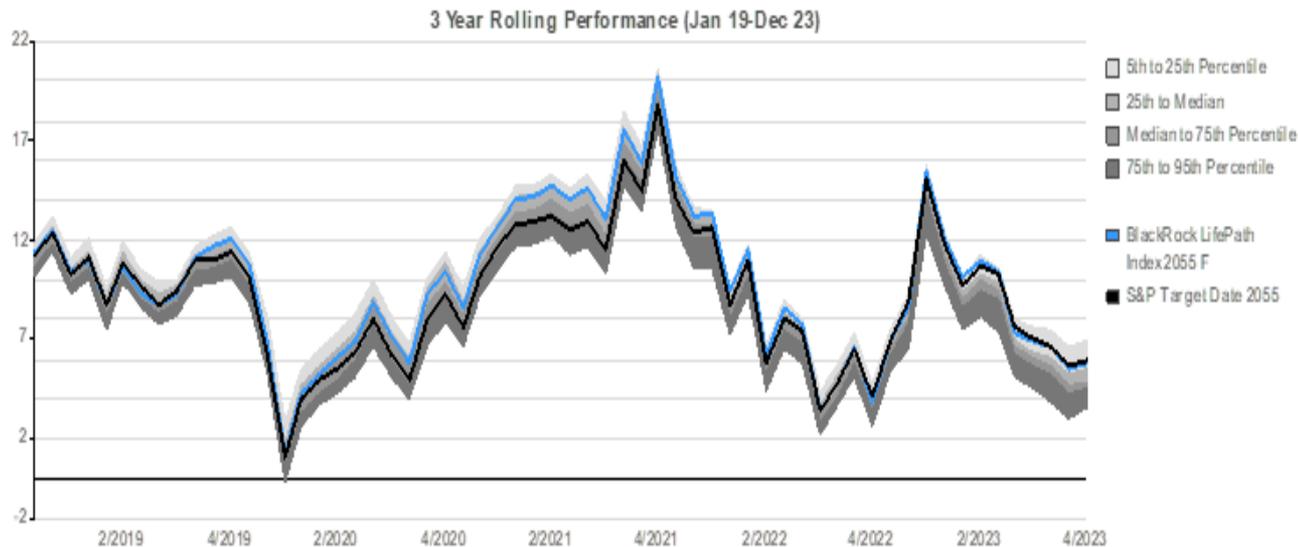
as of December 31, 2023

Program Assets	\$ 88.7 million
# of Texa\$aver accounts	34,941
<b>Fund Overview</b>	
Investment type	Collective Trust
Investment strategy	Passive
Net Texa\$aver expense	0.08%

<b>Asset Allocation</b>	
Bonds	1.0%
Stocks	94.7%
Other*	4.3%

\*Includes real estate, commodities and other

Source: BlackRock (2023 annual review)



	1Y	3Y	5Y	10Y
Fund / Peer Rank	21.61 / 9	5.75 / 19	11.57 / 9	8.15 / 19
Benchmark / Peer Rank	19.62 / 71	5.91 / 12	10.98 / 51	7.99 / 33
Excess to Benchmark	1.99	-0.16	0.59	0.16

# Target Date 2060 Fund

## BlackRock LifePath Index 2060 F Fund



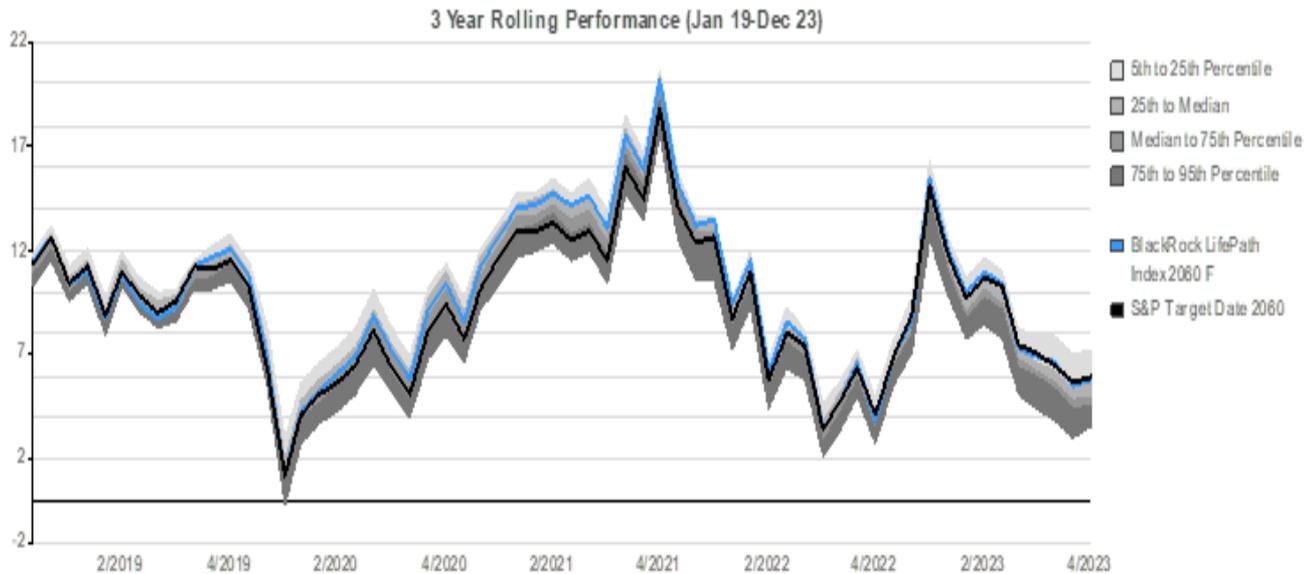
as of December 31, 2023

Program Assets	\$ 41.7 million
# of Texa\$aver accounts	43,761
<b>Fund Overview</b>	
Investment type	Collective Trust
Investment strategy	Passive
Net Texa\$aver expense	0.08%

<b>Asset Allocation</b>	
Bonds	1.0%
Stocks	94.7%
Other*	4.3%

\*Includes real estate, commodities and other

Source: BlackRock (2023 annual review)



	1Y	3Y	5Y	10Y
Fund / Peer Rank	21.65 / 9	5.75 / 19	11.58 / 8	NA
Benchmark / Peer Rank	19.74 / 69	5.89 / 12	11.04 / 57	NA
Excess to Benchmark	1.91	-0.14	0.54	NA

# TexaSaver Fund Performance Analysis: Core Funds

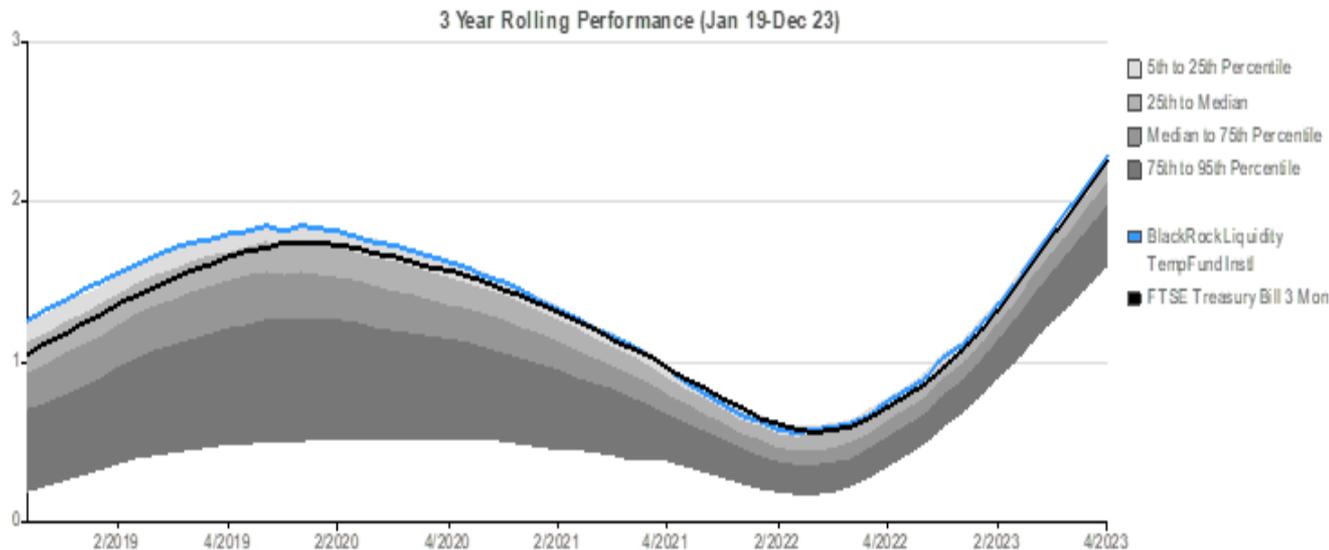
# Money Market Fund

## BlackRock Short-Term Investment Fund



as of December 31, 2023

Program Assets	\$197.0 million
# of TexaSaver accounts	30,856
<b>Fund Overview</b>	
Investment type	Collective Trust
Investment strategy	Active
Net TexaSaver expense	0.08%
<b>Fund Composition</b>	
Cash	96.95%
US Bonds	3.05%



	1Y	3Y	5Y	10Y
Fund / Peer Rank	5.24 / 8	2.28 / 8	1.94 / 6	1.34 / 5
Benchmark / Peer Rank	5.26 / 6	2.25 / 20	1.91 / 14	1.26 / 29
Excess to Benchmark	-0.02	0.03	0.03	0.08

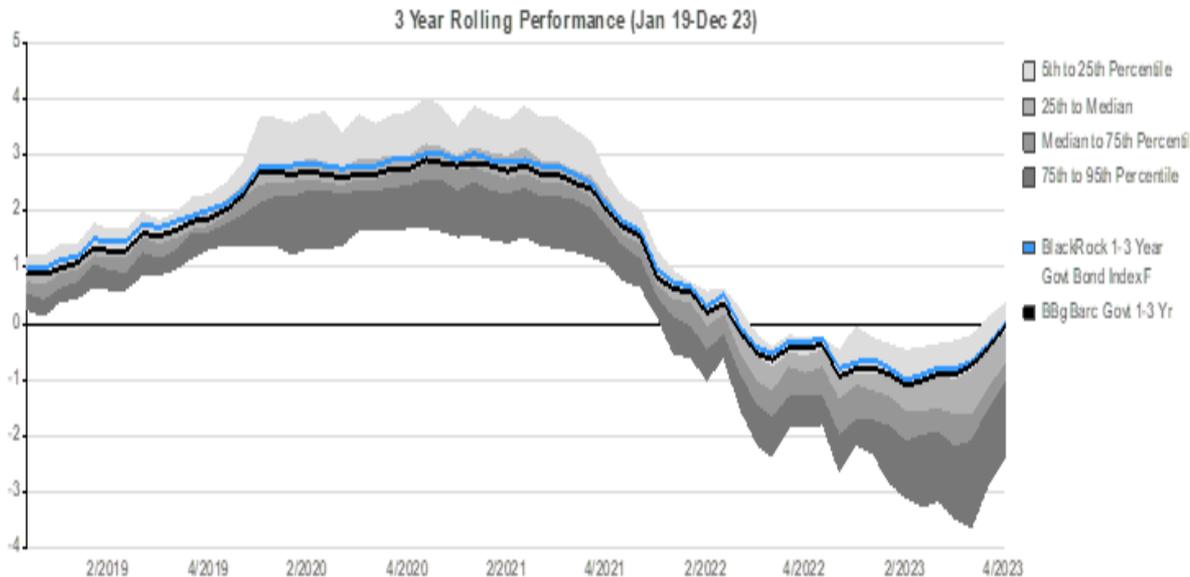
# Short-Term Bond Fund

## BlackRock 1-3 Year Government Bond Index - F



as of December 31, 2023

Program Assets	\$37.8 million
# of TexaSaver accounts	19,086
<b>Fund Overview</b>	
Investment type	Collective Trust
Investment strategy	Passive
Net TexaSaver expense	0.05%
<b>Fund Composition</b>	
Cash and Short-term	0.7%
US Bonds	99.3%



	1Y	3Y	5Y	10Y
Fund / Peer Rank	4.45 / 29	-0.01 / 10	1.38 / 10	1.17 / 12
Benchmark / Peer Rank	4.32 / 36	-0.08 / 11	1.28 / 12	1.05 / 28
Excess to Benchmark	0.12	0.07	0.10	0.12

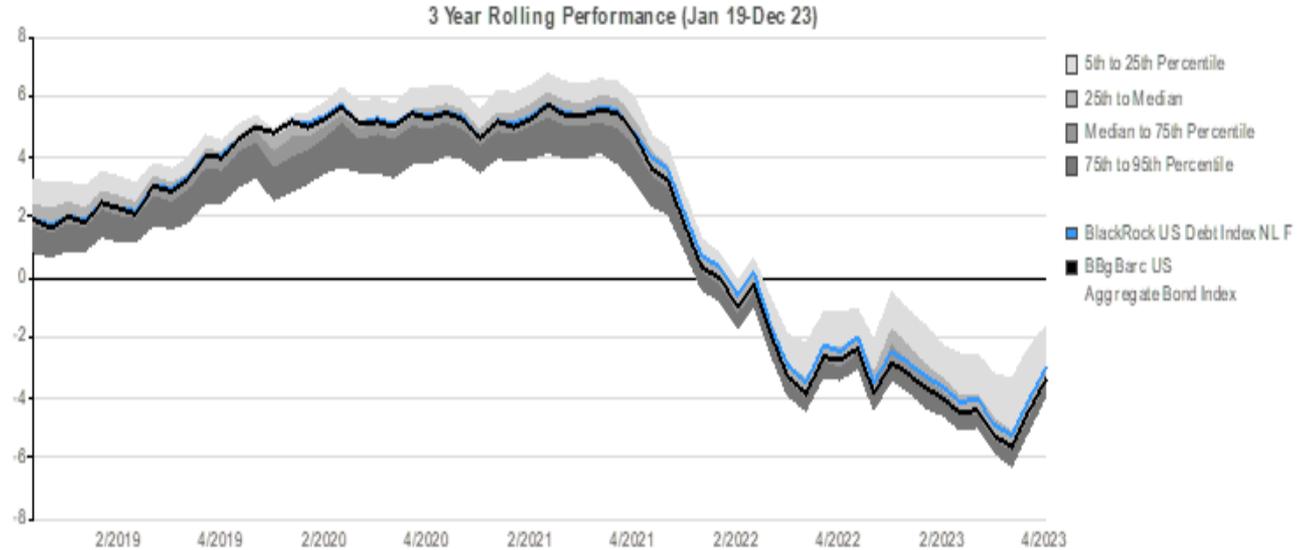
# Intermediate Bond Fund

## BlackRock US Debt Index Fund - F



as of December 31, 2023

Program Assets	\$329.6 million
# of Texa\$aver accounts	31,494
<b>Fund Overview</b>	
Investment type	Collective Trust
Investment strategy	Passive
Net Texa\$aver expense	0.11%
<b>Fund Composition</b>	
Cash and Short-term	1.2%
US Bonds	98.8%



	1Y	3Y	5Y	10Y
Fund / Peer Rank	5.72 / 46	-2.97 / 25	1.33 / 31	1.95 / 28
Benchmark / Peer Rank	5.53 / 62	-3.31 / 41	1.10 / 49	1.84 / 41
Excess to Benchmark	0.19	0.34	0.23	0.11

# Balanced Fund

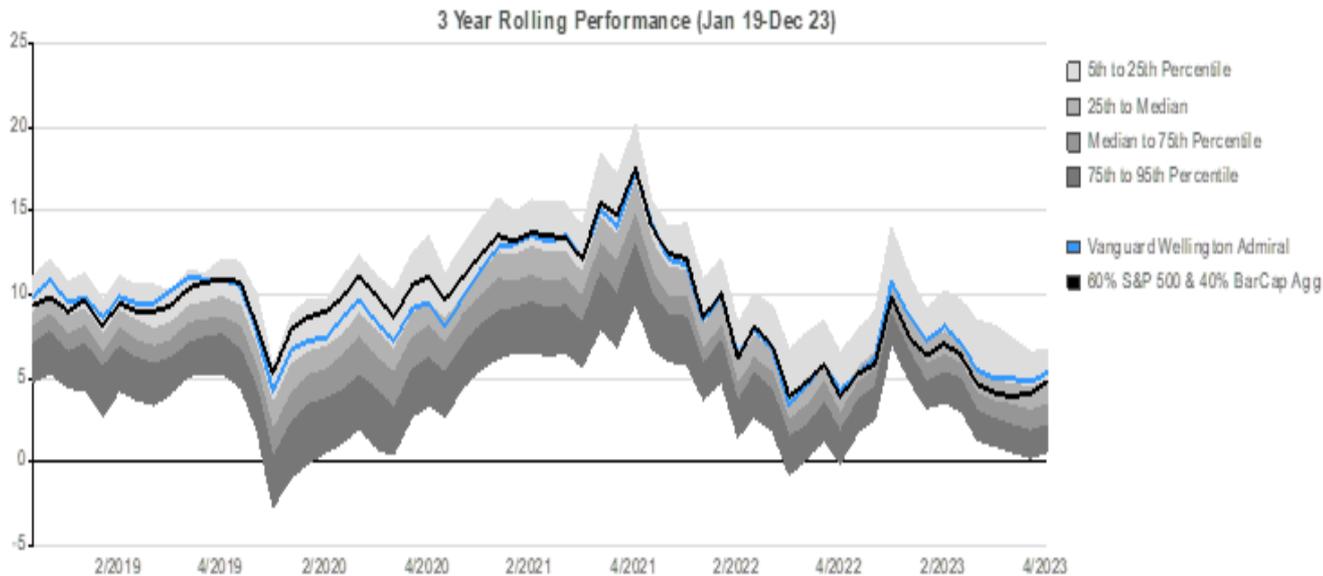
## Vanguard Wellington Admiral Fund



as of December 31, 2023

Program Assets	\$446.2 million
# of TexaSaver accounts	38,485
<b>Fund Overview</b>	
Investment type	Mutual Fund
Investment strategy	Active
Net TexaSaver expense	0.17%

<b>Fund Composition</b>	
Cash and Short-term	1.07%
US Stocks	57.43%
US Bonds	28.22%
Non-US Stocks	7.73%
Non-US Bonds	5.49%



	1Y	3Y	5Y	10Y
Fund / Peer Rank	14.43 / 42	5.33 / 15	9.66 / 20	7.96 / 12
Benchmark / Peer Rank	17.67 / 15	4.71 / 26	9.98 / 15	8.09 / 8
Excess to Benchmark	-3.24	0.62	-0.32	-0.13

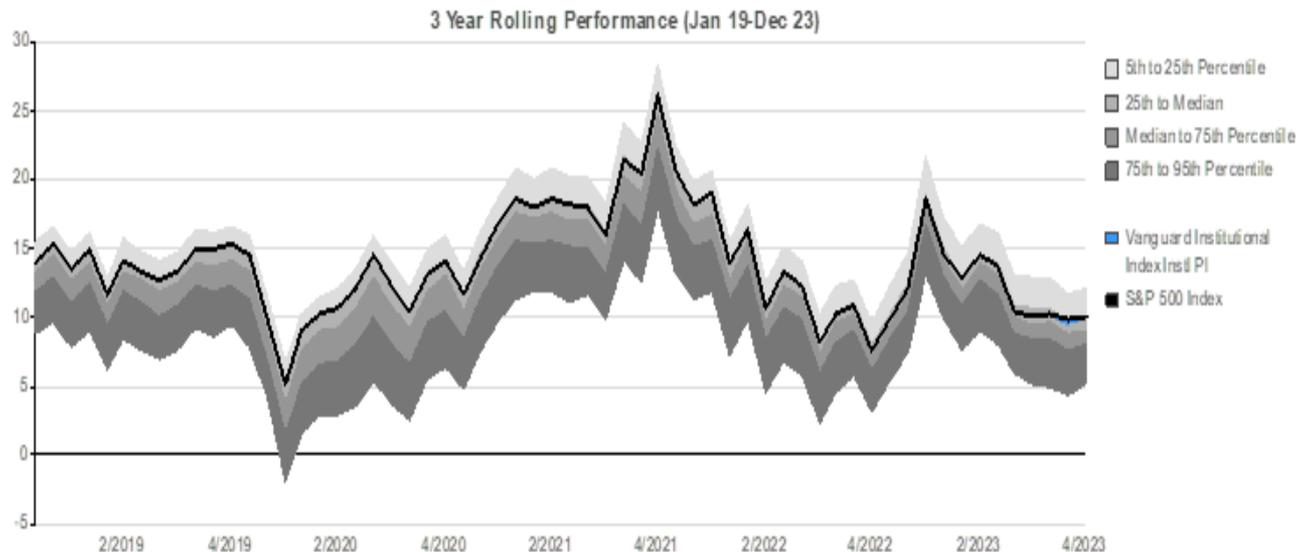
# Large Cap Blend

## Vanguard Institutional Index Fund



as of December 31, 2023

Program Assets	\$948.0 million
# of TexaSaver accounts	45,118
<b>Fund Overview</b>	
Investment type	Mutual Fund
Investment strategy	Passive
Net TexaSaver expense	0.02%
<b>Fund Composition</b>	
Cash and Short-term	0.26%
US Stocks	99.17%
Non-US Stocks	0.57%



	1Y	3Y	5Y	10Y
Fund / Peer Rank	26.26 / 27	9.98 / 27	15.67 / 20	12.02 / 9
Benchmark / Peer Rank	26.29 / 26	10.00 / 26	15.69 / 19	12.03 / 9
Excess to Benchmark	-0.03	-0.02	-0.02	-0.01

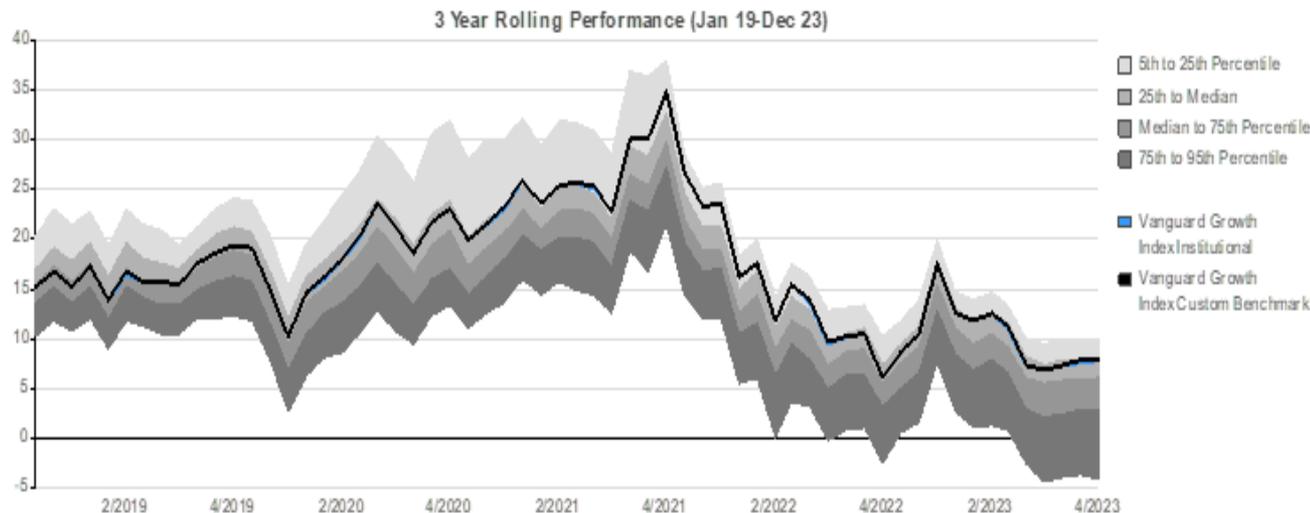
# Large Cap Growth

## Vanguard Growth Index - Institutional



as of December 31, 2023

Program Assets	\$682.6 million
# of Texa\$aver accounts	26,338
<b>Fund Overview</b>	
Investment type	Mutual Fund
Investment strategy	Passive
Net Texa\$aver expense	0.04%
<b>Fund Composition</b>	
Cash and Short-term	0.24%
US Stocks	99.56%
Non-US Stocks	0.20%



	1Y	3Y	5Y	10Y
Fund / Peer Rank	46.78 / 17	7.69 / 27	19.17 / 12	13.98 / 15
Benchmark / Peer Rank	46.86 / 17	7.73 / 27	19.21 / 12	14.02 / 14
Excess to Benchmark	-0.08	-0.04	-0.04	-0.03

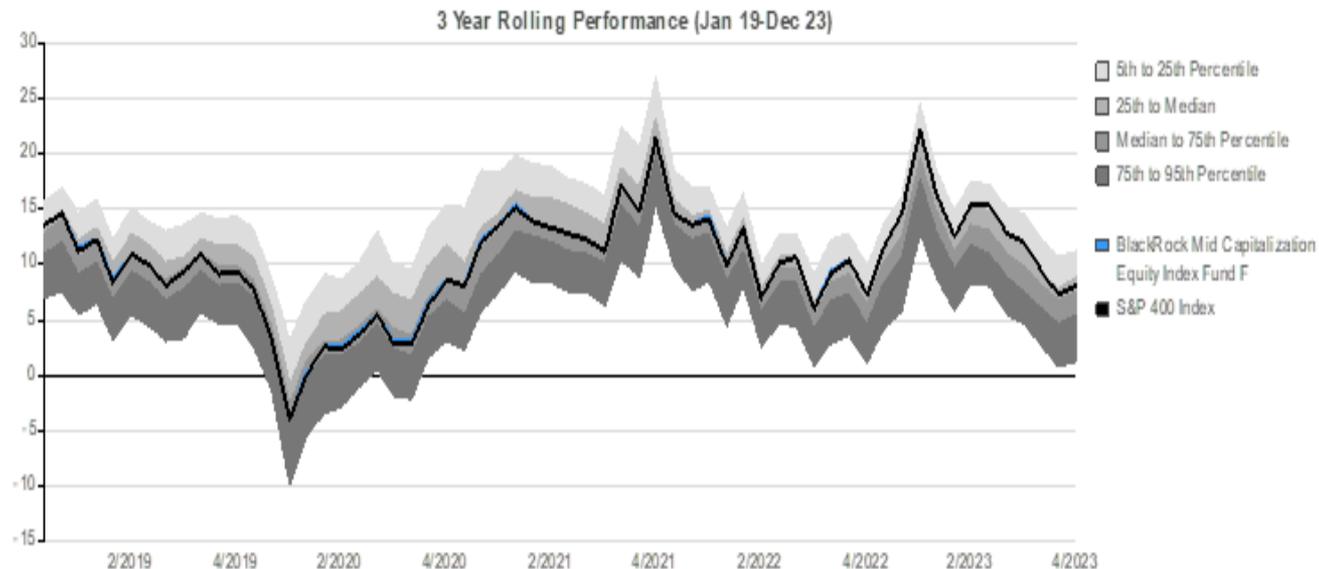
# Mid-Cap Blend

## BlackRock Mid-Cap Equity Index Fund - F



as of December 31, 2023

Program Assets	\$254.0 million
# of TexaSaver accounts	35,691
<b>Fund Overview</b>	
Investment type	Collective Trust
Investment strategy	Passive
Net TexaSaver expense	0.02%
<b>Fund Composition</b>	
Cash and Short-term	0.46%
US Stocks	98.59%
Non-US Stocks	0.95%



	1Y	3Y	5Y	10Y
Fund / Peer Rank	16.40 / 45	8.06 / 34	12.64 / 34	9.32 / 20
Benchmark / Peer Rank	16.44 / 43	8.09 / 34	12.62 / 35	9.27 / 20
Excess to Benchmark	-0.04	-0.03	0.02	0.05

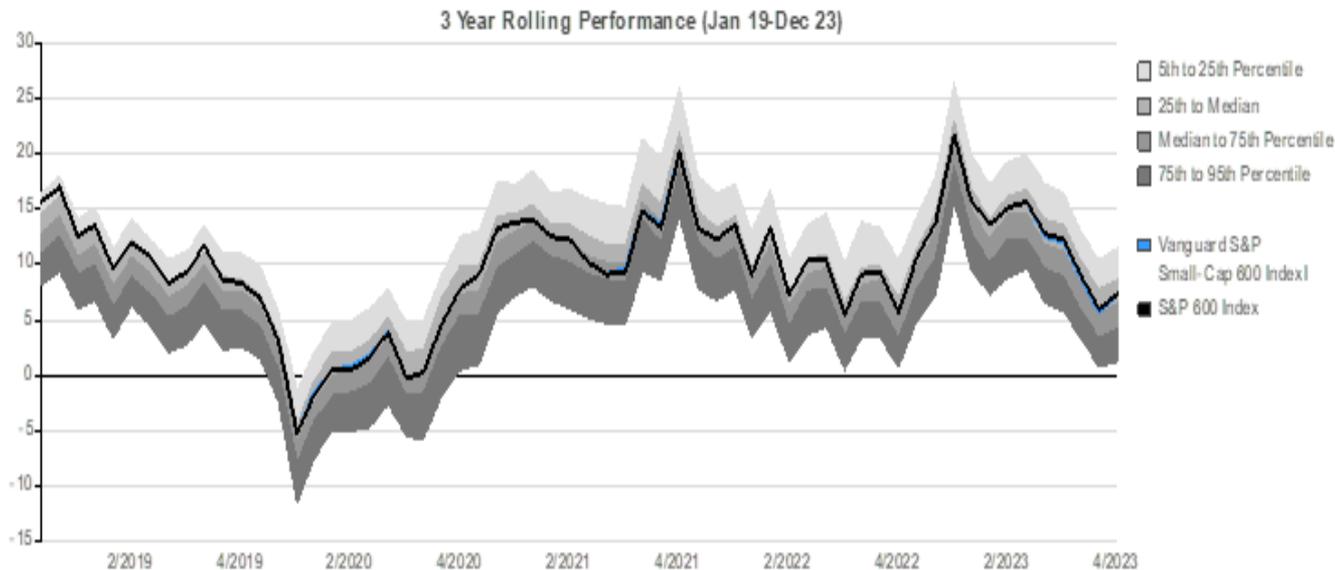
# Small-Cap Blend

## Vanguard S&P Small-Cap 600 Fund - I



as of December 31, 2023

Program Assets	\$178.2 million
# of Texa\$aver accounts	35,710
<b>Fund Overview</b>	
Investment type	Mutual Fund
Investment strategy	Passive
Net Texa\$aver expense	0.08%
<b>Fund Composition</b>	
Cash and Short-term	1.24%
US Stocks	97.94%
Non-US Stocks	0.82%



	1Y	3Y	5Y	10Y
Fund / Peer Rank	0 / 100	0 / 100	0 / 100	0 / 100
Benchmark / Peer Rank	0 / 100	0 / 100	0 / 56	0 / 100
Excess to Benchmark	0.0	0.0	0.0	0.0

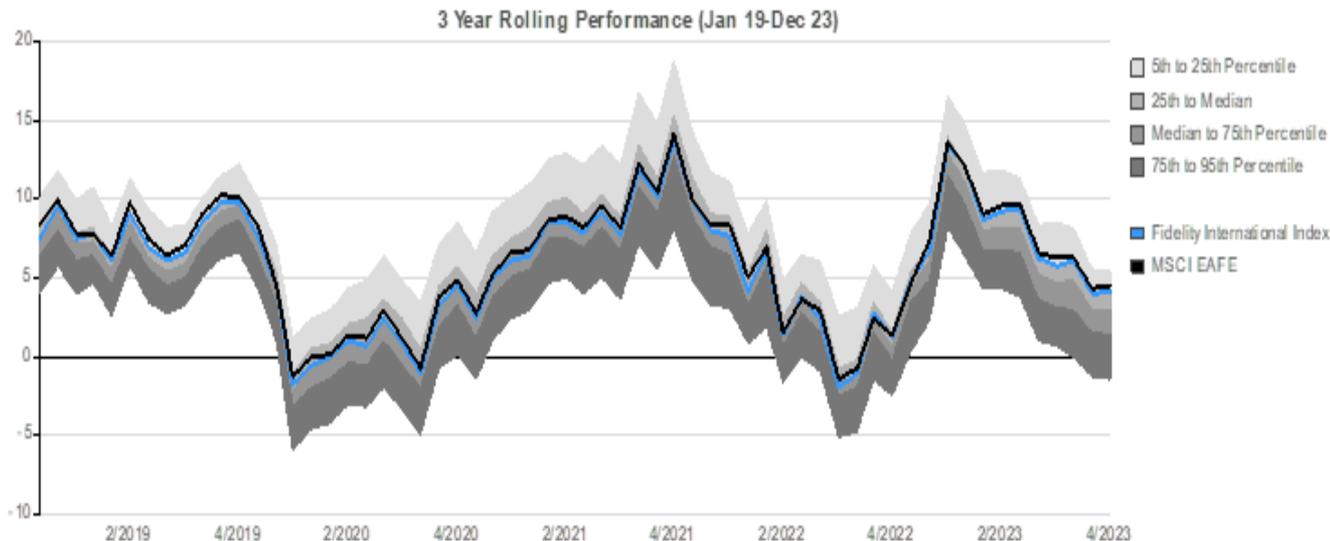
# International Large Blend

## Fidelity International Index Fund - I



as of December 31, 2023

Program Assets	\$123.7 million
# of TexaSaver accounts	26,726
<b>Fund Overview</b>	
Investment type	Mutual Fund
Investment strategy	Passive
Net TexaSaver expense	0.04%
<b>Fund Composition</b>	
Cash and Short-term	2.69%
US Stocks	0.82%
Non-US Stocks	96.24%
Other	0.25%



	1Y	3Y	5Y	10Y
Fund / Peer Rank	18.31 / 24	4.18 / 23	8.34 / 33	4.42 / 31
Benchmark / Peer Rank	18.85 / 17	4.53 / 18	8.69 / 25	4.78 / 18
Excess to Benchmark	-0.54	-0.35	-0.35	-0.36

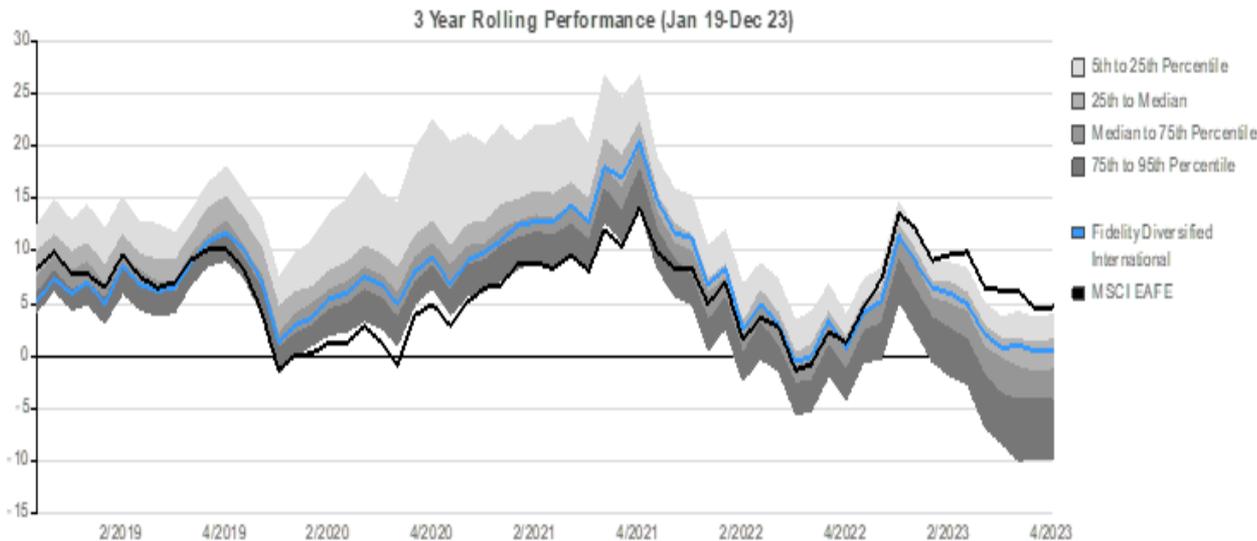
# International Large Growth

## Fidelity Diversified International Fund - I



as of December 31, 2023

Program Assets	\$197.9 million
# of Texa\$aver accounts	36,740
<b>Fund Overview</b>	
Investment type	Mutual Fund
Investment strategy	Active
Net Texa\$aver expense	0.40%
<b>Fund Composition</b>	
Cash and Short-term	6.87%
US Stocks	9.28%
Non-US Stocks	82.59%
Other	1.26%



	1Y	3Y	5Y	10Y
Fund / Peer Rank*	17.71 / 39	0.37 / 34	9.30 / 37	4.87 / 54
Benchmark**	18.85	4.53	8.69	4.78
Excess to Benchmark	-1.14	-4.16	0.61	0.09

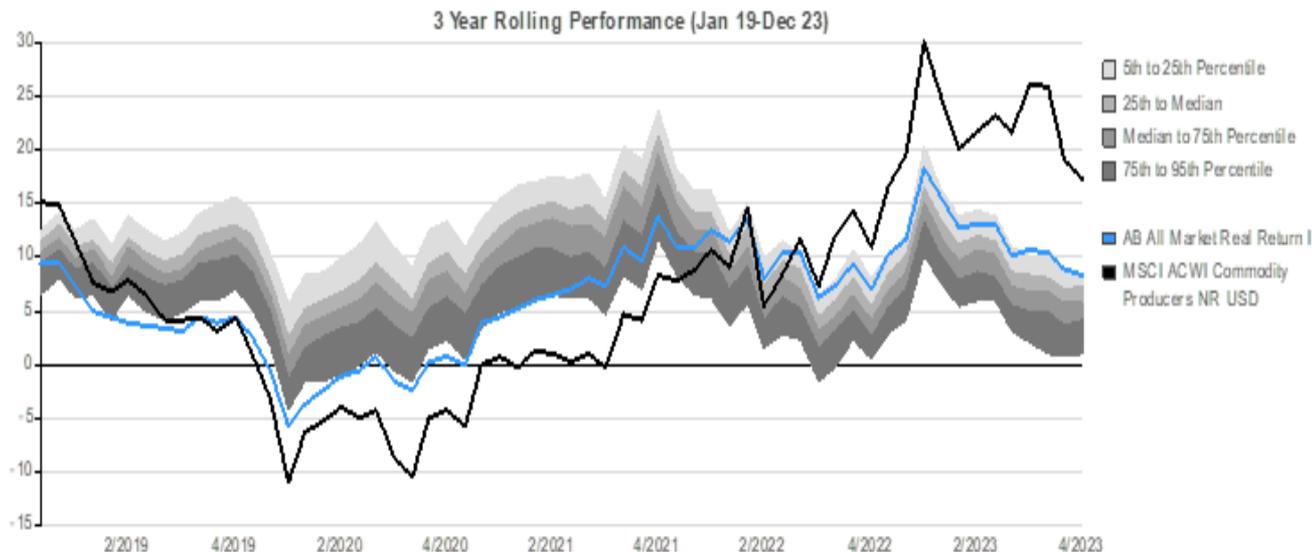
# International Specialty

## AB All-Market Real Return Fund - I



as of December 31, 2023

Program Assets	\$5.4 million
# of Texa\$aver accounts	961
<b>Fund Overview</b>	
Investment type	Mutual Fund
Investment strategy	Active
Net Texa\$aver expense	0.74%
<b>Fund Composition</b>	
Cash and Short-term	28.56%
US Stocks	41.43%
US Bonds	0.00%
Non-US Stocks	29.68%
Other	0.34%



	1Y	3Y	5Y	10Y
Fund / Peer Rank*	4.91 / 97	8.33 / 7	8.20 / 88	1.79 / 100
Benchmark** / Peer Rank	3.64 / 98	17.15 / 1	9.77 / 72	2.97 / 99
Excess to Benchmark	1.27	-8.82	-1.57	-1.18

AB All Market Real Return Portfolio Fund  
(AMTIX)  
PRC Recommendation

# AB All Market Real Return Fund



## *Background*

- Fund was added to the Texa\$aver menu in 2013
- Specialty fund that seeks to maximize real returns amid inflation
- Dynamically and opportunistically invests across real asset classes
- Invests primarily in real estate, natural resource equities, inflation-sensitive equities, and commodity futures
- Benchmarked against MSCI ACWI Commodity Producers Index

# AB All Market Real Return Fund



## Analysis

- Fund has become ever more complex over time as new strategies, including the use of derivatives, have been added
- Complexity raises concerns about suitability for participants
- Currently excluded from managed account portfolios
- Only 0.11% of Program assets are invested in this option

Program Assets	\$5.4 million
# of Texa\$aver accounts	961

# AB All Market Real Return Fund



## Performance

- Short-term performance has been mixed vs. benchmark and peers
- Long-term performance materially below the benchmark and well below the median of peers

	Returns as of December 31, 2023			
	1 Year	3 Year	5 Year	10 Year
<b>AB All Market Real Return Portfolio Fund</b>	<b>4.9%</b>	<b>8.3%</b>	<b>8.2%</b>	<b>1.8%</b>
MSCI ACWI Commodity Producers Index	3.6%	17.2%	9.8%	3.0%
Excess Return vs. Benchmark	+1.27%	-8.82%	-1.57%	-1.18%
Peer Rank – Global Large-Stock Blend	98	7	88	99

# AB All Market Real Return Fund

## *Subcommittee Due Diligence*



- October 2023 PRC meeting: fund put on watch due to a desire to revisit its suitability and poor long-term performance
- Subcommittee conducted a series of due diligence discussions from July 2023 to January 2024, including a review with the manager
- January 2024 PRC meeting: Subcommittee presents findings citing overall suitability concerns, proposes that cash serve as primary inflation hedge

# AB All Market Real Return Fund

## *PRC Recommendation*



- The PRC recommends that the Board:
  - Remove the AB All Market Real Return Portfolio Fund from the Texa\$aver 401(k)/457 Program lineup
  - Transfer assets to the existing money market fund
- If this recommendation is approved, staff will work with the third party administrator to communicate the upcoming change to participants

Discussion  
Action Item

*Public Agenda Item #11*

*\*Consideration of Texa\$aver Program Fees for  
Calendar Year 2024 – (Action)*

March 20, 2024

Blaise Duran, FSA, Director of Group Benefits

Angelica Harborth, Deferred Compensation Program Manager, Group Benefits

# Texa\$aver Program



## Overview

- Texa\$aver<sup>SM</sup> 401(k)/457 Program (Texa\$aver) is a voluntary tax-deferred defined contribution program designed to help state and eligible higher education employees with personal retirement savings.
  - 401(k) plan - available to state agency employees
  - 457 plan - available to state agency and eligible higher education employees
- Since 2008, newly hired state employees are enrolled into the 401(k) plan at 1% of their monthly salary.

# Texa\$aver Program

## *Fee Overview*



- ERS does not receive appropriated funds for the administrative cost of the program; participants fund the program cost through payment of a monthly administrative fee.
- Fees are calculated on a per plan basis and must be sufficient to cover the costs of record keeping as well as ERS' internal administrative costs.
- Administrative fees for new Texa\$aver accounts are waived for six months. At the end of the waiver period, a monthly fee is deducted.

# Texa\$aver Program

## *Fee Analysis*



- ERS staff performs a review of the fee annually based on actual enrollment figures and cost considerations such as generated interest, performance guarantee assessments and other earned non-fee revenue.
- Effective June 1, 2021, the board adopted a flat fee of \$1.50.
- Prior to adoption of the flat fee, fees were tiered based on account balance.
- Based on experience through CY23 we are recommending a continuation of the current fee.

# Texa\$aver Program

## Fee Analysis



### *Texa\$aver Experience 2021 – 2023*

	Fees Collected	Other Revenue*	TPA Admin Fees	Internal Admin Costs	Net Gain/(Loss)
<b>CY21</b>	\$4.9M	\$1.1M	\$4.7M	\$0.5M	\$0.8M
<b>CY22</b>	\$4.4M	\$0.7M	\$4.8M	\$1.0M	(\$0.7M)
<b>CY23 (estimated)</b>	\$4.5M	\$1.1M	\$5.0M	\$0.7M	(\$0.1M)

\*Other Revenue includes earned interest, performance guarantees and other earned non-fee revenue.

# Staff Recommendation



- Recommend that the Board of Employees Retirement System of Texas approve the Texa\$aver program administrative fee of \$1.50 per participant, per plan for Calendar Year 2024.

Discussion  
Action Item

## Public Agenda Item #12

### *\* Consideration of Annual Review of Capital Market Assumptions*

March 20, 2024

John McCaffrey, Managing Director of Portfolio Management  
David T. Veal, Chief Investment Officer

# Capital Market Assumptions



## *Key Takeaways*

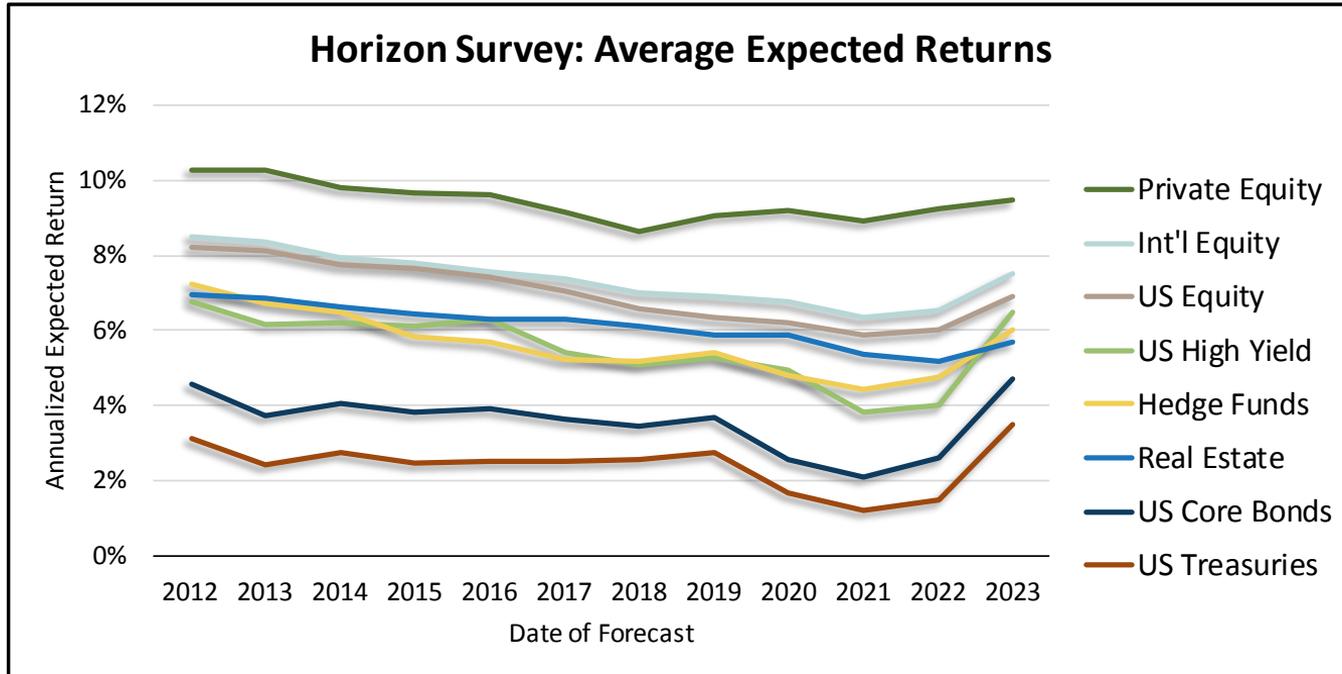
- The annual review of CMAs aims to support the Board's strategic planning
- Expected returns retain positive outlook after a decade of steady decline prior to 2023
- Passive 80/20 stock/bond portfolio expected to yield only **6.5%** annually
- Expected return for ERS Policy Benchmark now **7.1%** before implementation gains
- CMA themes suggest evolving and potentially narrowing investment opportunities

# Capital Market Assumptions

## Long-Term Trends – Horizon CMA Survey August 2023



- Survey of return expectations suggest a better forward outlook for many assets

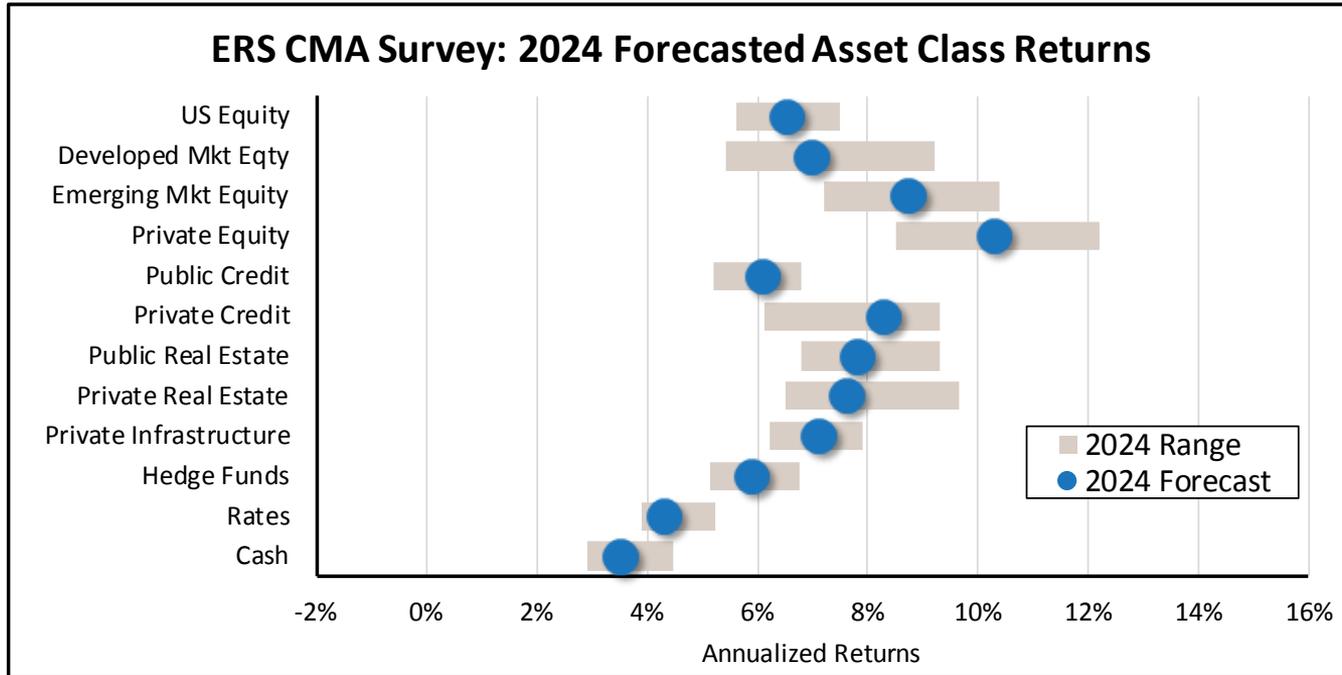


# Capital Market Assumptions

## ERS Survey of Capital Market Assumptions



- Premiums forecasted for private markets vs. public equity and credit but not real estate

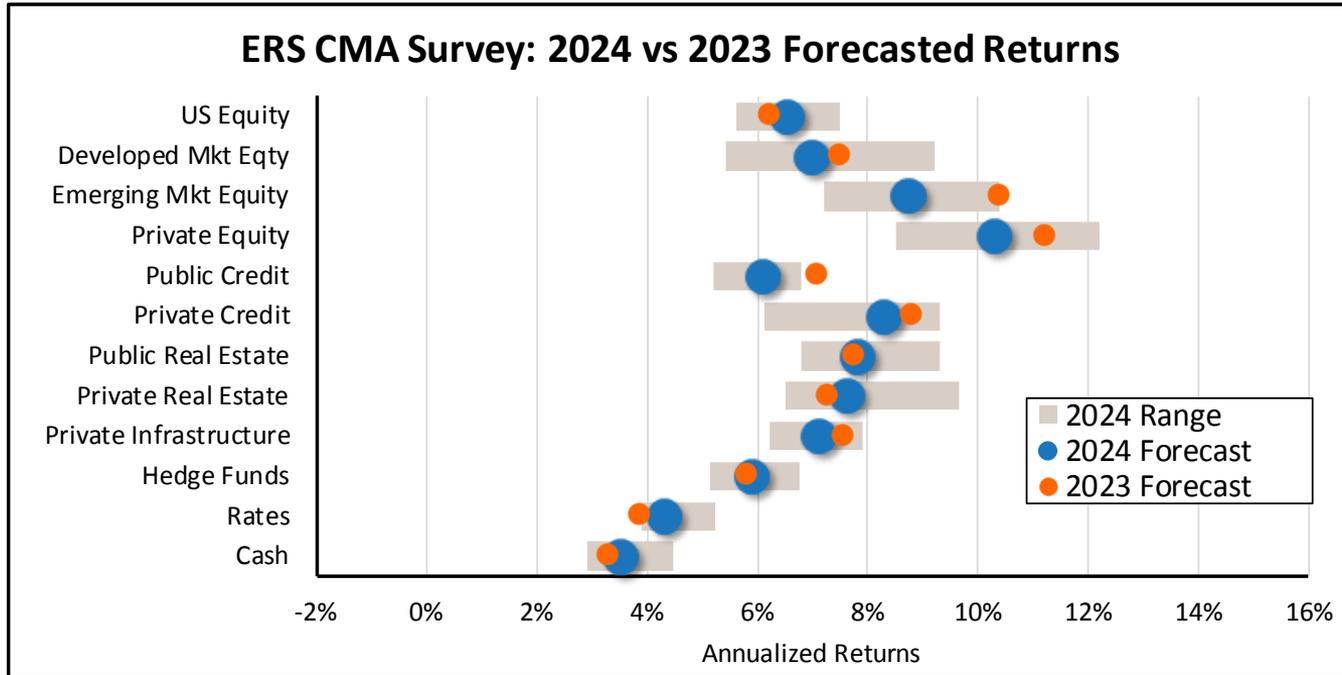


# Capital Market Assumptions

## ERS CMA Survey: Expected Returns for 2024 vs 2023



- Small changes across most asset classes with notable decline for Emerging Market Equity

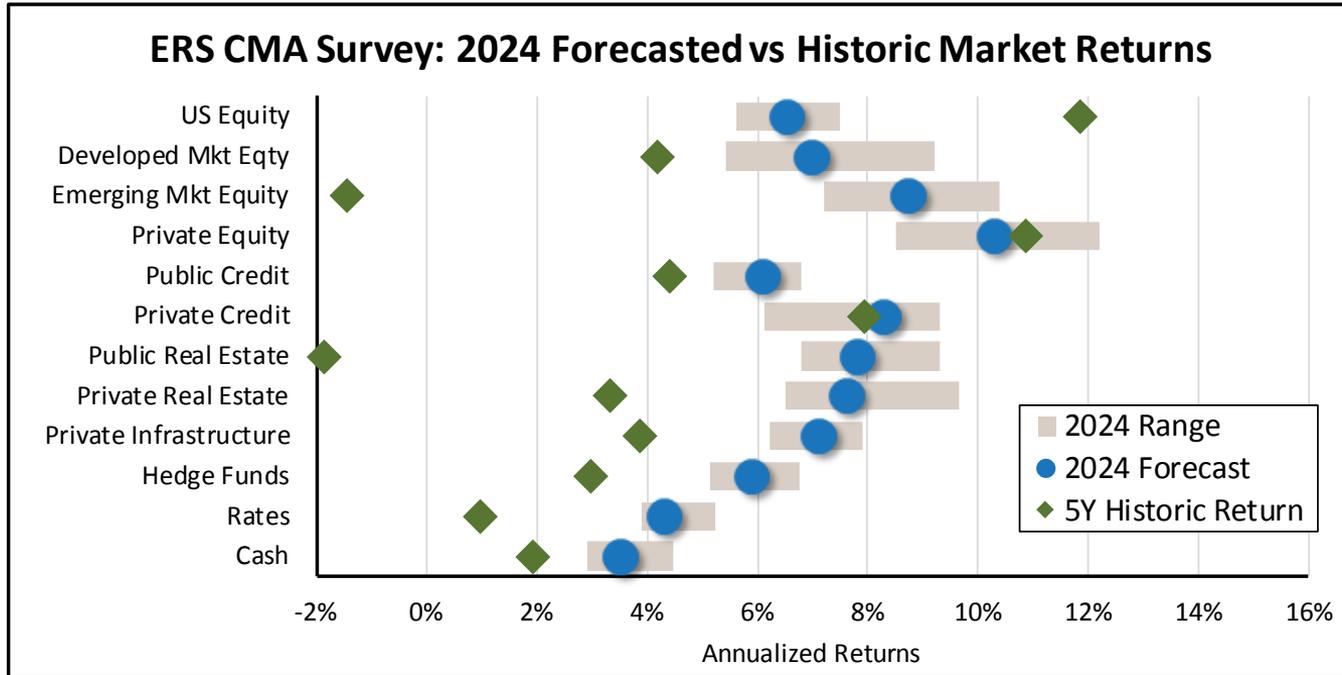


# Capital Market Assumptions

## ERS CMA Survey: Forecasted vs Actual Market Returns



- Forecasted returns higher than historical for most assets except US and Private Equity

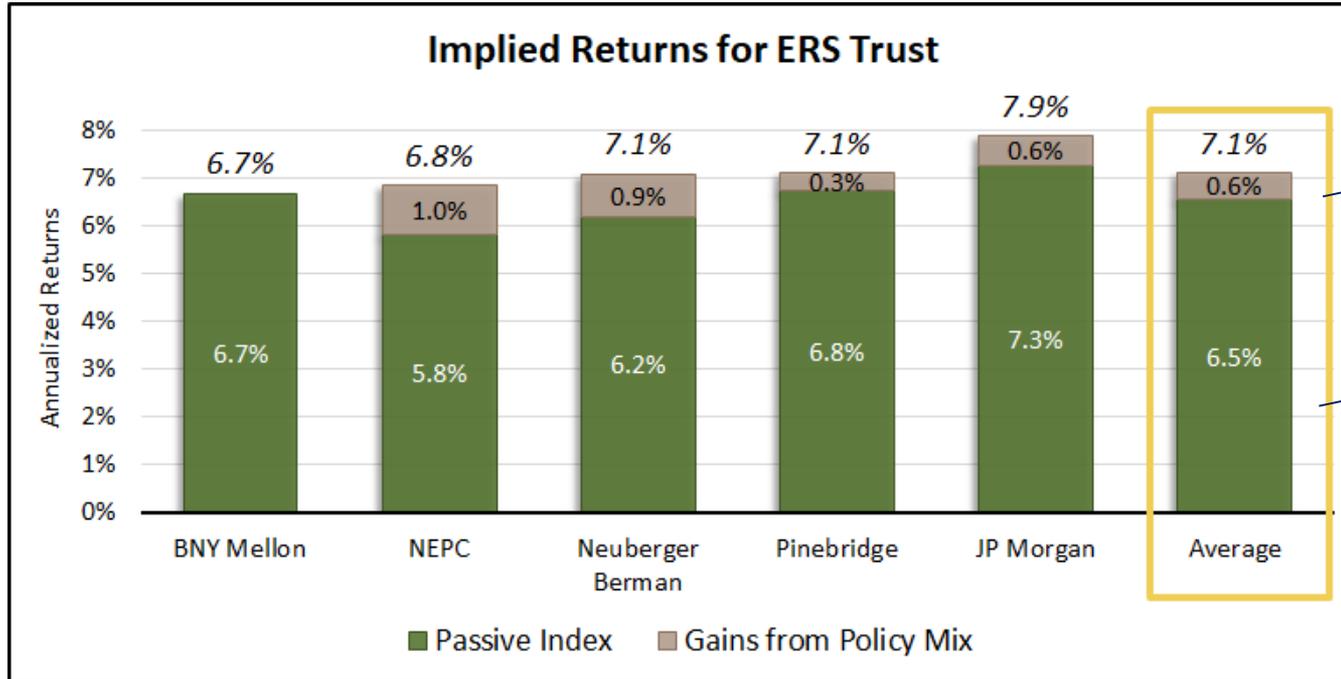


# Capital Market Assumptions

## Forecasted Trust Performance



- ERS CMA survey implies a return of **6.5%** for Passive Index vs **7.1%** for Policy Benchmark



7.1% base expectation for policy mix before implementation target

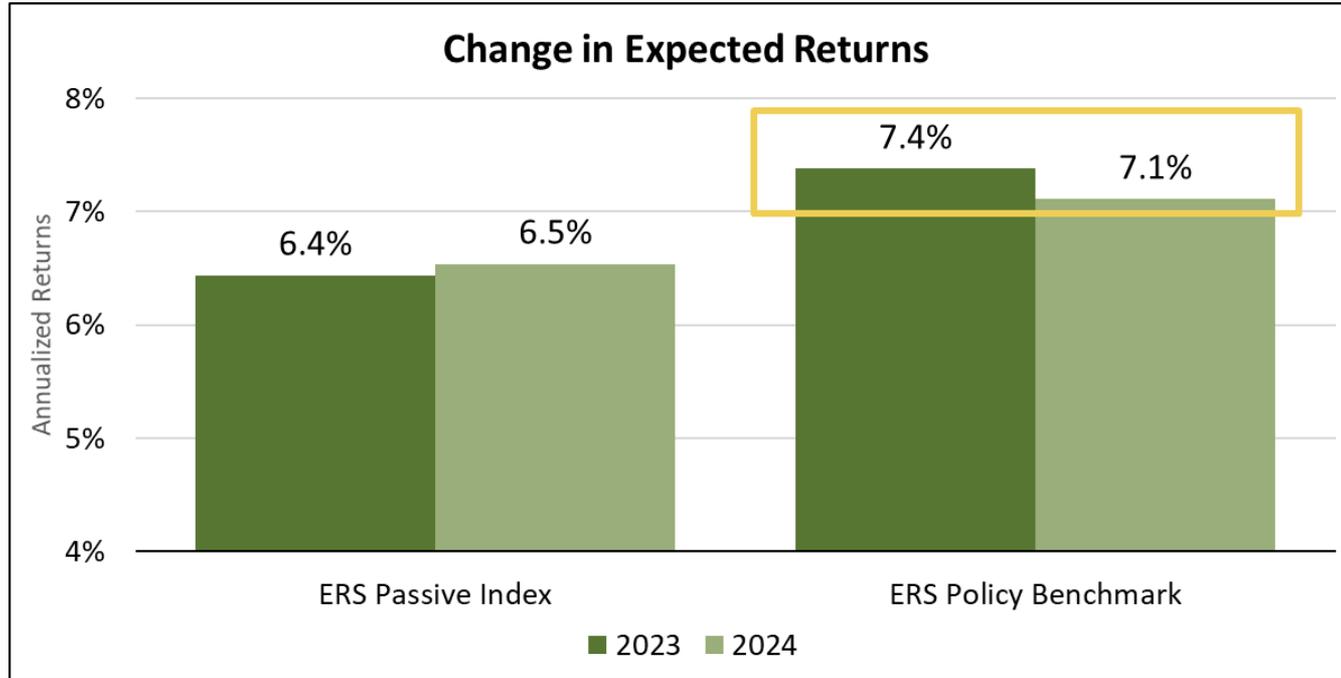
6.5% return falls short of the strategic plan by **\$200 million** annually

# Capital Market Assumptions

## Trends in Expected Returns

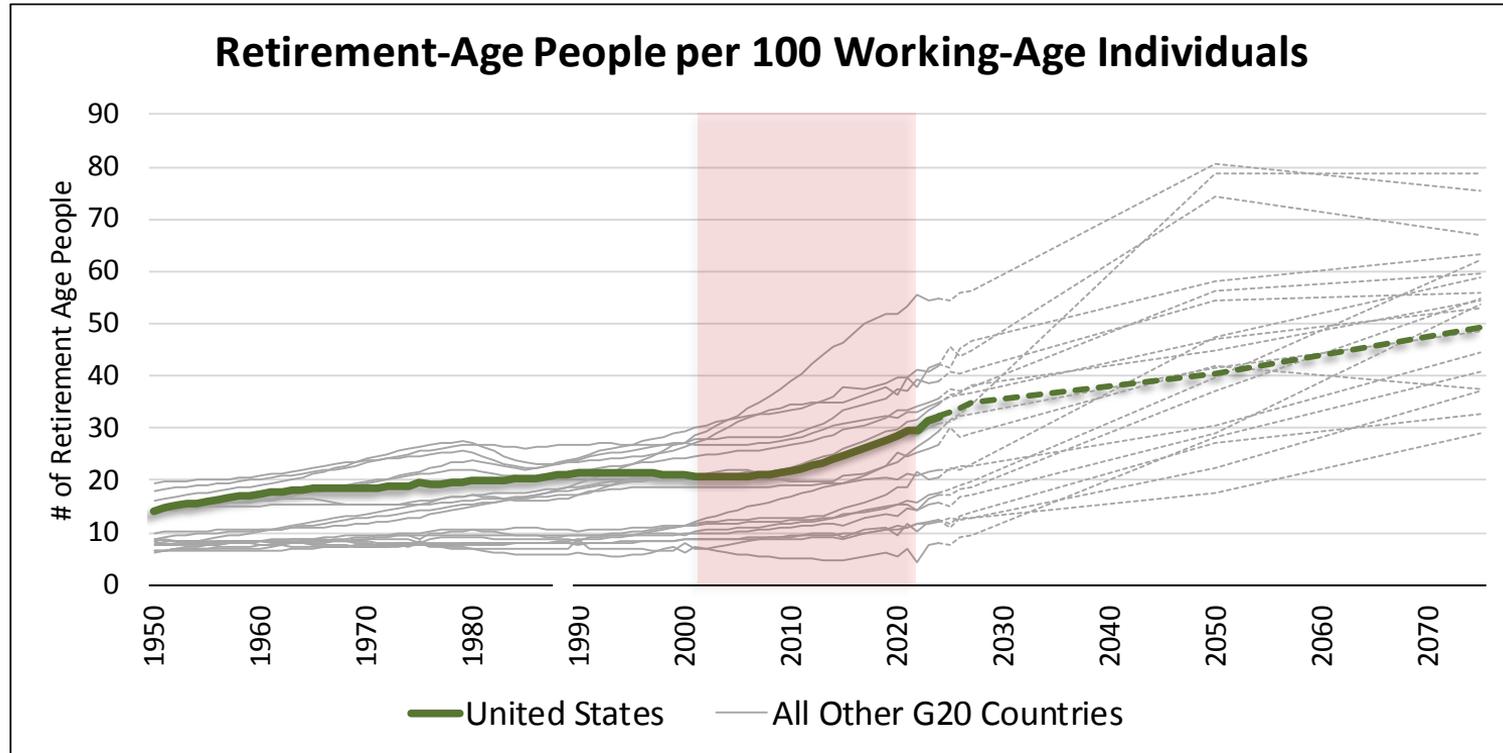


- Policy Benchmark returns fall 30 bps vs. year ago on declines for private equity, credit



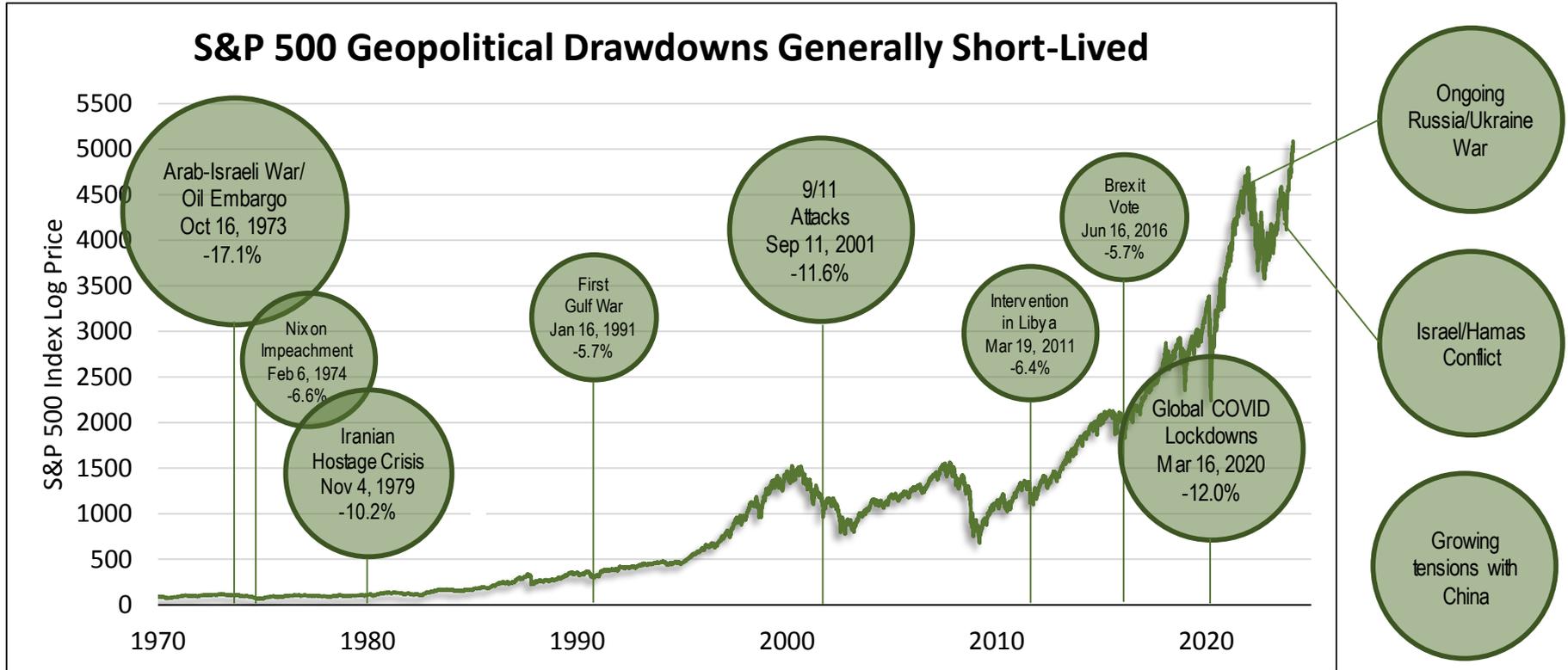
# Capital Market Assumptions

## Survey Theme #1: Impacts of an Aging Population



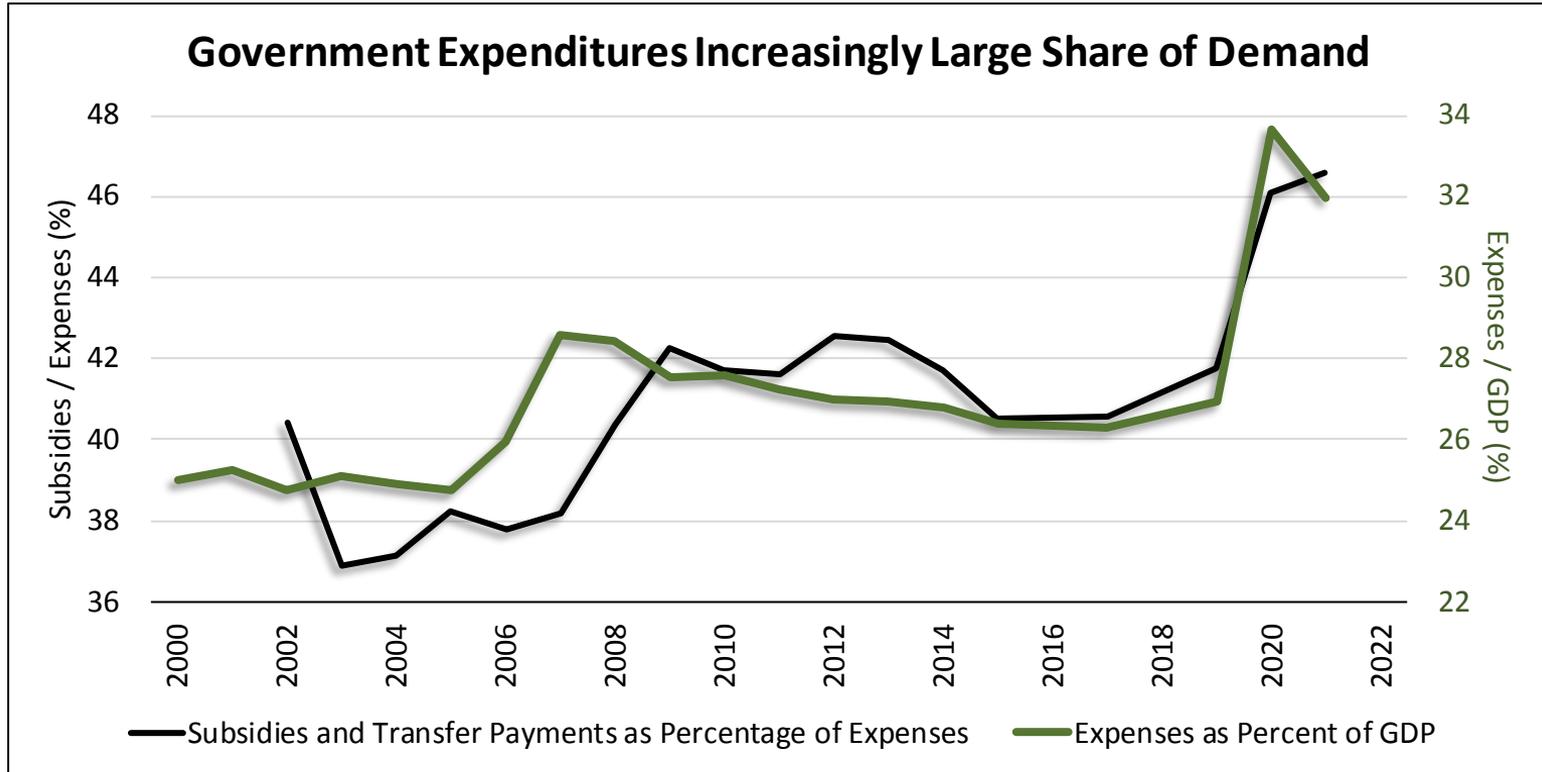
# Capital Market Assumptions

## Survey Theme #2: Geopolitical Risk



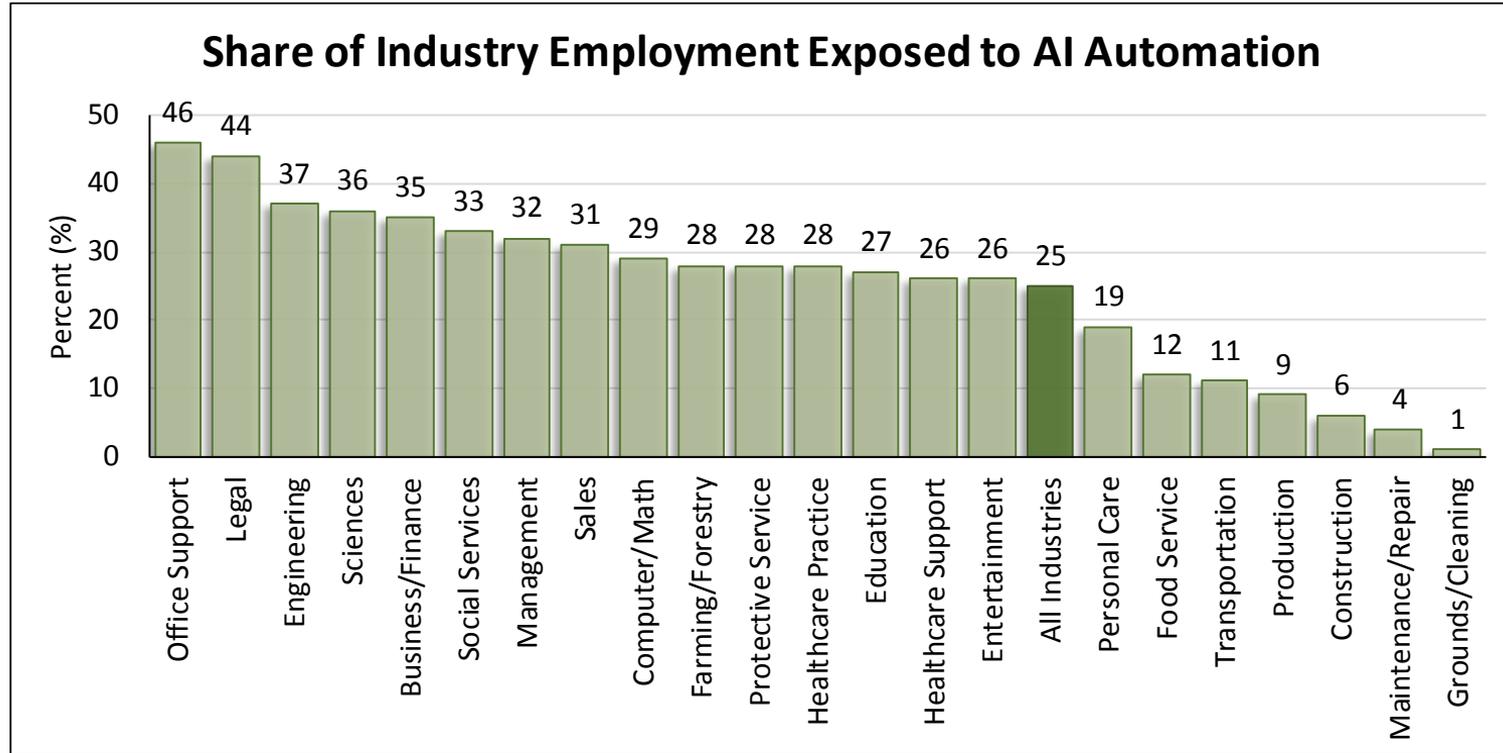
# Capital Market Assumptions

## Survey Theme #3: Expanding Role of Governments



# Capital Market Assumptions

## Theme #4: Artificial Intelligence



# Capital Market Assumptions

## *Conclusions for 2024*



- Passive 80/20 stock/bond portfolio expected to yield only **6.5%** annually
- Expected return for ERS Policy Benchmark now **7.1%** before implementation gains
- Public market returns seen narrowing the gap with private markets as rates rise
- Long-term themes likely to have a significant impact on returns going forward

# Discussion

## Public Agenda Item #13

### *\*Consideration of 2024 Pension Experience Study Process and Recommendations – (Action)*

March 20, 2024

Jennifer Chambers, Director of Government Relations and Special Projects  
Dana Woolfrey, FSA, EA, MAA, Gabriel, Roeder, Smith & Company  
Joseph Newton, FSA, EA, MAA, Gabriel, Roeder, Smith & Company

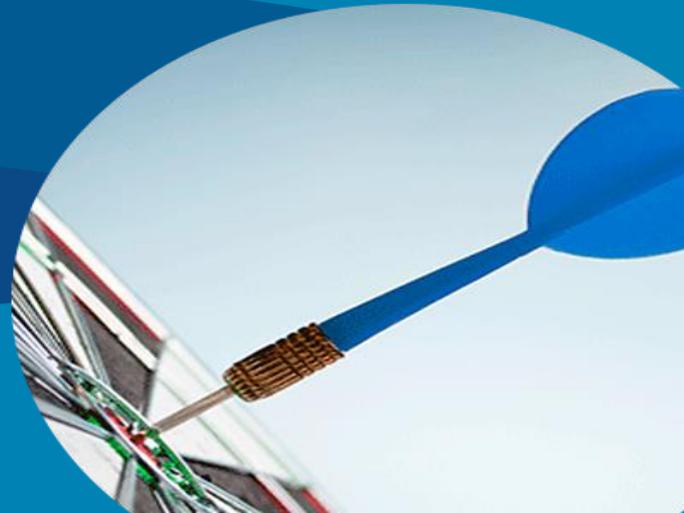


# ERS of Texas 2024 Experience Study

March 20, 2024

Dana Woolfrey, FSA, EA, MAAA

Joseph Newton, FSA, EA, MAAA



# Purpose of Experience Study

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- Experience study is a regularly scheduled review of the assumptions and methods
  - ERS conducts studies at least every four years based on current statute
- General process for setting assumptions and methods
  - Actuary compares previous year's patterns to what was expected by the current assumptions
  - Actuary uses professional judgement to determine if any deviation is a reliable change in trend to incorporate for future decision making
  - Actuary makes recommendations for new assumptions
  - Board considers actuary's recommendation and makes the final decision for the system

# Big Picture Context - Economics

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- Inflation has been high, but is leveling off
- The median return assumption from the National Association of State Retirement Administrators (NASRA) survey has dropped from 7.25% to 7.00% since last experience study.
- However, capital market expectations have increased recently after several years at historically low levels.

# Big Picture Context - Demographics

---

- The pandemic distorted the results for some of the years
- Mortality clearly impacted
- Too early to tell long-term impacts
  - Several competing schools of thought
  - Need time for experience to bear out
- Rule of thumb to not add more risk (assume shorter lifespans) based on recent, uncertain experience
  - Wait for more data

# Big Picture Context – Plan Design

---

- Reform in 2021 Legislative Session changed ERS funding to be actuarially determined
- Group 4 cash balance design eases pressure on assumptions over time
  - Reasonably level accruals over career reduce importance of retirement/termination assumptions
  - Changing investment expectations cause parallel movement in gain sharing expectations
  - Mortality remains important assumption

# Summary of Findings

---

- In general, the current assumption set is reasonable.
- The most meaningful recommendations are:
  - Lower retirement probabilities at younger ages and first eligibility
  - Lower probabilities of disability
  - Slightly increase rates of turnover for LECO and slightly lower for Regular Class hired later in their career
  - Update Judges mortality to reflect “white collar” occupation
  - Increase expected administrative expenses
- Full detail is in the report

# Experience Study Recommendations Impact

As of August 31, 2023 For FY 2024	Employees Retirement System of Texas (ERS)		Law Enforcement and Custodial Officers Supplemental Retirement Fund (LECOSRF)		Judicial Retirement System Plan 2 (JRS 2)	
	Current Assumptions	Proposed Assumptions	Current Assumptions	Proposed Assumptions	Current Assumptions	Proposed Assumptions
Normal Cost Rate*	13.52%	13.52%	2.11%	2.08%	28.24%	29.19%
Unfunded Liability	\$14.0 B	\$13.7 B	\$0 M	(\$10 M)	(\$8 M)	\$20 M
Funded Ratio	70.8%	71.2%	100.0%	100.6%	101.2%	97.1%
Legacy Payment to Eliminate UAAL by 2054	\$385 million	\$366 million	NA	NA	NA	NA
Recommended Legacy Payment for Upcoming Biennium	\$510 million	\$510 million	NA	NA	NA	NA
Are current contributions sufficient?	Yes	Yes	Yes	Yes	Yes	Yes

\* Average normal cost rate for all groups, includes administrative expenses



# Inside the Actuarial Valuation: Projecting the Liability for Each Member

---

What is the probability  
the member reaches  
retirement?  
(Termination assumption)

When will the  
member retire?  
(Retirement assumption)

How much will  
the benefit be?  
(Salary increase assumption)

How long will  
the benefit be paid?  
(Mortality assumption)

**Hired at age 30**

**Retire  
with annual benefit**

**Receive benefit  
for remaining lifetime**

What investment earnings will be  
available to help pay the benefits?

What overall payroll will be available  
to provide contributions?

# How assumptions factor in...

---

- Over time, the true cost of benefits will be borne out in actual experience
  - Ultimate benefits paid are NOT affected by actuarial assumptions or methods
  - Determined by actual participant behavior (termination, retirement), plan provisions, and actual investment returns
- Assumptions help us develop a reasonable starting point for decision making and budgeting today
- Methods help us set patterns of contributions and how fast the contributions will react to unfolding experience

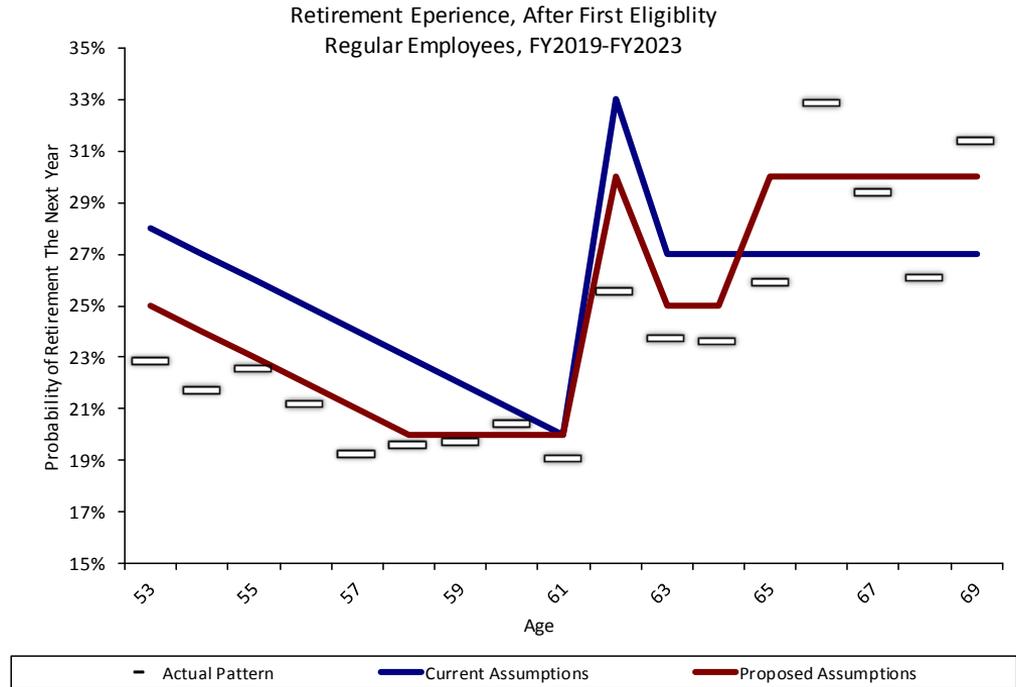
# Actual/Expected

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- For an experience study, we determine the actual number of deaths, retirements, etc. that occurred. Then we determine the number expected.
- We then calculate the A/E ratio, where "A" is the actual number and "E" is the expected number.
- If the current assumptions were “perfect”, the A/E ratio would be 100%.
- When there is a variation from this figure, it suggests that a new assumption may be needed.
- We not only look at the assumptions as a whole, but we also review how well they fit the actual results by gender, by age, and by service.

# Retirement Experience

- Members have been retiring later
- Especially at First Eligibility, where the current assumption adds 30% to the pattern to the right. The Actual was closer to 10% and thus we have lowered this accordingly



# Other Assumption Cleanup

---

- A/E ratios
  - Termination (>100% conservative)
    - Regular class hired before 35 103% -> 103%
    - Regular class hired after 35 98% -> 103%
    - LECOS 112% -> 106%
    - Judges (moved to service based) 116% -> 111%
  - Disability
    - Lower rates consistent with experience

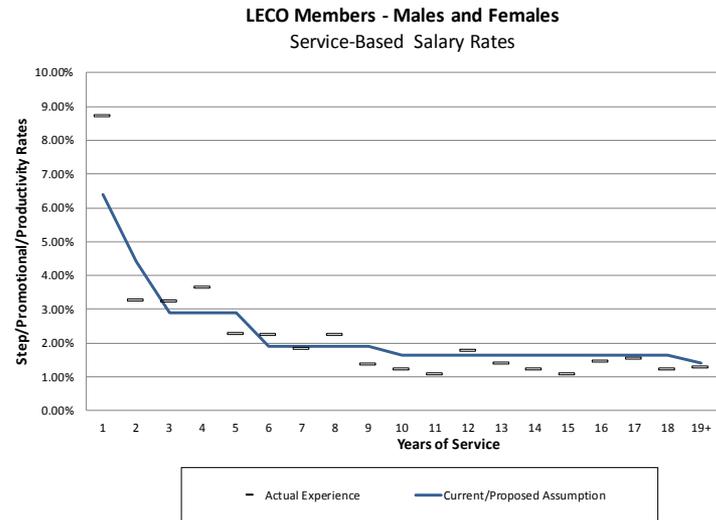
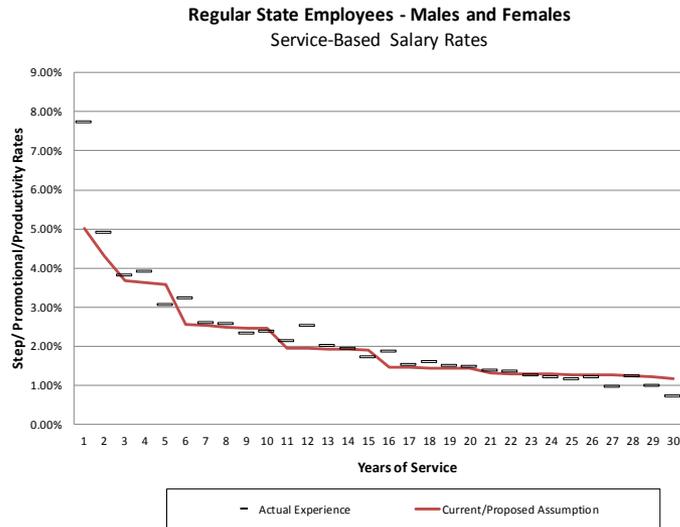
# Economic Assumptions - Inflation

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- Current sources of inflation forecasts for the next 10-20 years range from 2.1% to 2.5%
  - 10-Year Breakeven Treasury 2.09%
  - 20-Year Breakeven Treasury 2.37%
  - 30-Year Breakeven Treasury 2.19%
  - Social Security's Assumption 2.40%
  - 10-Year Federal Reserve Bank of Philadelphia 2.40%
  - 20-Year Federal Reserve Bank of Cleveland 2.33%
  - 20-Year Federal Reserve Bank of St. Louis 2.42%
- We find the current 2.30% to be reasonable

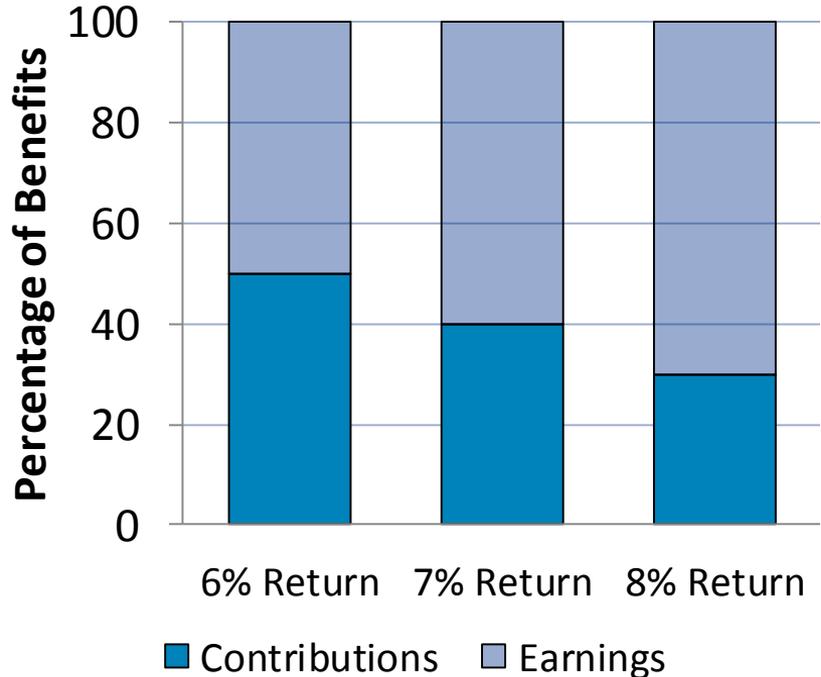
# Salary

- After adjusting for actual inflation over 10-year study period (2.76%) compared to the assumed inflation (2.30%) merit/promotion component looked to be a good fit for both Regular class and LECOS



# Investment Return Assumption

- This assumption is used to predict what percentage of a future benefit payments will be covered by investment return and what percentage by contributions.
- Lower Returns/Higher Contributions

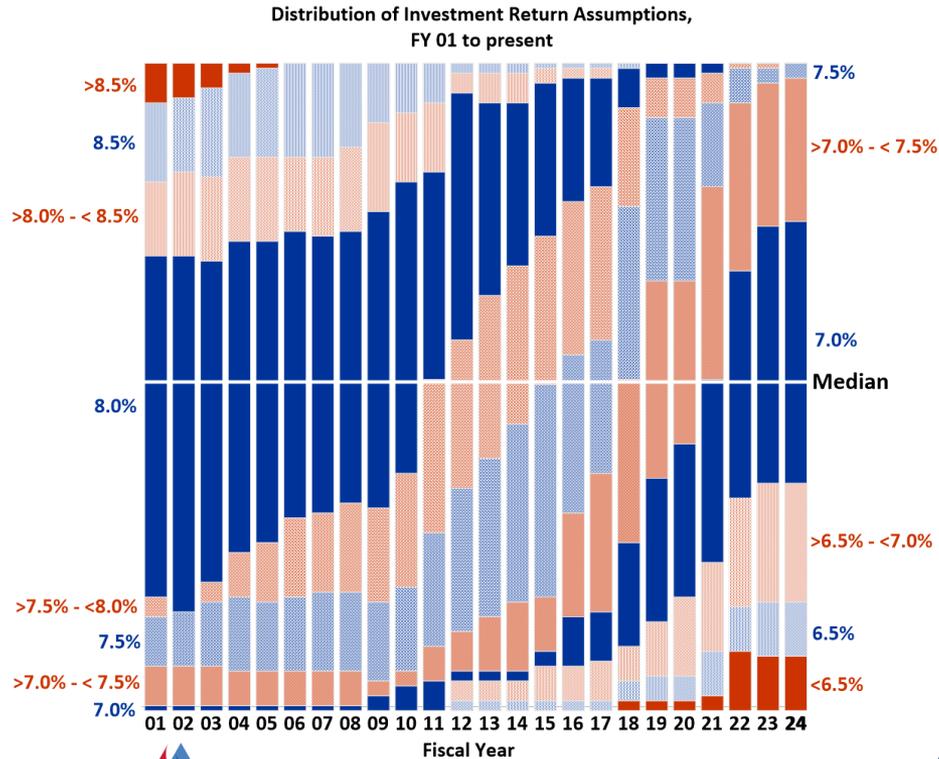


# Investment Return Assumption

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- The assumption selected should be reasonable
- Assumption is selected using a process that considers:
  - ERS target asset allocation
  - Capital market expectations
    - Utilize a building block approach that reflects expected inflation, real rates of return, and plan related expenses
    - Take into account the volatility of the expected returns produced by the investment portfolio
- Other factors to consider
  - Historical investment performance
  - Comparison with peers

# Investment Return Assumption – National Trends

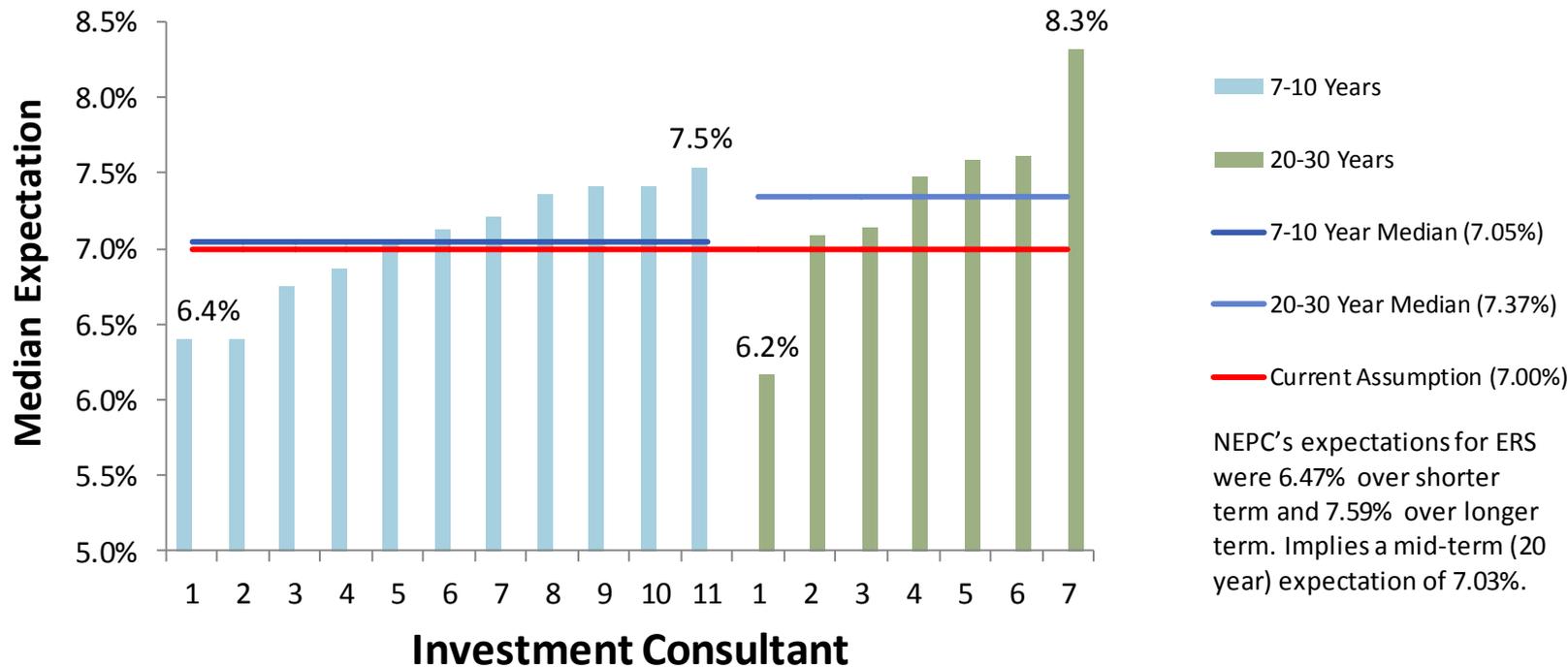


# GRS Survey of Investment Consultants

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- We analyzed the current asset allocation
- Projected real returns were developed using ERS Long-Term Target Asset Allocation and current capital market return assumptions
  - GRS Survey of 11 investment consulting firms

# GRS Survey: Distribution of Forward-Looking Returns Expectations



# Recommendation

---

- We find the current 7.00% to be reasonable
- Per GRS' survey, the expectations for ERS based on current capital market projections:

	Expected Return	Probability of achieving at least 7.0%
10 Year Period	7.05%	50.5%
30 Year Period	7.34%	53.3%

- If assume the \$510 million Legacy Payments continue, the necessary average annual return is 6.61% to be fully funded by 2054
  - 62% probability based on current survey expectations

# Discussion and Next Steps

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- The Board needs to adopt a new set of assumptions to be used in the August 31, 2024 valuations and 2025 Legislative Session

# Actuary's Qualifications

---

- We believe the recommended set of actuarial assumptions should present a more accurate portrayal of ERS's financial condition and should reduce the magnitude of future experience gains and losses.
- The study was conducted in accordance with generally accepted actuarial principles and practices and with the Actuarial Standards of Practice issued by the Actuarial Standards Board
- Dana and Joe meet the Qualification Standards of the American Academy of Actuaries

Discussion  
Action Item

## Public Agenda Item #14

### *\* Consideration of Investment Compliance Annual Report for 2023*

March 20, 2024

Tony Chavez, Internal Audit Director  
Tressie Landry, Internal Audit Manager

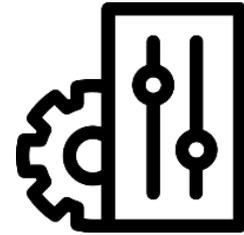
# Agenda



Investment  
Compliance Overview

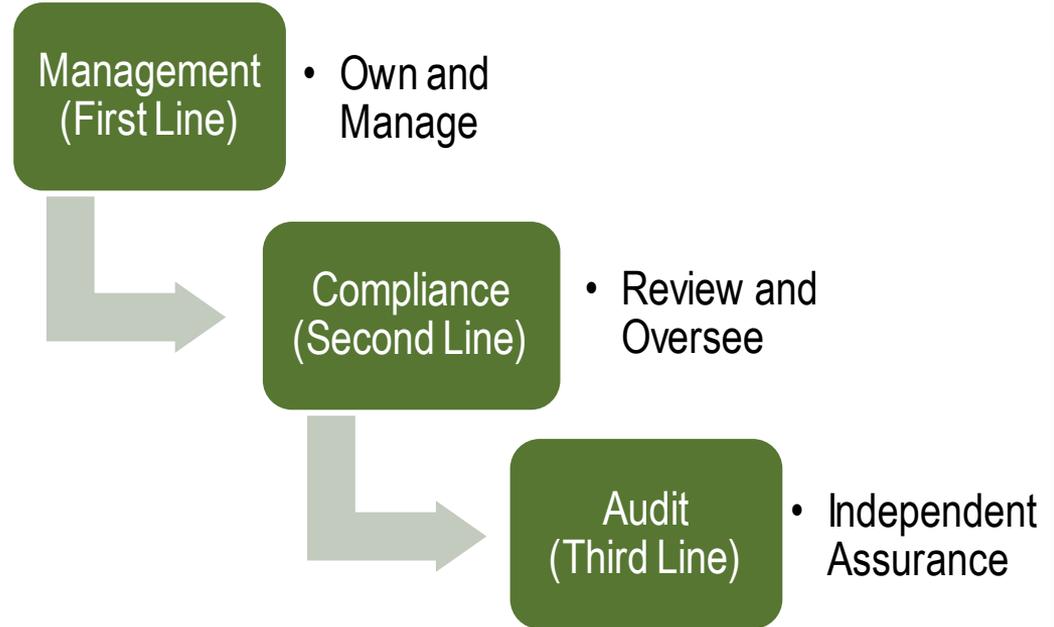
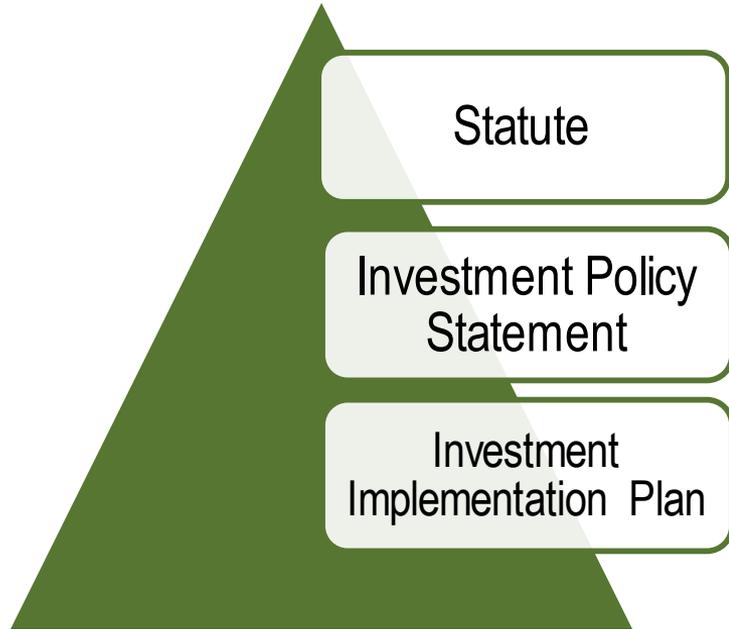


Annual Results



Action Plans

# Governance Overview



# Compliance Areas

## Investment Compliance



### Portfolio Compliance

Diversification

Tracking Error

Alternatives



### Regulatory

Scrutinized Investments



### Special Programs

Proxy Voting

Securities Lending

## Ethics Compliance



### Ethics Compliance

Misuse of Information

Conflict of Interest

Front Running/ Insider Trading

Outside Relationships  
Gifts

# Annual Results for 2023



Compliance Area	Function	CY23 Results
Portfolio Compliance	Diversification	No Exceptions
	Active Risk	
	Alternative Investment	
Regulatory	Scrutinized Investments	
Other Programs	Proxy Voting	
	Securities Lending	
Ethics	Standards of Conduct	
	Misuse of Information	
	Conflict of Interest	

# Action Plan



Compliance Area	Action Item
Investment Compliance	<ul style="list-style-type: none"><li>• Incorporate Risk Management assessments<ul style="list-style-type: none"><li>- Focus of compliance activities</li><li>- Frequency of compliance activities</li></ul></li><li>• Coordinate w/Investment Operations on compliance reports</li><li>• Coordinate w/Stewardship Committee on Proxy Voting rules</li></ul>
Ethics Compliance	<ul style="list-style-type: none"><li>• <b>Automated approval of personal trades</b></li><li>• Electronic tracking of gift receipts</li><li>• Review Covered and Restricted Persons designations</li><li>• Review Affirmation statements</li></ul>

# Discussion

# Public Agenda Item #15

## *\*Consideration of Investment Practices Review*

March 20, 2024

Sam Austin, Partner, NEPC



# 2024 IPPE REPORT SUMMARY

EMPLOYEES RETIREMENT  
SYSTEM OF TEXAS

MARCH 2024

Sam Austin, Partner



## REQUIREMENTS & SCOPE OF EVALUATION

Pursuant to Section 802.109 of Texas Government Code, NEPC has been engaged by the Employees Retirement System of Texas to conduct an independent evaluation of the appropriateness, adequacy and effectiveness of ERS' investment policies and practices. The 2024 Investment Practices and Performance Evaluation (IPPE) report for ERS Texas covers five Evaluation Topics recommended for review by the Texas Pension Review Board:

- A review of the retirement system's governance processes related to investment activities;
- An analysis of any investment policy or strategic investment plan adopted by the retirement system;
- A detailed review of the retirement system's investment asset allocation;
- A review of the retirement system's investment manager selection and monitoring process; and
- A review of the appropriateness of investment fees and commissions

# TIMELINE FOR COMPLETING EVALUATION

**January 24, 2023** - Initial Meeting for ERS Texas Staff and NEPC to discuss scope of Evaluation and required source documents

**March 24, 2023** - ERS Texas delivers substantially all source documents to NEPC

**May 18, 2023** - Four NEPC Evaluators conduct on-site interviews with 20 ERS Staff professionals

**October 11, 2023** - NEPC Director of HR conducts phone interviews with ERS Texas Head of HR and ICP Program Director

**February 22, 2024** – NEPC submits substantially-complete IPPE report to ERS Staff

**March 20, 2024** – NEPC presents executive summary of IPPE report to ERS Board

**April 1, 2024** - Target date for ERS review and comment

**May 1, 2024** - Final IPPE Report is due to ERS

**June 1, 2024** - Final Report is submitted to Texas Pension Review Board

# EVALUATION METHODOLOGY

- NEPC reviewed more than 40 source documents from ERS Texas as well as guidance from the Texas Pension Review Board.
- Interviews were conducted with 22 leaders within the ERS Texas staff.
- NEPC compared ERS investment policies and practices with the equivalent policies and procedures at 17 institutional investors identified by ERS as peer investors.
- ERS Texas policies and practices were compared with industry standards articulated by GASB, ASB, APPFA, CFA Institute and GFOA.
- ERS Texas policies and procedures were compared against those of NEPC's 70 other public fund clients, representing \$775 billion of assets under advisement.
- The 2024 IPPE report covers the fiscal year ending August 31, 2023, unless otherwise specified.

# EXECUTIVE SUMMARY

## Overview of Findings

NEPC finds ERS' policies, procedures and practices to be appropriate, adequate and effective when compared to industry prevailing practice.

## Overview of Recommendations

NEPC found that ERS Texas took significant steps over the last four years toward addressing the eight recommendations identified in the 2020 Investment Policies and Practices Evaluation. The 2024 IPPE report recommends seven non-critical actions ERS Texas could undertake which can mitigate potential impediments to efficiency and optimal investment results.

## 2024 RECOMMENDATIONS

### 1. ERS Texas should continue to develop innovative policies focused on recruiting, compensation, quality-of-work-environment, and career development to secure and retain investment talent.

- The ability to hire, retain and offer competitive compensation to investment professionals is a key requirement for achieving the Trust's investment objectives with optimal efficiency.
- ERS is competing with private sector employers and other public pension plans that may be larger.
- Perceived advantages in lifestyle and cost of living in Austin, Texas have faded as housing costs have risen dramatically and remote work options have proliferated.
- Several asset class directors mentioned that they have lost key personnel or been unable to fill needed positions in the last two years.
- Technology issues and travel policies were also mentioned by Staff as a quality-of-work-environment hindrance to efficient due diligence visits with asset managers.

## 2024 RECOMMENDATIONS

### 2. To the extent permitted under Texas Law, ERS should seek statutory procurement flexibility similar to that applicable to other large Texas public funds among the peer group.

- Current RFP process can take up to a year to complete.
- Successful achievement of procurement flexibility will give ERS additional operational flexibility when there is a need to quickly replace a struggling investment manager or take prompt advantage of an opportunistic investment.

## 2024 RECOMMENDATIONS

### 3. ERS should periodically re-evaluate the most useful fee benchmarks and universes of manager data when reporting on manager fees.

- There can be a wide range of variation between median fees reported by various databases of manager data.
- Fee comparisons are subject to several important biases including investment strategy bias (the extent to which strategies in the ERS portfolio are different than the universe data) and scale bias (the extent to which an investor may be able to negotiate fees based on their size);
- It is particularly important to re-evaluate every few years the breadth of data and the methodology used by private market universes of manager fees.

## 2024 RECOMMENDATIONS

### 4. ERS Texas should also periodically re-evaluate the current practice of bundling the cost of research with total trade costs.

- While permissible in the current regulatory environment, a growing number of Public Funds no longer use a soft dollar program.
- NEPC acknowledges that ERS considered this same recommendation in the 2020 IPPE report and decided not to make a change because Staff strongly believes the current practice is best suited for the Trust.
- ERS Texas has an understandably larger appetite for research than most public funds given the Trust's larger percentage of assets under internal active management in comparison with peers.
- As a practical matter, NEPC acknowledges that paying for research directly can be a challenge in an unbundled environment.

# 2024 RECOMMENDATIONS

## 5. NEPC recommends regular review of asset class benchmarks.

- This is particularly important for asset classes like private markets and hedge funds that, by their nature, do not have benchmarks that meet the investable and reflective characteristics of CFA Institute’s SAMURAI model. For these asset classes, there is no perfect benchmark.
- Therefore, it is reasonable to periodically assess the appropriateness of other existing benchmark options in wide use by peer institutions and to evaluate new benchmarks that are being developed.

# 2024 RECOMMENDATIONS

## 6. ERS should consider establishing a more rigorous manager monitoring process.

- A more robust, systematic methodology can be useful in evaluating investment strategies that are not performing as expected.
- Pursuing a more rigorous manager monitoring process can be a useful tool in the decision of how long to stay with a strategy that is struggling.
- It is important to distinguish between poor performance because of style drift or loss of key investment personnel (which should trigger an immediate re-evaluation) versus poor performance while the manager is consistently executing on the role for which they were added to the portfolio.

## 2024 RECOMMENDATIONS

### 7. Improvements to the SOPs for Investment Compliance and automation of the personal account monitoring function should be considered.

- The Evaluation takes note that the ERS Texas Investment Compliance team currently has only one full-time dedicated member.
- NEPC recommends that existing processes for the Investment Compliance function can be better codified and enhanced to the level of documentation in other ERS Standard Operating Procedures.
- This review notes that a transition to automation for personal account trade monitoring, and heavy manual processes, was under consideration by the end of 2023.

# Discussion

## Public Agenda Item #16

### *\*Consideration of Quarterly Review of Investment Performance and Market Environment*

March 20, 2024

John McCaffrey, Managing Director of Portfolio Management

Sam Austin, Partner, NEPC

David T. Veal, Chief Investment Officer



# QUARTERLY PERFORMANCE REPORT

EMPLOYEES RETIREMENT SYSTEM OF  
TEXAS

MARCH 20, 2024

Sam Austin, Partner  
Michael Malchenko, Consultant





## TABLE OF CONTENTS

- Economic and Market Environment
- Executive Summary



# ECONOMIC AND MARKET ENVIRONMENT

# ECONOMIC ENVIRONMENT



## Will economic growth continue in 2024?

- Tight monetary policy continues to reverberate through economy
- Signs of credit stress appearing in certain sectors
- Fiscal spending could slow after large deficit spending in 2023



## Adjusting to higher cost of capital

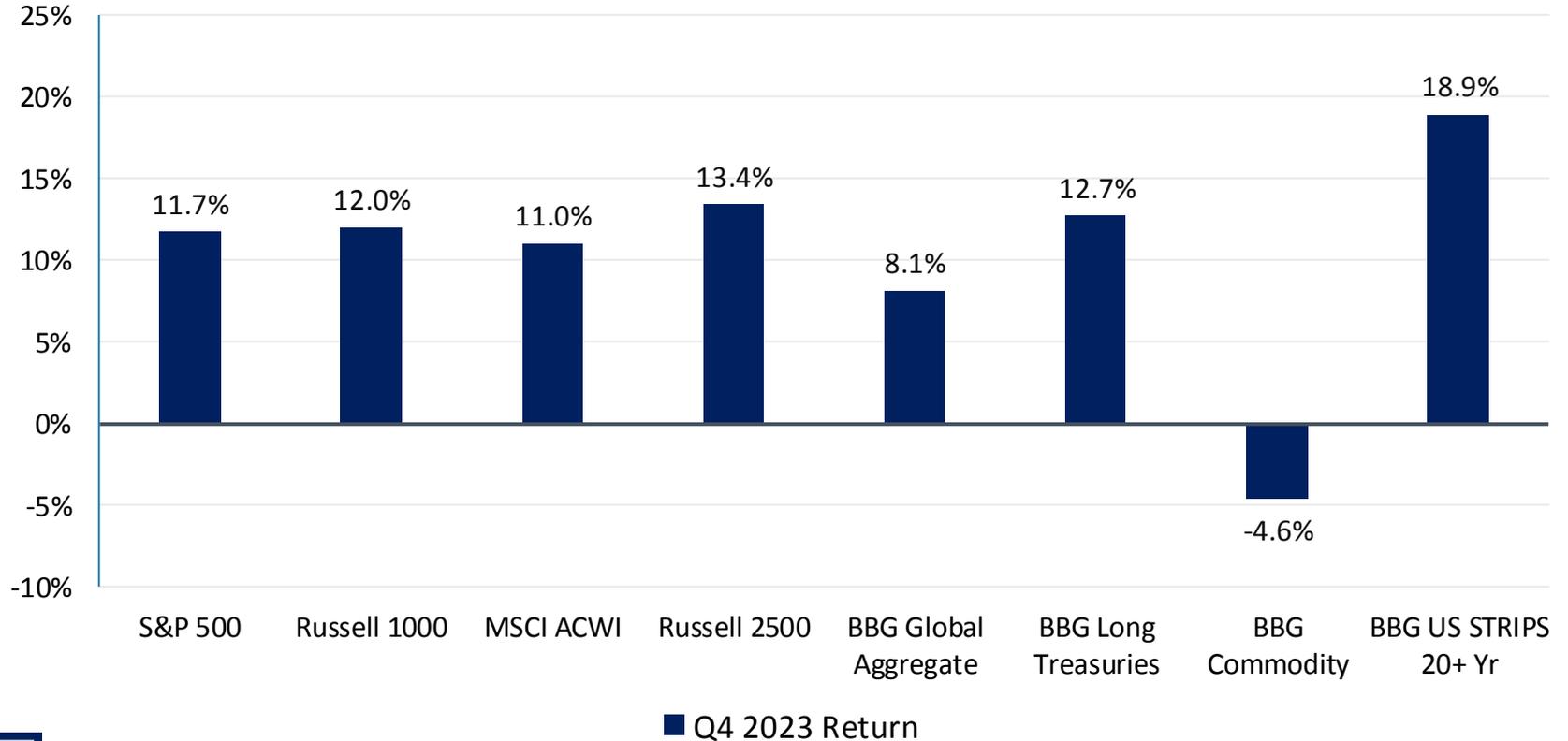
- Markets did not yet price in the likelihood of sustained rate environment of 4% or higher
- Higher rates suppressed M&A activity, PE fundraising, and PE exits
- Bank lending standards continued to tighten



## Geopolitical risks

- Russia-Ukraine war, Middle East conflicts, and trade tensions with China point to continued risks and uncertainties
- Outcome of U.S. presidential election and impact on policy to be seen

# BEST AND WORST INDEX PERFORMANCE





# EXECUTIVE SUMMARY

# ERS TRUST DASHBOARD

Performance	CYTD		FYTD 2024
Total Trust	10.81% (72)		3.56% (79)
Policy Benchmark	10.38% (80)		3.92% (59)
Excess Return	0.43%		-0.36%
Risk Statistics	5-Year		3-Year
	Sharpe Ratio	Sortino Ratio	Tracking Error
Total Trust	0.98 (1)	1.55 (3)	1.87%
Policy Benchmark	0.79 (12)	1.25 (11)	-
Attribution Summary			
Largest Contributors (Quarter)			

Global Credit (+0.1%) and Rates (+0.1%) contributed positively versus the Policy Benchmark.

## Largest Detractors (Quarter)

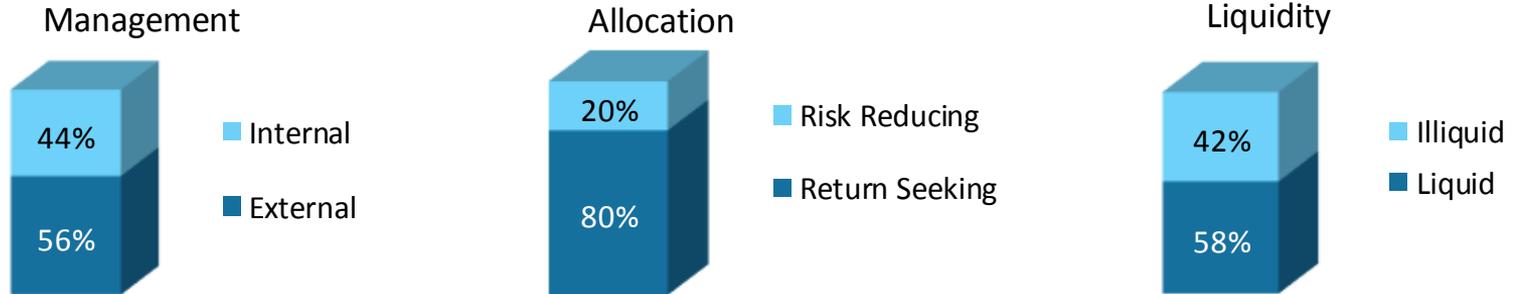
Public Equity and Cash were the largest detractors (-0.2% each), followed by Private Equity and Public Real Estate (-0.1% each).



Note: Numbers in parentheses indicate the Trust's rank among the peer universe of Public Defined Benefit plans greater than \$ 1 Billion.

# ERS TRUST DASHBOARD

Profile	
Market Value at December 31, 2023	\$37.6 Billion
Actuarial Accrued Liability August 31, 2023	\$48.0 Billion
Actuarial Value of Assets August 31, 2023	\$34.0 Billion
ERS Trust Funded Ratio August 31, 2023	70.8%
Actuarial Assumed Rate of Return	7.00%
Retirees and Beneficiaries August 31, 2023	124,504
Retirement Payments Year Ended August 31, 2023	\$3.0 Billion





# PERFORMANCE SUMMARY

# TOTAL TRUST PERFORMANCE DETAIL (NET OF FEES)

	Market Value	3 Mo	Fiscal YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs
<b>Total Trust</b>	<b>\$37,592,117,969</b>	<b>5.2% (88)</b>	<b>3.6% (79)</b>	<b>10.8% (72)</b>	<b>8.2% (1)</b>	<b>9.7% (5)</b>	<b>7.6% (6)</b>
<i>Policy Benchmark</i>		<i>5.8% (79)</i>	<i>3.9% (59)</i>	<i>10.4% (80)</i>	<i>5.9% (15)</i>	<i>8.6% (42)</i>	<i>6.7% (31)</i>
<i>Passive Index</i>		<i>9.8% (1)</i>	<i>5.9% (1)</i>	<i>18.3% (1)</i>	<i>4.4% (55)</i>	<i>9.9% (4)</i>	<i>6.9% (25)</i>

- For the one-year period ended December 31, 2023, the Trust outperformed the policy benchmark by 0.4%.
- In the one-year period, the Trust's assets increased from \$32.97 billion to \$37.59 billion. This includes a \$3.60 billion net investment gain within the one-year period and a \$1.87 billion net investment gain within the fourth calendar quarter of 2023.

Note: The Passive Index is comprised of 80% MSCI ACWI IMI and 20% Bloomberg Intermediate Treasury Index. Numbers in parentheses indicate the Trust's rank among the peer universe of Public Defined Benefit plans greater than \$1 Billion.



# TOTAL TRUST PERFORMANCE DETAIL (NET OF FEES)

## 3 Years Ending December 31, 2023

	Return	Standard Deviation	Sharpe Ratio	Sortino Ratio
Total Trust	8.2% (1)	6.9% (6)	0.86 (3)	1.34 (4)
Policy Benchmark	5.9% (15)	7.6% (14)	0.51 (14)	0.77 (13)

## 5 Years Ending December 31, 2023

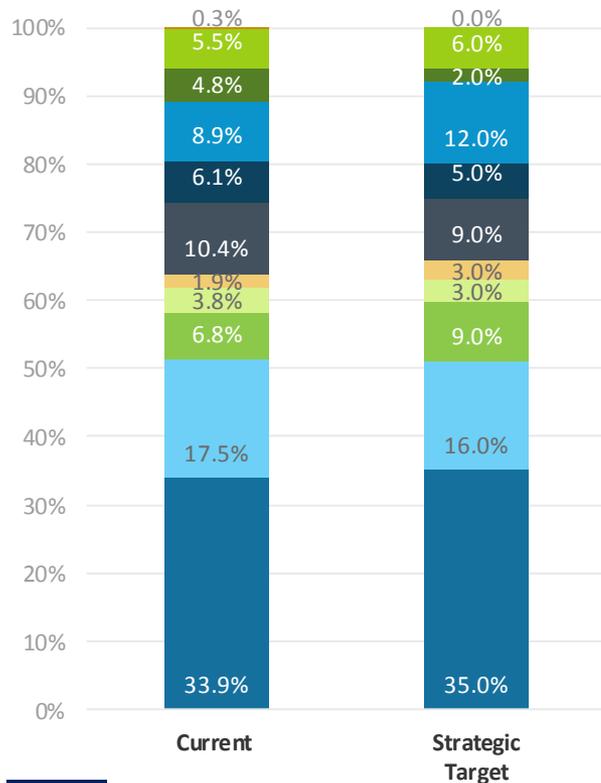
	Return	Standard Deviation	Sharpe Ratio	Sortino Ratio
Total Trust	9.7% (5)	7.9% (6)	0.98 (1)	1.55 (3)
Policy Benchmark	8.6% (42)	8.5% (12)	0.79 (12)	1.25 (11)

- **The three-year and five-year Trust returns have outperformed the actuarial rate of return.**
- **On a risk-adjusted basis, the three-year and five-year Sharpe and Sortino Ratios outperformed the benchmark, indicating that active management benefitted the plan.**

# TOTAL TRUST ASSET GROWTH SUMMARY

	Last Three Months	Fiscal Year-To-Date	One Year	Three Years	Five Years
<b>Beginning Market Value</b>	<b>\$36,043,223,870</b>	<b>\$35,363,436,955</b>	<b>\$32,972,240,087</b>	<b>\$30,865,543,933</b>	<b>\$26,873,073,745</b>
Contributions	\$2,388,868,789	\$6,976,806,371	\$13,140,254,293	\$56,642,526,051	\$84,909,292,228
Withdrawals	-\$2,713,102,571	-\$6,044,417,571	-\$12,123,110,858	-\$58,333,676,151	-\$89,209,397,160
Net Cash Flow	-\$324,233,782	\$932,388,800	\$1,017,143,435	-\$1,691,150,101	-\$4,300,104,931
Net Investment Change	\$1,873,127,881	\$1,296,292,214	\$3,602,734,447	\$8,417,724,137	\$15,019,149,156
<b>Ending Market Value</b>	<b>\$37,592,117,969</b>	<b>\$37,592,117,969</b>	<b>\$37,592,117,969</b>	<b>\$37,592,117,969</b>	<b>\$37,592,117,969</b>
Net Change	\$1,548,894,099	\$2,228,681,014	\$4,619,877,882	\$6,726,574,036	\$10,719,044,224

# TRUST ASSET ALLOCATION VS. POLICY TARGETS

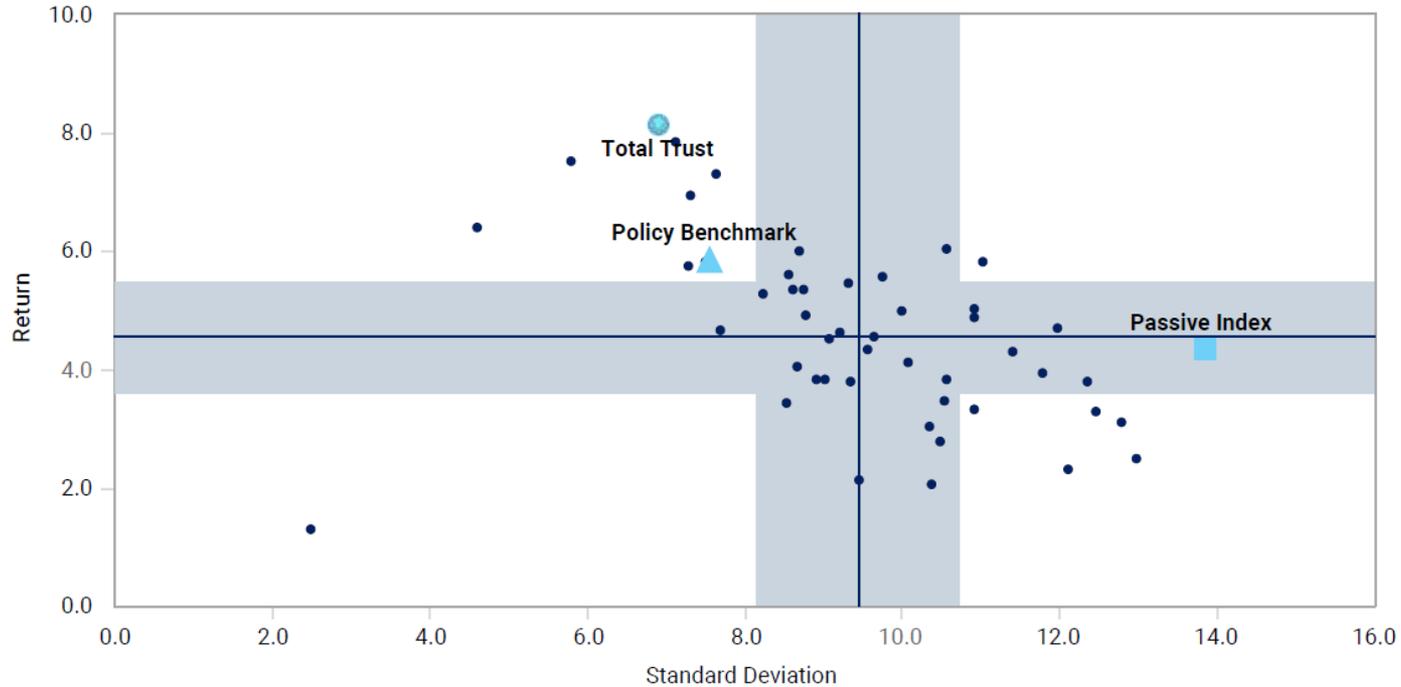


Asset Allocation as of December 31, 2023					
	Current Value	Current	Strategic Target	Tactical Range	
Public Equity	\$12,754,962,054	33.9%	35.0%	25.0% - 45.0%	
Private Equity	\$6,563,469,908	17.5%	16.0%	11.0% - 21.0%	
Public Credit	\$2,555,506,556	6.8%	9.0%	4.0% - 14.0%	
Private Credit	\$1,445,329,835	3.8%	3.0%	0.0% - 8.0%	
Real Estate - Public	\$717,241,555	1.9%	3.0%	0.0% - 13.0%	
Real Estate - Private	\$3,922,546,870	10.4%	9.0%	4.0% - 14.0%	
Infrastructure	\$2,277,355,670	6.1%	5.0%	0.0% - 10.0%	
Rates	\$3,360,466,368	8.9%	12.0%	7.0% - 17.0%	
Cash	\$1,809,114,273	4.8%	2.0%	1.0% - 10.0%	
Hedge Funds	\$2,072,878,469	5.5%	6.0%	0.0% - 11.0%	
Special Situations	\$113,246,412	0.3%	0.0%	0.0% - 5.0%	
<b>Total</b>	<b>\$37,592,117,969</b>	<b>100%</b>	<b>100%</b>		



# TOTAL TRUST RISK/RETURN

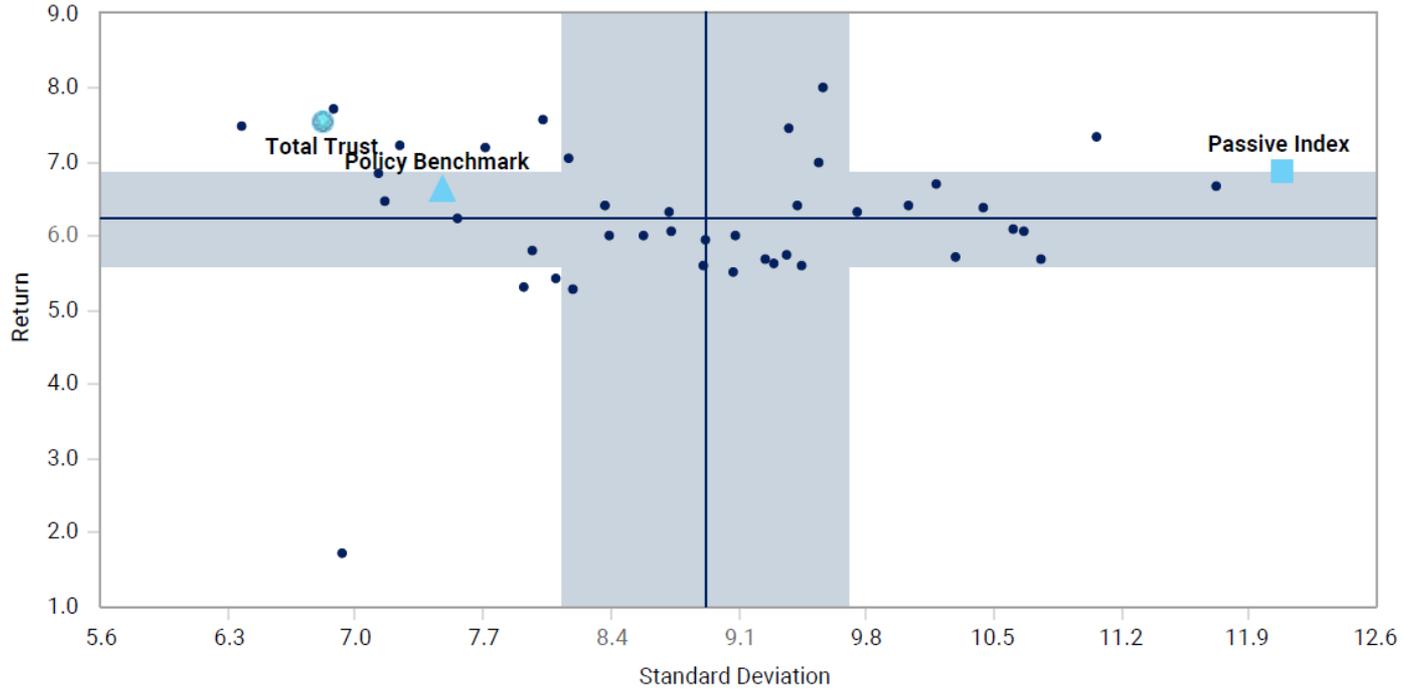
3 Years Ending December 31, 2023  
vs. InvMetrics Public DB > \$1 Billion



● Total Trust    ▲ Policy Benchmark    ■ Passive Index

# TOTAL TRUST RISK/RETURN

10 Years Ending December 31, 2023  
vs. InvMetrics Public DB > \$1 Billion



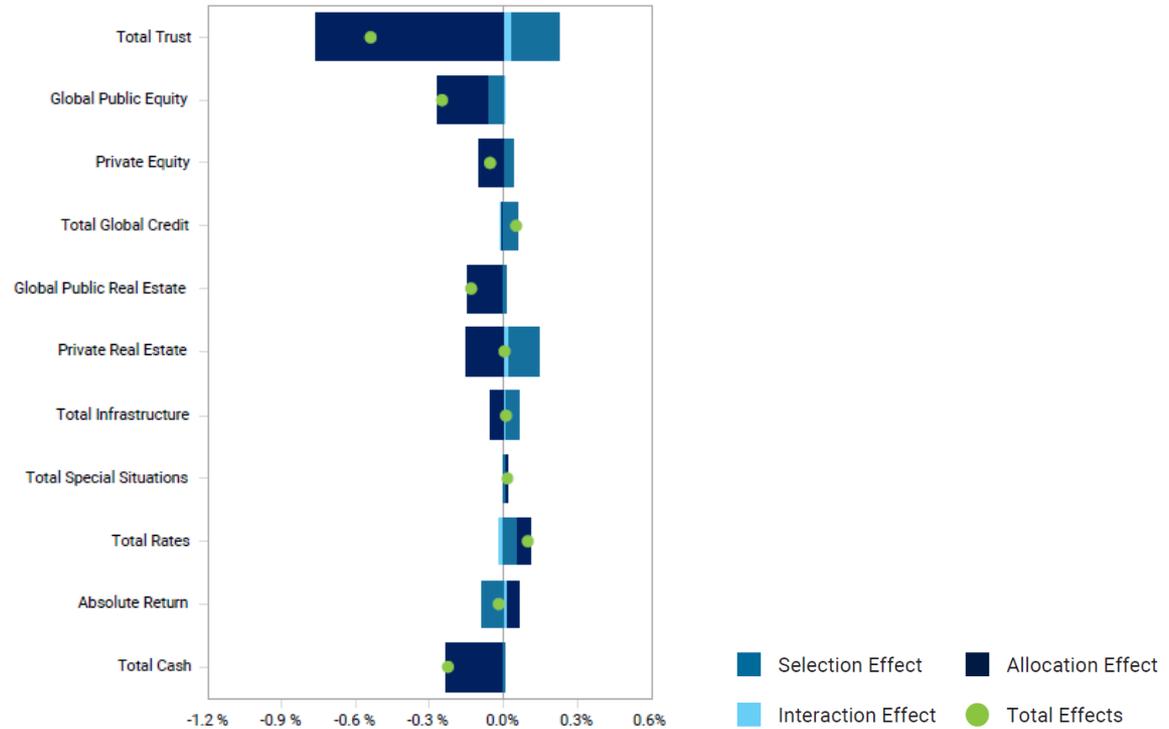
Total Trust

Policy Benchmark

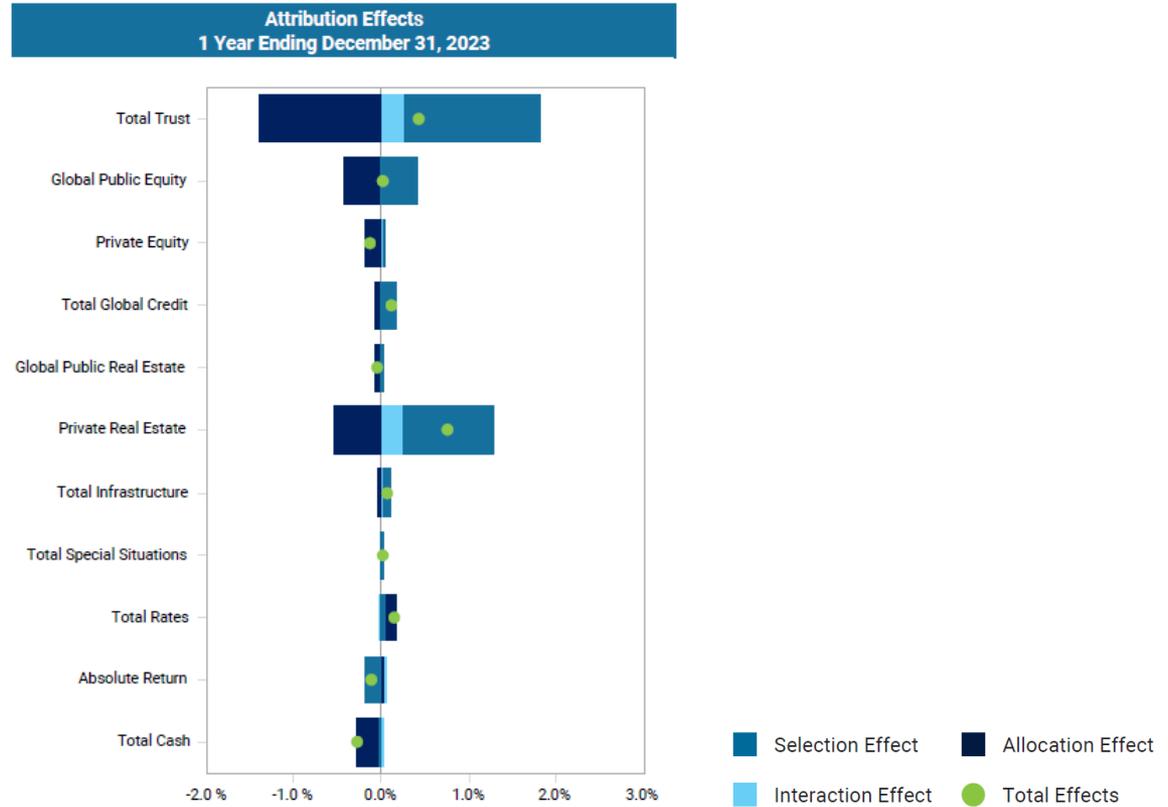
Passive Index

# TOTAL TRUST ATTRIBUTION ANALYSIS

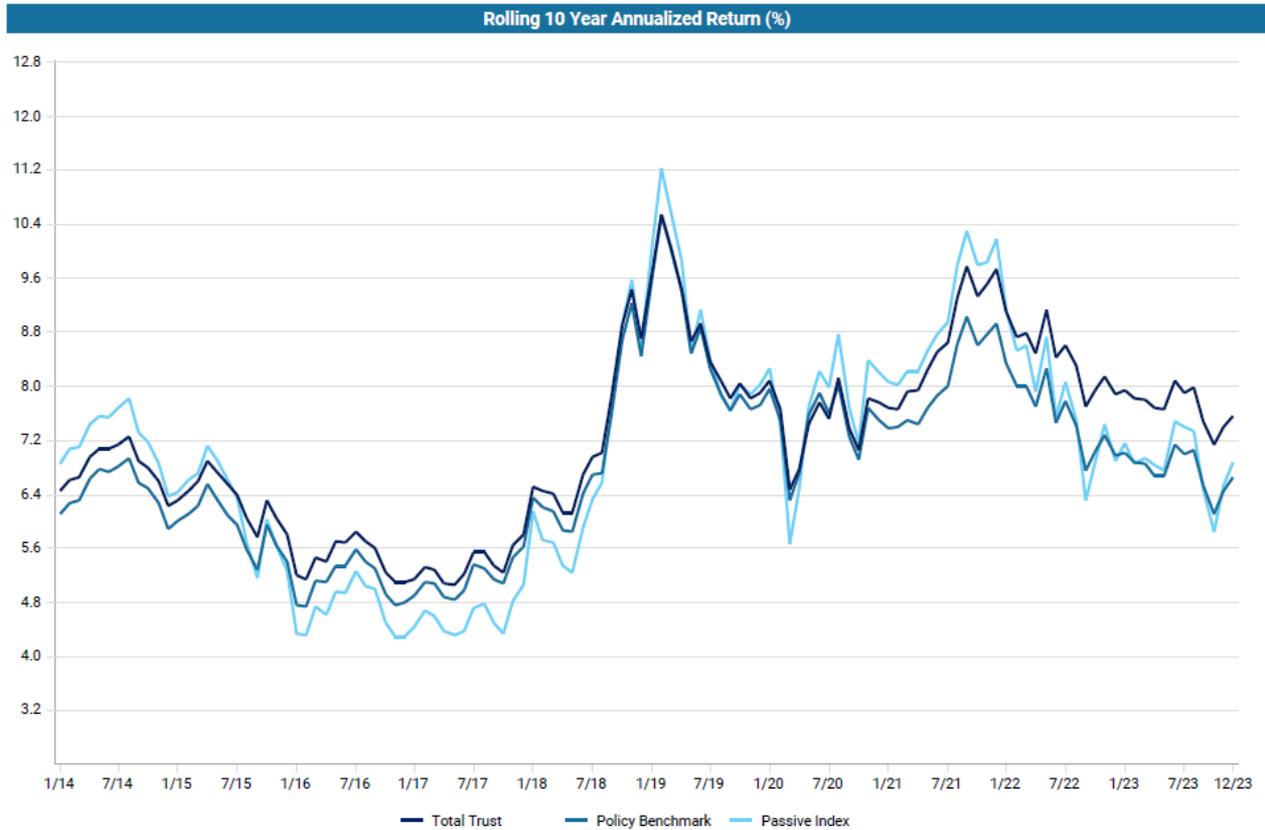
## Attribution Effects 1 Quarter Ending December 31, 2023



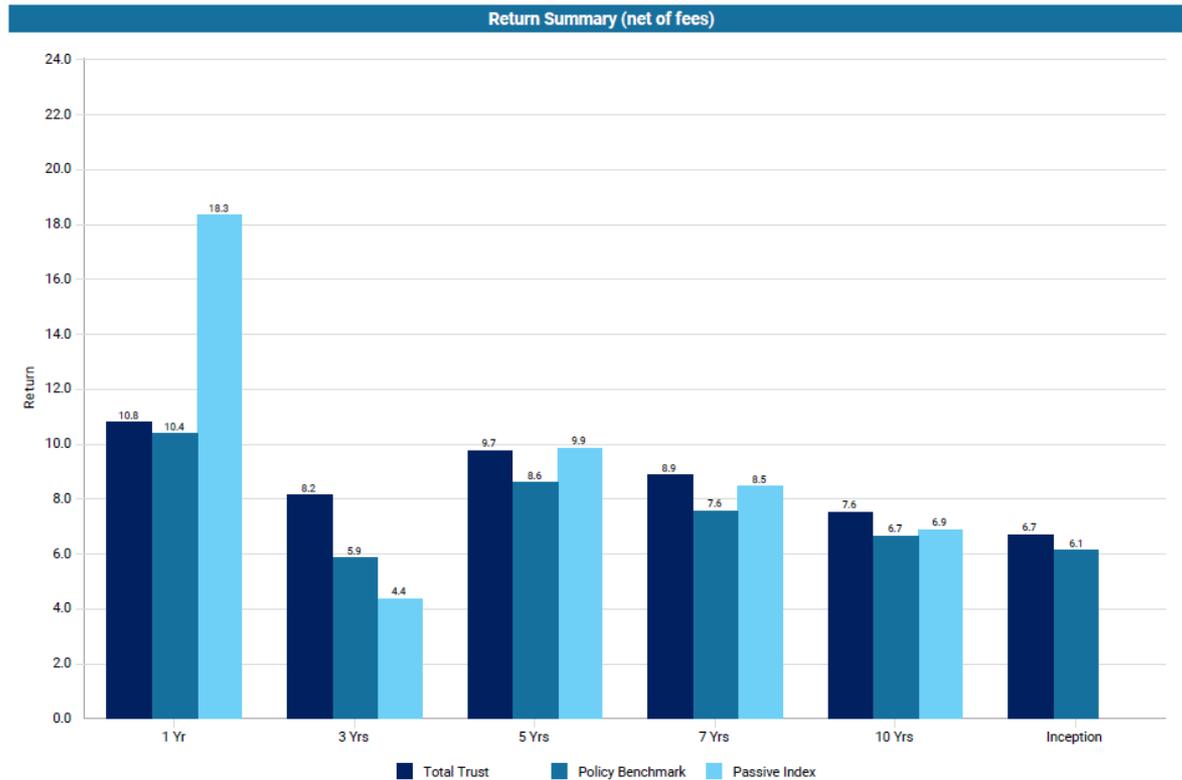
# TOTAL TRUST ATTRIBUTION ANALYSIS



# LONG TERM INVESTMENT RESULTS



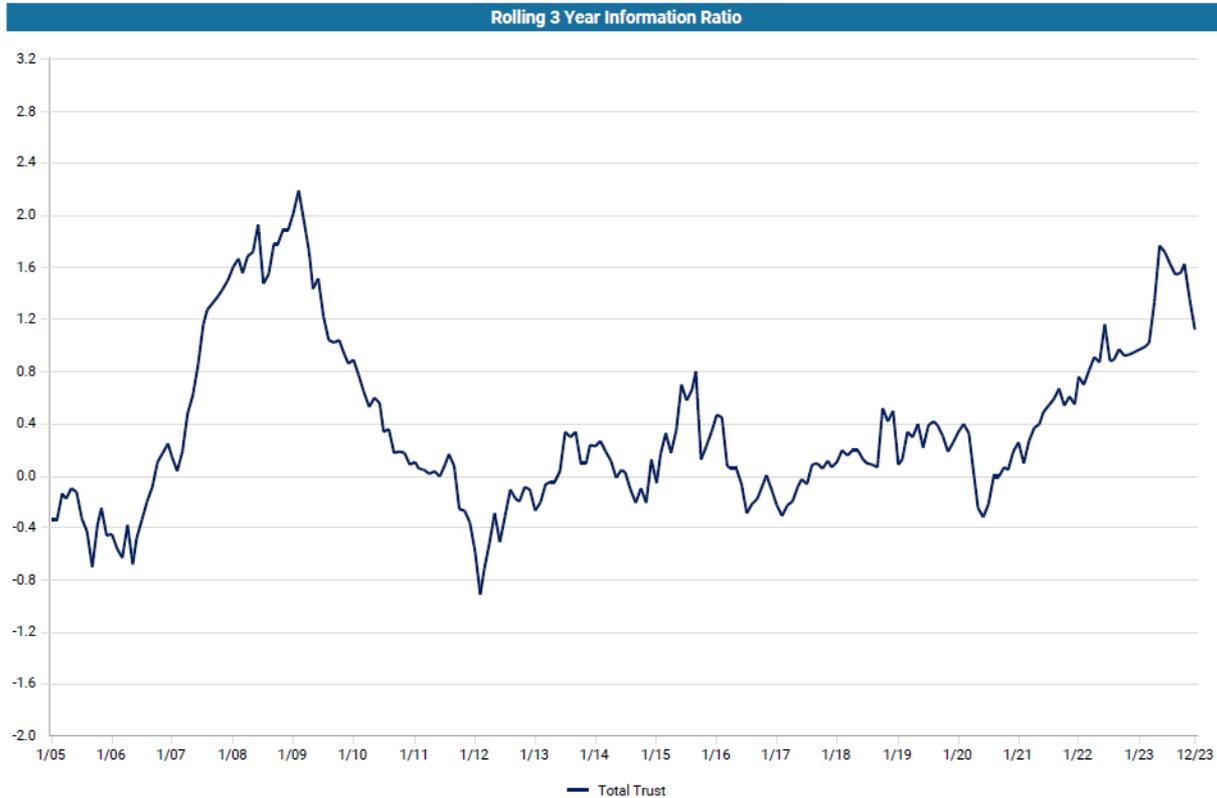
# LONG TERM INVESTMENT RESULTS



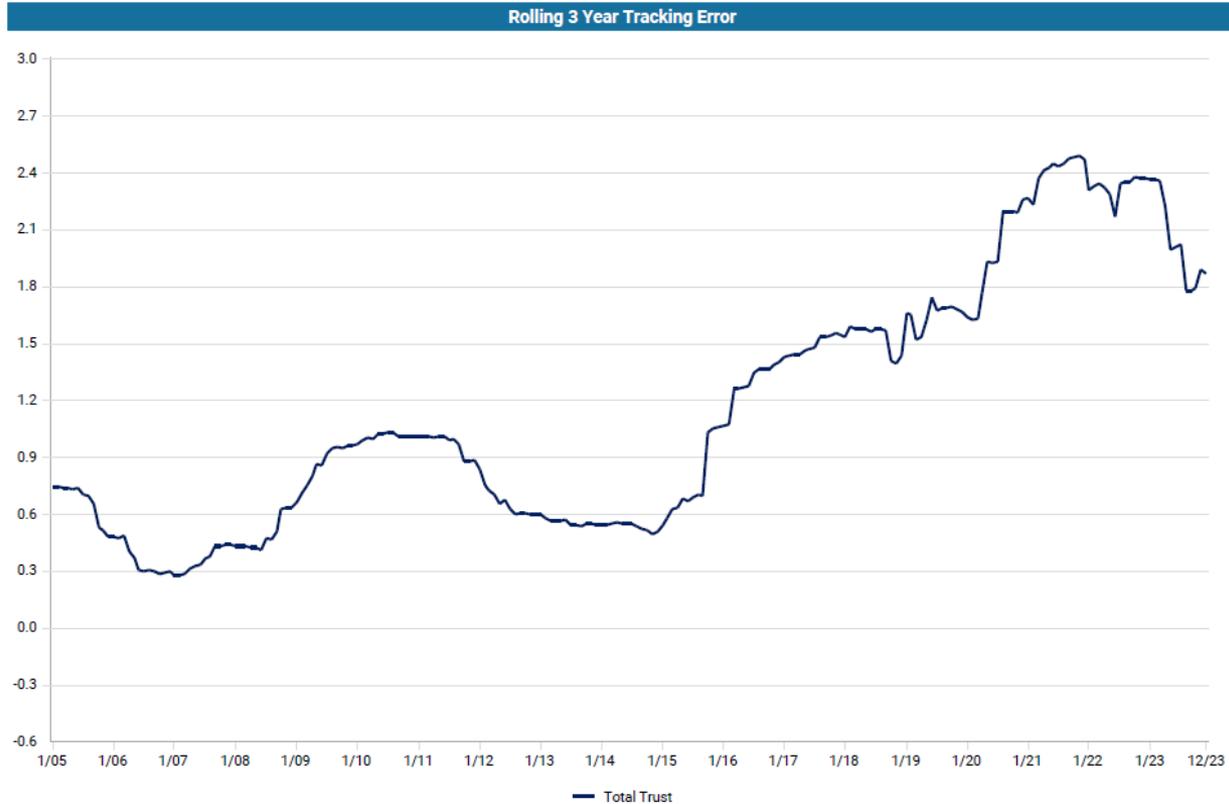
Note: The Passive Index is comprised of 80% MSCI ACWI IMI and 20% Bloomberg Intermediate Treasury Index. Index definitions can be found in the appendix.



# ROLLING INFORMATION RATIO



# ROLLING TRACKING ERROR



# PERFORMANCE SUMMARY COMMENTARY

- **Over the past 10 years, Total Trust outperformed the Policy Benchmark by 0.9% and outperformed the Plan's actuarial rate of return of 7.0% by 0.6%.**
- **In the one-year period ended December 31, 2023, the Trust outperformed the Policy Benchmark by 0.4%.**
  - The largest contributors to performance against the benchmark were Private Real Estate (+0.8%), and Rates (+0.2%).
  - The largest detractor was Cash (-0.3%), followed by Private Equity (-0.1%), Public Real Estate (-0.1%), and Absolute Return (-0.1%).
- **In the past one-year, portfolio positioning at the asset class level detracted -1.4% from Total Trust returns versus the policy benchmark.**
  - An overweight position in Private Real Estate contributed negatively (-0.5%).
  - An underweight position in Public Equity contributed negatively (-0.4%).
  - An overweight position in Cash contributed negatively (-0.3%).



*Quarterly Review of Investment Performance  
and Market Environment*

March 20, 2024

John McCaffrey, Managing Director of Portfolio Management

# Investment Performance

## *Mission & Objectives*



Prudently maintain a high-performing, well-diversified, and cost-effective portfolio to support the provision of earned benefits.



Add value vs. benchmarks  
over rolling five-year periods



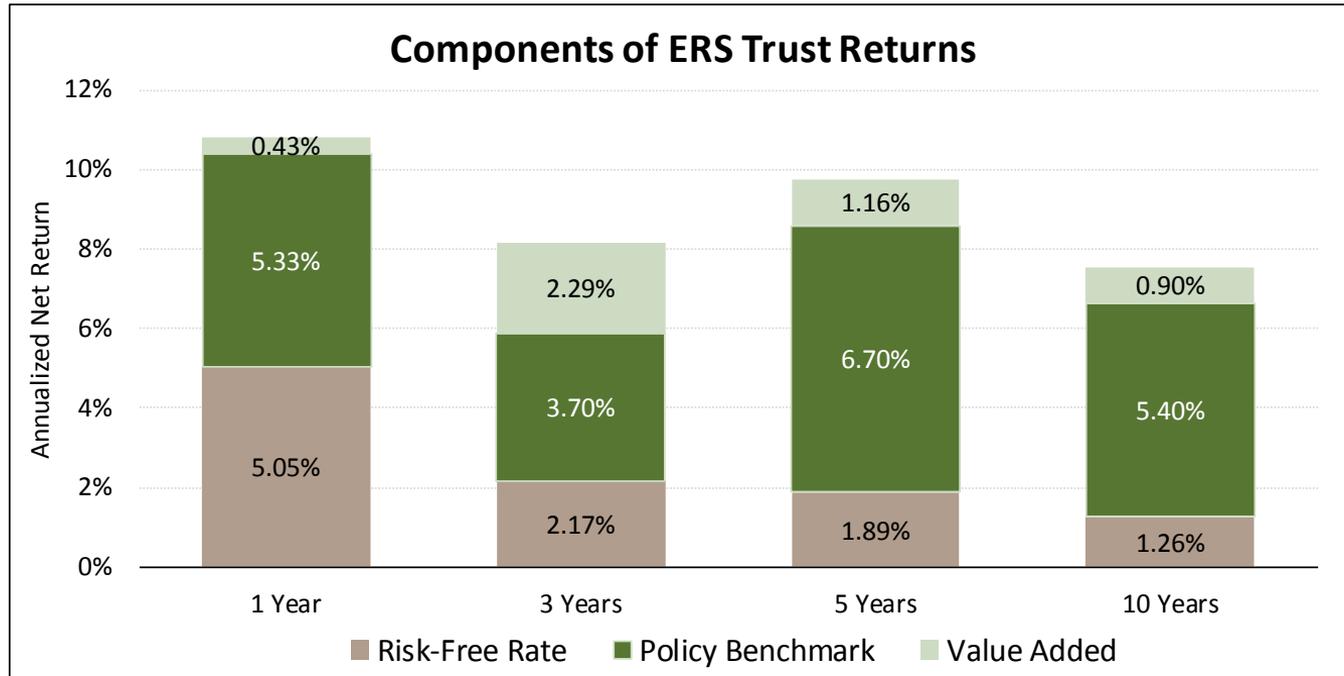
Earn appropriate returns  
for the risks assumed

# Retirement Fund Performance

## Building Blocks of Returns



- Risk-free rates now a key part of long-term returns: above 5% on a one-year basis

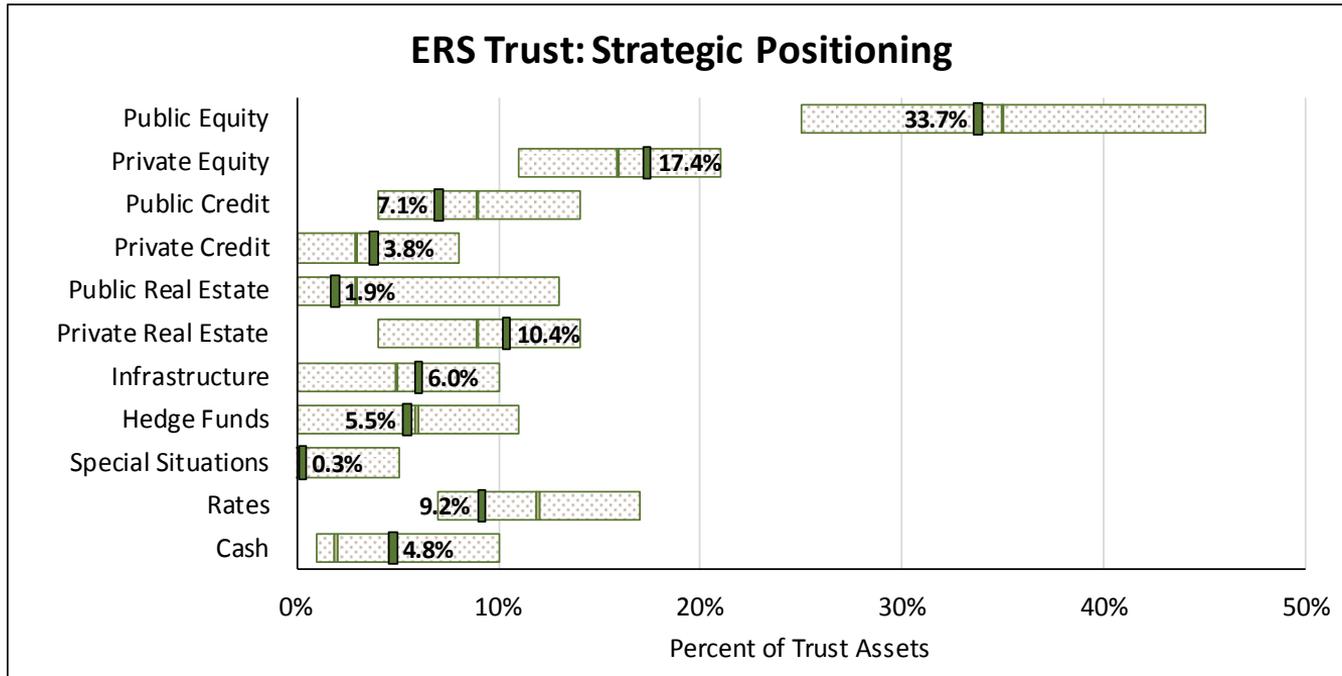


# Insurance Fund Performance

## Trust Positioning



- Tilt continue toward private markets and cash, away from public markets and rates

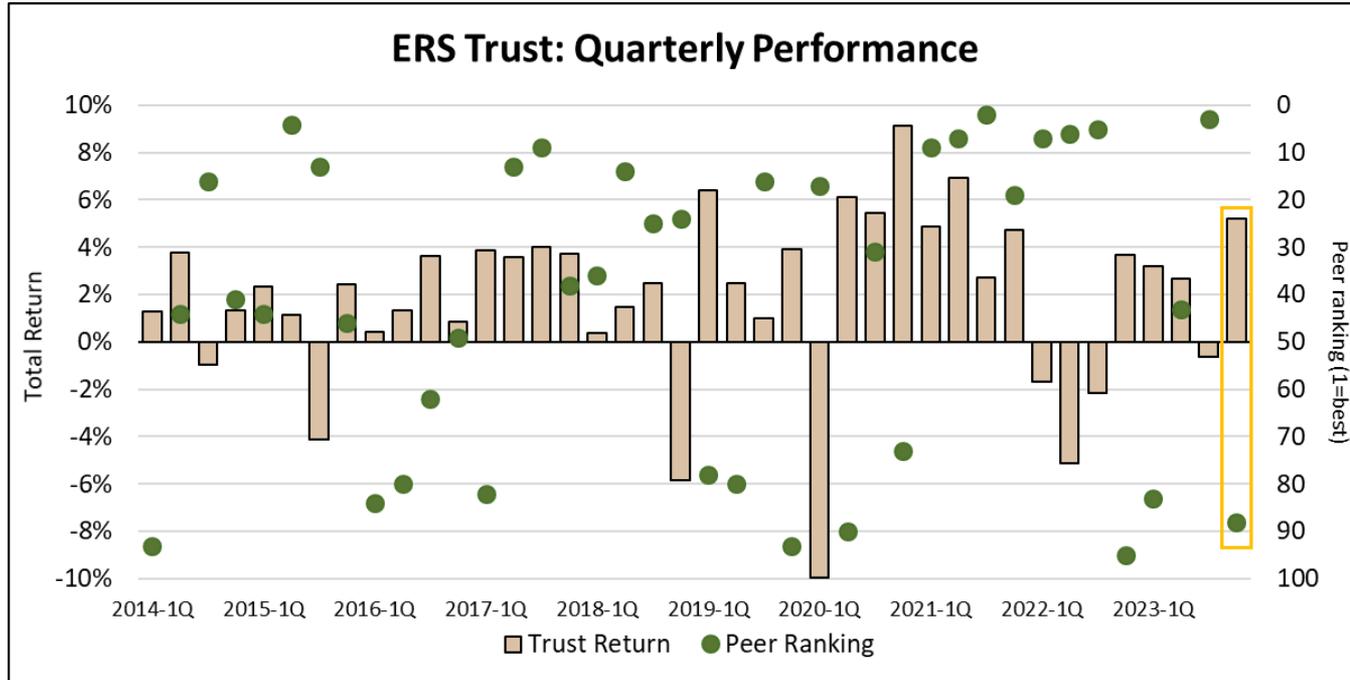


# Retirement Fund Performance

## Quarterly Performance



- Highest absolute returns in ten quarters, with peer ranking in 88<sup>th</sup> percentile

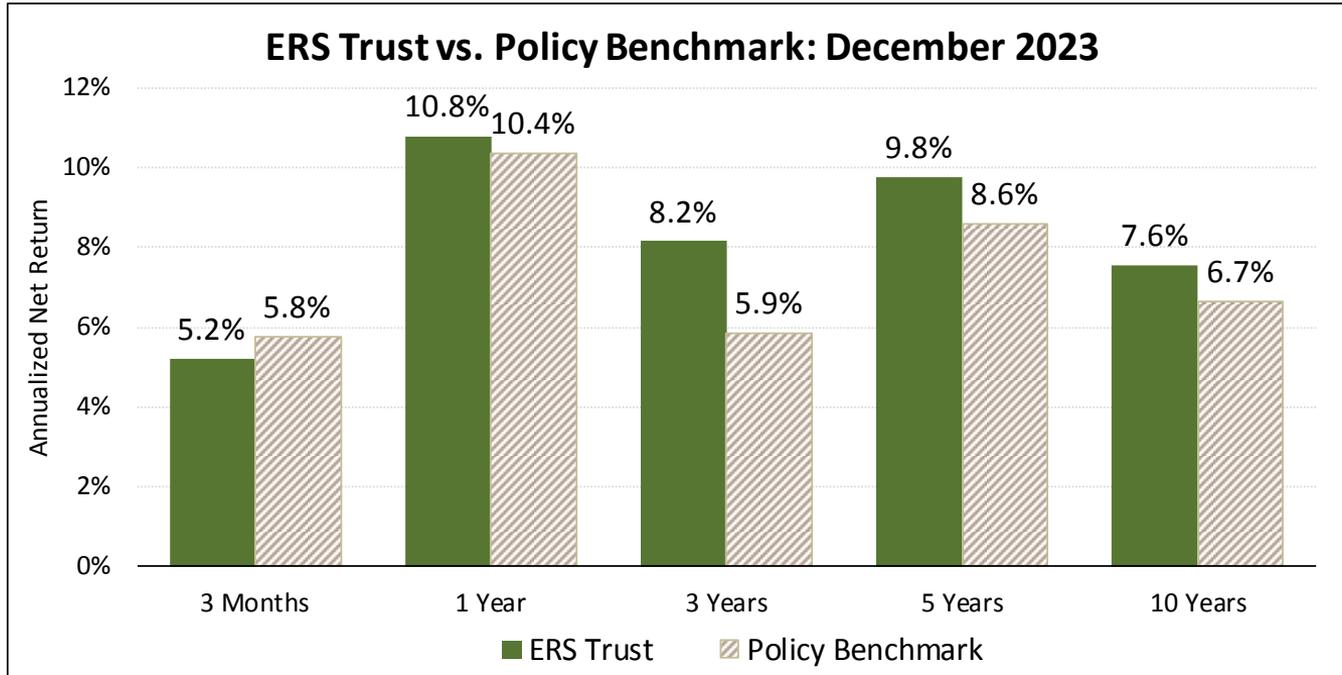


# Retirement Fund Performance

## Absolute & Relative Return



- Strong performance vs. Policy Benchmark, including +116 bps on a 5-year basis

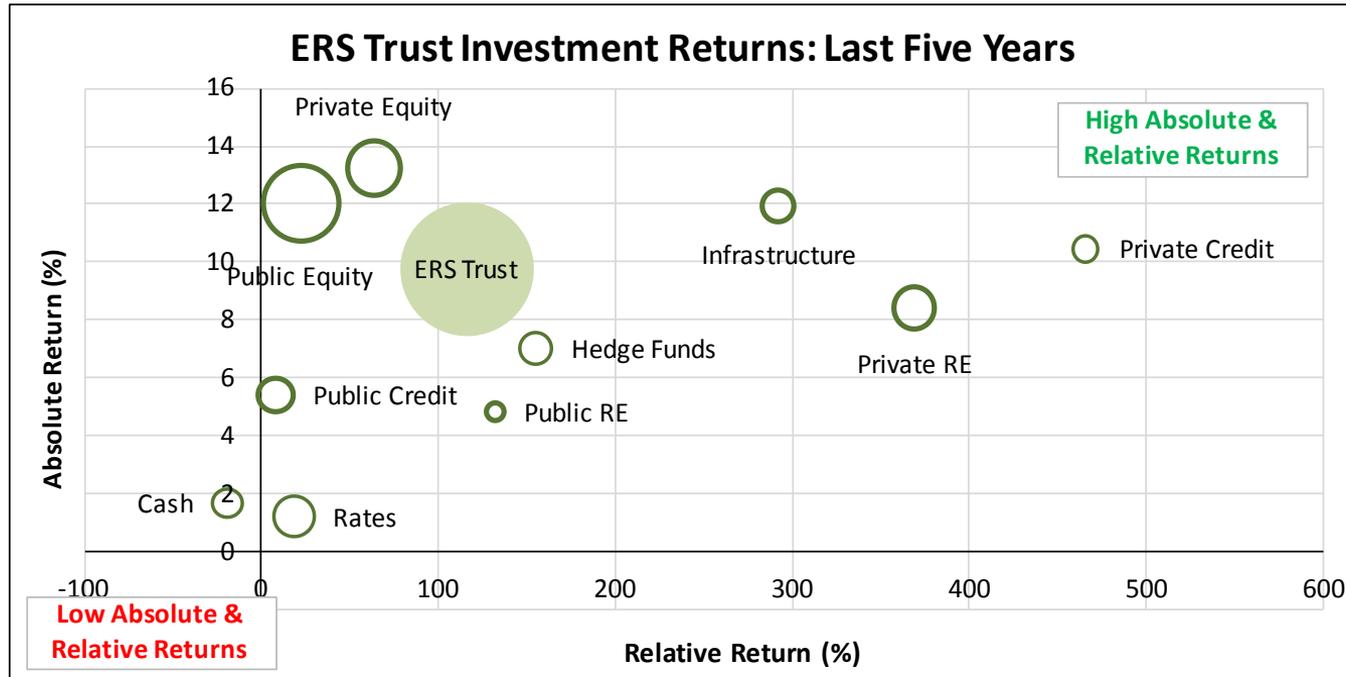


# Retirement Fund Performance

## Performance Scatter Plot – 5 Years



- Notable contributions to performance from private equity, credit, and infrastructure

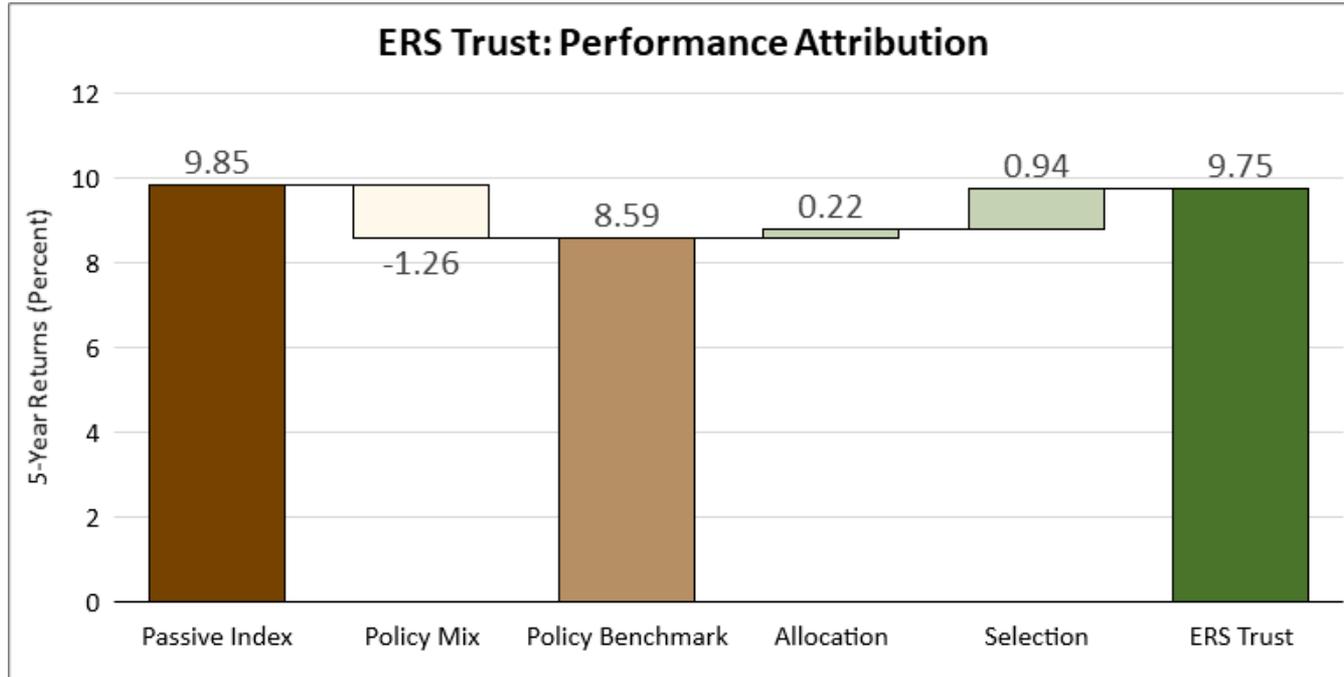


# Retirement Fund Performance

## Attribution Analysis – Last Five Years



- Good asset allocation decisions add to strong results from security selection

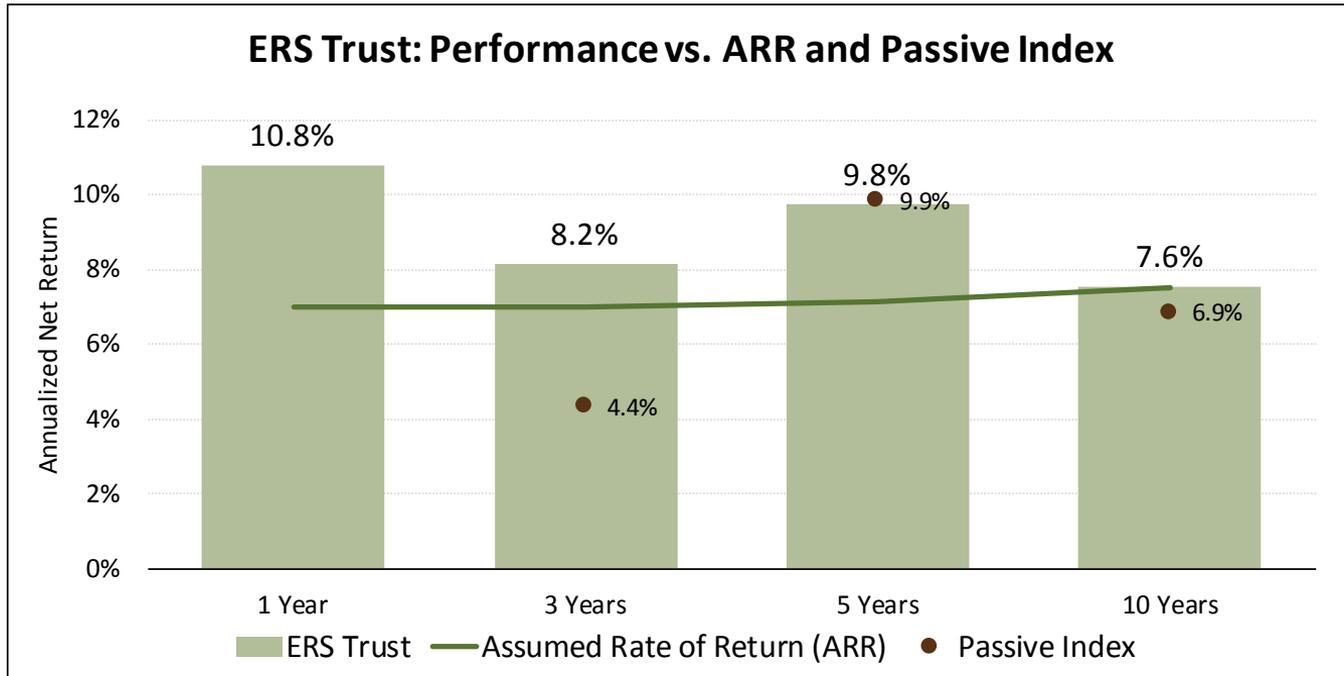


# Retirement Fund Performance

## Absolute & Relative Return



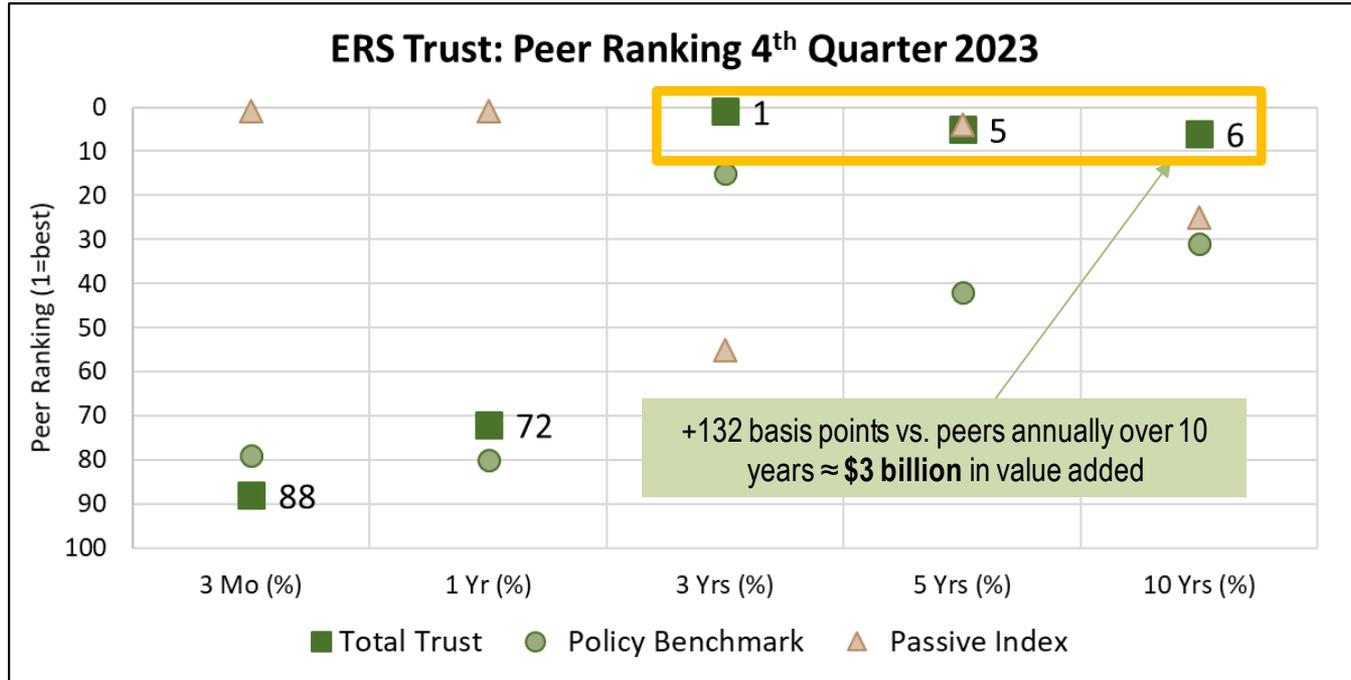
- Strong implementation gains have kept realized long-term returns above the ARR



# Retirement Fund Performance

## Peer Rankings for Current Quarter

- Superior performance over long horizons, including top 1% over last three years

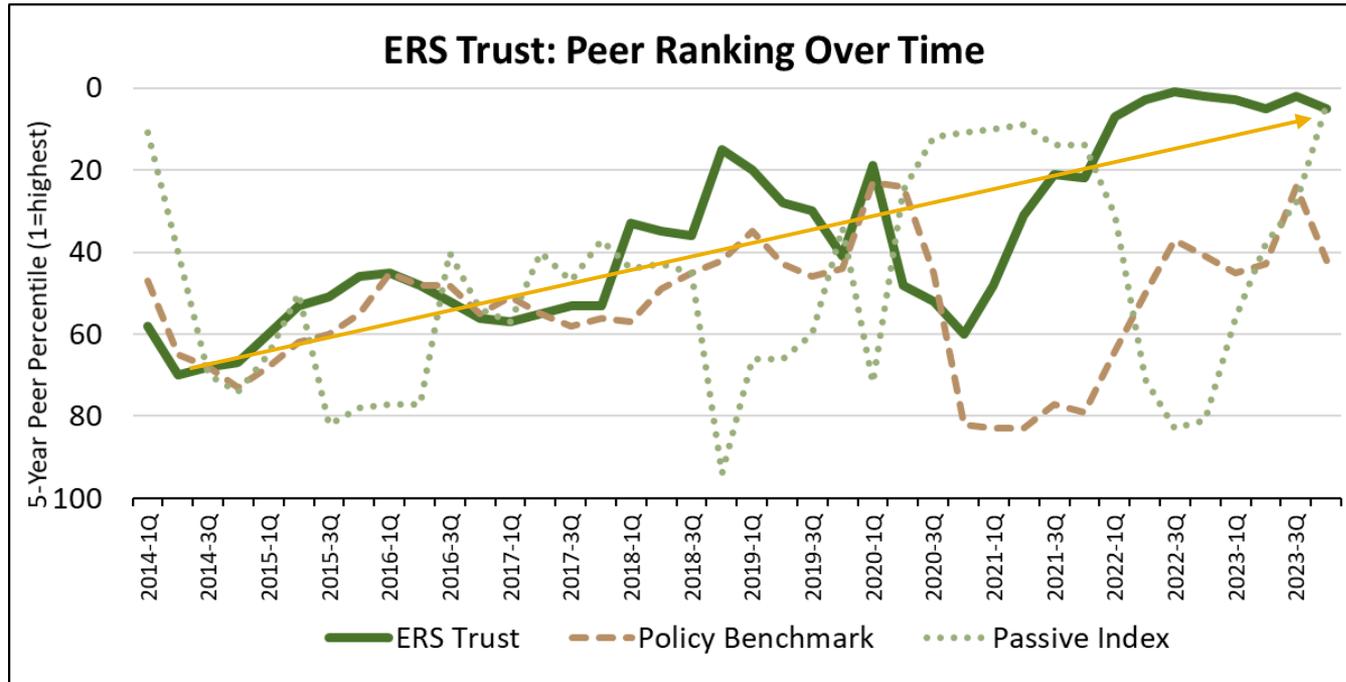


# Retirement Fund Performance

## Peer Ranking Over Time



- A decade of progress culminates in a top performing fund over long time horizons



Top 10%  
3 year  
5 year  
10 year

# Discussion

## Public Agenda Item #17

*\*Consideration of Quarterly Report from  
Chief Investment Officer*

March 20, 2024

David T. Veal, CFA, CAIA, FRM

# CIO Report

## Retirement Fund Performance Dashboard



- Meaningful amounts of value added vs. key benchmarks over long-term time horizons

	3 Years		5 Years		10 Years	
<b>ERS Trust</b>	<b>8.2%</b>		<b>9.8%</b>		<b>7.6%</b>	
Assumed Rate	7.0%	+1.16%	7.1%	+2.63%	7.5%	+0.06%
Policy Benchmark	5.9%	+2.30%	8.6%	+1.16%	6.7%	+0.90%
Passive Index	4.3%	+4.27%	9.9%	-0.10%	6.9%	+0.67%
Median Peer	4.6%	+3.61%	8.0%	+1.72%	6.2%	+1.32%

# CIO Report

## Peer Ranks



- Top 10% of peer over most time horizons, including top 1% for consecutive quarters

### Investment Performance Peer Ranking (1 = best, 100 = worst)

As of date	ERS Trust				Policy Benchmark				Passive Index			
	1 Year	3 Years	5 Years	10 Years	1 Year	3 Years	5 Years	10 Years	1 Year	3 Years	5 Years	10 Years
2023-1Q	3	12	3	6	11	86	45	56	90	21	56	48
2023-2Q	55	5	5	11	52	60	43	49	1	43	38	39
2023-3Q	76	1	2	6	89	28	24	35	1	68	28	37
2023-4Q	72	1	5	6	80	15	42	31	1	55	4	25

# CIO Report

## *2023: A Big Year Indeed*



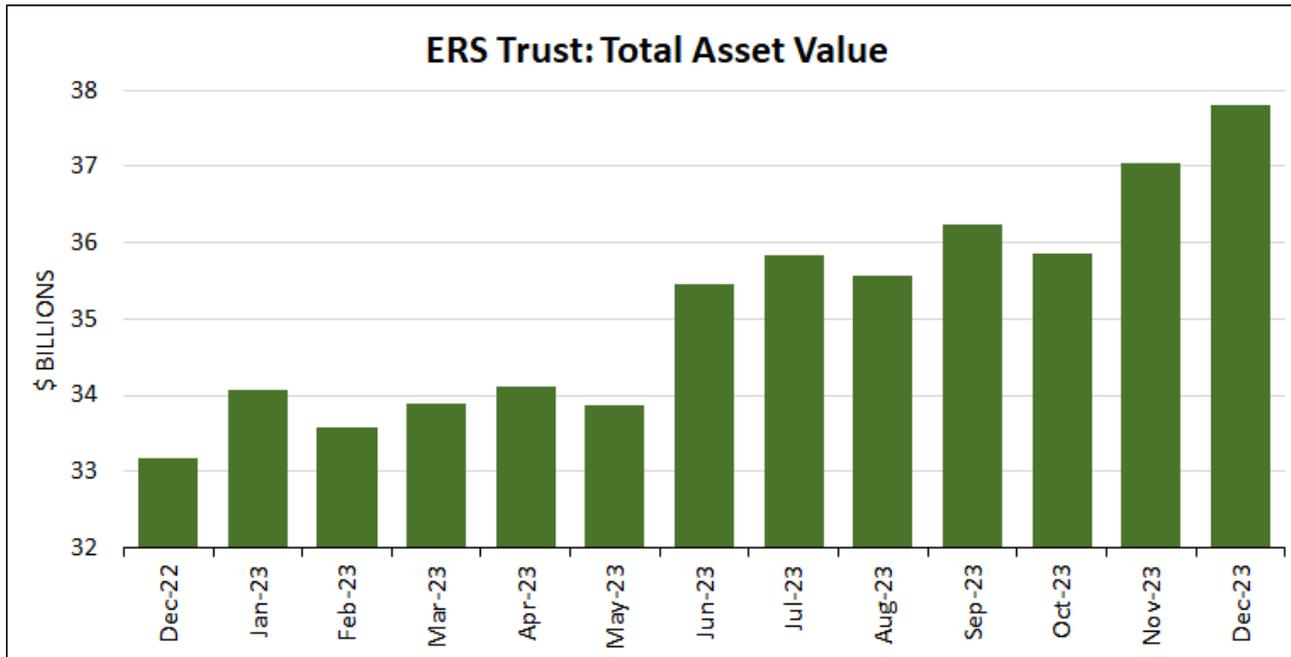
- Highlights:
  - \$2B+ from the State: JRS & LECOS from depletion to fully funded
  - Strong absolute performance and relative performance
  - New and upgraded office space on the 5<sup>th</sup> floor of legacy building
  - Seven new team members and new opportunities for others
  - Compensation survey improves competitiveness for talent

# CIO Report

## Total Trust Asset Value



- Assets now ~\$38 billion vs. \$36B in December 2021 and \$26B at March 2020 lows



### Cash flows:

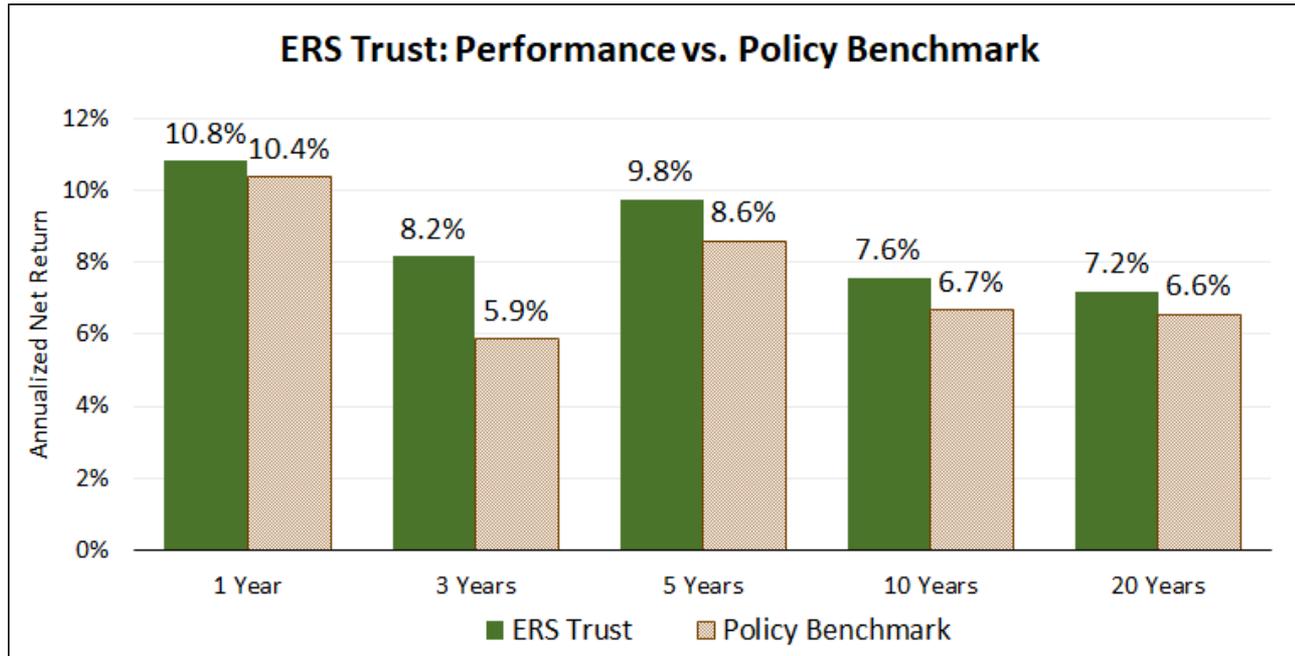
- \$1,065M on 6/27
- \$510M on 9/8
- \$871M on 9/13

# CIO Report

## Absolute & Relative Trust Returns



- Strong performance vs. Policy Benchmark, including +63 bps on a 20-year basis

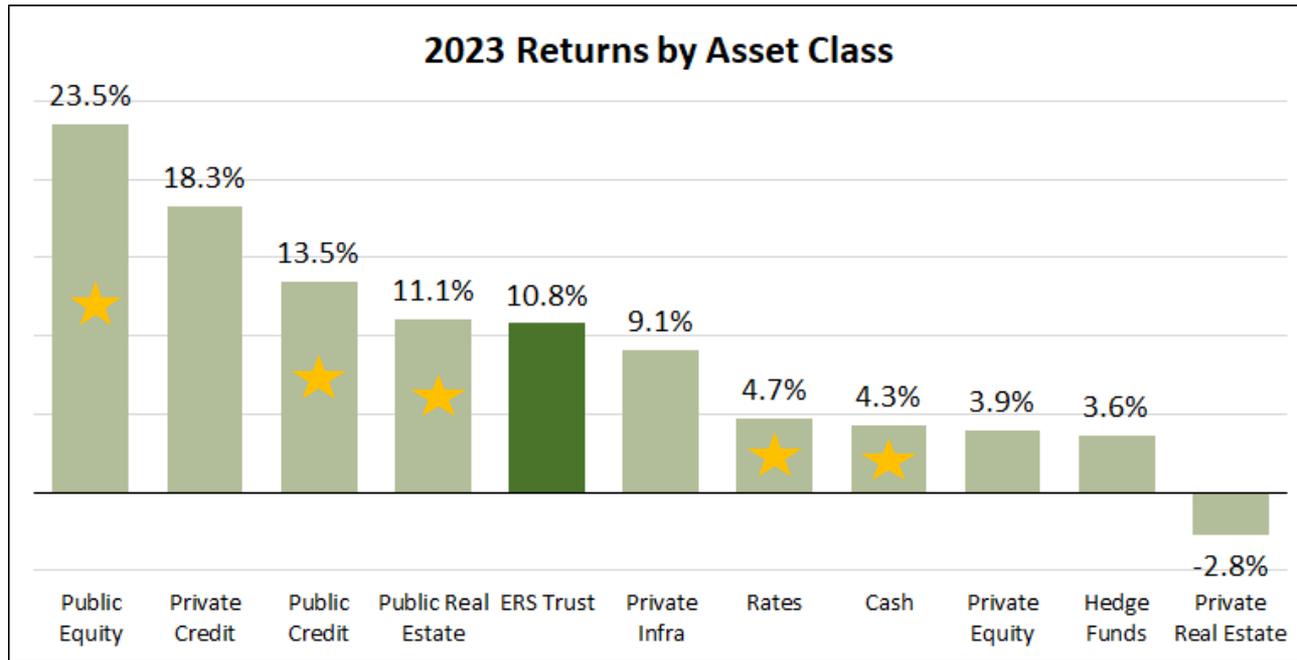


# CIO Report

## Trust Returns by Asset Class



- Strong returns overall with public markets faring better than private markets

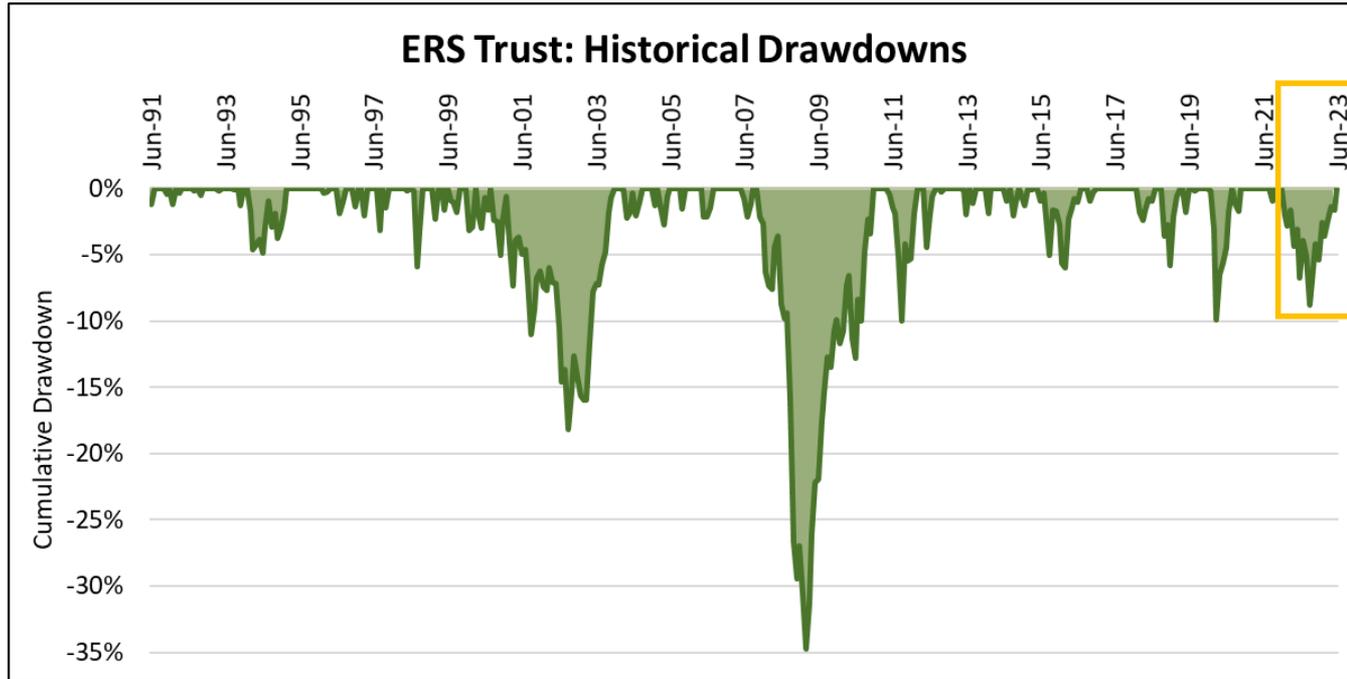


# CIO Report

## Historical Trust Drawdowns



- Fifth worst drawdown troughed at -8.8% in September 2022 and ended in June 2023



# CIO Report

## Team Changes in 2023



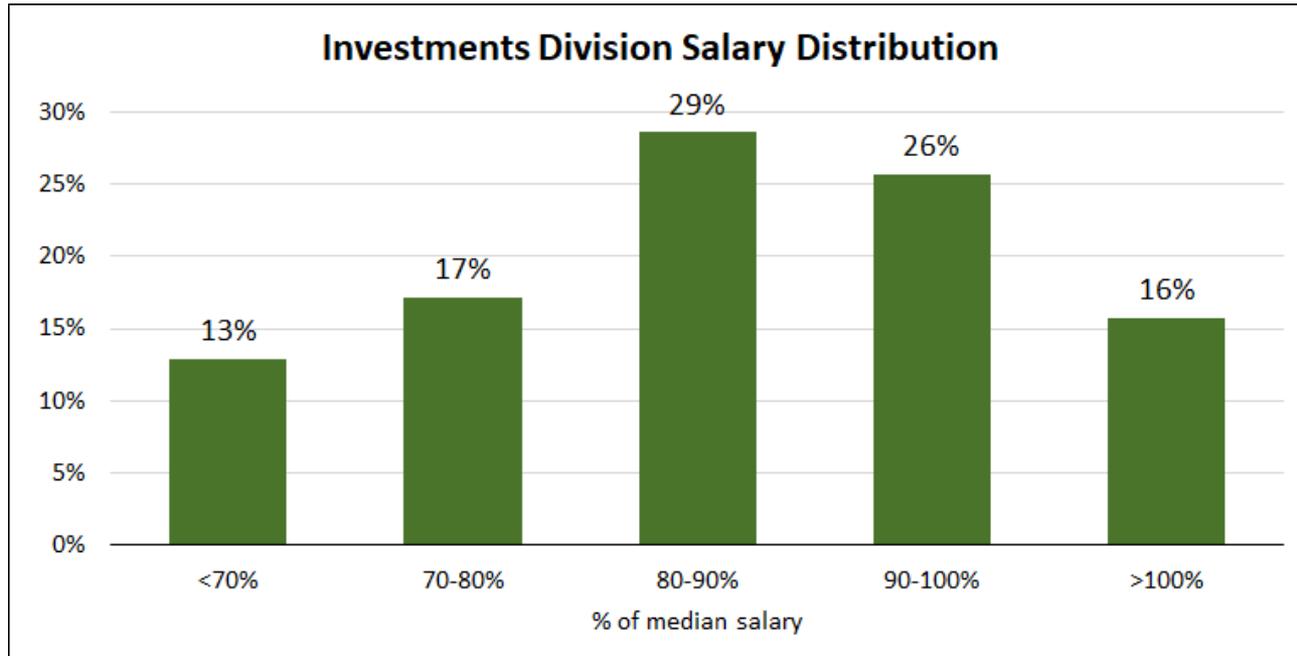
Departures	Arrivals	New Roles	One-Year Mark
Admin	Admin	Director – Risk	Admin
Director – Risk	IA – Hedge Funds	Director – Strategy	Budget Analyst
PM – Public Equity	IA – Public Equity	PM – Portfolio Mgt	Chief of Staff
PM – Real Estate	IA – Public Equity	PM – Public Equity	Contract Specialist
	IA – Public Equity	PM – Public Equity	Director – Public Equity
	IA – Real Estate	PM – Public Equity	MD – Portfolio Mgt
	IT Business Analyst		MD – Treasury & Trading

# CIO Report

## Team Changes in 2023



- Compensation survey suggests a wide range for division relative to market

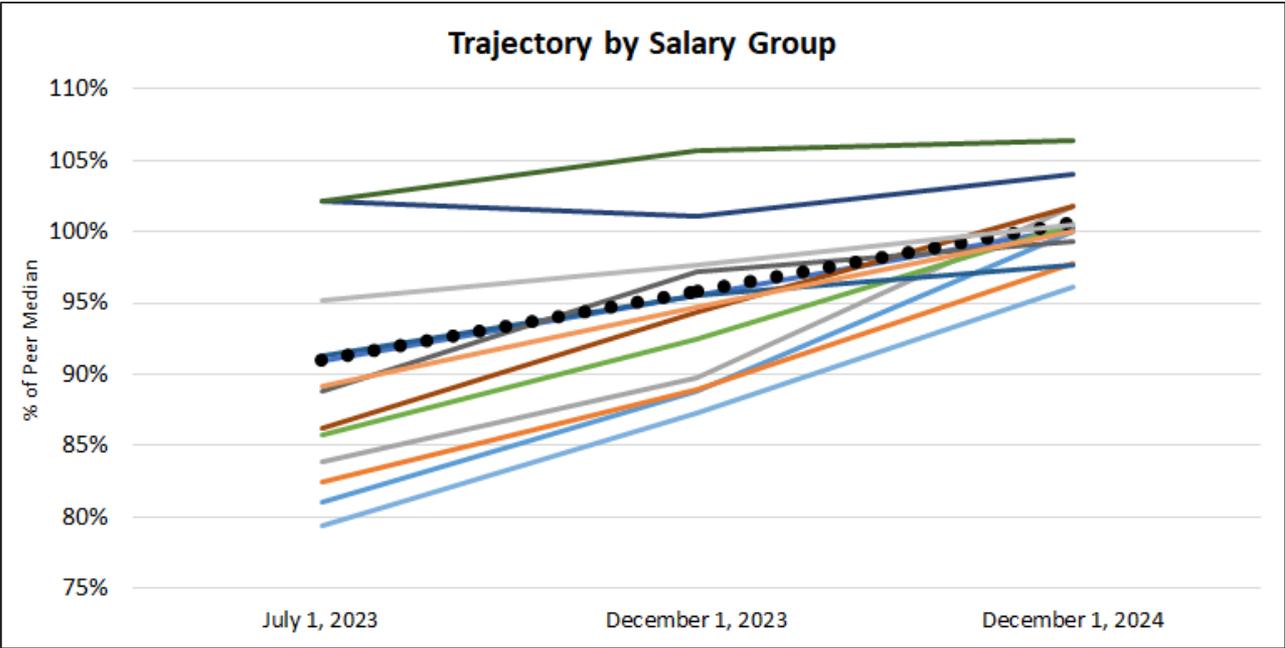


# CIO Report

## Compensation Strategic Plan

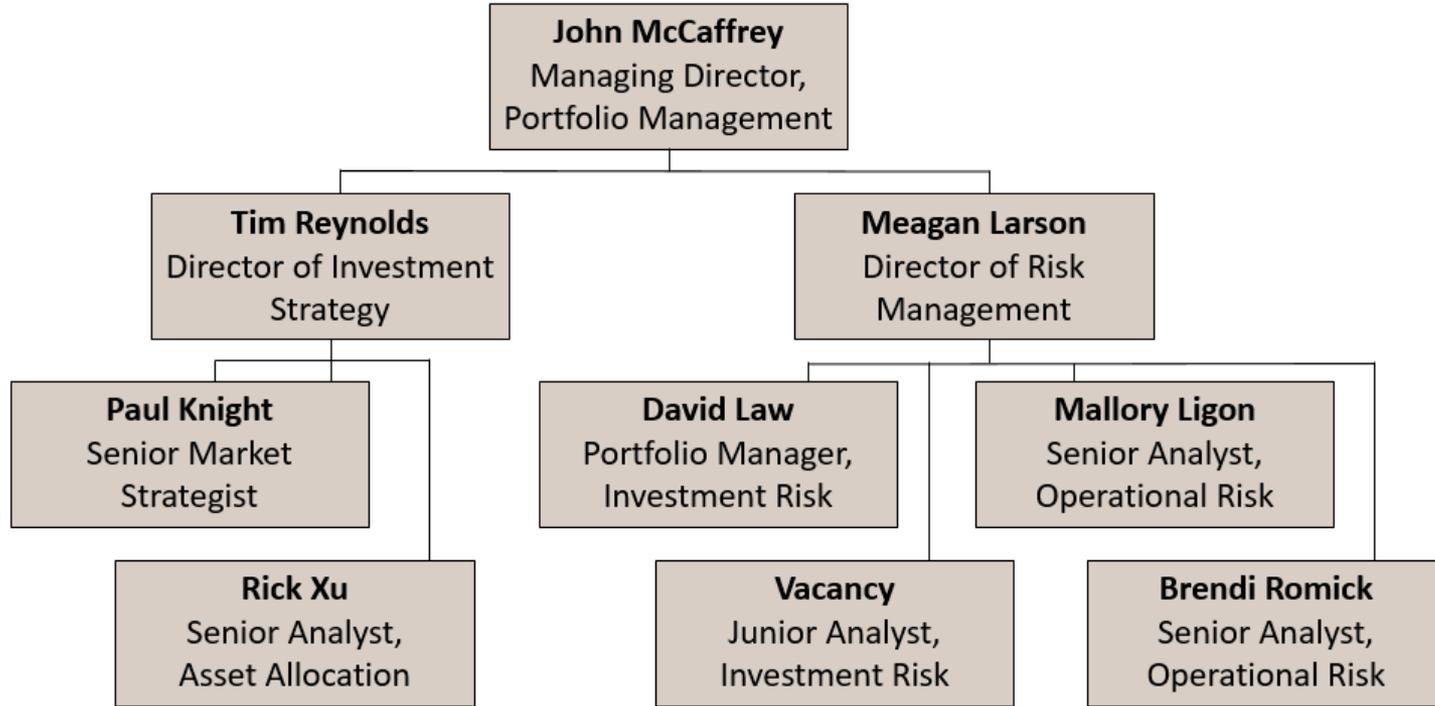


- ~100% of peer median overall by end of calendar year 2024



# CIO Report

## Portfolio Management Team

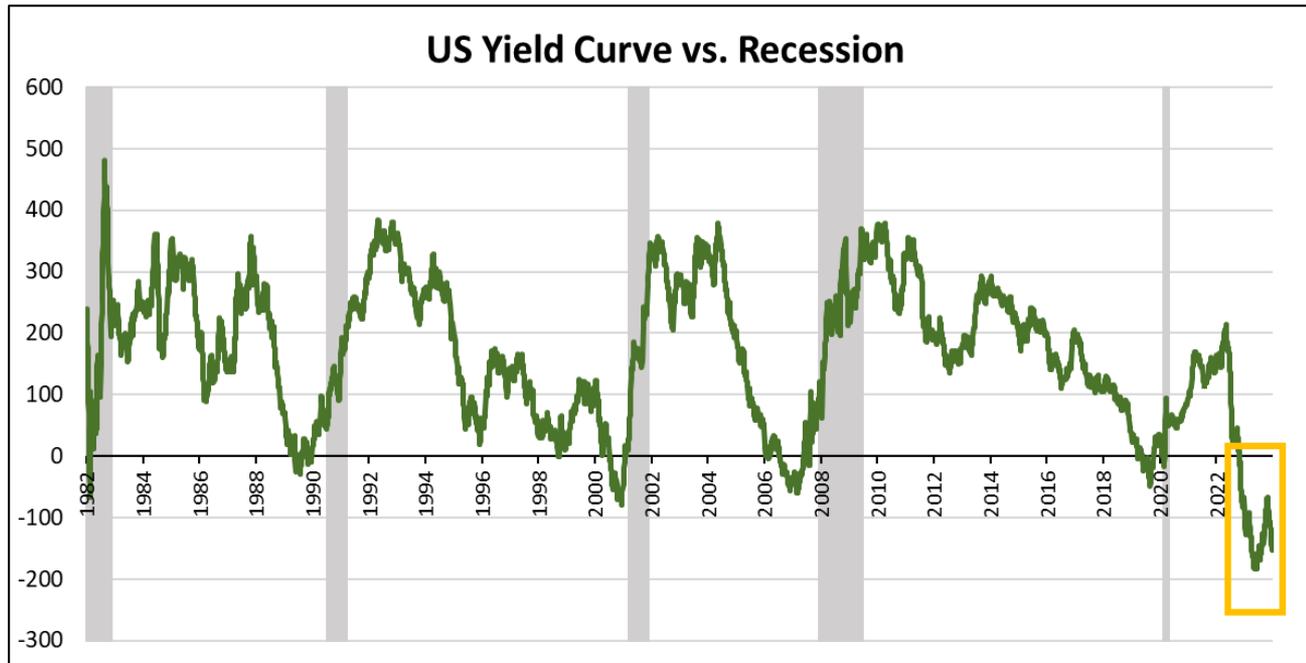


# CIO Report

## 2023 Market Environment



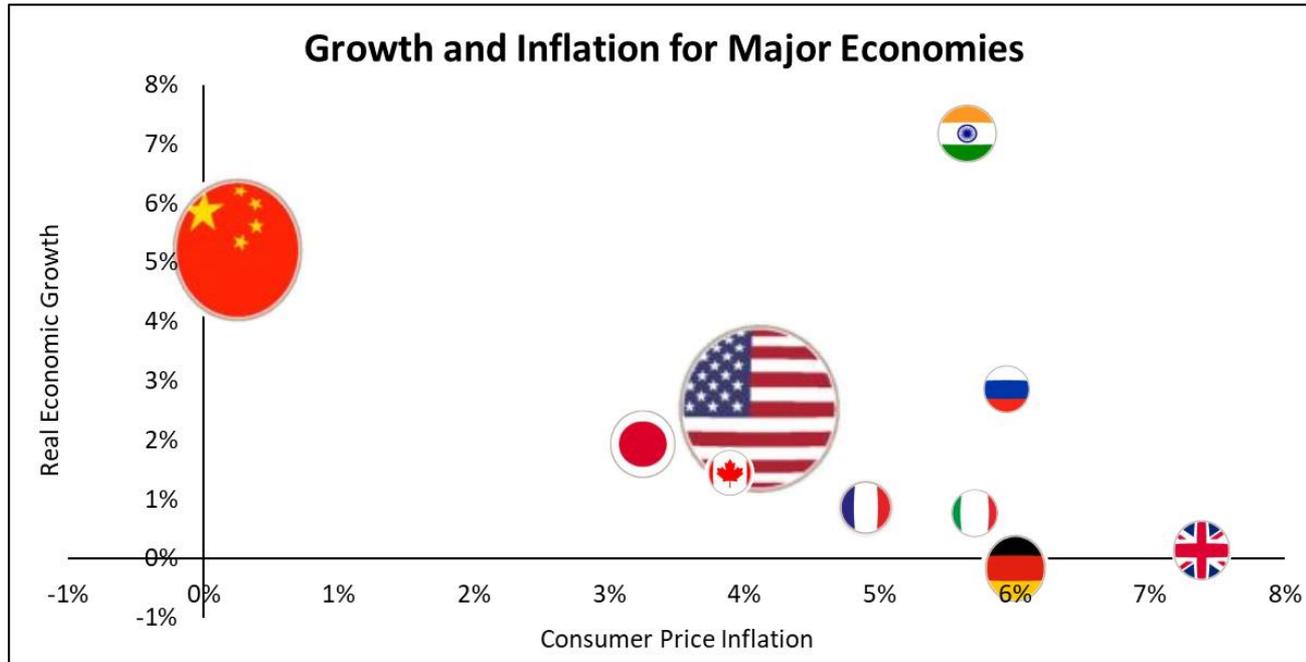
- Historically reliable economic indicators turned out to be anything but



# CIO Report

## 2023 Market Environment

- Economic growth and inflation held up well across most major countries

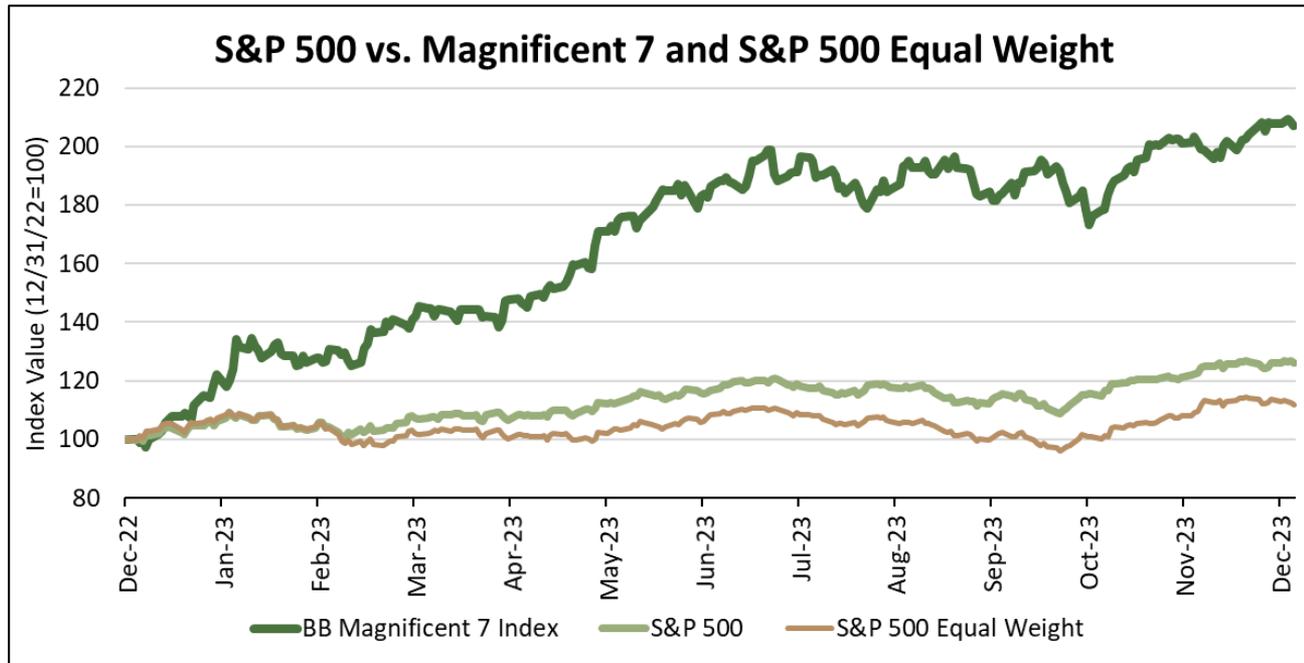


# CIO Report

## 2023 Market Environment



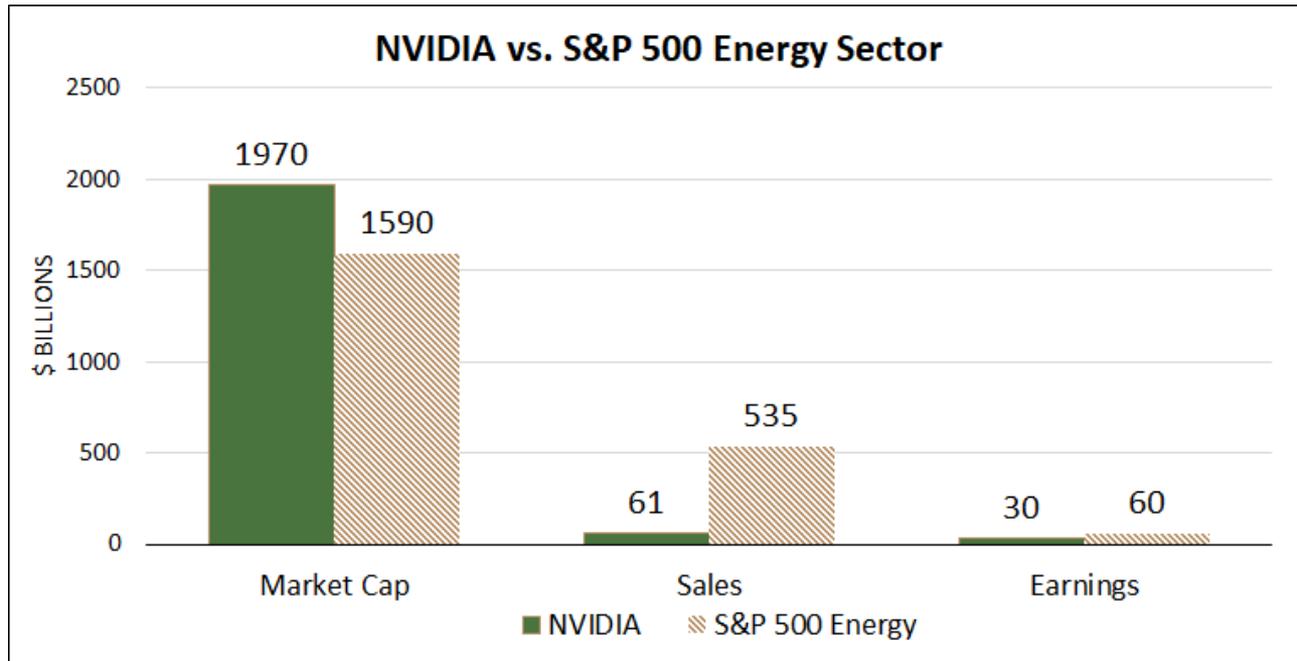
- Strong returns for US equities driven primarily by a handful of stocks



# CIO Report

## 2023 Market Environment

- Single companies are now worth more than entire sectors or markets

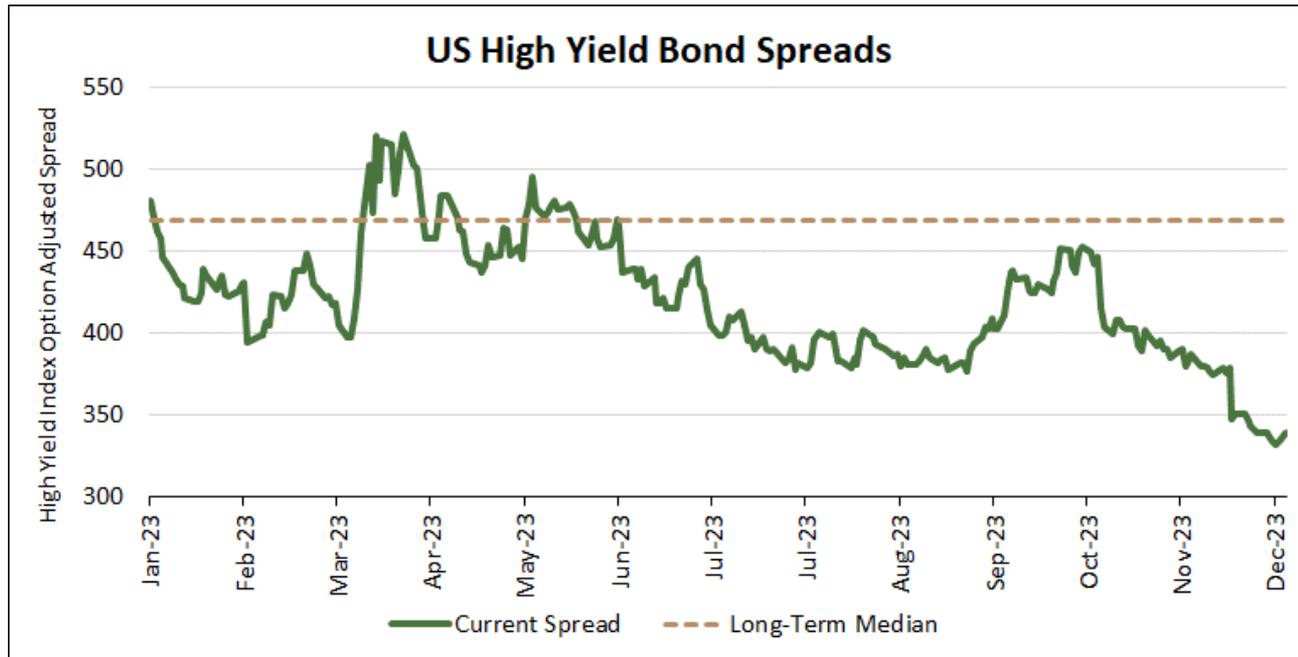


# CIO Report

## 2023 Market Environment



- Solid outlook also reflected in market conditions for high yield bonds

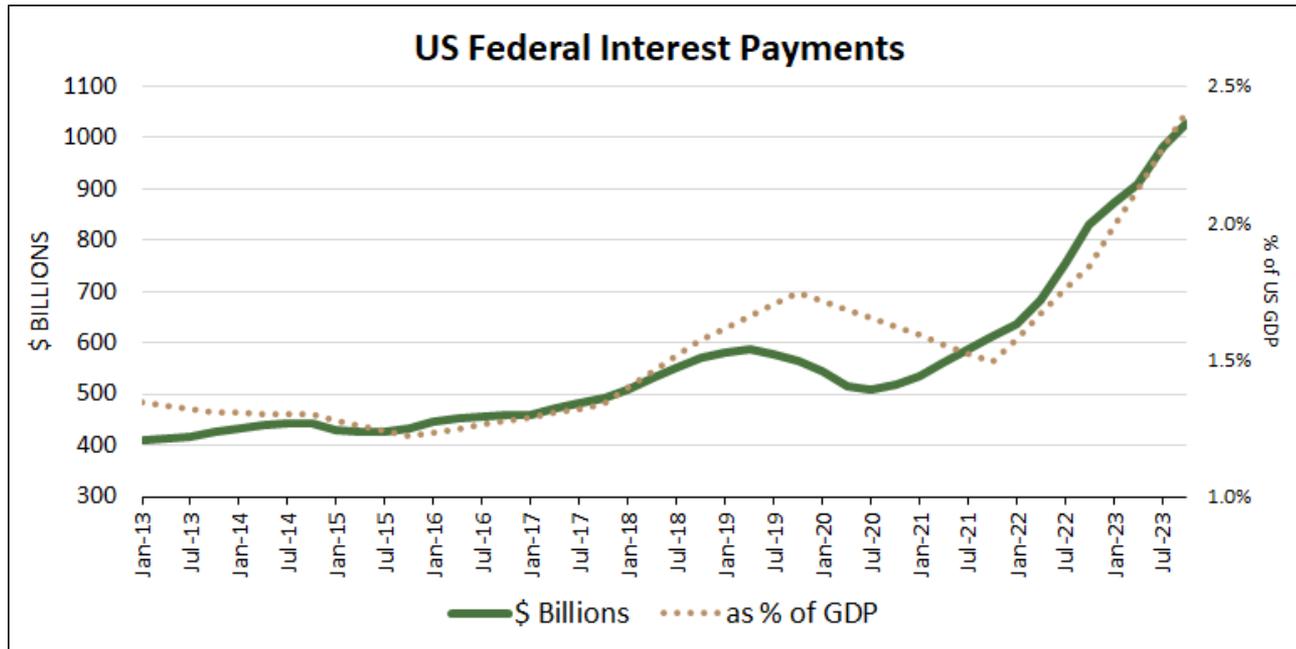


# CIO Report

## 2023 Market Environment



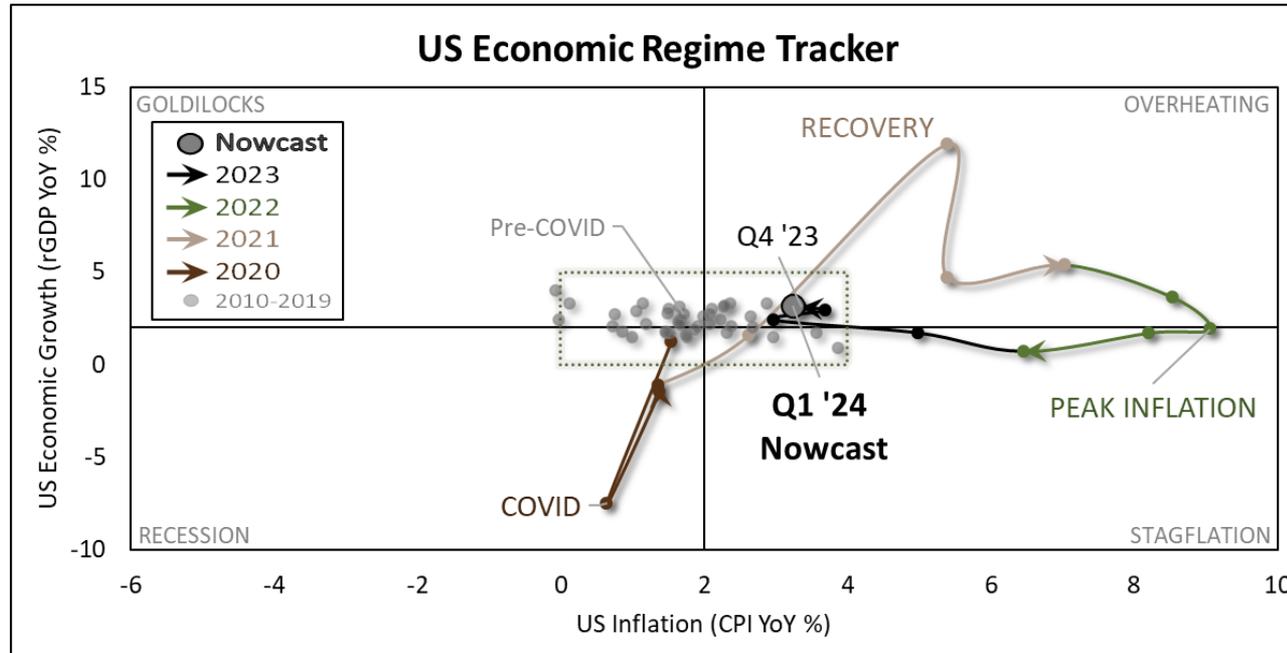
- Federal deficit and interest payments represent meaningful stimulus



# CIO Report

## 2024 Market Environment

- US economic conditions have more or less returned to normal

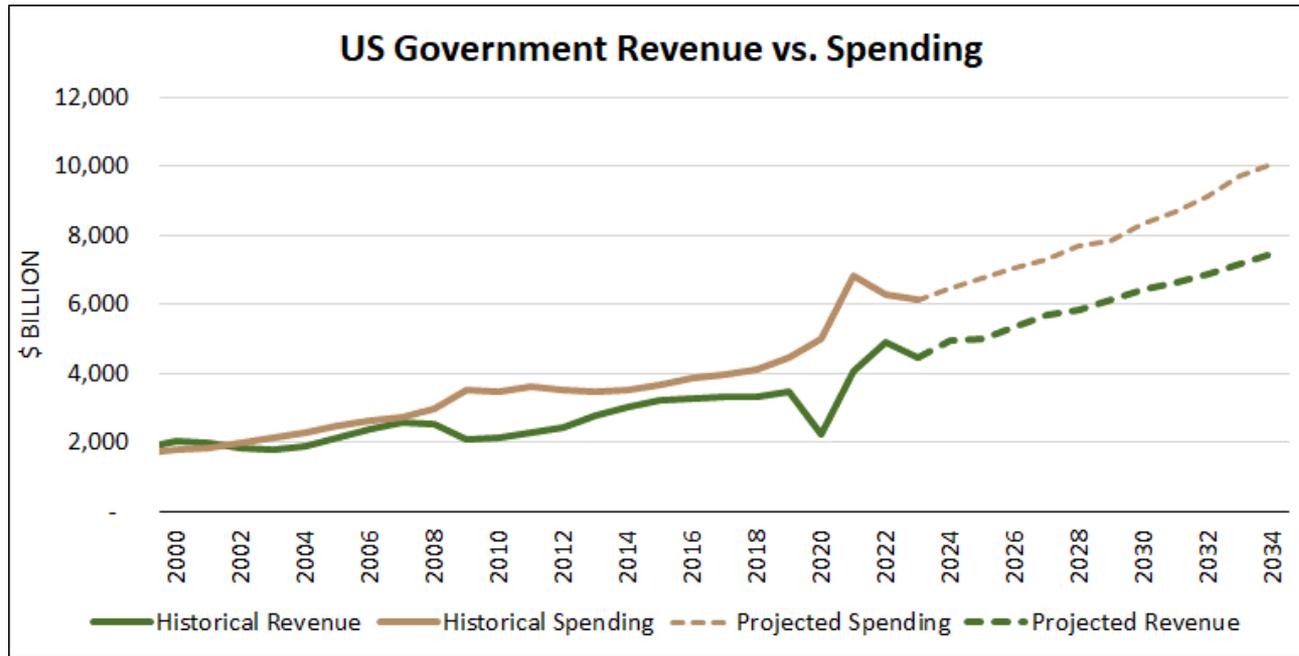


# CIO Report

## 2024 Market Environment



- US federal deficits look to widen further in the years ahead

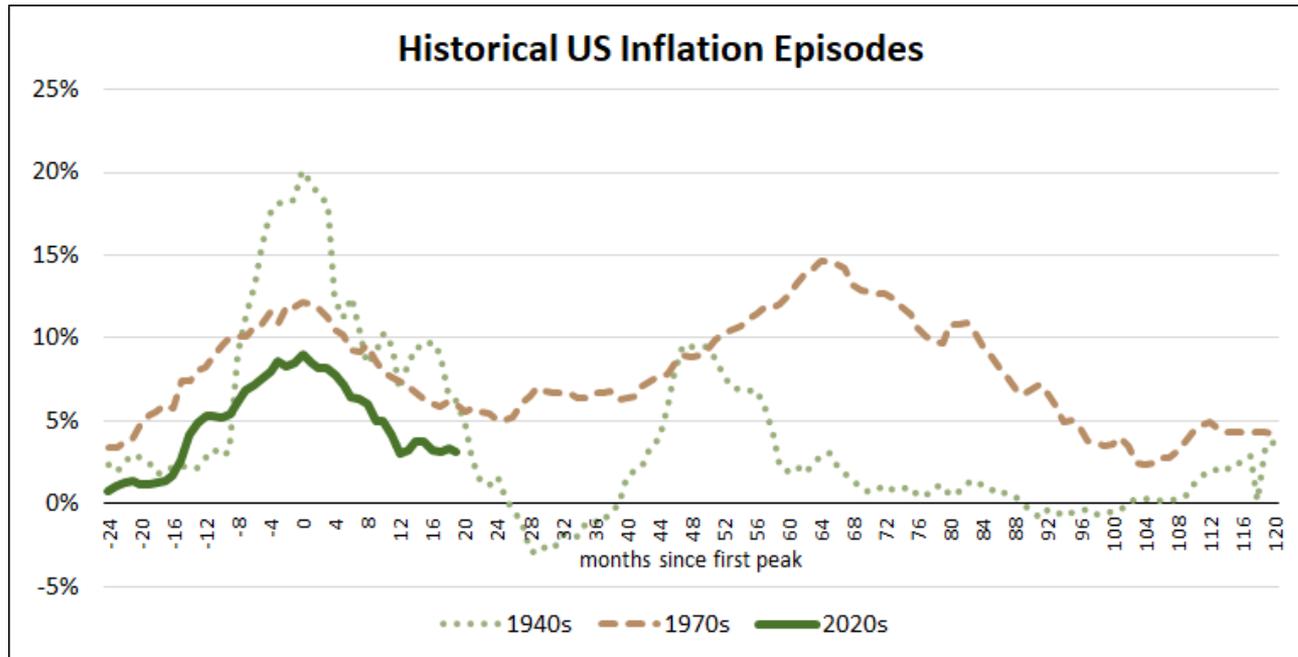


# CIO Report

## 2024 Market Environment



- Risk of resurgent inflation lingers given historical patterns

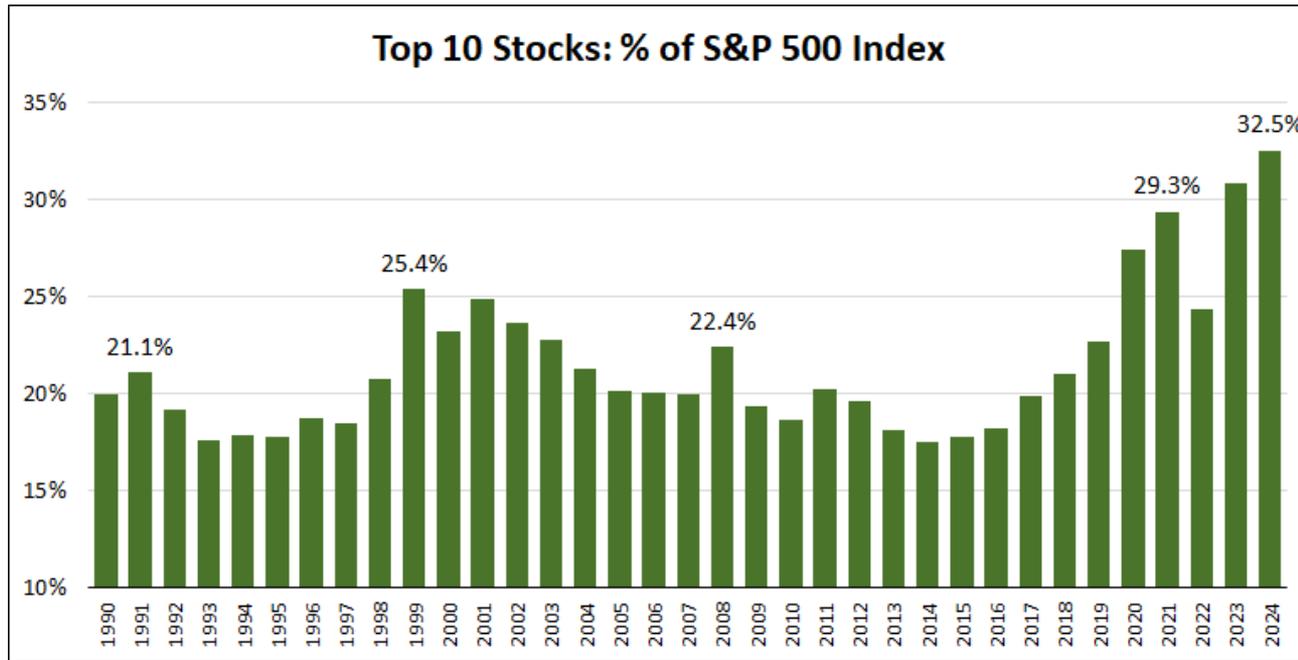


# CIO Report

## 2024 Market Environment



- Concentration of US equity market raises the risk of poor returns



# Discussion

## Public Agenda Item #18

### *\* Consideration of Annual Review of Public Credit, Private Credit & Hedge Fund Programs*

March 20, 2024

Leighton Shantz, CFA, Managing Director of Credit & Hedge Funds

Peter Ehret, CFA, Director of Public Credit

Richard Inzunza, CFA, Director of Private Credit

Nick Maffeo, CAIA, Director of Hedge Funds

# Credit & Hedge Funds

## Team Overview



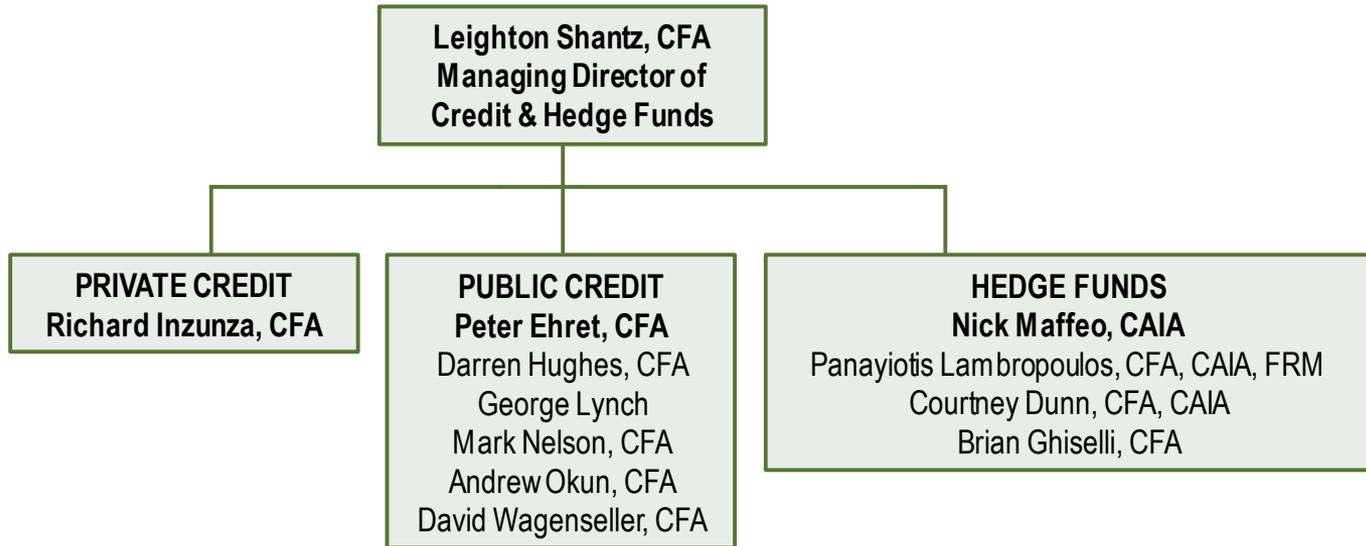
- Formed in September 2022 amid organizational restructuring

Program	Strategic Purpose	Implementation Objective
Public Credit	Growth-oriented asset class providing yield and diversification via public securities	Add value vs. benchmark with varying degrees of liquidity
Private Credit	Growth-oriented asset class earning illiquidity premium via private lending	
Hedge Funds	Diversifying asset class that provides downside protection and diversification	Add value vs. benchmark with low correlation to Trust

# Credit & Hedge Funds

## Organization and Responsibilities

- Collectively manages \$6.5 billion in assets with 12 team members



# Credit & Hedge Funds

## Summary Overview



Asset Class	Assets (\$ millions)	1 Year Relative	5 Year Relative
<b>Global Credit</b>	<b>4,113</b>	<b>+158 bps</b>	<b>+143 bps</b>
Public Credit <sup>1</sup>	2,668	+4 bps	+8 bps
Private Credit	1,445	+470 bps	+466 bps

Asset Class	Assets (\$ millions)	1 Year Relative	5 Year Relative
<b>Hedge Funds</b>	<b>2,073</b>	<b>-499 bps</b>	<b>+155 bps</b>
Absolute Return	1,719	-288 bps	+195 bps
Launchpad	354	-918 bps	N/A

# *Public Credit Program*

March 20, 2024

Leighton Shantz, CFA, Managing Director, Credit & Hedge Funds

Peter Ehret, Director of Public Credit

# Public Credit

## Key Characteristics



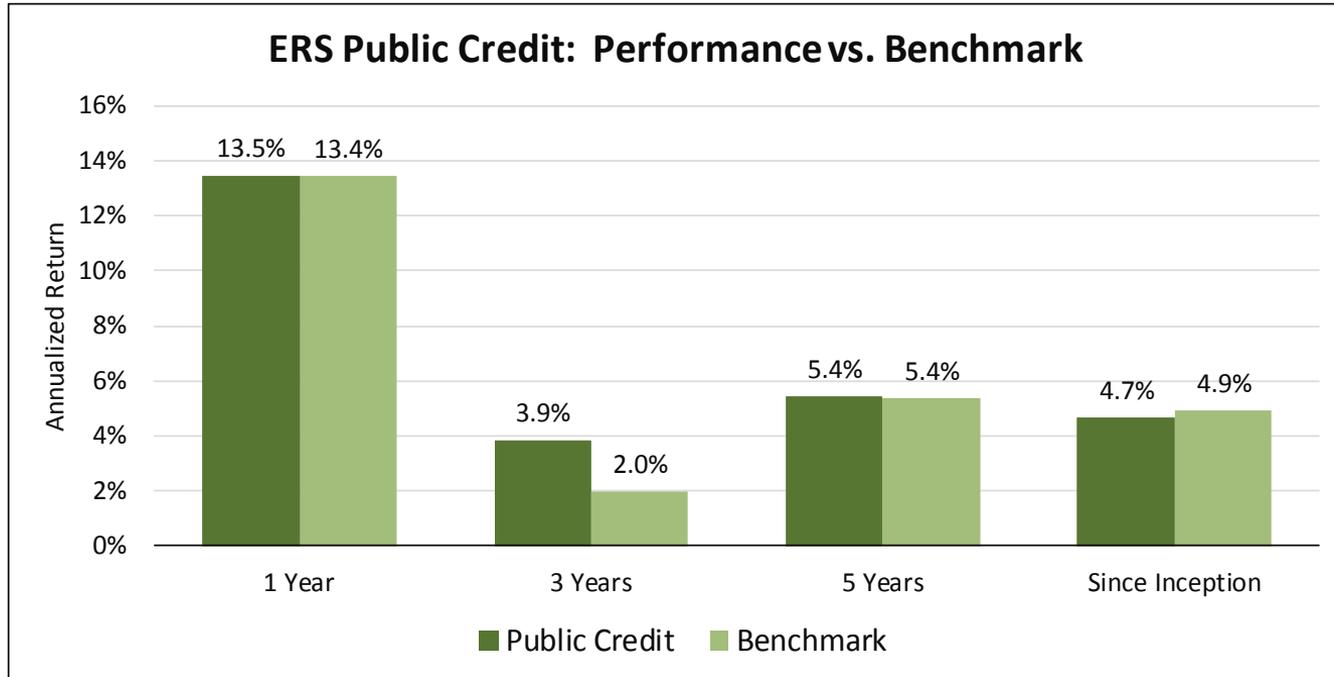
Attribute	Public Credit Portfolio
Type of Allocation	Return seeking
Policy Allocation	Target weight of 9%, range of 4-14%, currently 7.1%
Management Style	Actively managed internally
Benchmark	Bloomberg US High Yield 2% Issuer Capped Cash Pay Index
Benchmark Description	Market cap weighted index of high yield bonds with 2% issuer max
Risk Budget	Tracking error: 200 bps target, 300 bps maximum
Expected Information Ratio	0.35 or better
Investment Expenses	~16 bps internally

# Public Credit

## Periodic Performance



- Weak relative returns since inception attributable to ETFs and external advisor

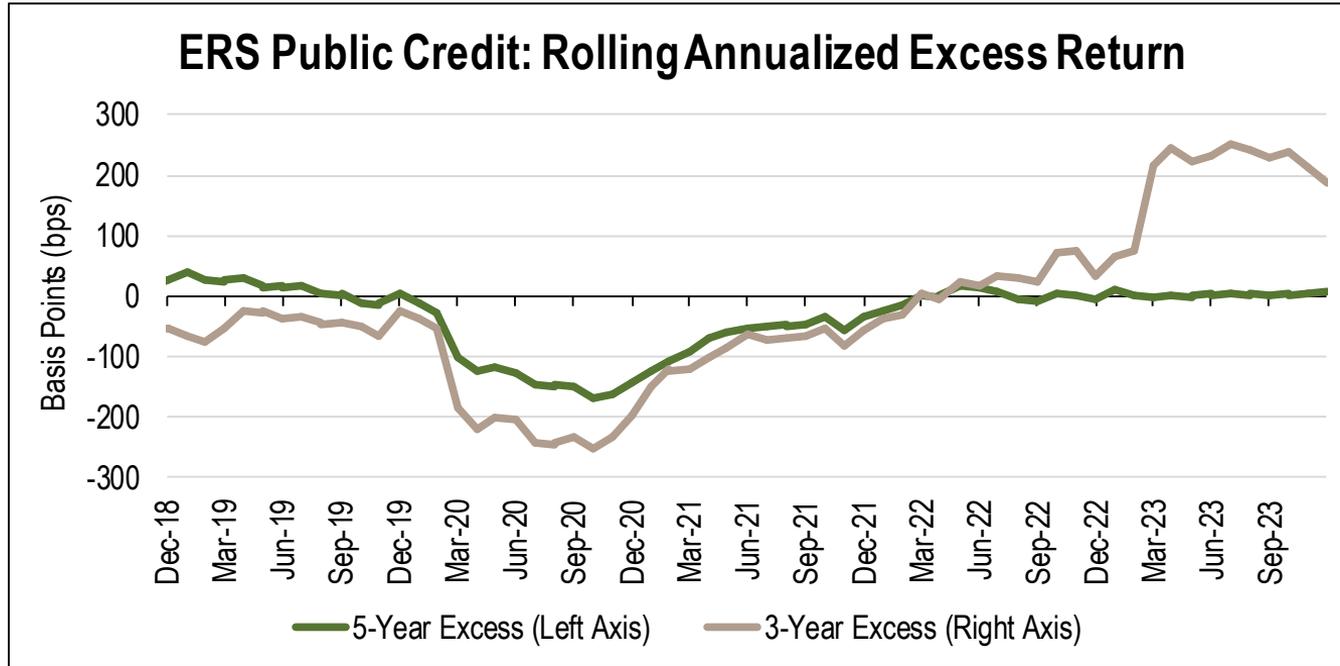


# Public Credit

## Historical Performance



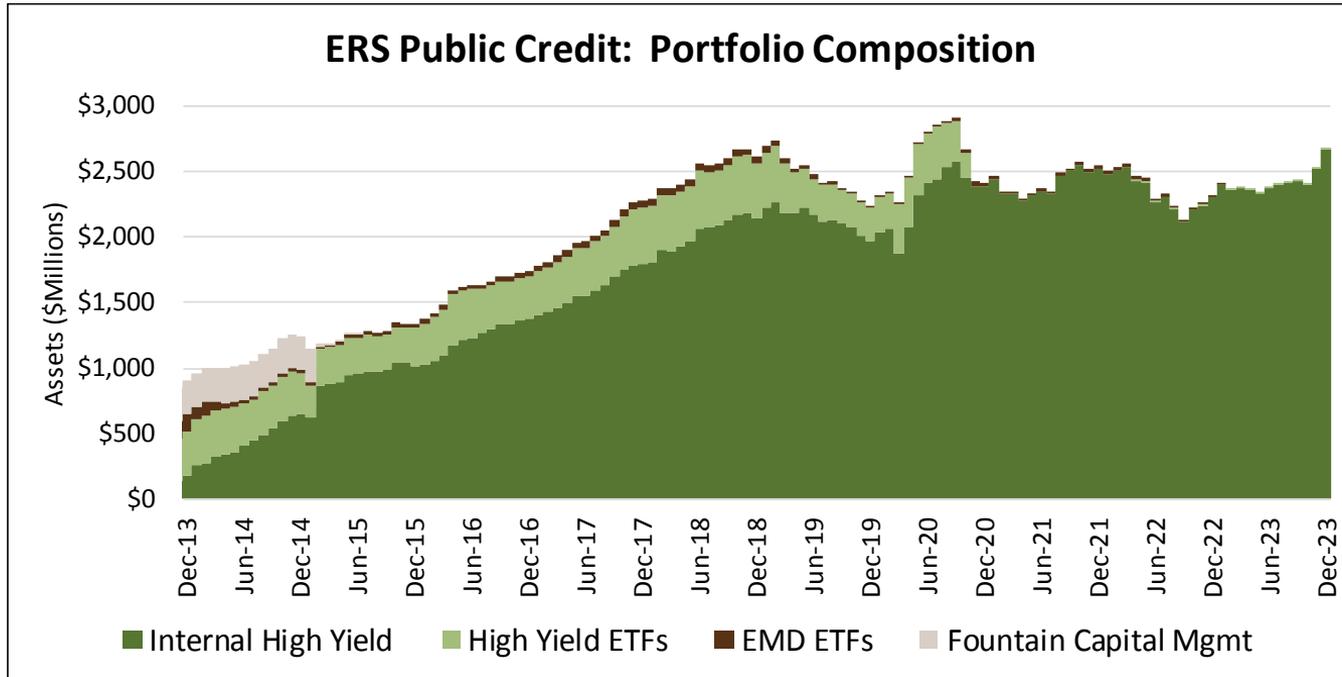
- Negative relative performance at COVID-19 onset still detracting from long-term results



# Public Credit

## Historical Composition

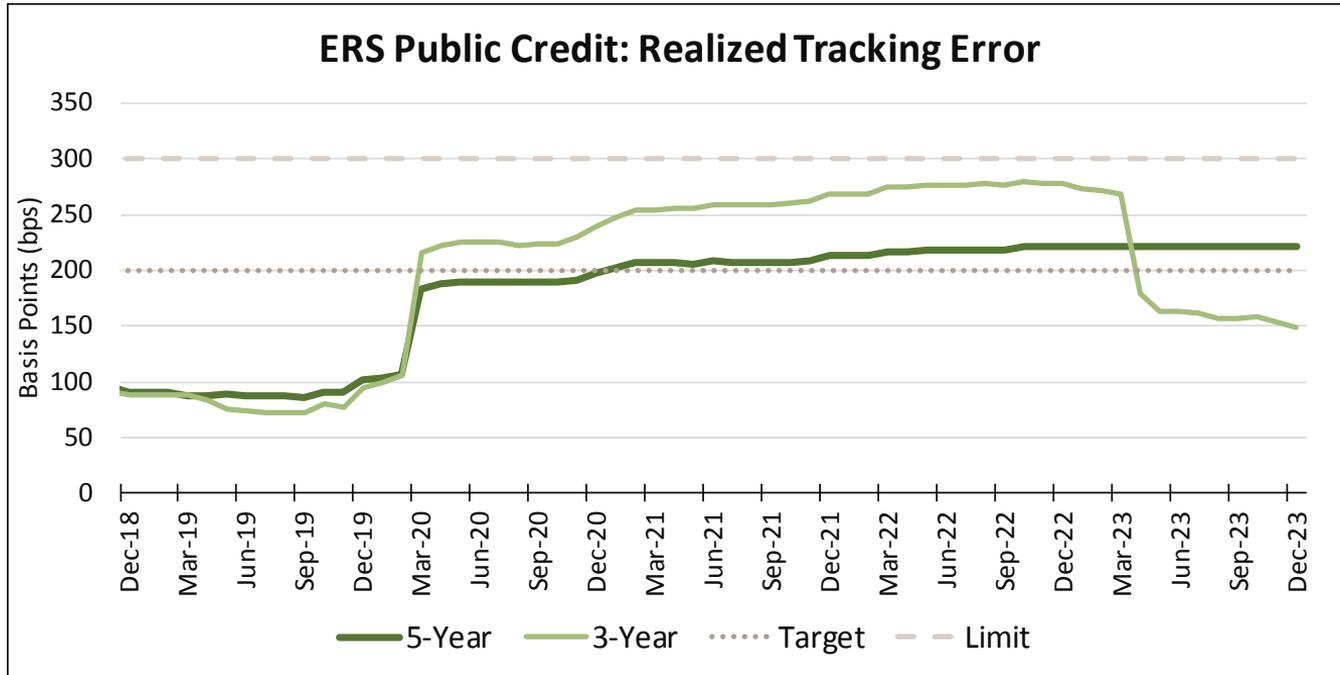
- Internal High Yield portfolio has become sole holding in recent years



# Public Credit

## Historical Risk

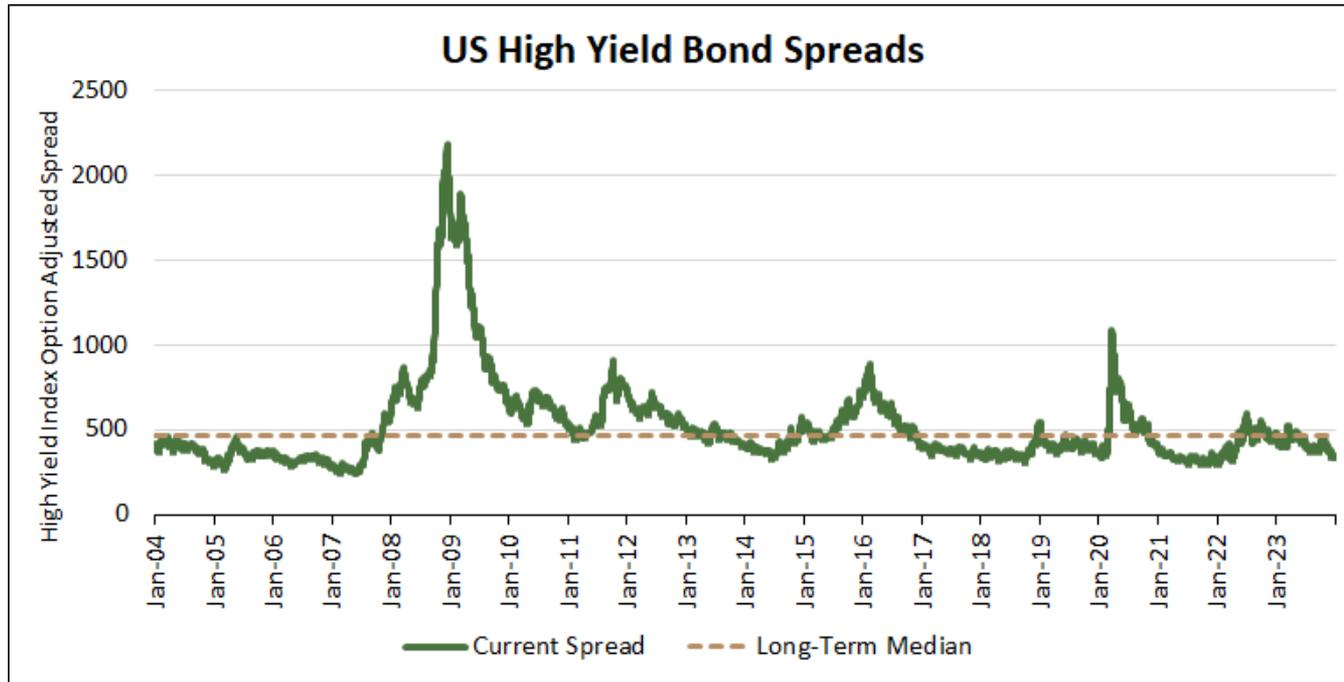
- Portfolio tracking error remains within IPS limits and is declining post-pandemic



# Public Credit

## Yield Spreads

- Current yield spreads are quite low relative to the levels seen over last 20 years



# Discussion

# *Private Credit Program*

March 20, 2024

Leighton Shantz, CFA, Managing Director, Credit & Hedge Funds

Richard Inzunza, CFA, Director of Private Credit

# Private Credit

## Key Characteristics



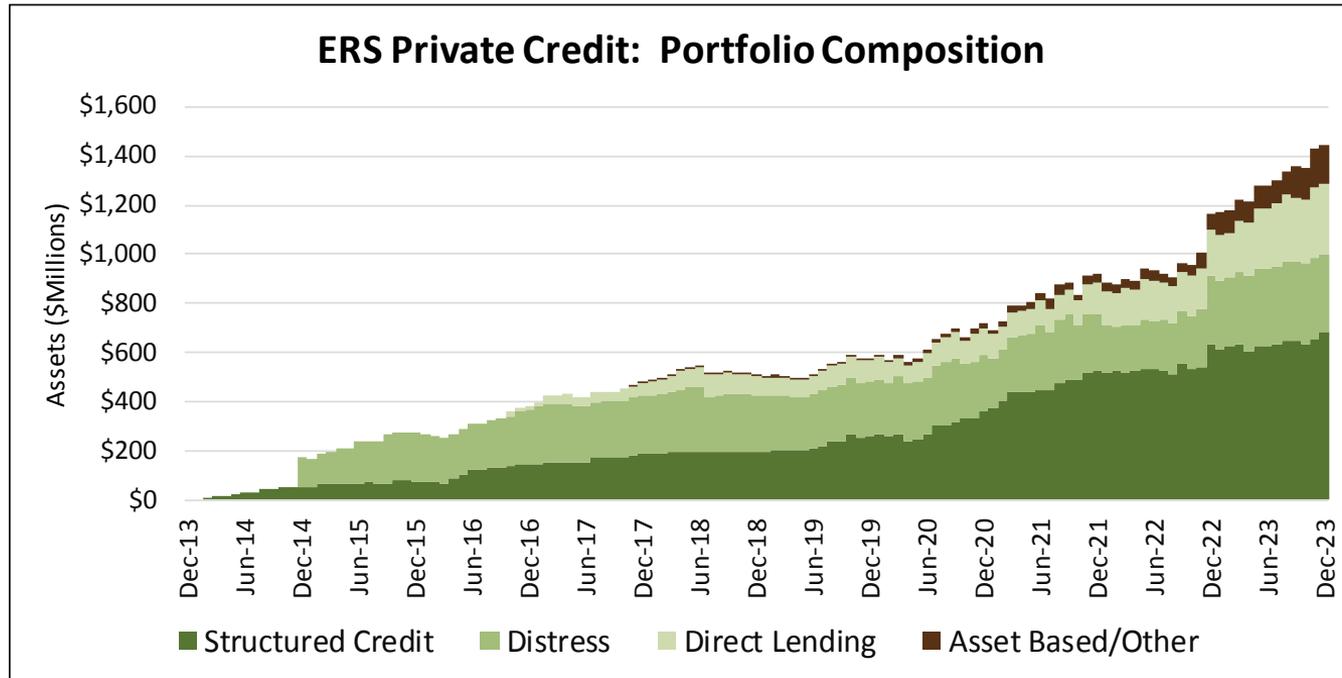
Attribute	Private Credit Portfolio
Role	Return seeking
Policy Allocation	Target weight of 3%, range of 0-8%, currently 3.8%
Management Style	Actively managed externally via limited partnership interests
Benchmark	Morningstar LSTA Leveraged Loan Total Return Index + 150 bps
Benchmark Description	Tracks the broadly syndicated loan facilities in the US leveraged loan market
Risk Budget	Allocation ranges
Investment Expenses	~9 bps internal, ~36 bps external

# Private Credit

## Historical Composition



- Asset class mix has evolved over time as portfolio growth has continued

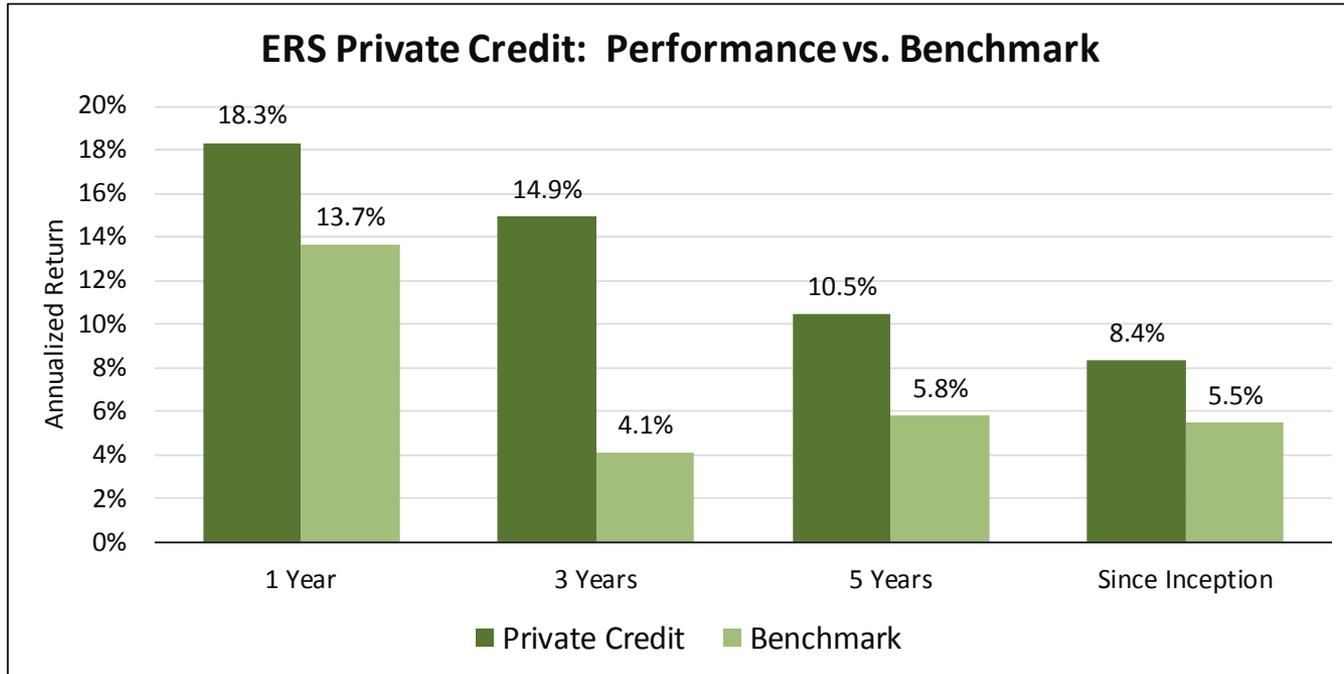


# Private Credit

## Periodic Performance



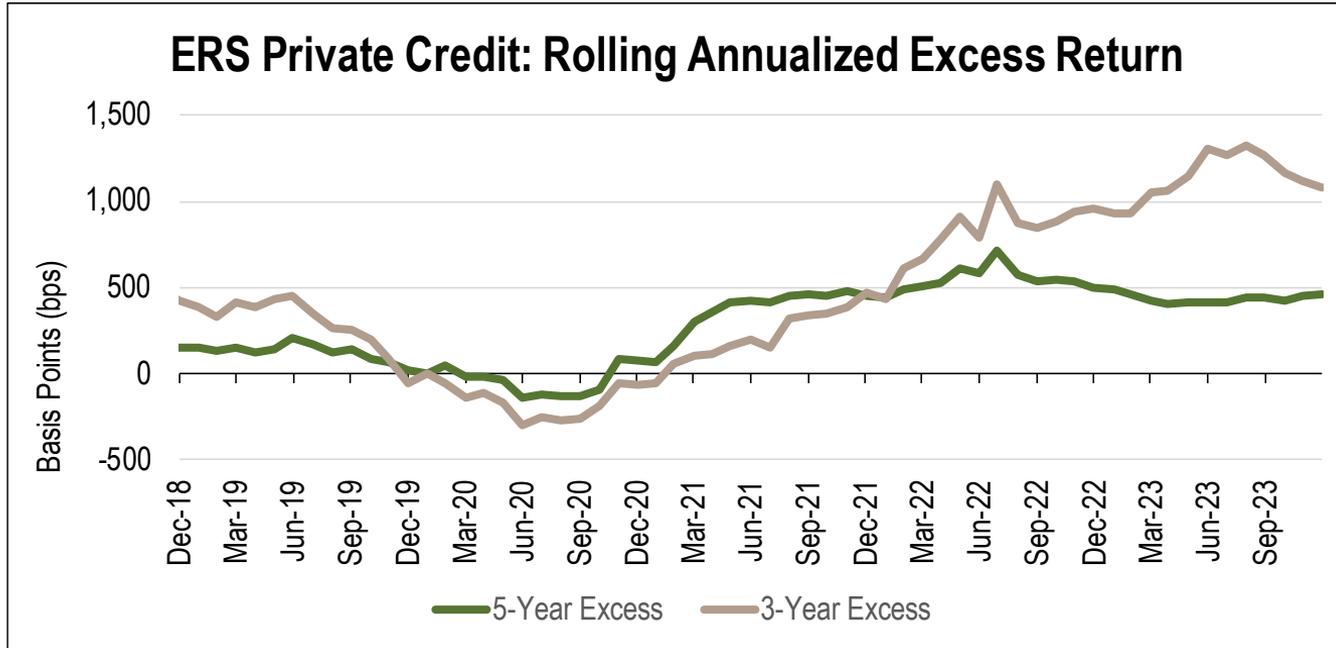
- Strong long-term absolute returns & relative performance over all periods



# Private Credit

## *Historical Performance*

- High levels of excess returns reflects strong selection of managers and strategies



# Private Credit

## *Commitments and Pacing*



### Fiscal Year 2024

- \$100 million commitment target with approved range of \$100-150 million
  - \$75 million commitment approved by ACIC, legal documents under negotiation
  - \$75 million scheduled for ACIC review of a new emerging manager relationship

### Fiscal Year 2025

- \$200 million target anticipated for commitments to existing managers
- Investment pacing will remain opportunistic and subject to change

# Discussion

# *Hedge Funds Program*

March 20, 2024

Leighton Shantz, CFA, Managing Director, Credit & Hedge Funds

Nick Maffeo, CAIA, Director of Hedge Funds

# Hedge Funds Program

## Key Characteristics



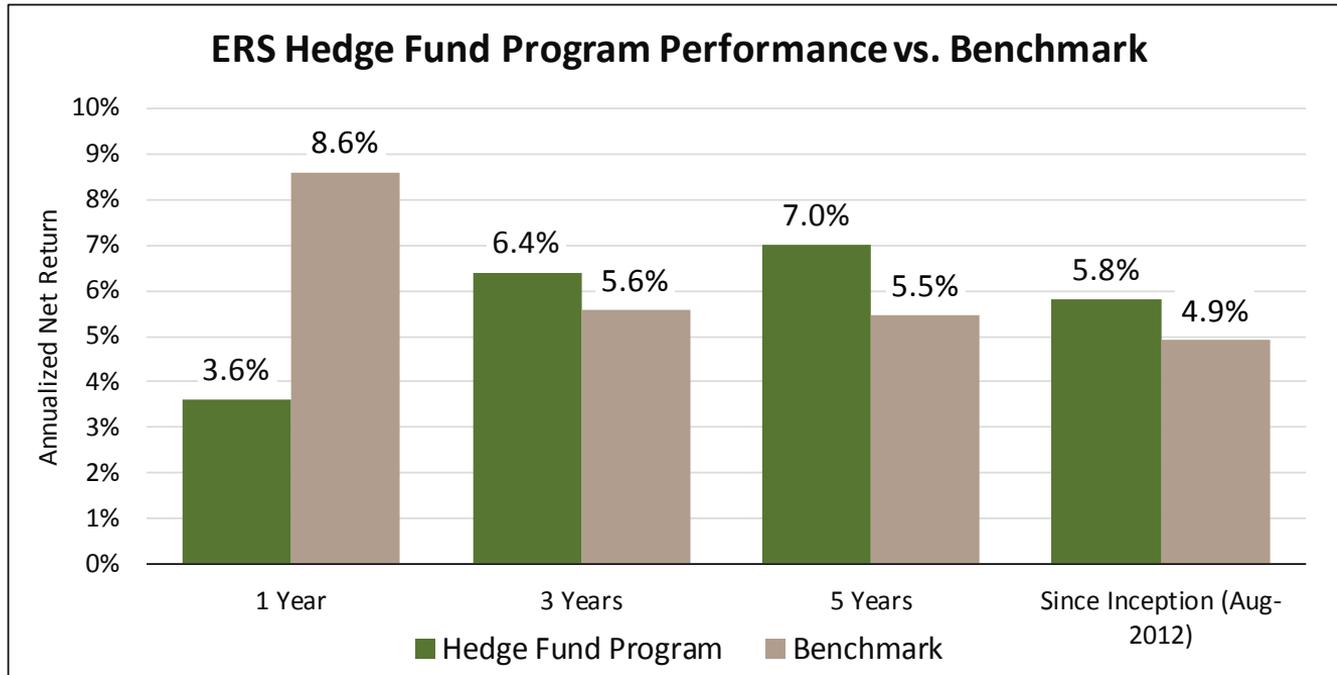
Attribute	Hedge Fund Program
Type of Allocation	Risk Reducing
Policy Allocation	Target weight of 6%, range of 0-11%, currently 5.5%
Management Style	Actively managed externally via limited partnership interests
Benchmark	3-month T-bills + 3.5% annually
Benchmark Description	Real return target over inflation, which is not investable
Risk Budget	Volatility target of 4% to 8%
Beta Target	$\leq 0.4$ versus the Trust
Investment Expenses	~268 bps external, ~16 bps internal

# Hedge Funds Program

## Program Performance



- Strong performance across over time since inception except for 1-year performance

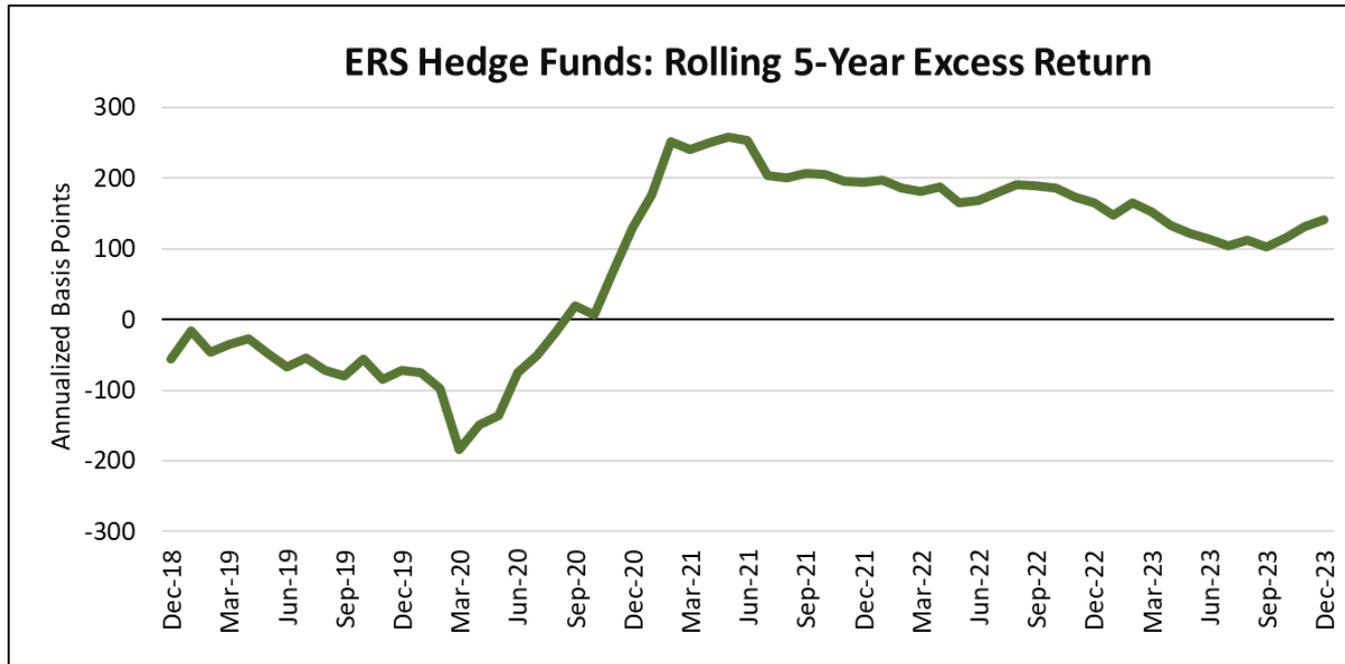


# Hedge Funds Program

## *Historical Performance*



- Long-term relative performance has been consistent in recent years



# Absolute Return Portfolio

## Key Characteristics



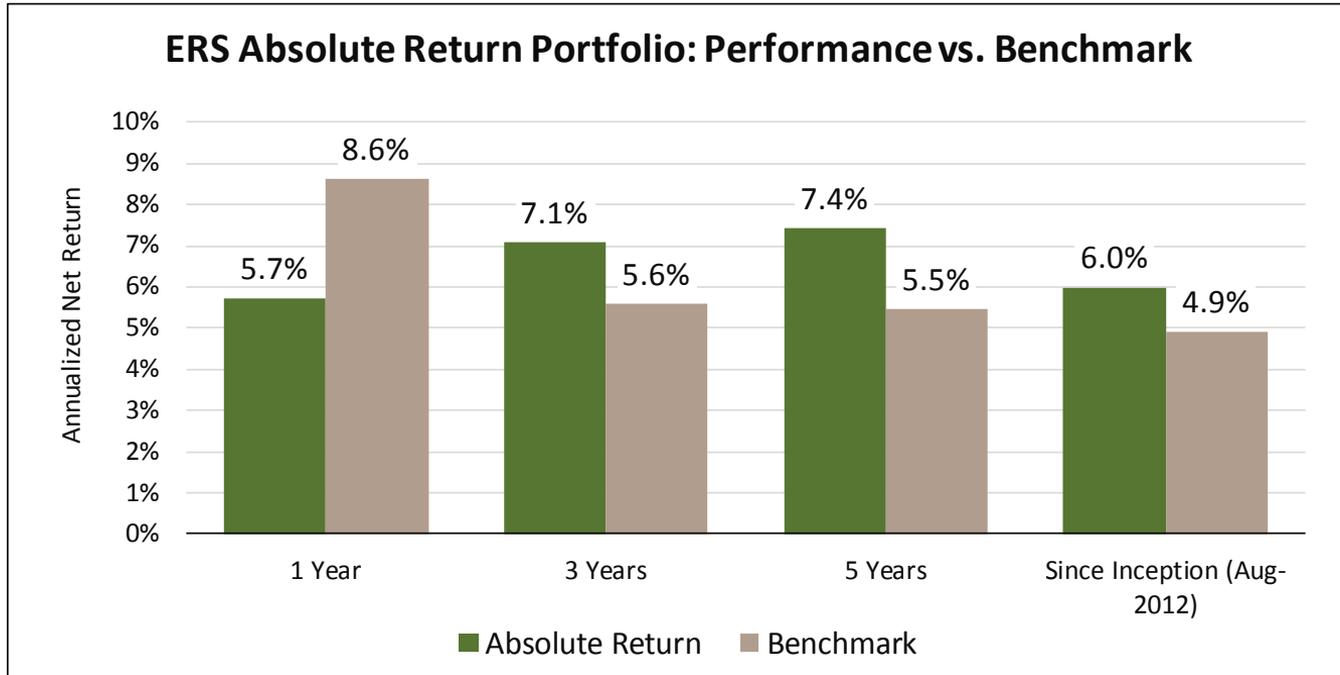
Attribute	Absolute Return Portfolio
Role	Risk Reducing
Policy Allocation	Target weight of 5%, range of 0-11%
Management Style	Actively managed externally via limited partnership interests
Return Target	3-Month T-bills + 3.5% annually
Risk Budget	Volatility target of 4% to 8%
Beta Target	≤ 0.4 versus the Trust
Investment Expenses	~219 bps external, ~16 bps internal

# Absolute Return Portfolio

## Performance Snapshot



- Strong performance across long-term time horizons despite one-year results



# Absolute Return Portfolio

## *Historical Performance*



- Portfolio has maintained strong relative performance in recent years

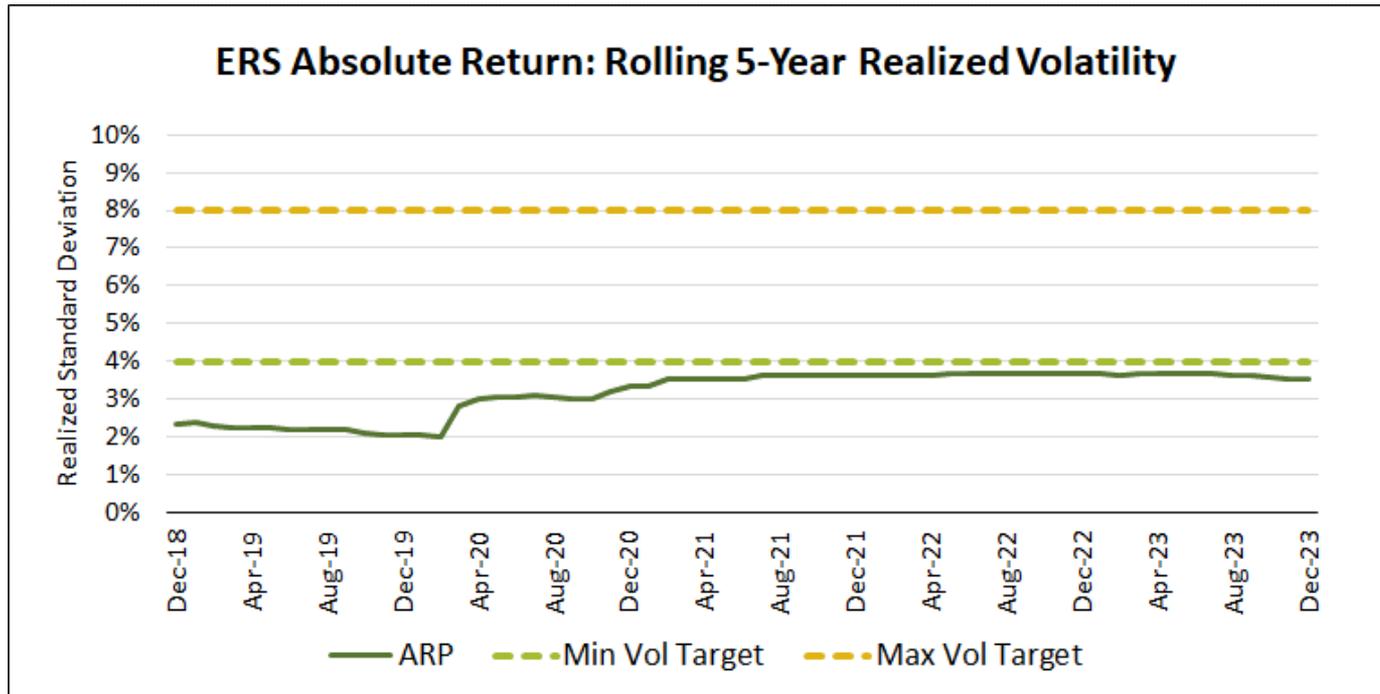


# Absolute Return Portfolio

## Historical Risk



- Risk levels consistently below target, despite increase in market volatility

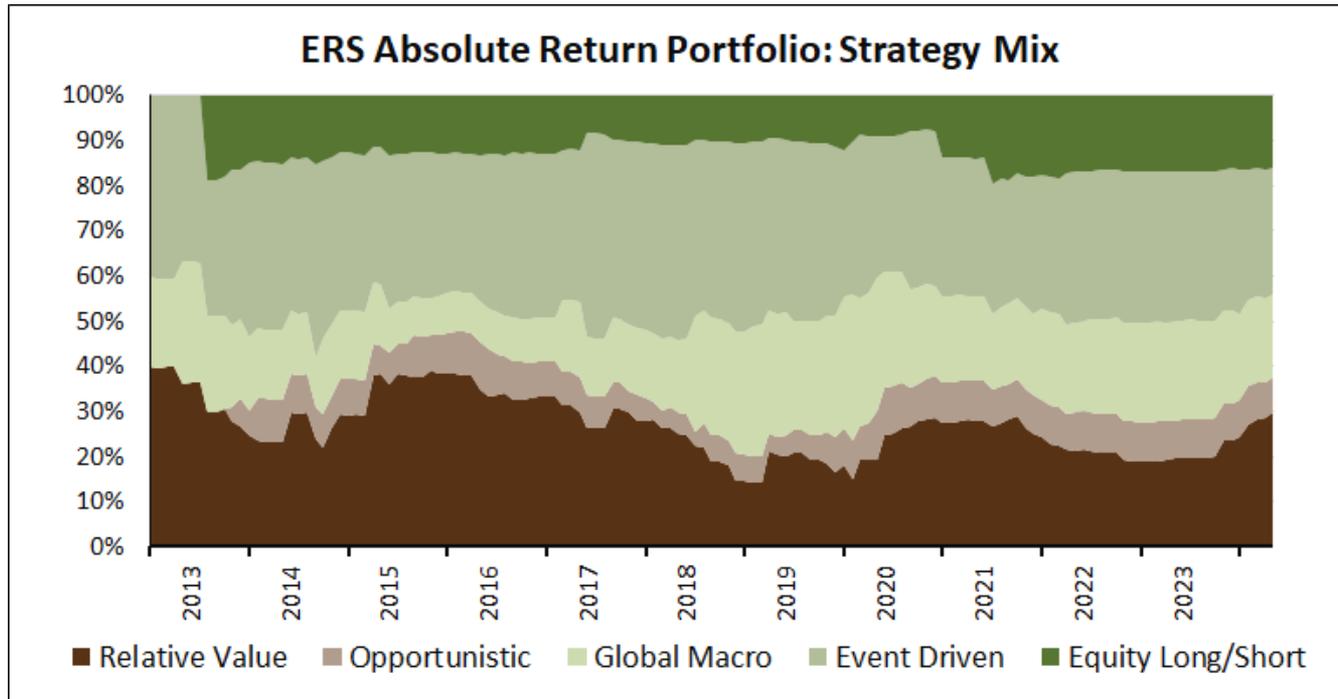


# Absolute Return Portfolio

## *Historical Composition*



- Portfolio has maintained diversification throughout its growth over time

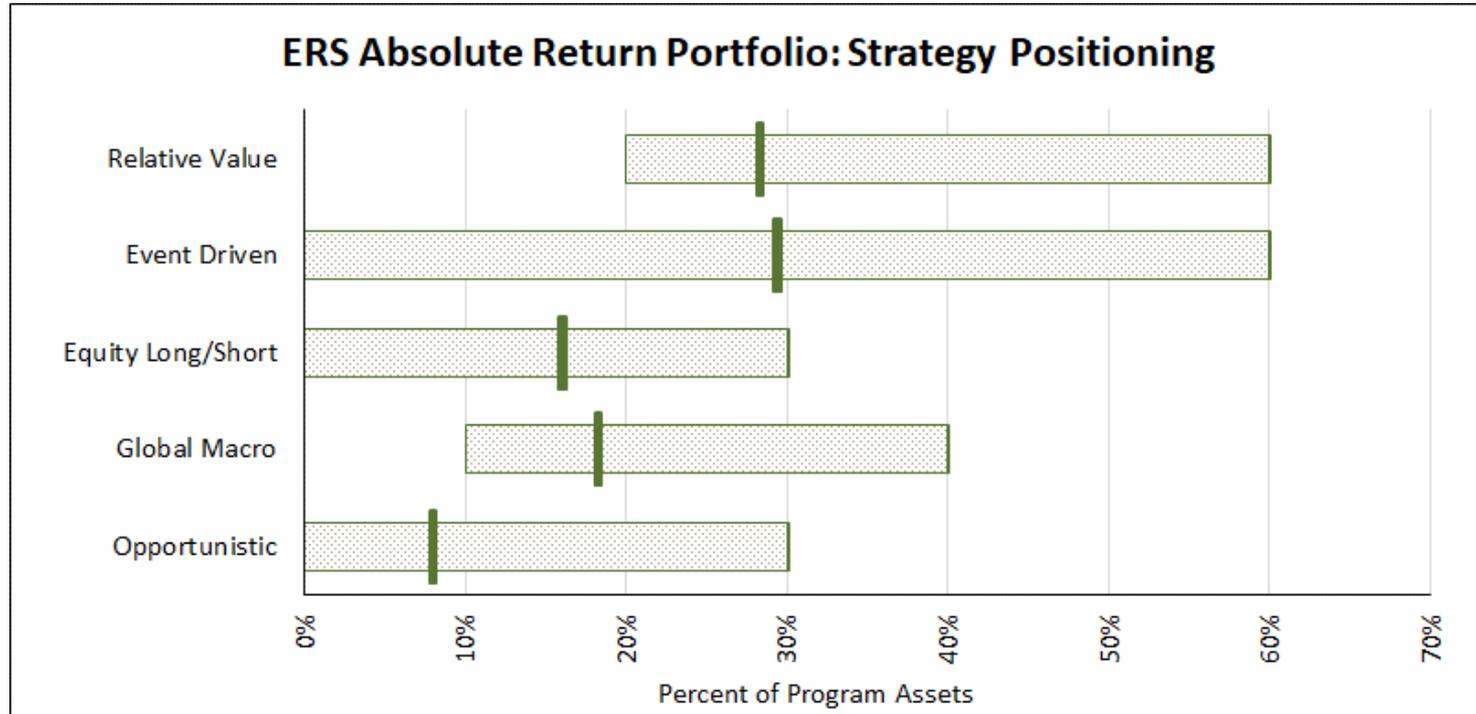


# Absolute Return Portfolio

## *Historical Composition*



- All strategy exposures within guidelines after underweight to Relative Value was addressed



# Launchpad Portfolio

## Key Characteristics



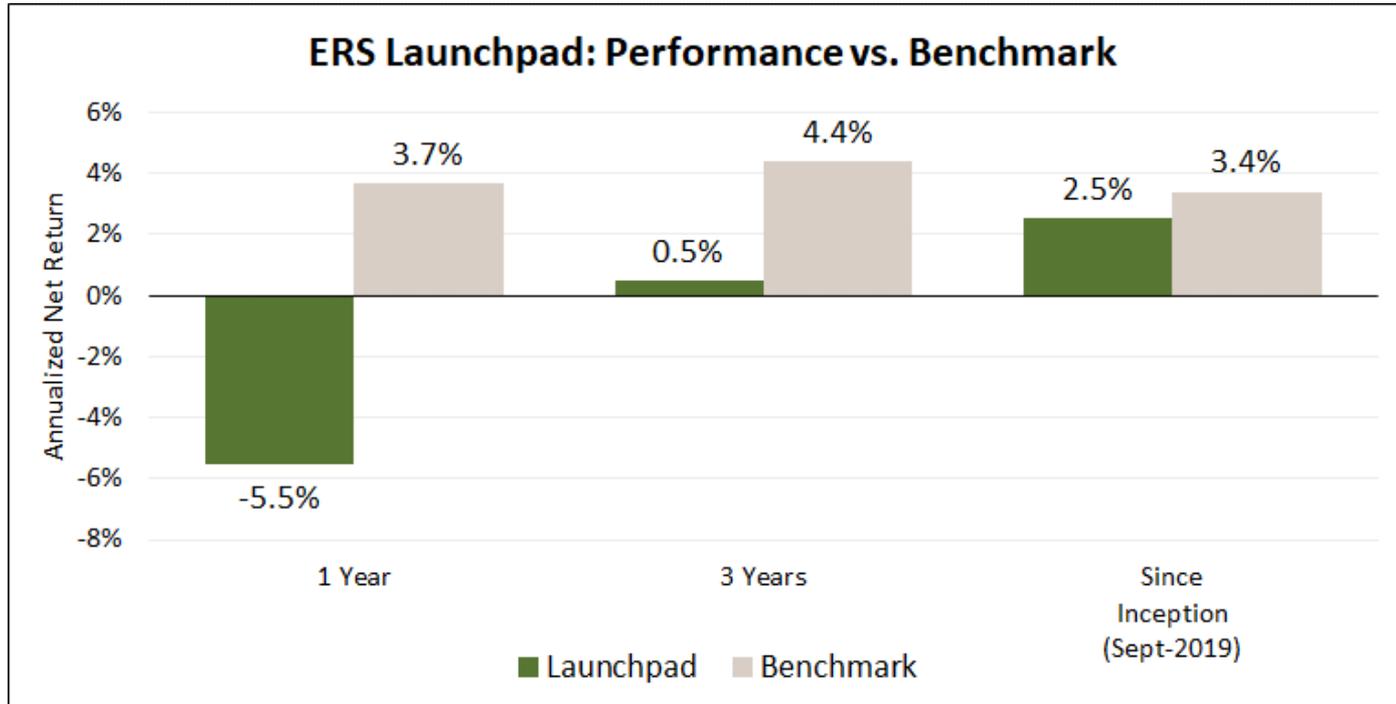
Attribute	ERS PAAMCO Launchpad
Role	Risk Reducing
Policy Allocation	Opportunistic
Management Style	Actively managed externally through PAAMCO Prisma collaboration, with ERS retaining investment decisions
Return Target	Blended benchmark based on underlying strategies
Risk Budget	Volatility target of 4-8%
Other Characteristics	All relationships include revenue sharing economics
Investment Expenses	~423 bps external, ~16 bps internal

# Launchpad Portfolio

## Performance Snapshot



- Challenging one-year performance adversely affected longer-term measures

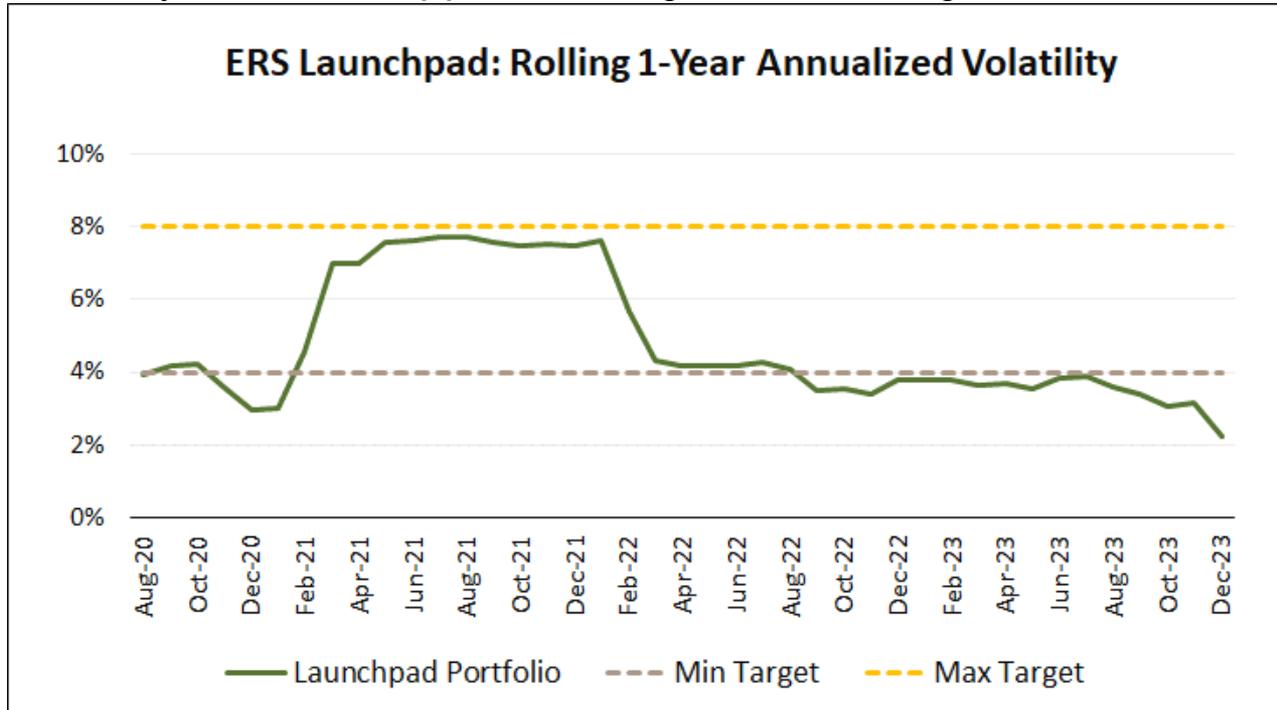


# Launchpad Portfolio

## *Historical Risk*



- Annualized volatility level has dipped below guideline with greater diversification

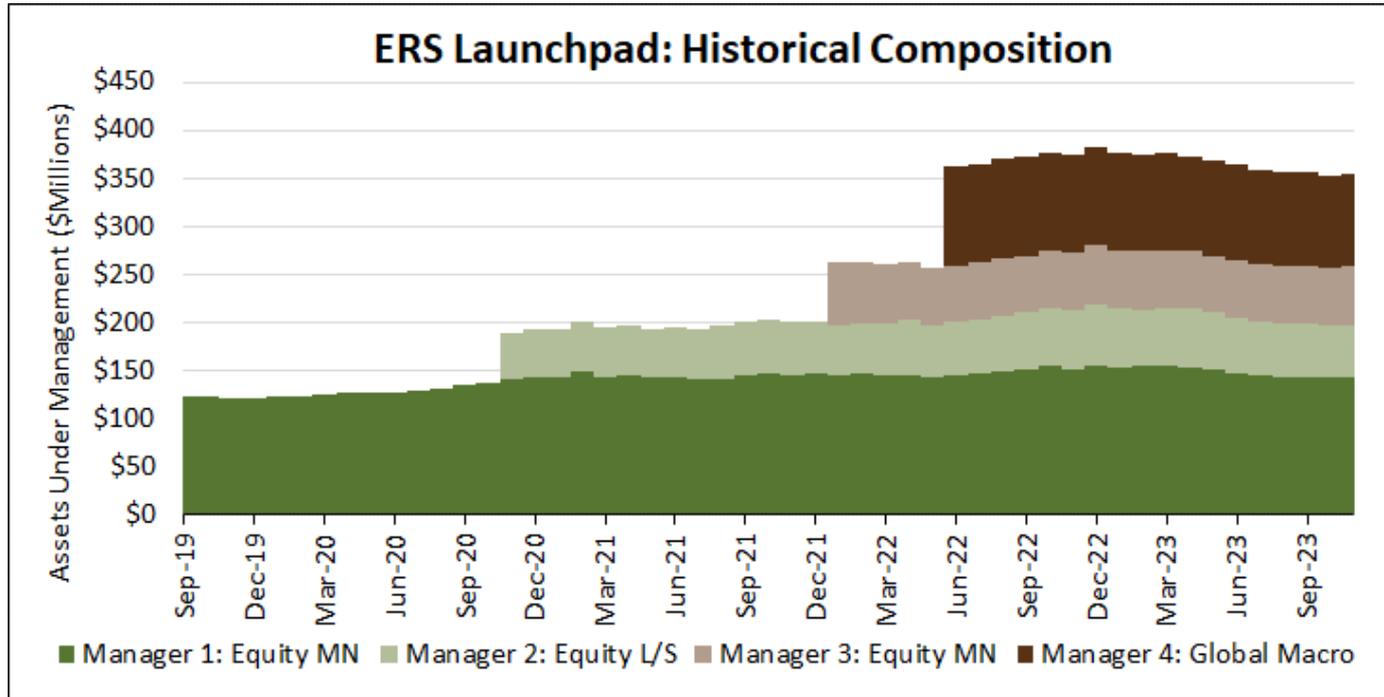


# Launchpad Portfolio

## Historical Composition



- Four allocations have been completed since inception, structure now fully allocated



# Hedge Fund Program

## *Initiatives for FY24*



- **Absolute Return Portfolio**

- Portfolio at ~90% of target allocation (target allocation is 5% of Trust)
- Strategically increase portfolio toward target allocation
- Review Hedge Fund Program benchmark with potential recommendation to the Board in August 2024

# Hedge Fund Program

## *Initiatives for FY24*



- **Launchpad Portfolio**

- Portfolio is fully allocated, but performance has been challenging
- Manage existing investments opportunistically given current exposures within broader Hedge Fund Program
- ERS to continue to consider emerging managers on a direct basis

# Discussion

## Public Agenda Item #19

### *\*Consideration of Annual Review of Treasury & Trading Programs*

March 20, 2024

Tom Roberts, CFA, CMT, Managing Director of Treasury & Trading

Michael Clements, CMT, Director of Trading

# Treasury & Trading

## Team Overview



- Formed in September 2022 as carveout from fixed income, public equity

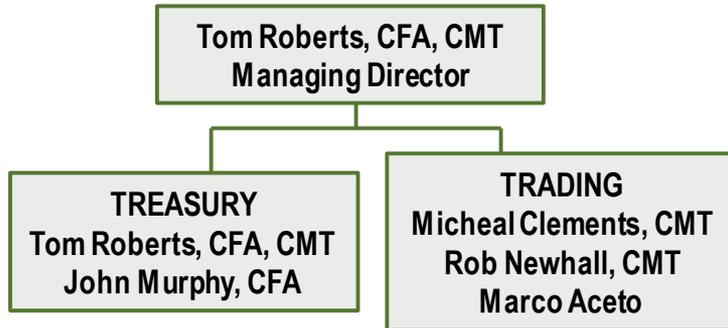
Program	Strategic Purpose	Implementation Objective
Rates	Provide liquidity and capital preservation while earning superior risk-adjusted returns	Provide liquidity while adding value
Cash	Ensure sufficient funds are available to meet the operating needs of the System	
Trading	Provide low-cost execution of securities transactions and strategic intelligence regarding market conditions	Add value vs. assigned benchmarks for transactions

# Treasury & Trading

## Organization and Responsibilities



- Manages \$8.4 billion in assets, executes \$18.9 billion in trades annually



Asset	Owner	Amount
Rates	Retirement Trust	\$3.5 billion
Rates	Insurance & Benefits Fund	\$1.2 billion
Cash	Retirement Trust	\$1.8 billion
Cash	Insurance & Benefits Fund	\$1.9 billion
<b>Total</b>	<b>ERS Trust</b>	<b>\$8.4 billion</b>

# Treasury & Trading

## Rates Portfolio - Key Characteristics



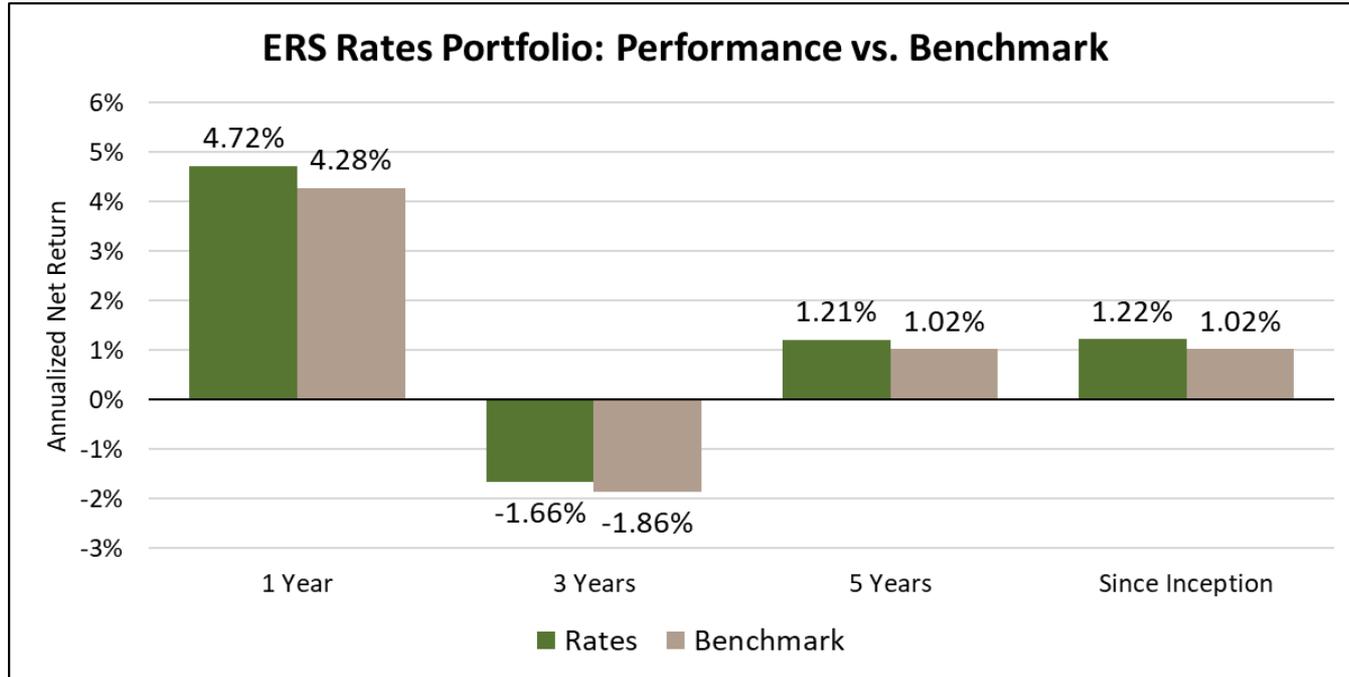
Attribute	Rates Portfolio
Role	Downside protection, Diversification, Liquidity
Policy Allocation	Target weight of 12%, range from 7% to 17%
Management Style	Actively managed internally
Benchmark	Bloomberg US Intermediate Treasury Total Return Index
Benchmark Description	Average return of all Treasury securities maturing in 1-10 years
Risk Budget	Tracking Error Target = 50 bps / Tracking Error Limit = 100 bps
Expected Information Ratio	0.20 or better
Investment Expenses	5 basis points internally

# Treasury & Trading

## Rates Portfolio - Performance Snapshot



- Outperformance over every time period in both up and down markets

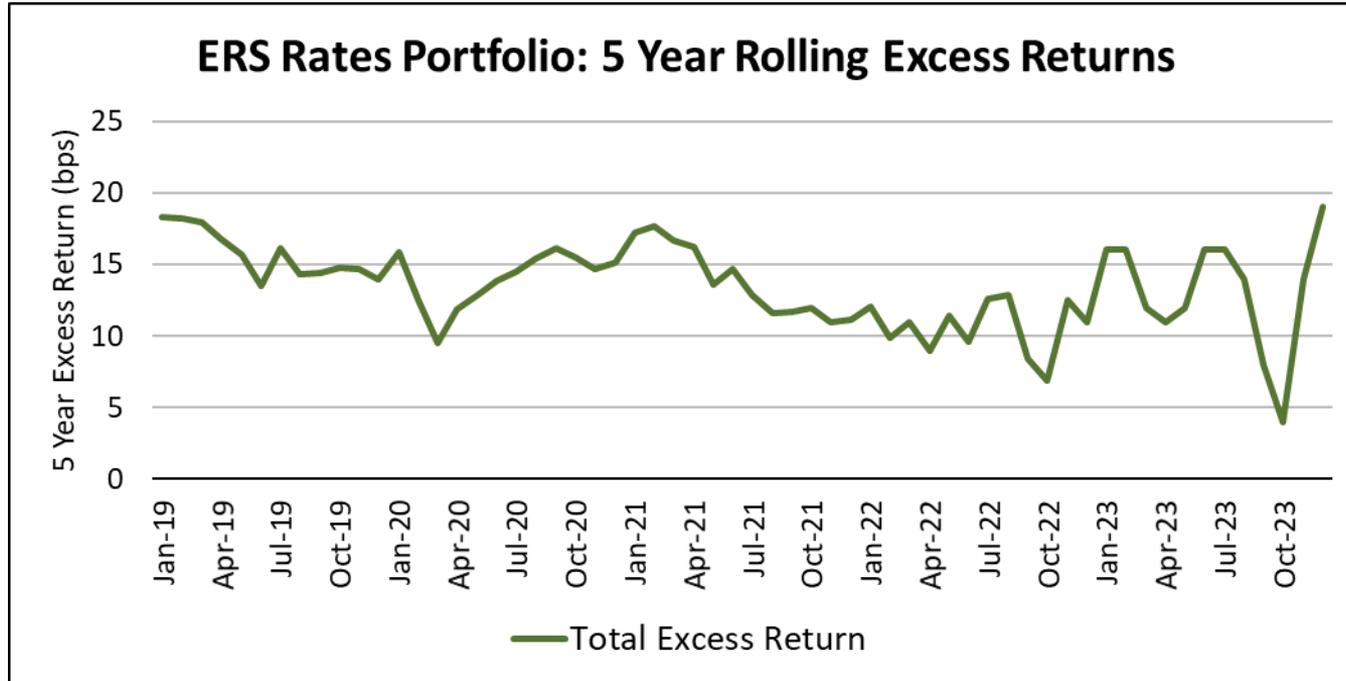


# Treasury & Trading

## Rates Portfolio - Historical Performance



- Positive excess returns amid more volatile conditions

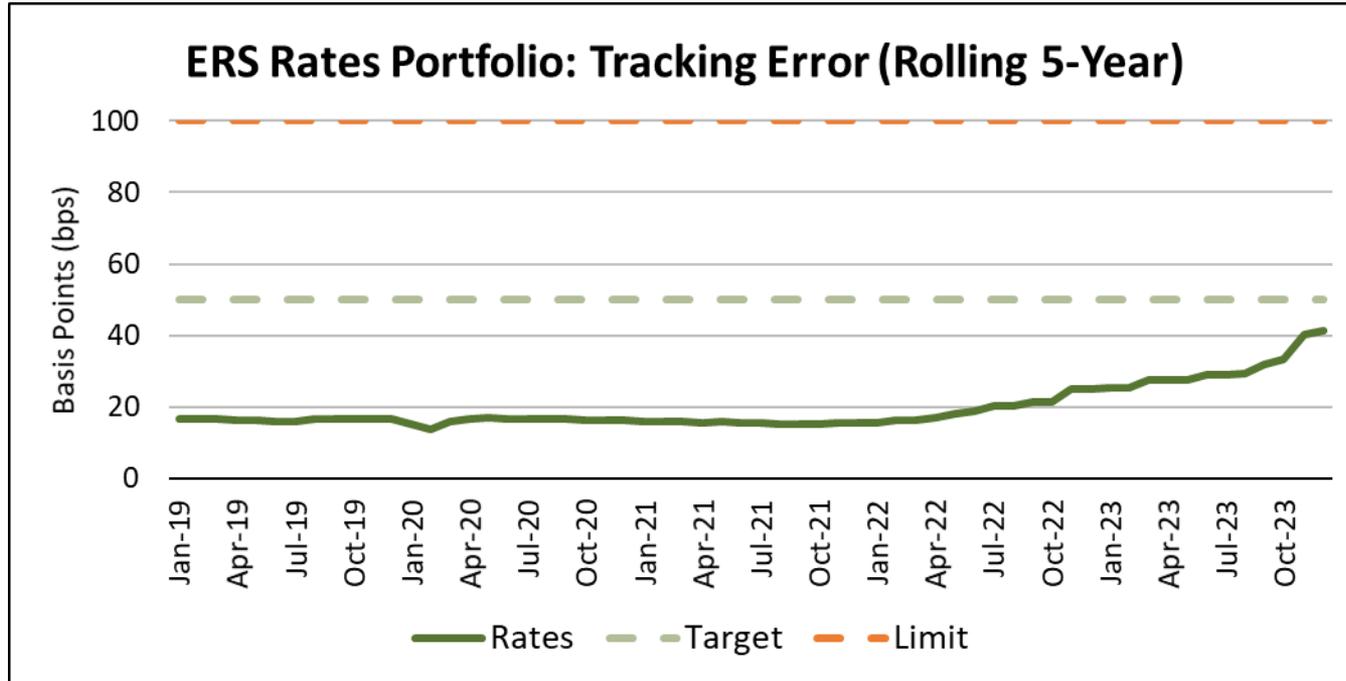


# Treasury & Trading

## Rates Portfolio - Historical Risk



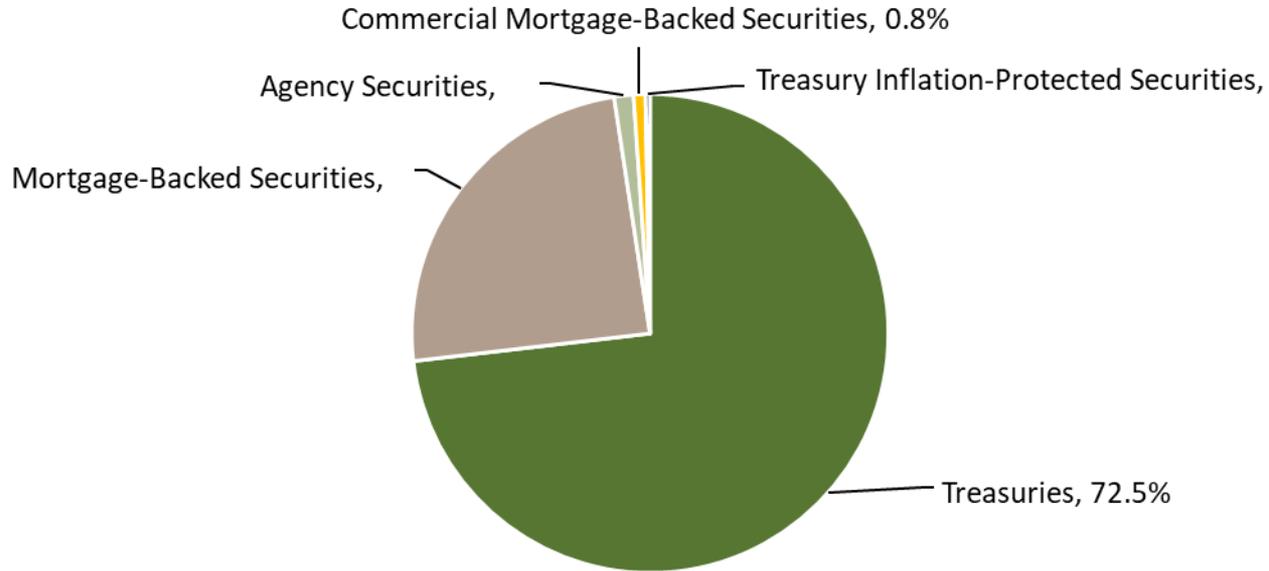
- Tracking error continues to move higher but under target



# Treasury & Trading

## Rates Portfolio - Asset Allocation

- Treasuries are largest holding, with mortgages included for additional yield



# Treasury & Trading

## Cash Portfolio - Key Characteristics



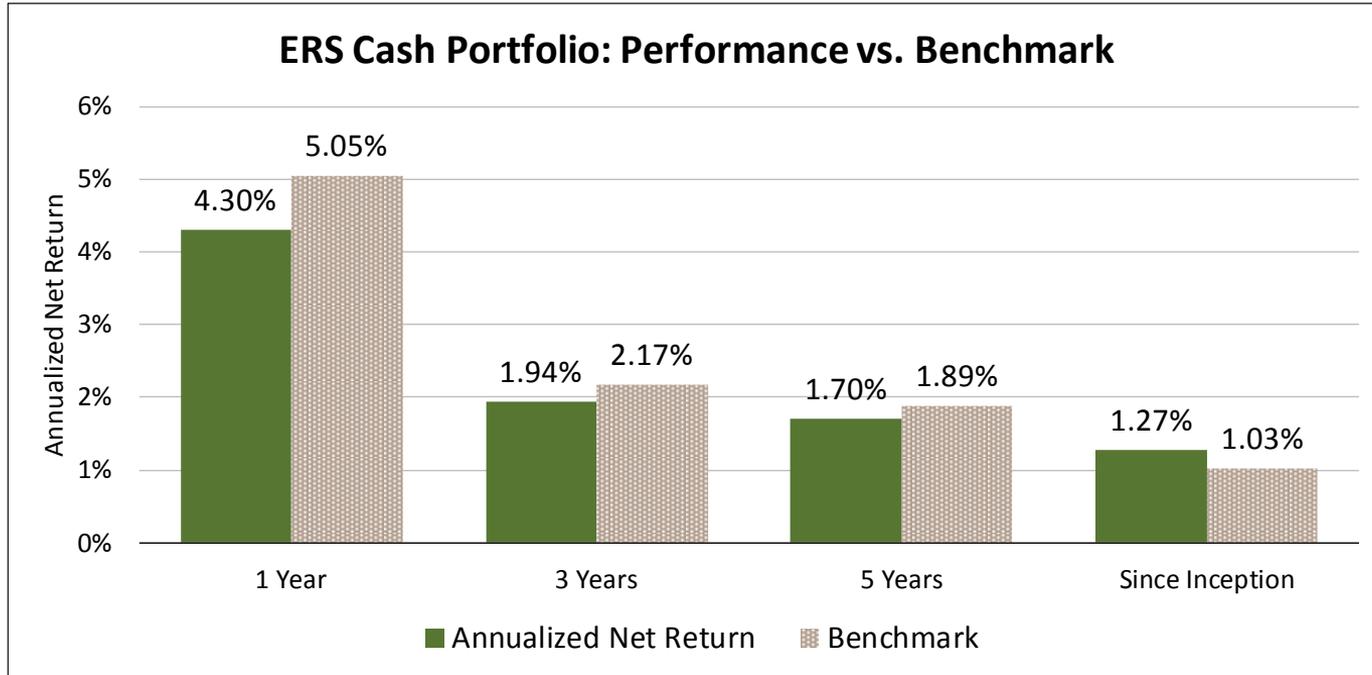
Attribute	Cash Portfolio
Role	Liquidity
Policy Allocation	Target weight of 2%, range from 1% to 10%
Management Style	Actively managed internally
Benchmark	ICE BofA U.S. 3-Month Treasury Bill Index
Benchmark Description	An investable index that measures the average return of the last three-month U.S. Treasury Bill Issues
Risk Budget	Allocation ranges
Expenses	6 basis points internally

# Treasury & Trading

## Cash Portfolio - Performance Snapshot



- Higher yields via monetary policy and inflation a challenge in 2023

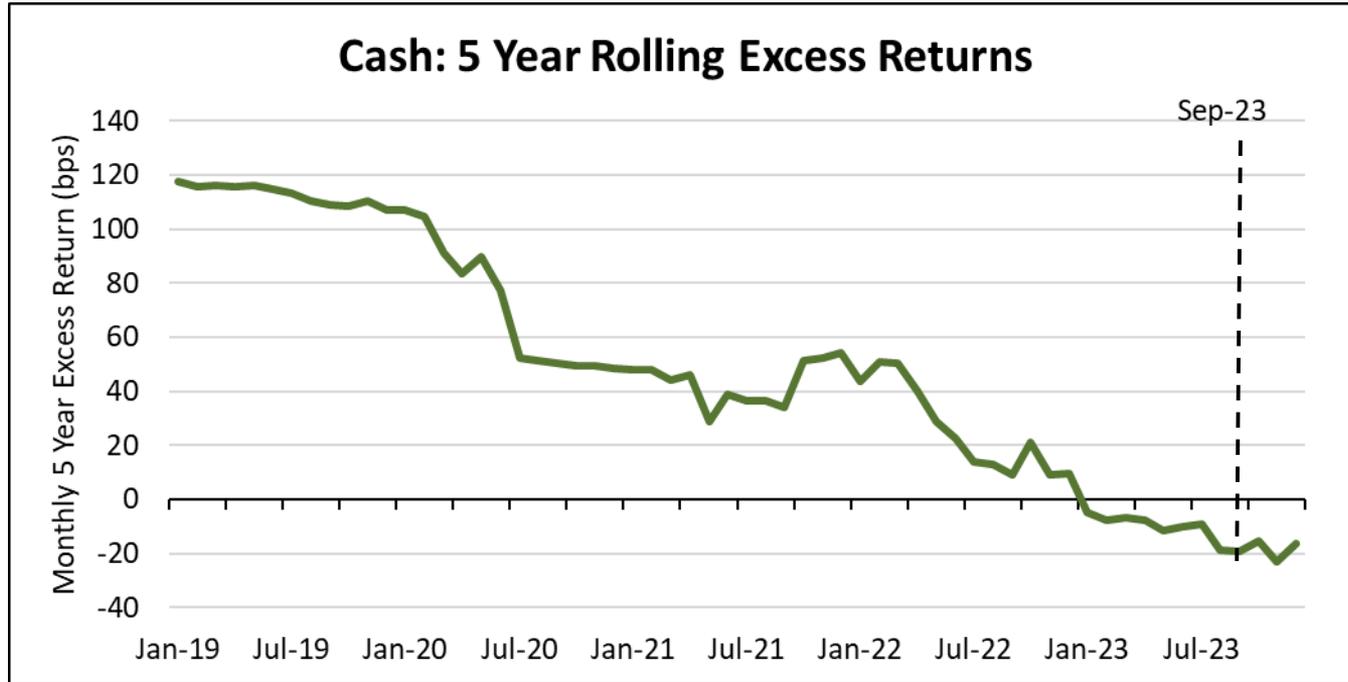


# Treasury & Trading

## Cash Portfolio - Historical Performance



- More active portfolio management since 2022 aims to improve performance



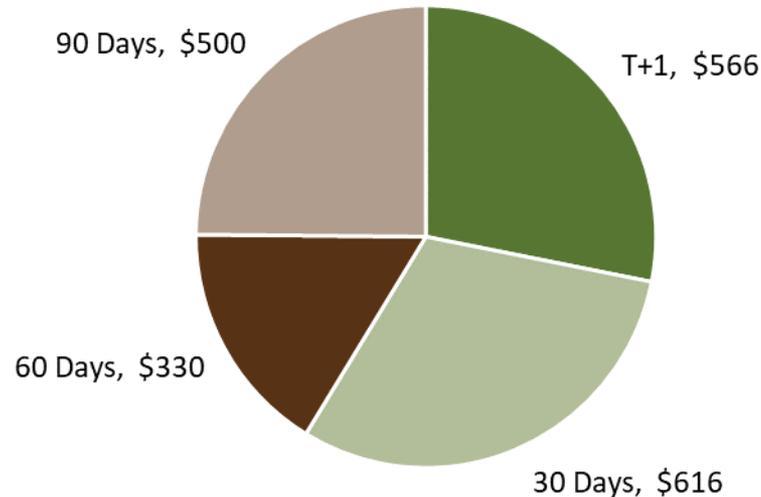
# Treasury & Trading

## Cash Portfolio – Portfolio Holdings



- Laddering investments to match monthly cash flows

### ERS Cash Portfolio: Duration Buckets (Millions)



# Treasury & Trading

## Cash Portfolio – Portfolio Structure



- Liquidity layers serve different strategic and operational purposes for the Trust

Money Market Funds Brokered Certificates of Deposit Commercial Paper Agency Discount Notes Short Duration Fixed Income ETFs	→ Held for yield enhancement diversification and duration
US Treasury Bills	→ Held for upcoming benefit payments
Money Market Funds (>\$100 million)	→ Held for ongoing operations

# Treasury & Trading

## Trading Program - Key Characteristics



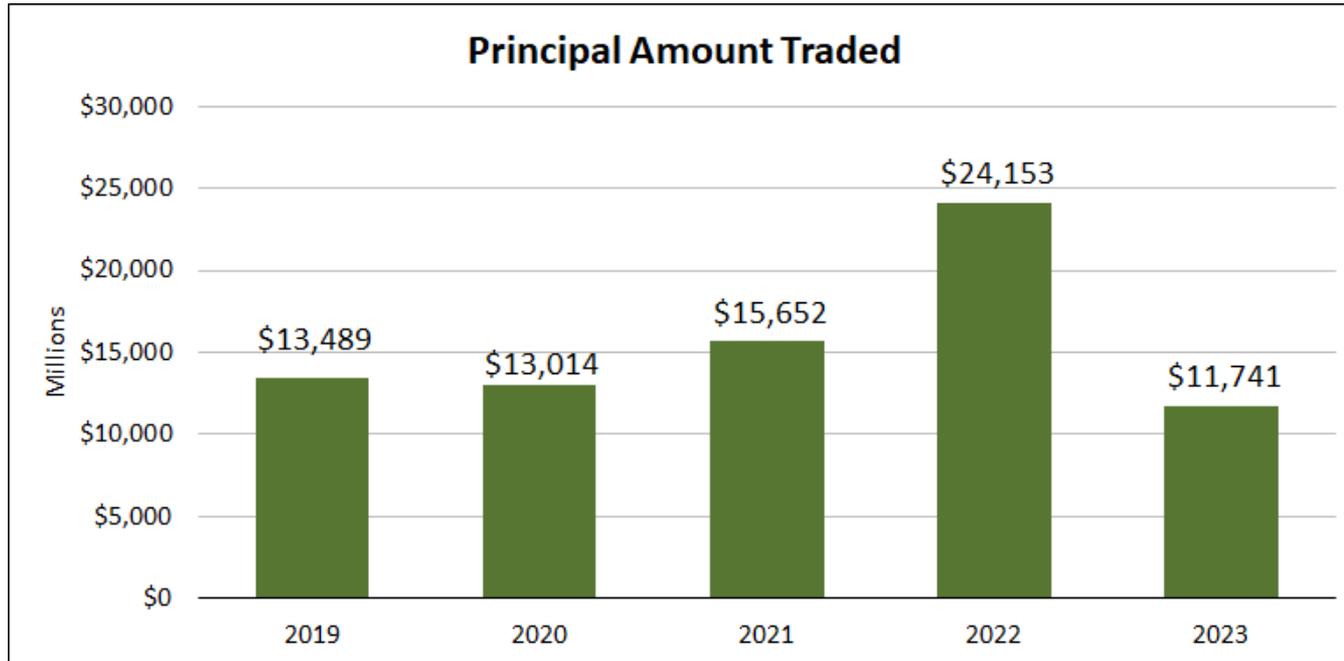
Attribute	Trading Program
Role	Transaction Execution, Market Intelligence
Scope of Responsibility	Internally traded equity portfolios Trust-level accounts for futures & options
Performance Objective	Execute trades at below-average cost
Benchmarks	As appropriate for order type
Benchmark Description	Specific to type of trade, may be Volume Weighted Average Price (VWAP), Market Impact Arrival Price, or Closing Price

# Treasury & Trading

## Trading - Historical Volumes



- Lower volume in 2023 after the consolidation of the Public Equity Program in 2022



# Treasury & Trading

## Trading - Commission Levels

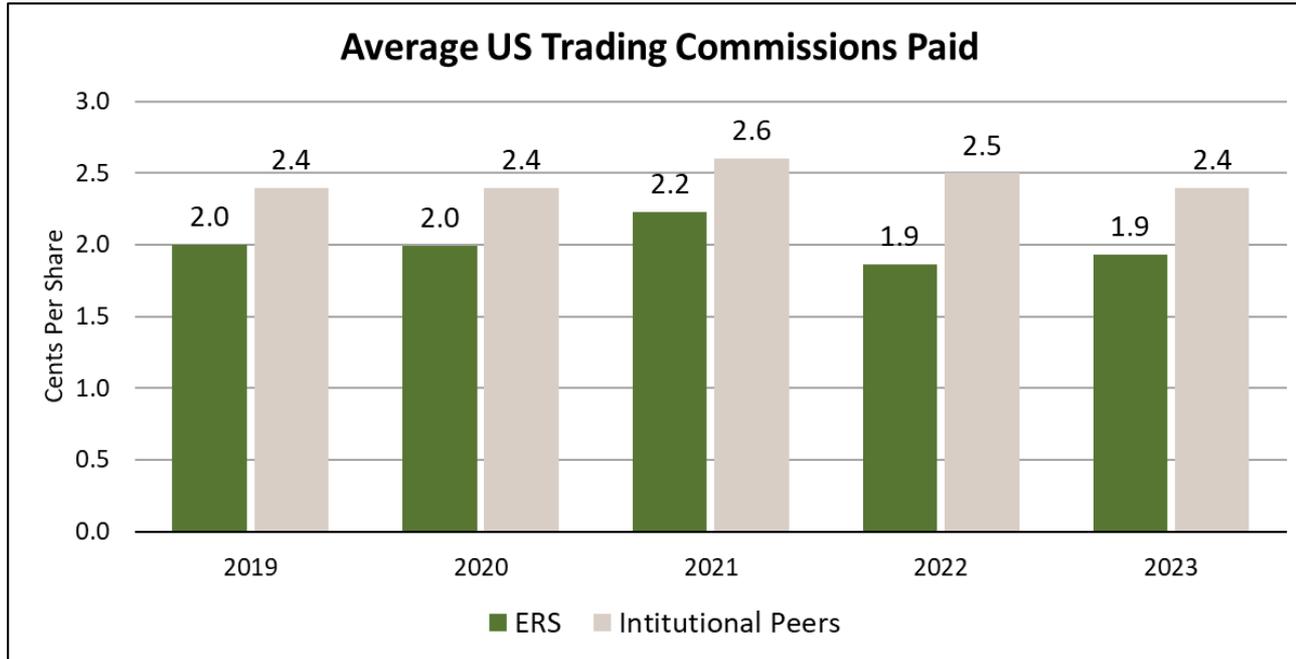
- Public Equity consolidation boosted trading in CY22 but lowers it over time



# Treasury & Trading

## Trading - Commission Levels

- Commissions are below two cents per share and institutional peers



# Discussion

## Public Agenda Item #20

*Adjournment of the Joint Meeting of the Board of Trustees and  
Investment Advisory Committee*

March 20, 2024

## Public Agenda Item #21

*Recess of the Board of Trustees – Following a temporary recess, the Board of Trustees will reconvene to take up the remaining agenda items*

March 20, 2024