MILWAUKEE ERS Employes' Retirement System

City of Milwaukee
Employes' Retirement System

Bernard J. Allen
Executive Director

David M. Silber, CFA, CAIA
Chief Investment Officer

Melody Johnson
Deputy Director

February 3, 2023

Mr. Jim Owczarski
City Clerk
Room 205, City Hall

Dear Mr. Owczarski:

Please be advised that an Investment Committee Meeting of the Annuity and Pension Board has been scheduled for **Thursday, February 9, 2023 at 9:00 a.m.** This meeting will be conducted via teleconference.

Special Notice: Instructions for the public on how to observe the meeting will be available on the ERS's website (www.cmers.com) prior to the meeting.

The agenda is as follows:

I. Callan 2023 Asset-Liability Study Phase 1 Presentation.

Please be advised that the Investment Committee may vote to convene in closed session on the following items (II. and III.) as provided in Section 19.85(1)(e), Wisconsin State Statutes, to deliberate or negotiate the purchasing of public properties, the investing of public funds, or conducting other specified public business, whenever competitive or bargaining reasons require a closed session. The Investment Committee may then vote to reconvene in open session following the closed session.

II. Callan Real Estate Manager Search Update.
III. Approval of Real Estate Manager Search Finalists.
IV. Liquidity Analysis Memo.
V. Approval of Statement of Investment Policy Update.
VI. CMERS 4th Quarter 2022 Performance Update.
VII. Value Add Analysis.
VIII. Due Diligence Reports.
  a. Brandes Investment Partners.
  b. Earnest Partners.

Sincerely,

Bernard J. Allen

Bernard J. Allen
Executive Director

BJA:jmw

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MILWAUKEE

Callan

February 9, 2023

City of Milwaukee Employes' Retirement System

2023 Asset-Liability Study

Phase 1

John P. Jackson, CFA
Senior Vice President

Michael Joecken
Senior Vice President

Jason Ellement, FSA, CFA
Senior Vice President

Adam Lozinski
Senior Vice President

2023 Asset-Liability Schedule

Phase 1: Asset Mix Alternatives

- Socialize Callan 2023 Capital Market Assumptions
- Consider Potential Alternative Asset Mixes
- Determine Actuarial Discount Rate Going Forward
- Scheduled Completion: **February 9, 2022**

Phase 2: Preliminary Asset - Liability Results

- Analyze alternative asset mixes
- Review asset-liability results
- Scheduled completion: **April 20 or May 4, 2023**
- Date contingent on setting actuarial discount rate and funding policy

Phase 3: Final Asset - Liability Results

- Review asset-liability results
- Determine appropriate asset allocation
- Scheduled completion: **June 8, 2023**

2023 Capital Market Assumptions

Why Make Capital Markets Projections?

Guiding objectives and process

Cornerstone of a prudent process is a long-term strategic investment plan

- Capital markets projections are key elements—set reasonable return and risk expectations for the appropriate time horizon
- Projections represent our best thinking regarding the long-term (10 and 30 year) outlook, recognizing our median projections represent the midpoint of a range, rather than a specific number
- Develop results that are readily defensible both for individual asset classes and for total portfolios
- Be conscious of the level of change suggested in strategic allocations for long-term investors: DB plan sponsors, foundations, endowments, trusts, DC participants, families, and individuals
- Reflect common sense and recent market developments, within reason

Callan 10-year forecasts are sensitive to current market conditions but are not built directly from them

Callan 30-year forecasts are heavily anchored in long-term history and less sensitive to current market conditions

Callan 2023 – 2032 Capital Market Assumptions

Asset Class	Index	10-Year Expected Return	30-Year Expected Return	Standard Deviation
Equities				
Broad U.S. Equity	Russell 3000	7.35%	7.95%	18.05%
Large Cap U.S. Equity	S&P 500	7.25%	7.75%	17.75%
Small/Mid Cap U.S. Equity	Russell 2500	7.45%	8.25%	22.15%
Global ex-U.S. Equity	MSCI ACWI ex USA	7.45%	8.20%	21.25%
Developed ex-U.S. Equity	MSCI World ex USA	7.24%	7.75%	20.15%
Emerging Market Equity	MSCI Emerging Markets	7.45%	8.50%	25.70%
CMERS Public Equity	Custom Blend[1]	7.56%	8.17%	18.46%
Fixed Income				
Core Fixed Income	Bloomberg Barclays Aggregate	4.25%	4.65%	4.10%
TIPS	Bloomberg Barclays TIPS	4.00%	4.35%	5.30%
High Yield	Bloomberg Barclays High Yield	6.25%	6.40%	11.75%
Bank Loans	S&P/LSTA Leveraged Loan Index	6.10%	6.05%	9.70%
EMD	EMBI Global Diversified	5.85%	6.05%	10.65%
CMERS Fixed Income	Custom Blend[2]	5.06%	5.34%	5.06%
Alternatives				
Core Real Estate	NCREIF ODCE	5.75%	6.50%	14.20%
Private Equity	Cambridge Private Equity	8.50%	9.15%	27.60%
Absolute Return	Callan Hedge FoF Database	5.55%	5.65%	8.45%
Commodities	Bloomberg Commodity	3.50%	3.65%	18.00%
Liquid Real Assets	Custom Blend[3]	6.08%	6.49%	9.83%
Cash Equivalents	90-Day T-Bill	2.75%	2.90%	0.90%
Inflation	CPI-U	2.50%	2.35%	1.60%

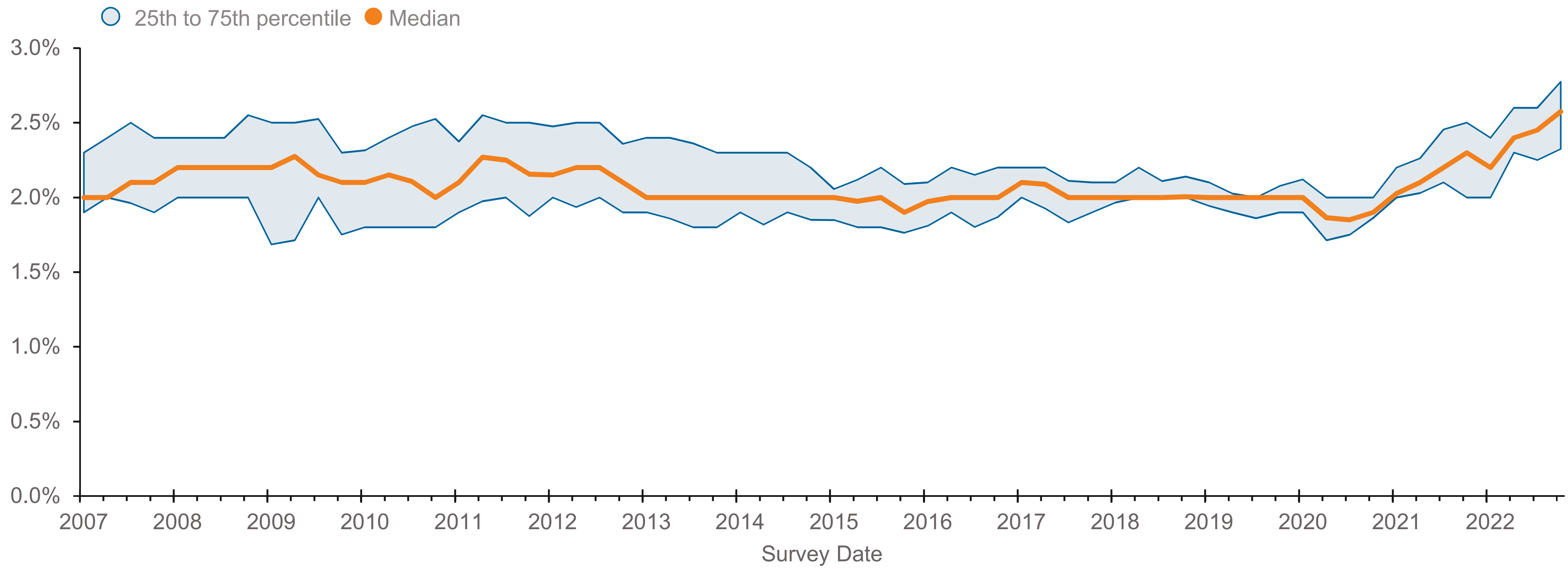
1 - 44% Large Cap US Equity / 11% Small/Mid Cap US Equity / 34% Non-US Equity / 11% Emerging Markets Equity
2 - 60% Core Fixed Income / 36% High Yield / 4% Cash
3 - 50% Large Cap US Equity / 35% TIPS / 15% Commodities

- Capital market expectations represent passive exposure (beta only) with the exception of privately-traded classes
  - All return projections are net of fees
- Return expectations rose across the board
  - 10-year expected inflation increased from 2.25% to 2.50%

Inflation Forecasts: Survey of Professional Forecasters, 10-Year Horizon

PCE inflation

Projections for the 10-Year Annual-Average Rate of PCE Inflation

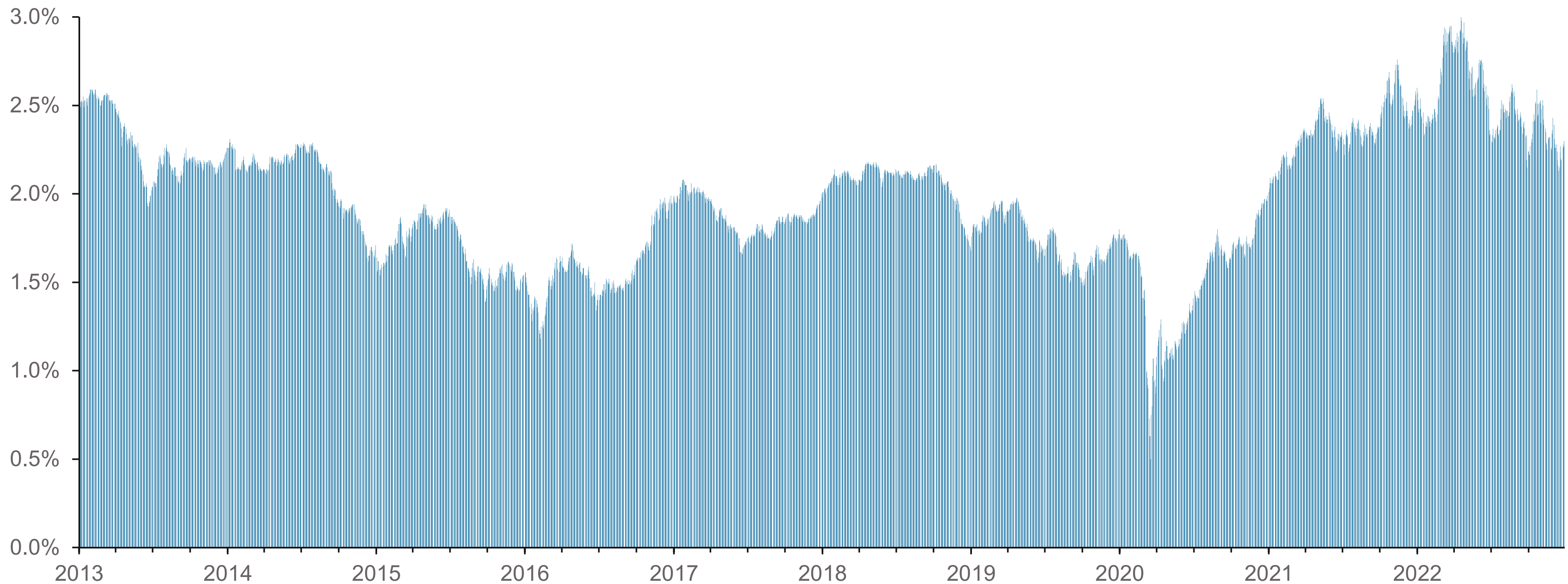


- Ten-year forecasts for inflation have risen since the start of 2021.
- In the most recent survey published in November, the 10-year forecast was 2.6%.

Source: Philadelphia Federal Reserve, *Fourth Quarter 2022 Survey of Professional Forecasters*

10-Year Breakeven Rate: Bond Market Forecast of Inflation

10-Year Breakeven Inflation Rate



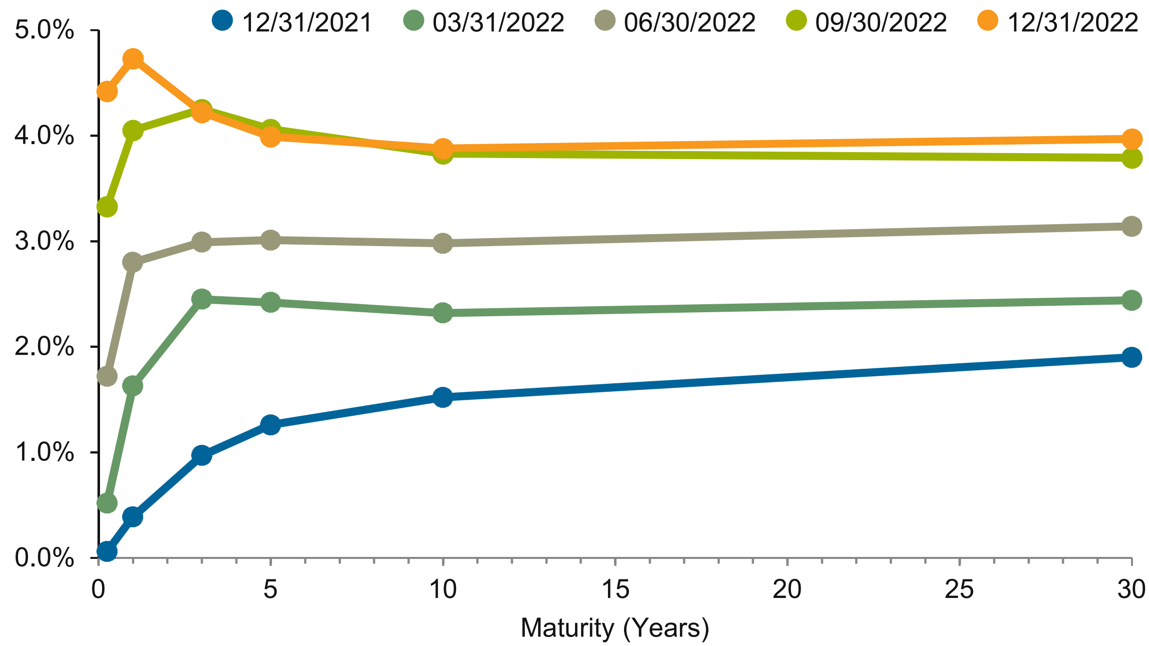
- 10-year breakeven inflation rate is the difference in yield between the nominal 10-year Treasury and the 10-year Treasury Inflation-Protected Security (TIPS).
  – Extra yield nominal Treasury would have to earn to maintain the same purchasing power as a TIPS investment.
- Values of implied inflation reached 3% in April but have since declined below 2.5%.
  – Includes current high levels of inflation

Source: Federal Reserve Bank of St. Louis

Yield Curve Continued to Rise and Became Inverted in Second Half of 2022

- Rising yields throughout 2022 brought capital losses across bond indices.
- Higher yields would lead to higher future returns, especially if yields stay at elevated levels.

Treasury Yield Curve Change



	3 Month	1 Year	3 Year	5 Year	10 Year	30 Year
12/31/2021	0.06	0.39	0.97	1.26	1.52	1.90
03/31/2022	0.52	1.63	2.45	2.42	2.32	2.44
06/30/2022	1.72	2.80	2.99	3.01	2.98	3.14
09/30/2022	3.33	4.05	4.25	4.06	3.83	3.79
12/31/2022	4.42	4.73	4.22	3.99	3.88	3.97

Source: Federal Reserve Bank of St. Louis

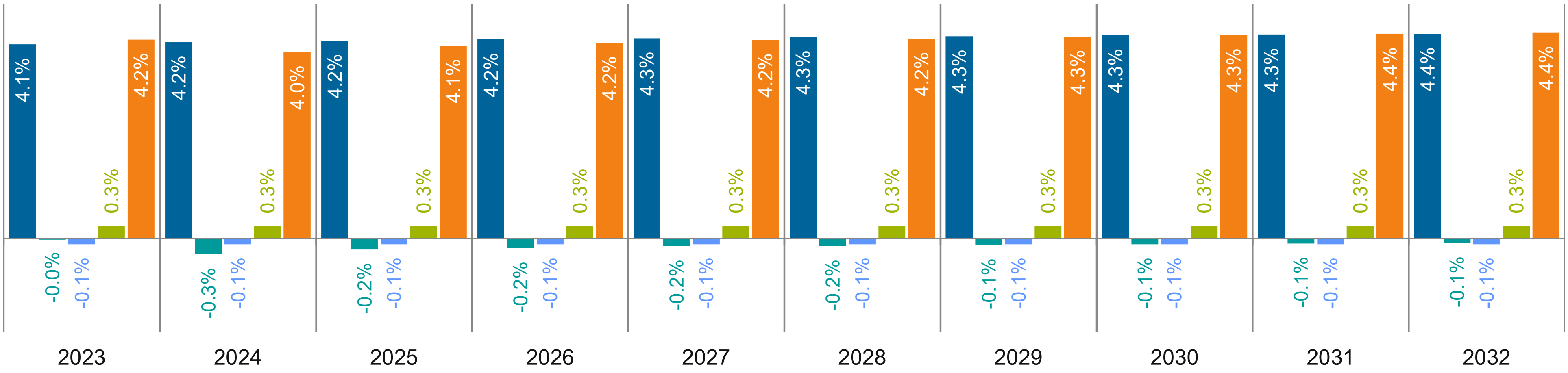
10-Year Expected Returns

	Income Return	+	Capital Gain/Loss	+	Credit Default	+	Roll Return	=	2023 Expected Return	Prelim 2023 Expected Return	Change vs 2023 Prelim	2022 Expected Return	Change vs 2022
Cash	**2.75%**		**0.00%**		**0.00%**		**0.00%**		**2.75%**	**2.40%**	**0.35%**	**1.20%**	**1.55%**
1-3 Year G/C	**3.45%**		**0.20%**		**-0.10%**		**0.25%**		**3.80%**	**3.20%**	**0.60%**	**1.50%**	**2.30%**
1-3 Year Government	3.15%		0.20%		0.00%		0.25%		3.60%	3.10%			
1-3 Year Credit	3.85%		0.10%		-0.20%		0.25%		4.00%	3.40%			
Intermediate Gov/Credit	**3.95%**		**0.00%**		**-0.10%**		**0.25%**		**4.10%**	**3.60%**	**0.50%**	**1.70%**	**2.40%**
Intermediate Gov	3.65%		0.10%		0.00%		0.25%		4.00%	3.40%			
Intermediate Credit	4.50%		-0.10%		-0.40%		0.25%		4.25%	3.90%			
Aggregate	**4.30%**		**-0.20%**		**-0.10%**		**0.25%**		**4.25%**	**3.90%**	**0.35%**	**1.75%**	**2.50%**
Government	3.80%		-0.10%		0.00%		0.25%		3.95%	3.60%			
Securitized	4.00%		0.00%		0.00%		0.25%		4.25%	3.90%			
Credit	5.25%		-0.40%		-0.40%		0.25%		4.70%	4.10%			
Long Duration Gov/Credit	**6.15%**		**-1.70%**		**-0.30%**		**0.60%**		**4.75%**	**4.00%**	**0.75%**	**1.80%**	**2.95%**
Long Government	4.90%		-1.80%		0.00%		0.60%		3.70%	3.30%			
Long Credit	6.50%		-1.50%		-0.40%		0.60%		5.20%	4.50%			
TIPS	**3.95%**		**-0.20%**		**0.00%**		**0.25%**		**4.00%**	**3.25%**	**0.75%**	**1.25%**	**2.75%**
Non-US Fixed (unhedged)	**2.40%**		**-0.20%**		**-0.20%**		**0.25%**		**2.25%**	**2.00%**	**0.25%**	**0.80%**	**1.45%**
High Yield	8.00%		0.20%		-2.20%		0.25%		6.25%	6.00%	0.25%	3.90%	2.35%
Emerging Market Debt	7.40%		0.20%		-2.00%		0.25%		5.85%	5.80%	0.05%	3.60%	2.25%
Bank Loans	7.40%		0.30%		-1.60%		0.00%		6.10%	6.10%	0.00%	4.60%	1.50%

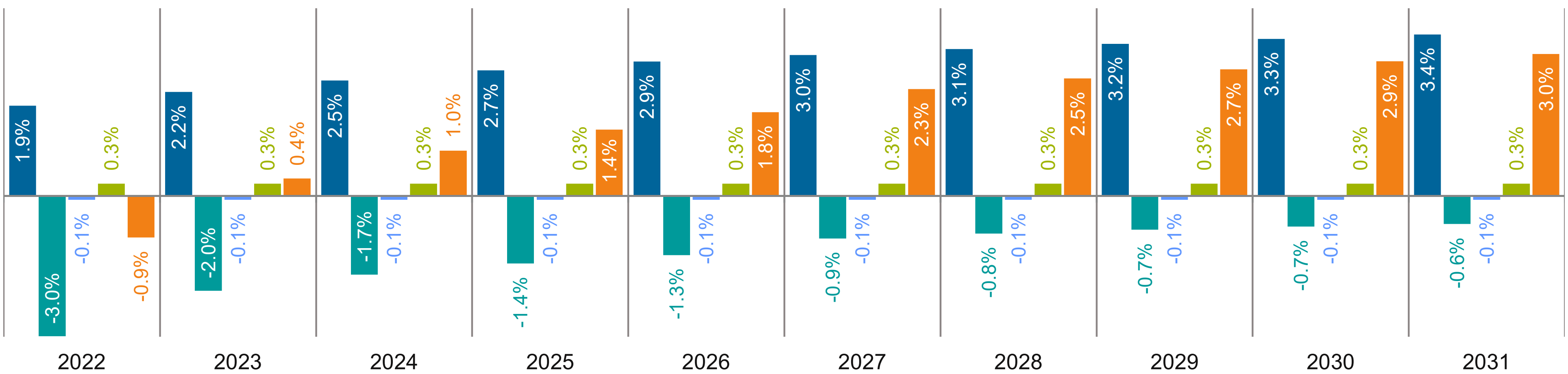
Source: Callan

Comparison of Core Fixed Income Return Components

Total Return Attribution: Callan 2023 Projection



Total Return Attribution: Callan 2022 Projection



Source: Callan

10-Year Expected Equity Returns

Building Blocks

Index	Current Dividend Yield*	Forecast Dividend Yield	Net Buyback Yield	Inflation	Real Earnings Growth**	Valuation Adjustment	Total Geometric Return
S&P 500	1.77%	2.00%	0.50%	2.50%	2.25%	0.00%	7.25%
Russell 2500	1.61%	1.75%	0.00%	2.50%	3.20%	0.00%	7.45%
Russell 3000	1.72%	1.95%	0.45%	2.50%	2.45%	0.00%	7.35%
MSCI World ex USA	3.21%	3.75%	0.00%	1.75%	1.75%	0.00%	7.25%
MSCI Emerging Markets	3.27%	3.55%	-2.90%	3.00%	3.80%	0.00%	7.45%
Aggregate							4.25%
Cash							2.75%

Index	Forecast ERP Cash	Historical ERP Cash^	Delta ERP Cash	Forecast ERP Bonds	Historical ERP Bonds^^	Delta ERP Aggregate
S&P 500	4.50%	7.56%	-3.06%	3.00%	4.95%	-1.95%
Russell 2500	4.70%	7.22%	-2.52%	3.20%	4.61%	-1.41%

* Index yields as of Dec. 31, 2022

** S&P 500 real earnings growth is forecast real GDP growth. R 2500 real earnings growth is 100 bps spread over S&P 500. Developed and emerging markets earnings growth in line with their respective GDP assumptions.

^ Return relative to 90-day T-bills for 40 years ended Dec. 31, 2022

^^ Return relative to the Bloomberg Aggregate for 40 years ended Dec. 31, 2022

Source: Callan

U.S. Equity Market: S&P 500 Valuation Measures

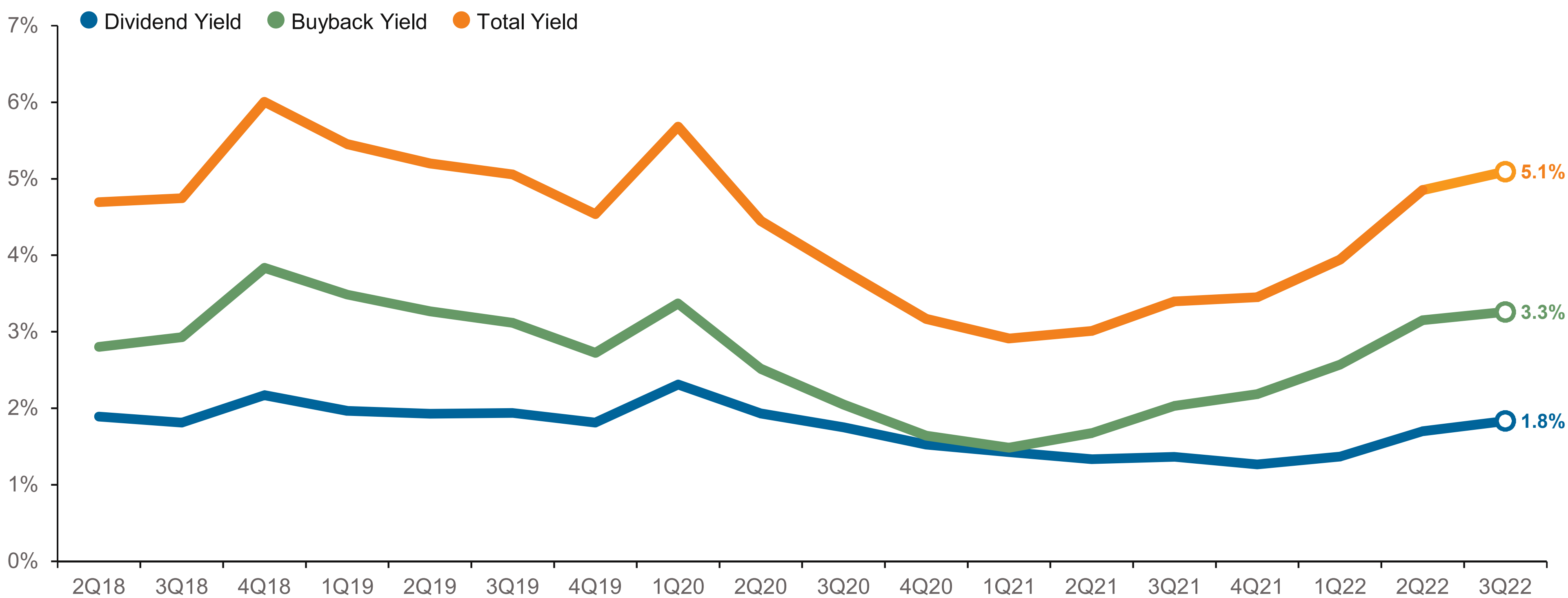
S&P 500 Index: Forward P/E Ratio

Valuation Measure	Latest	25-year Average	Std Dev Over- / Under-valued
Forward P/E	16.65x	16.82x	-0.05
Shiller's P/E	27.96x	27.93x	0.01
Dividend yield	1.81%	1.99%	0.53
Price to book	3.42x	3.10x	0.40
Price to cash flow	12.42x	11.19x*	0.56
EY minus Baa yield	0.17%	0.27%	0.05

- All valuation measures are now within +/- one standard deviation of 25-year averages.
- Forward P/E is near the long-term average, but if we enter a recession both prices and earnings are likely to decline.

Source: FactSet, FRB, Refinitiv Datastream, Robert Shiller, Standard & Poor's, Thomson Reuters, J.P. Morgan Asset Management.
Price-to-earnings is price divided by consensus analyst estimates of earnings per share for the next 12 months as provided by IBES since December 1997 and by FactSet since January 2022. Current next 12 months consensus earnings estimates are $231. Average P/E and standard deviations are calculated using 25 years of history. Shiller's P/E uses trailing 10 years of inflation-adjusted earnings as reported by companies. Dividend yield is calculated as the next 12 months consensus dividend divided by most recent price. Price-to-book ratio is the price divided by book value per share. Price-to-cash flow is price divided by NTM cash flow. EY minus Baa yield is the forward earnings yield (consensus analyst estimates of EPS over the next 12 months divided by price) minus the Moody's Baa seasoned corporate bond yield. Std. dev. over-/under-valued is calculated using the average and standard deviation over 25 years for each measure. *P/CF is a 20-year average due to cash flow availability. Guide to the Markets – U.S. Data are as of Dec. 31, 2022

U.S. Equity Market: Return of Cash



- Return of cash has risen in dollar terms and yields were further buoyed by declining share prices.

Source: S&P Dow Jones Indices

2023 vs. 2022

Sample Public DB

- Higher risk and return improves nominal return by ~110 bps and increases risk by ~10 bps.
- Real portfolio returns are higher in 2023.

Asset Class	Allocation	2022 Returns	2023 Returns	2022 Change
Broad U.S. Equity	32%	6.60%	7.35%	0.75%
Global ex-U.S. Equity	21%	6.80%	7.45%	0.65%
Fixed Income (Agg)	25%	1.75%	4.25%	2.50%
Cash	0%	1.20%	2.75%	1.55%
Private Equity	12%	8.00%	8.50%	0.50%
Real Estate	10%	5.75%	5.75%	0.00%
Inflation (CPI-U)		2.25%	2.50%	0.25%
Mix Characteristics		**2022**	**2023**	**2022 Change**
Expected Return (Nominal)		6.16%	7.26%	1.10%
Expected Return (Real)		3.91%	4.76%	0.85%
Standard Deviation		13.31%	13.42%	0.11%
Sharpe Ratio		0.37	0.34	-0.04

Source: Callan

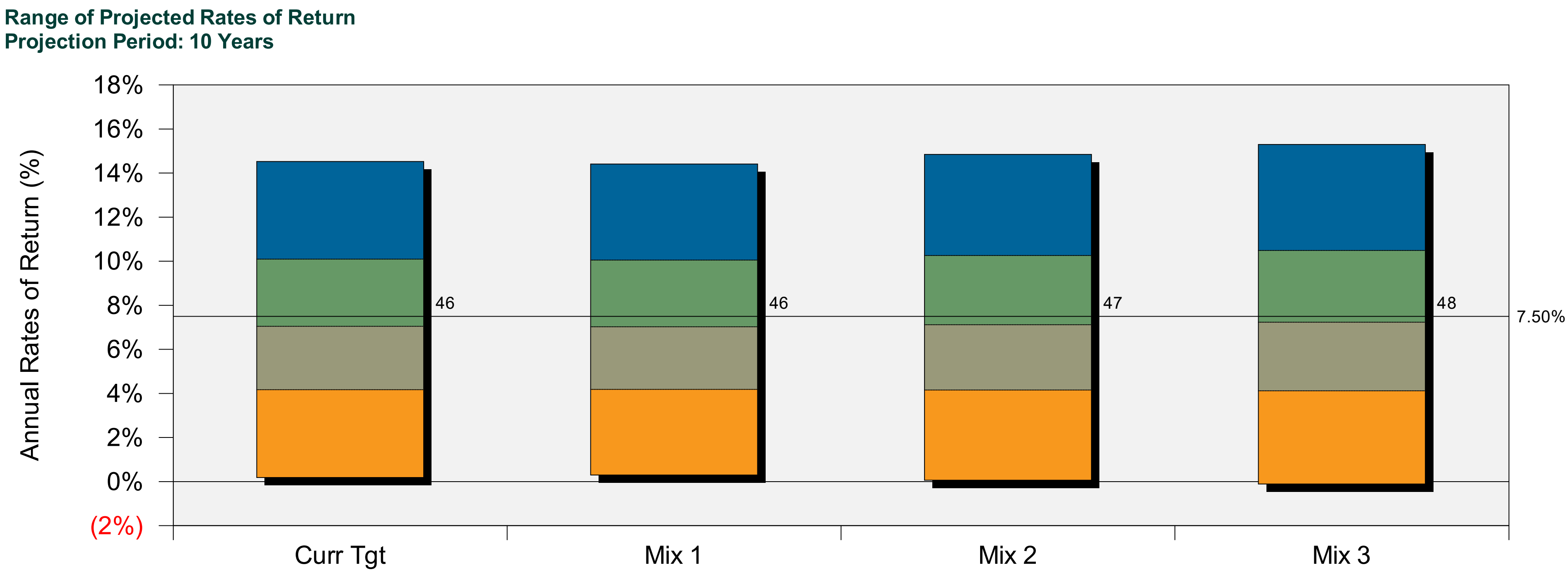
Alternative Asset Mixes

Alternative Asset Mixes

	Target	Min	Max	Alternative Asset Mixes			Change Relative to Target		
				Mix 1	Mix 2	Mix 3	Mix 1	Mix 2	Mix 3
Public Equity	44.0%			42.0%	44.0%	45.0%	-2.0%	0.0%	1.0%
Fixed Income	23.0%			26.0%	23.0%	20.0%			
- Core	13.75%			16.32%	13.75%	11.88%	2.6%	0.0%	-1.9%
- High Yield	8.25%			8.67%	8.25%	7.13%	0.4%	0.0%	-1.1%
- Cash	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	0.0%	0.0%	0.0%
Real Assets	13.0%			14.0%	14.0%	14.0%			
- Liquid Real Assets	3.30%	3.30%	3.30%	3.30%	3.30%	3.30%	0.0%	0.0%	0.0%
- Private Real Estate	9.7%	9.7%	10.7%	10.7%	10.7%	10.7%	1.0%	1.0%	1.0%
Private Equity	10.0%	10.0%	14.0%	11.0%	12.0%	14.0%	1.0%	2.0%	4.0%
Absolute Return	10.0%	7.0%	7.0%	7.0%	7.0%	7.0%	-3.0%	-3.0%	-3.0%
	100.0%			100.0%	100.0%	100.0%	0.0%	0.0%	0.0%
30-Year Expected Return	7.55%			7.54%	7.64%	7.75%	0.00%	0.10%	0.21%
10-Year Expected Return	7.05%			7.04%	7.13%	7.23%	-0.01%	0.08%	0.18%
Standard Deviation	12.93%			12.76%	13.33%	13.90%	-0.17%	0.40%	0.97%
Public & Private Equity	54.0%			53.0%	56.0%	59.0%			
Fixed Income + Absolute Return	33.0%			33.0%	30.0%	27.0%			
Core / Fixed Income	59.8%			62.8%	59.8%	59.4%			
Illiquid Investments	29.7%			28.7%	29.7%	31.7%			

- The above table illustrates three alternative mixes
  - 10-year return expectations range from 7.0% to 7.25%
  - 30-year return expectations range from 7.5% to 7.75% (a 50 bp increase over a 30-year horizon)
- Alternative asset mixes shift more capital to private real estate and private equity which are illiquid
- Mix 1 is expected to slightly reduce risk while Mix 2 and 3 slightly increase risk

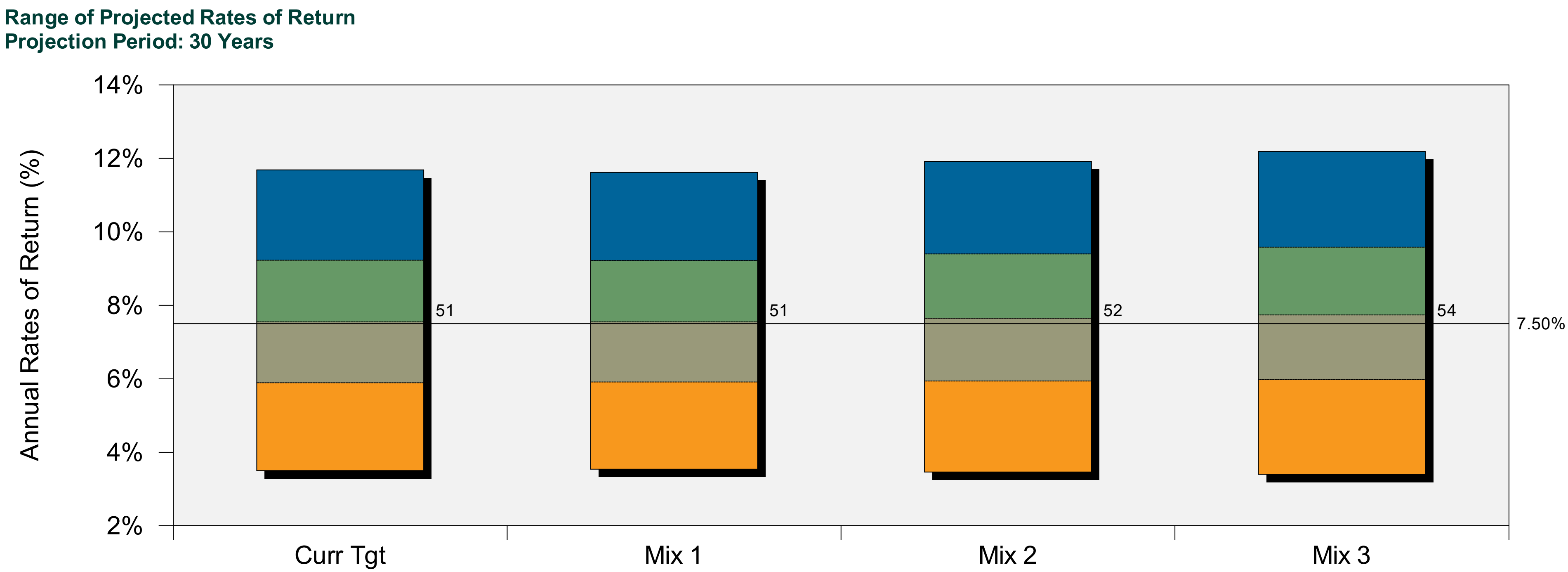
10-Year Returns



	Curr Tgt	Mix 1	Mix 2	Mix 3
5th Percentile	14.52%	14.41%	14.85%	15.30%
25th Percentile	10.09%	10.05%	10.26%	10.49%
Median	7.05%	7.04%	7.13%	7.23%
75th Percentile	4.17%	4.19%	4.16%	4.12%
95th Percentile	0.19%	0.30%	0.07%	(0.10%)
Prob > 7.50%	46.1%	45.9%	46.9%	47.9%

- Compared to the current target, Mix 1 has a similar median return expectation but the lower volatility narrows the range of outcomes
- Mixes 2 and 3 are slightly more aggressive with higher median expectations but wider ranges of outcomes

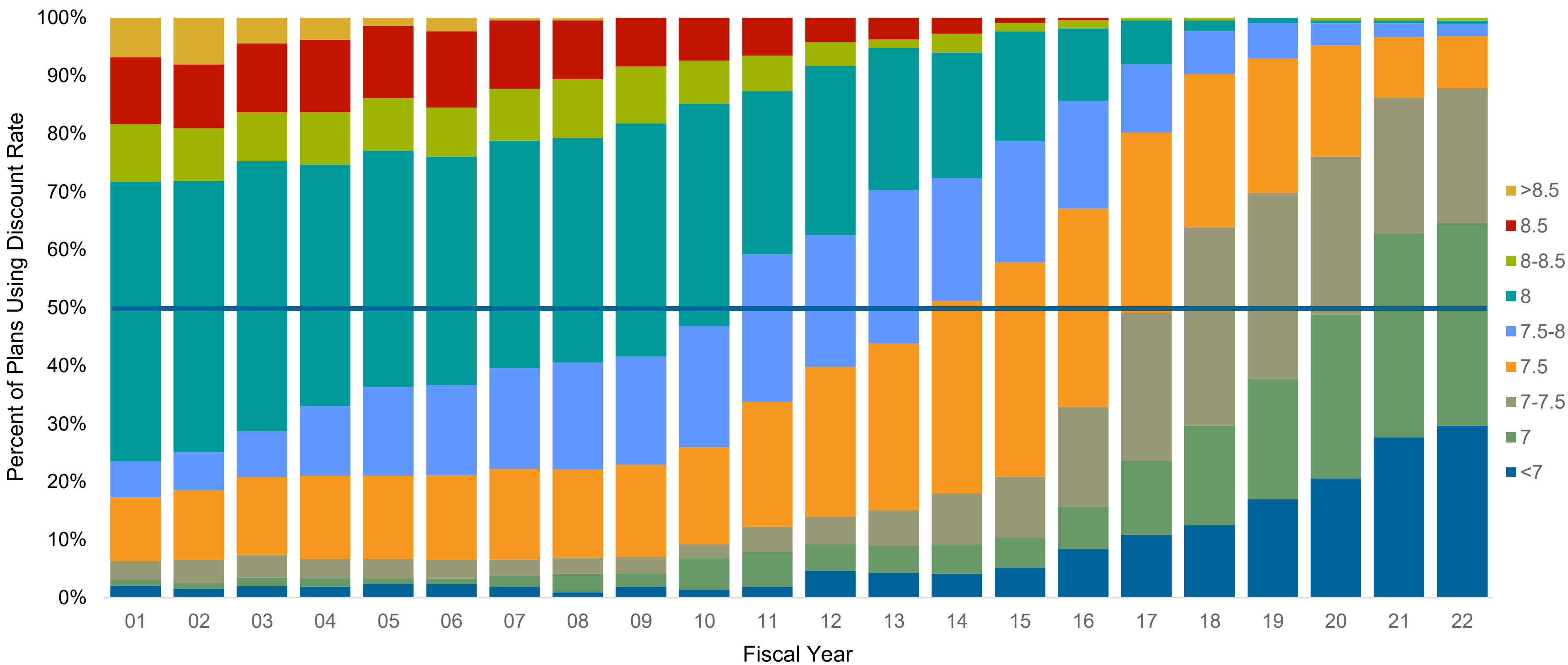
30-Year Returns



	Curr Tgt	Mix 1	Mix 2	Mix 3
5th Percentile	11.69%	11.62%	11.92%	12.19%
25th Percentile	9.23%	9.22%	9.40%	9.58%
Median	7.55%	7.54%	7.64%	7.75%
75th Percentile	5.89%	5.92%	5.94%	5.98%
95th Percentile	3.50%	3.54%	3.46%	3.40%
Prob > 7.50%	50.8%	50.9%	52.3%	54.0%

- Over a longer horizon the range of outcomes narrows across all mixes as strong and weak market cycles offset each other to a large extent

Public Fund Actuarial Discount Rates



- Industry consensus has trended toward lower return expectations, leading to a steady decline in actuarial discount rates over the last 20 years
- The 2022 median actuarial discount rate is 7.0%
  - The median discount rate may increase in 2023 when the survey is updated. Industry forward-looking return expectations have increased across the board in 2023.

Source: Public Plans Database

Preliminary Liquidity Stress Test on Current Target

	1/1/2023 (Estimated)	Change	Worse Case Scenario[1]
Financial Position			
Market Value of Assets	5,469	(909)	4,560
- Liquid Assets	3,607	(639)	2,969
- Illiquid Assets	1,862	(271)	1,591
Actuarial Accrued Liability	7,013	0	7,013
Funded Status	78.0%	-13.0%	65.0%
Annual Cash Flows			
Benefit Payments & Expenses (B&E)	467		467
Contributions (e'er & e'ee)[2]	181		181
Private Equity Capital Calls[3]	100		100
Portfolio Income	153		153
Total Net Outflow	232		232
Target Marketable Bonds (MB)	504	(38)	466
Current Marketable Bonds (MB)	386	(29)	357
Net Outflow (% of Liquid Assets)	12.5%		14.6%
Marketable Bonds / Net Outflow			
Target	2.2		2.0
Current	1.7		1.5

1 - Worse Case scenario is defined as the 97.5th percentile. A 2.5% chance of -18% or worse in one year

2 - Assumes employer contribution increases to $150M in 2023

3- Capital commitments to private equity expected to average approcimately $100M per year. Distributions are not reflected

Appendix

How Are Capital Markets Projections Constructed?

Guiding objectives and process

Underlying beliefs guide the development of the projections

- An initial bias toward long-run averages
- A conservative bias
- An awareness of risk premiums
- A presumption that markets are ultimately clear and rational

Reflect our beliefs that long-term equilibrium relationships between the capital markets and lasting trends in global economic growth are key drivers to setting capital markets expectations

Long-term compensated risk premiums represent “beta”—exposure to each broad market, whether traditional or “exotic,” with limited dependence on successful realization of alpha

The projection process is built around several key building blocks

- Advanced modeling at the individual asset class level (e.g., a detailed bond model, an equity model)
- A path for interest rates and inflation
- A cohesive economic outlook
- A framework that encompasses Callan beliefs about the long-term operation and efficiencies of the capital markets

How Are Capital Market Projections Constructed?

Projections are 10-year forward-looking, representing a medium- to long-term planning horizon:

- Differ from the actuarial assumptions, which tend to reflect longer-term horizons of 30-40 years

Projections consist of return and two measures that contribute to portfolio volatility: standard deviation and correlation

Cover most broad asset classes and inflation

- Broad U.S. equity
  - *Large cap*
  - *Smid cap*
- Global ex-U.S. equity
  - *Developed market*
  - *Emerging market*
- U.S. fixed income
  - *Short duration*
  - *Core U.S. fixed*
  - *TIPS*
  - *High yield*
  - *Long duration (government, credit, and government / credit)*
- Global ex-U.S. fixed income
- Real estate
- Alternative investments (private equity, hedge funds, and private credit)
- Cash
- Inflation

2023 – 2032 Correlations

		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1	Global Equity	1.00																
2	Large Cap US Equity	0.93	1.00															
3	Small/Mid Cap US Equit	0.93	0.88	1.00														
4	Developed ex-US Equity	0.92	0.73	0.79	1.00													
5	Emerging Market Equity	0.93	0.79	0.83	0.89	1.00												
6	Private Equity	0.84	0.79	0.77	0.76	0.75	1.00											
7	CMERS Fixed Income	0.67	0.64	0.61	0.61	0.60	0.47	1.00										
8	Core US Fixed	0.00	0.02	-0.02	0.00	-0.04	-0.09	0.56	1.00									
9	High Yield	0.80	0.75	0.74	0.73	0.75	0.61	0.88	0.09	1.00								
10	Cash Equivalents	-0.09	-0.06	-0.08	-0.10	-0.10	0.00	0.00	0.15	-0.09	1.00							
11	CMERS RA	0.59	0.58	0.54	0.51	0.52	0.64	0.43	0.16	0.43	-0.01	1.00						
12	Core Real Estate	0.46	0.44	0.42	0.42	0.41	0.55	0.33	0.14	0.31	0.00	0.98	1.00					
13	CMERS Liquid RA	0.88	0.94	0.83	0.69	0.75	0.75	0.68	0.14	0.74	-0.04	0.61	0.46	1.00				
14	TIPS	-0.09	-0.07	-0.08	-0.09	-0.11	-0.11	0.36	0.70	0.02	0.12	0.10	0.09	0.13	1.00			
15	Commodities	0.21	0.20	0.20	0.20	0.20	0.20	0.15	-0.04	0.20	-0.02	0.25	0.18	0.45	0.00	1.00		
16	Hedge Funds	0.70	0.67	0.63	0.63	0.63	0.48	0.64	0.29	0.60	-0.04	0.39	0.28	0.71	0.20	0.23	1.00	
17	Inflation	0.00	-0.02	0.02	0.00	0.03	0.06	-0.11	-0.23	0.00	0.05	0.20	0.20	0.13	0.25	0.35	0.05	1.00

Marketable Bonds

Current Target Allocation

Target (% of Portfolio)	Manager	Strategy	Benchmark	1/1/2023 Market Value ($mm)	Marketable Bonds: Tier 1 ($mm)	Tier 2 (% of mandate) *	Tier 2 (in 12 months)	Tier 2 (in 24 months)	Comment
5.5%	BlackRock	Passive Aggregate	Blmbg Aggegate	$301	$201	0-33%	$50	$50	*Ideally, do not liquidate when credit spreads are wide*
9.9%	Reams	Active Core Plus	Blmbg Aggegate	$541	$0	10-80%	$162	$271	*Depends on positioning and time horizon*
6.6%	Loomis	Active Core Plus	Blmbg Aggegate	$361	$0	0-30%	$36	$72	*Given credit focus (risk) should try to avoid withdrawals*
1.0%		Cash		$55	$55		$0	$0	
23.0%				$1,258	$255		$249	$393	

Actual Allocation in 2023

Actual (% of Portfolio)	Manager	Strategy	Benchmark	1/1/2023 Market Value ($mm)	Marketable Bonds: Tier 1 ($mm)	Tier 2 (% of mandate) *	Tier 2 (in 12 months)	Tier 2 (in 24 months)
4.0%	BlackRock	Passive Aggregate	Blmbg Aggegate	$218	$146	0-33%	$36	$36
8.9%	Reams	Active Core Plus	Blmbg Aggegate	$488	$0	10-80%	$146	$244
6.1%	Loomis	Active Core Plus	Blmbg Aggegate	$334	$0	0-30%	$33	$67
0.4%		Cash		$24	$24		$0	$0
19.5%				$1,064	$169		$216	$347

** Amount of available capital that can be liqudated without impairing manager investment performance depends on many factors making it very hard to estimate*

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Memorandum

To: CMERS Investment Committee
From: David M. Silber, CFA, CAIA
Date: February 9, 2023
Re: Liquidity Analysis

Executive Summary

At the November 4, 2022 Investment Committee (Committee) meeting, Staff recommended reducing to 17.5% the minimum allocation permitted for the Fixed Income asset class, as stated in CMERS' Statement of Investment Policy (Investment Policy), on an interim basis. Absent further action, the Fixed Income minimum will revert back to 20% on March 1, 2023. The minimum allocation was reduced to 17.5% to provide Staff flexibility to withdraw money from Fixed Income managers to meet cash obligations during the challenging markets in 2022. Had the Committee not taken action last year, the Investment Policy would have forced Staff to sell stocks in a declining market, which Staff explained at the time would have resulted in a negative compounding effect (i.e. selling stocks in a declining market) that arguably is not in the best interests of a long-term investor like CMERS. Staff also promised to create a liquidity analysis (analysis) and to lead a discussion with the Committee about where to set the minimum allocation to Fixed Income after March 1, 2023.

- **Staff's recommendation is to approve an update to the Investment Policy that maintains the 17.5% interim minimum allocation to the Fixed Income asset class until January 31, 2024.** Staff believes a 17.5% Fixed Income minimum will provide it with sufficient flexibility to meet the Fund's 2023 cash obligations, even in a dire scenario whereby the stock market doesn't recover this year and Staff has to rely solely on withdrawals from Fixed Income, Absolute Return, and liquid Real Assets for liquidity needs.

Background

As of January 30, 2023, the S&P 500 index and the ACWI IMI remain more than 13% below their January 1, 2022 values. The main reason CMERS invests in Public Equity is because Callan's capital market assumptions show that an allocation to Public Equity is necessary for the Fund to have a chance to achieve its long-term return target of 7.5%. As a long-term investor, Staff believes a compelling argument can be made that it's not currently in the Fund's interests to sell stocks to meet short-term cash obligations, because doing so when the benchmark is down over 13% is an action that ultimately makes it more difficult to achieve the Fund's long-term return target.

Per the analysis on the next page, Staff projects that CMERS has sufficient liquidity within its Fixed Income, Absolute Return, and liquid Real Assets allocations to meet its cash obligations into early 2025, even under a dire scenario. If the stock market doesn't recover between now and then, the issue the Committee will continue to have to grapple with is not necessarily a liquidity question, but rather a guideline question. This is the case because the Investment Policy, as written, does not allow the Fund's actual allocations to deviate from the Fund's strategic asset allocation targets by the amounts shown in the analysis. In other words, the Investment Policy is oriented more towards prioritizing the Fund's strategic asset allocation targets (and the expected risk and return profile that comes along with these targets), than trying to avoid selling stocks in a declining market to meet CMERS' short-term cash obligations.

There is not necessarily a right or wrong solution here. Rather, the difficult market environment of the past 13 months has created a real-life tension that the Investment Policy may not adequately contemplate. At this time, Staff believes approving the recommendation to maintain the 17.5% interim minimum allocation to the Fixed Income asset class until January 31, 2024 is an acceptable approach for addressing the short-term and long-term tensions mentioned earlier. Staff would like to see the Fund's total net of fee return get closer to recovering its -6.5% decline in 2022 before initiating withdrawals from its Public Equity allocation. This approach also holds open the possibility that the stock market will recover in 2023, which would be the best scenario. This plan can also be modified as necessary to account for any changes contemplated as part of the ongoing Asset-Liability Study.

Liquidity Analysis

Below, you'll find the results of a cash flow analysis that Staff created of a dire scenario using very basic assumptions. Material assumptions include:

- Benefit payment projections taken from the Actuary's January 1, 2022 Actuarial report;
- Contributions in 2024 and 2025 assumed to be similar to 2023;
- A 0.0% Fund return between now and March 2025;
- Private Equity capital calls and distributions assumed to offset each other;
- The UBS target reduction is assumed to be completed by February 2024;
- CMERS' cash obligations (net of contributions and UBS withdrawals) are assumed to be met solely by making withdrawals from the Fund's Fixed Income managers and Principal.

While Staff is not predicting that this scenario will happen, we believe the output is representative of liquidity challenges CMERS could face in a prolonged bear market, and thus should not be completely dismissed. As mentioned back in November, the average bear market in stocks lasts about 20 months, and sees stocks go down about 38% when occurring at the same time as an economic recession. I have attached a Callan chart at the end of this memo that illustrates how the current stock market declines compare to the Technology Bubble from 2000-2002 and the Great Financial Crisis from 2007-2009. The Liquidity Analysis output is as follows:

	Dec-22	Jan-23	Feb-23	Mar-23	Apr-23	May-23	Jun-23	Jul-23	Aug-23	Sep-23	Oct-23	Nov-23	Dec-23
Projected Fixed Income Allocation	19.5%	20.2%	19.5%	19.1%	18.6%	19.5%	19.2%	18.8%	19.0%	18.6%	18.1%	17.8%	17.3%
Projected Public Equity Allocation	43.2%	44.8%	45.1%	45.4%	45.7%	46.0%	46.3%	46.6%	47.0%	47.3%	47.6%	48.0%	48.3%
Projected Private Equity Allocation	13.0%	12.4%	12.5%	12.6%	12.7%	12.8%	12.9%	13.0%	13.0%	13.1%	13.2%	13.3%	13.4%
Projected Real Assets Allocation	13.2%	12.4%	12.5%	12.4%	12.5%	12.6%	12.7%	12.7%	12.7%	12.7%	12.7%	12.8%	12.8%
Projected Absolute Return Allocation	11.2%	10.2%	10.4%	10.4%	10.5%	9.1%	8.9%	9.0%	8.2%	8.3%	8.4%	8.1%	8.2%

	Jan-24	Feb-24	Mar-24	Apr-24	May-24	Jun-24	Jul-24	Aug-24	Sep-24	Oct-24	Nov-24	Dec-24	Jan-25	Feb-25	Mar-25
Projected Fixed Income Allocation	18.3%	18.4%	17.8%	17.3%	16.8%	16.2%	15.7%	15.2%	14.6%	14.0%	13.4%	12.8%	13.9%	13.3%	12.7%
Projected Public Equity Allocation	47.8%	48.1%	48.5%	48.8%	49.2%	49.6%	49.9%	50.3%	50.7%	51.1%	51.5%	51.9%	51.2%	51.7%	52.1%
Projected Private Equity Allocation	13.3%	13.4%	13.5%	13.6%	13.7%	13.8%	13.9%	14.0%	14.1%	14.2%	14.3%	14.4%	14.2%	14.4%	14.5%
Projected Real Assets Allocation	12.6%	12.7%	12.8%	12.8%	12.8%	12.8%	12.8%	12.8%	12.8%	12.8%	12.8%	12.9%	12.7%	12.7%	12.8%
Projected Absolute Return Allocation	8.1%	7.4%	7.5%	7.5%	7.6%	7.6%	7.7%	7.7%	7.8%	7.9%	7.9%	8.0%	7.9%	8.0%	8.0%

Sources for Raising Cash	Dec-22	Jan-23	Dec-23	Dec-24	Mar-25
US Government Bond Index (Fixed Income)	$ 218.3	$ 223.9	$ 179.8	$ 42.1	$ 56.4
Reams (Fixed Income)	$ 488.0	$ 504.8	$ 395.7	$ 291.8	$ 274.5
Loomis Sayles (Fixed Income)	$ 334.0	$ 346.6	$ 307.1	$ 264.1	$ 256.2
Principal (liquid Real Assets)	$ 170.0	$ 175.9	$ 152.5	$ 110.7	$ 103.1
UBS (Absolute Return)	$ 453.9	$ 425.9	$ 271.9	$ 231.9	$ 231.9

Analysis – Staff Key Takeaways

1. The Fixed Income allocation drops to 17.3% in December 2023, and doesn't drop below 17.0% until May 2024. Thus, from a practical standpoint, a 17.5% minimum allocation to the Fixed Income asset class is expected to provide Staff with sufficient flexibility to meet the Fund's cash obligations in 2023. The Committee's decision to reduce UBS' target allocation from 7% to 4% in November is a big reason why the Fund is well-prepared to meet its cash obligations in the event that markets don't recover in 2023.

2. While Staff believes the Fund has plenty of liquidity sources to easily meet the Fund's cash obligations in 2024, the Committee would be faced with the question of how low of a minimum Fixed Income asset allocation it would be comfortable with in the event stocks don't recover by the 2nd quarter of 2024. It's important to emphasize the point made on the previous page that Staff believes the Fund has enough liquidity to meet the Fund's cash obligations into early-to-mid 2025, and that the issues the Committee would need to contemplate until that time would relate to guideline constraints.

3. In the event that all of the assumptions listed above occur, the analysis does not project any asset class, other than Fixed Income, to move outside the ranges currently allowed in the Investment Policy in 2023. The Target, Minimum, and Maximum asset class allocations, as currently outlined in the Investment Policy, can be found on the following page.

TARGET ALLOCATIONS

The Board has determined that the following asset allocation policy is appropriate for the Fund. This allocation policy will be reviewed periodically and may be modified, if appropriate, in light of changes in the structure or goals of the Fund.

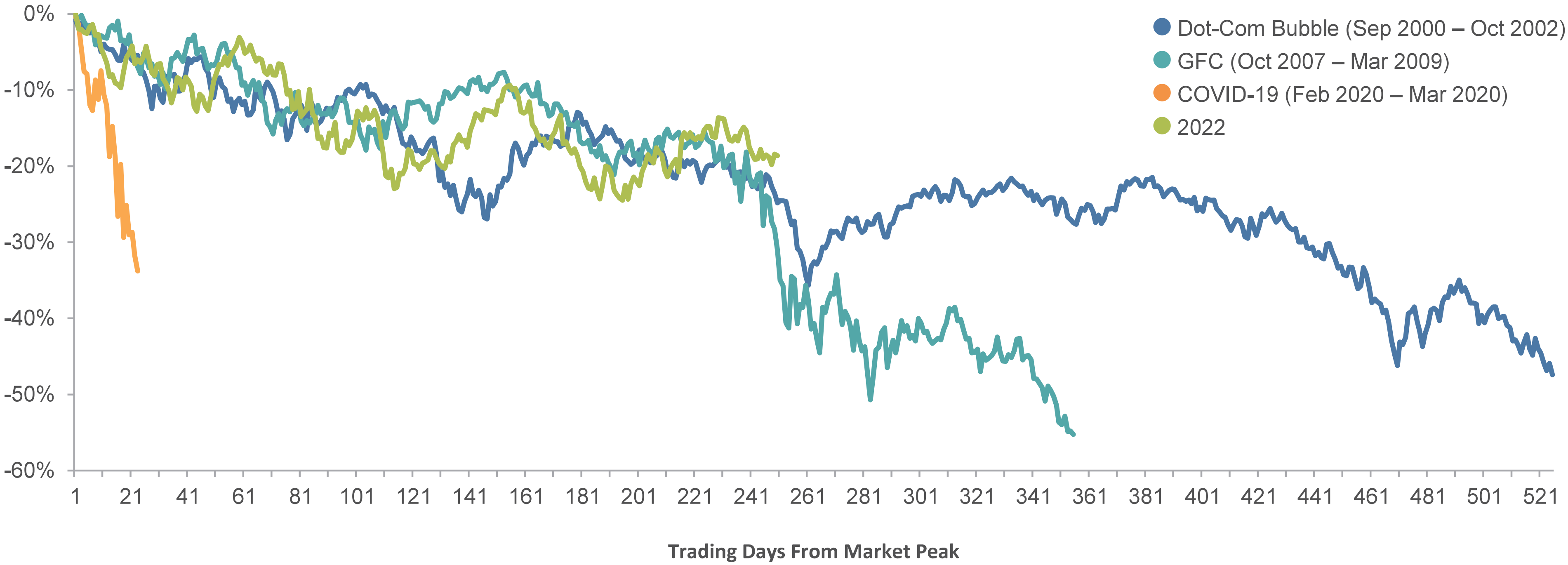
Public Equity	**Target**	**Minimum**	**Maximum**
Domestic Equity			
Passive Large Cap	7.8%		
Active Large Cap	5.0%		
Active Mid/Small Cap	7.0%		
Total Domestic Equity	**19.8%**	**15.8%**	**23.8%**
Total International Equity	**15.4%**	**12.4%**	**18.4%**
Total Global Equity	**8.8%**	**4.8%**	**12.8%**
Total Public Equity	**44%**	**39%**	**49%**
Fixed Income			
Cash	1%	0%	2.0%
Passive Fixed Income	5.5%		
Core Opportunistic Fixed Income	16.5%		
Total Fixed Income	**23%**	**17.5%***	**26%**
Real Assets			
Private Real Estate	**9.7%**		
Public Diversified Real Assets	**3.3%**	**1.3%**	**5.3%**
Total Real Assets	**13%**	**10%**	**16%**
Private Equity	**10%**	**7%**	**15%**
Absolute Return	**10%**	**7%**	**15%**
Total	**100%**		

*Fixed Income Minimum range lowered on an Interim basis to 17.5% in November 2022 for the purpose of providing Staff with additional flexibility to fund a new Absolute Return strategy and to make monthly benefit payments to beneficiaries. Absent further action, the Minimum Fixed Income range will revert back to 20% on March 1, 2023.

2022 Equity Drawdown: A More ‘Typical’ Correction?

S&P 500 Cumulative Returns

Market Peak-to-Trough for Recent Corrections vs. 2022 Through 12/31/22



- While the COVID correction was swift and intense, the 2022 correction resembles the GFC and Dot-Com Bubble.
- The 2022 drawdown has been 250 trading days through December.
- It would take another 105 trading days to get to the bottom of the GFC and 275 trading days to get to the bottom of the Tech Bubble.

Sources: Callan, S&P Dow Jones Indices

STATEMENT OF INVESTMENT POLICY
Updated February 2023

THE EMPLOYES' RETIREMENT SYSTEM OF THE CITY OF MILWAUKEE
789 N. Water Street, 3rd Floor
Milwaukee, WI 53202
(414) 286-3557

Individual manager guidelines are updated upon Annuity and Pension Board Approval

To fulfill such responsibilities, the Trustees are authorized and in the case of Investment Managers, required to retain professional experts including but not limited to:

1. **Staff**: The Retirement Staff ("Staff"), as designated by the Board is the agent of the Board. The Board does not delegate investment management responsibility through the use of its Staff. Staff duties include:

   A. Monitoring Investment Managers for adherence to policies and guidelines.

   B. Evaluating and managing the relationships with the Investment Consultant to ensure they are providing all necessary assistance to Staff and the Board as agreed to in service contracts.

   C. Monitoring the Investment Consultant's manager search process, and conducting due diligence on any Investment Manager selected for hire by the Investment Committee that was considered and recommended to ERS by its Investment Consultant.

   D. Identifying Investment Managers to withdraw funds from, and taking actions necessary to raise cash from the identified Investment Managers to pay Fund benefits, Fund expenses, and Fund capital call commitments, as necessary. Given there are many factors that are considered when deciding how much money to withdraw from Investment Managers at a given time, Staff retains discretion in its implementation of raising funds from Investment Managers. That said, Staff will strive to minimize the subjectivity involved in raising funds by implementing a process that works within the framework of the target allocations stated within the Investment Policy, the Liquidity Analysis memo dated February 9, 2023, and each asset allocation's respective structure. Staff will include a report on cash activity at the regularly scheduled Board meetings.

   E. In the rare instance when the Fund has a cash-flow positive month (i.e. contributions are greater than cash outflows), Staff may deposit funds into Investment Managers if their strategy is below the target allocation approved within each asset allocation's respective structure or the Liquidity Analysis memo dated February 9, 2023. Staff will include a report on cash activity at the regularly scheduled Board meetings.

   F. Restructuring the portfolio following manager terminations with the assistance of its Investment Consultant and Investment Manager(s).

   G. Organizing and/or participating in any special research required to manage the Fund more effectively and in response to any questions raised by the Board.

   H. Supporting the Board in the development and approval of the Investment Policy Statement, implementing the Policy Statement and reporting at least monthly on investment activity and matters of significance.

   I. Ensuring the Investment Managers conform to the terms of their contracts and that performance monitoring systems are sufficient to provide the Board with timely, accurate and useful information.

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STATEMENT OF INVESTMENT POLICY
Updated February~~November~~ 2023~~2~~

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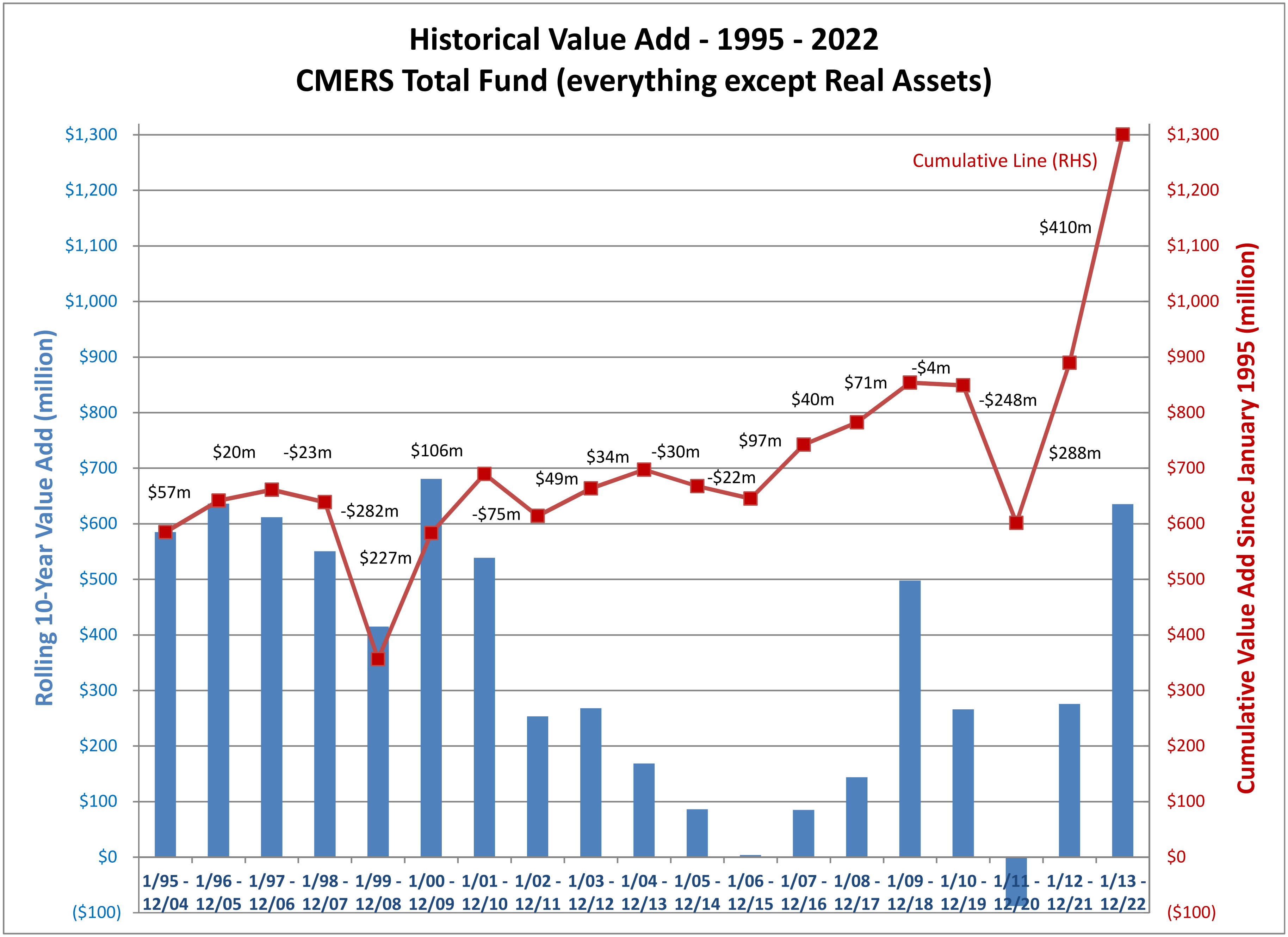


*Data includes Allianz, which CMERS categorized within the Fixed Income and Absolute Return Asset Classes.

Historical Value Add - 1995 - 2022
CMERS Total Fund (everything except Real Assets)

MERS' decision to hire some active managers versus hiring only passive managers

		Time Weighted Returns			Dollar Weighted Estimates (Net of fees)		
		Annualized MERS Asset Class		Annualized Index	Value of a Dollar Invested in		Active Management Impact[c]
MERS Asset Class	**Index**	**Gross**	**Net of fees**	**Net of fees[a]**	**MERS Asset Class**	**Index**	**$Millions**
Domestic Equity	Russell 3000	10.21%	9.95%	9.85%	$ 14.24	$ 13.88	$ 136.1
International Equity[b]	MSCI EAFE	6.59%	6.16%	4.23%	$ 4.93	$ 3.02	$ 380.8
Global Equity[b]	MSCI World / ACWI	8.65%	8.28%	7.83%	$ 2.76	$ 2.62	$ 32.4
Fixed Income	Bloomberg US Aggregate	5.80%	5.69%	4.62%	$ 4.70	$ 3.55	$ 274.7
Private Equity[b]	Russell 3000	N/A	14.11%	12.96%	$ 5.21	$ 4.59	$ 319.3
Absolute Return[b]	Bloomberg US Aggregate	N/A	5.56%	1.01%	$ 1.58	$ 1.09	$ 157.2
Estimate of Fund's benefit from its decision to hire active managers over past 28 years							$ 1,300.5

[a]Manager Fees for indices are assumed to be:

Russell 3000 Index - 2 basis points
MSCI EAFE Index - 5 basis points
MSCI World / ACWI Index - 5 basis points
Bloomberg US Aggregate Index - 2 basis points

[b]Inception Dates if less than 28 years:

International Equity Composite is May 1, 1996
Global Equity Composite is April 1, 2010
Private Equity Composite is July 1, 2010
Absolute Return Composite is July 1, 2014

[c]Active Management Impact $Millions Estimate is based on monthly ERS asset class balances.

Historical Value Add - 2013 - 2022
CMERS Total Fund (everything except Real Assets)

MERS' decision to hire some active managers versus hiring only passive managers

		Time Weighted Returns			Dollar Weighted Estimates (Net of fees)		
		Annualized MERS Asset Class		Annualized Index	Value of a Dollar Invested in		Active Management Impact[c]
MERS Asset Class	**Index**	**Gross**	**Net of fees**	**Net of fees[a]**	**MERS Asset Class**	**Index**	**$Millions**
Domestic Equity	Russell 3000	12.24%	11.96%	12.11%	$ 3.09	$ 3.14	$ (13.4)
International Equity	MSCI EAFE	5.93%	5.45%	4.62%	$ 1.70	$ 1.57	$ 90.4
Global Equity	MSCI World / ACWI	9.87%	9.52%	8.26%	$ 2.48	$ 2.21	$ 54.2
Fixed Income	Bloomberg US Aggregate	1.50%	1.37%	1.04%	$ 1.15	$ 1.11	$ 23.1
Private Equity	Russell 3000	N/A	17.41%	12.11%	$ 4.98	$ 3.14	$ 324.0
Absolute Return[b]	Bloomberg US Aggregate	N/A	5.56%	1.01%	$ 1.58	$ 1.09	$ 157.2
Estimate of Fund's benefit from its decision to hire active managers over past 10 years							$ 635.4

[a]Manager Fees for indices are assumed to be:

Russell 3000 Index - 2 basis points

MSCI EAFE Index - 5 basis points

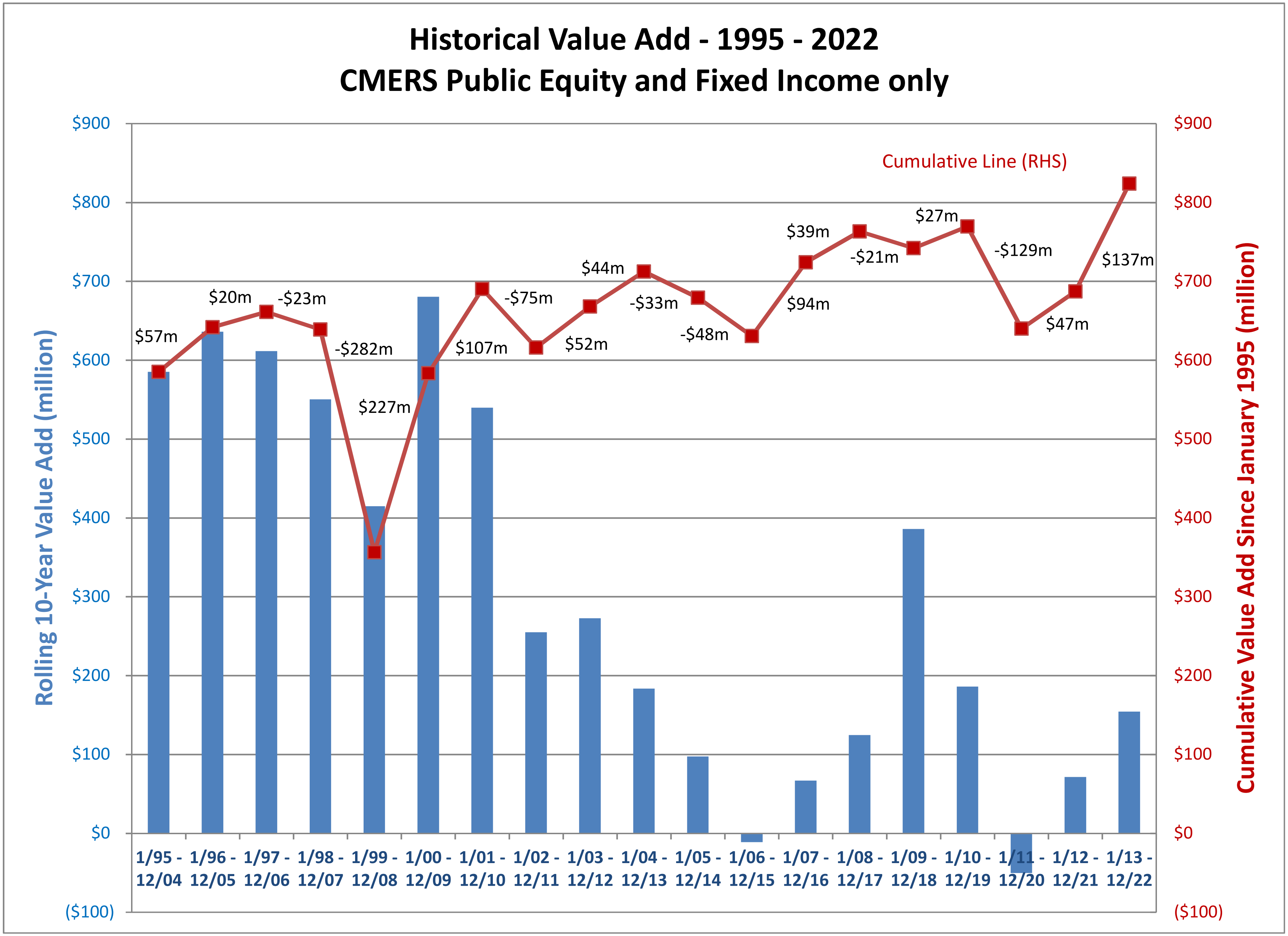
MSCI World / ACWI Index - 5 basis points

Bloomberg US Aggregate Index - 2 basis points

[b]Inception Dates if less than 10 years:

Absolute Return Composite is July 1, 2014

[c]Active Management Impact $Millions Estimate is based on monthly ERS asset class balances.



*Data includes Allianz, which CMERS categorized within the Fixed Income and Absolute Return Asset Classes.

Historical Value Add - 1995 - 2022
CMERS Public Equity and Fixed Income only

MERS' decision to hire some active managers versus hiring only passive managers

		Time Weighted Returns			Dollar Weighted Estimates (Net of fees)		
		Annualized MERS Asset Class		Annualized Index	Value of a Dollar Invested in		Active Management Impact[c]
MERS Asset Class	**Index**	**Gross**	**Net of fees**	**Net of fees[a]**	**MERS Asset Class**	**Index**	**$Millions**
Domestic Equity	Russell 3000	10.21%	9.95%	9.85%	$ 14.24	$ 13.88	$ 136.1
International Equity[b]	MSCI EAFE	6.59%	6.16%	4.23%	$ 4.93	$ 3.02	$ 380.8
Global Equity[b]	MSCI World / ACWI	8.65%	8.28%	7.83%	$ 2.76	$ 2.62	$ 32.4
Fixed Income	Bloomberg US Aggregate	5.80%	5.69%	4.62%	$ 4.70	$ 3.55	$ 274.7
Estimate of Fund's benefit from its decision to hire active managers over past 28 years							$ 824.0

[a]Manager Fees for indices are assumed to be:

Russell 3000 Index - 2 basis points
MSCI EAFE Index - 5 basis points
MSCI World / ACWI Index - 5 basis points
Bloomberg US Aggregate Index - 2 basis points

[b]Inception Dates if less than 28 years:

International Equity Composite is May 1, 1996
Global Equity Composite is April 1, 2010

[c]Active Management Impact $Millions Estimate is based on monthly ERS asset class balances.

Historical Value Add - 2013 - 2022
CMERS Public Equity and Fixed Income only

MERS' decision to hire some active managers versus hiring only passive managers

		Time Weighted Returns			Dollar Weighted Estimates (Net of fees)		
		Annualized MERS Asset Class		Annualized Index	Value of a Dollar Invested in		Active Management Impact[b]
MERS Asset Class	**Index**	**Gross**	**Net of fees**	**Net of fees[a]**	**MERS Asset Class**	**Index**	**$Millions**
Domestic Equity	Russell 3000	12.24%	11.96%	12.11%	$ 3.09	$ 3.14	$ (13.4)
International Equity	MSCI EAFE	5.93%	5.45%	4.62%	$ 1.70	$ 1.57	$ 90.4
Global Equity	MSCI World / ACWI	9.87%	9.52%	8.26%	$ 2.48	$ 2.21	$ 54.2
Fixed Income	Bloomberg US Aggregate	1.50%	1.37%	1.04%	$ 1.15	$ 1.11	$ 23.1
	Estimate of Fund's benefit from its decision to hire active managers over past 10 years						$ 154.3

Ma [a]Manager Fees for indices are assumed to be:

Russell 3000 Index - 2 basis points

MSCI EAFE Index - 5 basis points

MSCI World / ACWI Index - 5 basis points

Bloomberg US Aggregate Index - 2 basis points

[b]Active Management Impact $Millions Estimate is based on monthly ERS asset class balances.

Memorandum

To: CMERS Investment Committee
From: David Walters, CFA, CTP
Date: February 9, 2023
Re: Brandes Due Diligence Meetings: September 15, 2022 (Onsite) & November 30, 2022 (Virtual)
Team: David Silber and Dave Walters

Background

Brandes Investment Partners (Brandes) has managed an international equity large cap value strategy for the Milwaukee Employes' Retirement System (ERS) since January 1998. As of December 31, 2022, Brandes managed approximately $339 million, or 6.2%, of the ERS' assets, making this strategy the largest single strategy allocation within ERS' public equity asset class.

Key Takeaways from the Recent Meeting

- Brandes' performance has improved recently after a sustained period where value-oriented stocks were out of favor. The strategy has outperformed its benchmark over the most recent 1-, 3-, 5-, and 10-year periods as well as since inception, net of fees.
- Firm and strategy assets have shown signs of stabilizing after years of net client outflows. The firm remains committed to the international value strategy and has not changed its approach despite an extended period where value equities underperformed growth equities.
- The firm continues to make payments to founder Charles Brandes in accordance with the 10-year payout included as part of his retirement plan. The company's CEO indicated that the firm remains debt-free and profitable.
- Brandes continues to expand the use of SEI Global Services ("SEI") in performing back- and middle-office functions. The firm maintains internal subject matter experts to oversee the work done by SEI. The operational leaders at Brandes indicated that the outsourcing initiative has been a success. The firm has been able to reduce costs while maintaining key functions.
- Staff and Callan remain confident in Brandes' abilities and dedication to its value investing philosophy. We will continue to monitor strategy performance, asset flows, any impact from the ownership transition, and the growing use of third-party vendors for key support functions.

Firm Summary

Founded in 1974, Brandes is a limited partnership that is 100% employee-owned by 28 partners. The equity team is located at the firm's headquarters near San Diego, California. Brandes also manages fixed income assets and this team is primarily located in Brookfield, WI. Brandes has additional offices in Dublin, Singapore, and Toronto. Investment management is the firm's sole business. In October of 2019, Brandes finalized the initial transition of several back office functions to an outsourced service provider, SEI. As a result of this transition, Brandes reduced staff across internal operations and trading support areas. The firm had 191 employees as of June 30, 2022. This was down slightly from 211 employees as of December 31, 2019, with the change primarily driven by the final back office departures due to the SEI outsourcing.

Within the investment team, the number of research analysts increased by one, to 25 in total, from ERS' last visit. Staff views the capacity and stability of research analysts as key factors to consider when evaluating the firm's capabilities. Brandes stressed that key departures on the investment team have been few and planned. Analysts are supported by research associates. The research associate position is a four-year program with the potential for high performers to be offered an analyst position upon completion. The number of associates has varied over time, going from 19 in

2018 to 13 in 2020 to 11 in 2022. This position is something to monitor over time, but so far the decline seems reasonable given recent circumstances. Brandes explained that over the past few years, the investment team has become more efficient with tools for data collection and evaluation, which allows the firm to run a leaner operation. Part of the recent decline in associate headcount was attributed to recruitment challenges and the difficulty of integrating new hires into the firm's culture during a period of remote work. The firm is ramping up recruiting efforts to increase the number of research associates to within the range of 13 to 17. Staff views the recent stability of the analyst team favorably but will monitor the firm's ability to cultivate the next generation of analysts through the research associate pool and other channels.

There had been a gradual shift towards remote work over the years while personnel were traveling, which prepared Brandes for COVID-related remote work requirements. As of September 2022, the firm was employing a hybrid work model where employees are required to be in the office at least one day each week.

A change in the executive leadership of Brandes occurred in February 2018 when its Chairman, general partner, and largest limited partner, Charles Brandes, announced his retirement from the firm. Although Mr. Brandes was a founder and a key figurehead for the firm, he has not had any portfolio management duties related to ERS' investment for over 10 years. The firm implemented a transition plan that had been drafted years ago to address such succession issues. Mr. Brandes has no participation in the income in the firm. The firm has only one remaining obligation to Mr. Brandes, an annual payment over a 10-year period for 1/10th of the shares of the firm Mr. Brandes held at retirement. This payment is variable based on the profitability of the firm. The firm's existing partners have assumed Mr. Brandes' share ownership. The first payment was made in 2019, with the firm having made the four payments required to-date without harming its financial position. Key investment professional turnover has been low in since the 2018 retirement of Mr. Brandes, a signal that the regime change has been received well by long-time employees.

Brent Woods continues to oversee the day to day operations of the firm as CEO. Mr. Woods is also on the firm's executive committee, a partner of the firm, and remains an active member of the International Equity Investment Committee, the strategy in which the ERS is invested. Mr. Woods joined Brandes in 1995 and has 27 years of investment experience. In his previous role of chief investment officer, he was responsible for leading the firm's securities research efforts and overseeing the investment committees.

As of June 30, 2022, Brandes had $18.8 billion in assets under management (AUM), which is lower than the $23.9 billion in assets at the firm at the end of 2019 and significantly lower than the $125.4 billion the firm managed in 2007. The international equity strategy that the ERS invests in is still Brandes' flagship product. Assets in this strategy were $5.9 billion as of June 30, 2022, which is a decrease from $6.4 billion as of December 31, 2019. Brandes reported positive net client flows in the international equity strategy during 2021 and noted that they have seen an increase in manager search and RFP activity in 2022.

Mr. Woods indicated that Brandes continues to be conservatively positioned and noted the firm has no debt or fixed payments approaching. Lower assets under management have led to lower revenues for Brandes over the last few years, however Mr. Woods noted that Brandes' balance sheet has cash available to smooth the effects of market and business cycles. The firm did not ramp up hiring during the years when AUM was highest, which put it in good shape to ride out the downturn. Management stated that it believes the current headcount should be an appropriate staffing level for the current AUM while leveraging the support provided by SEI. Mr. Woods reiterated that the firm is not pressured to pursue growth of the business through new strategies or initiatives that do not align with its core investment philosophy. Brandes also indicated that partners and employees are excited about the prospects of having a broader and greater degree of employee ownership going forward. Brandes reiterated that their focus is on performance, which ultimately will drive overall assets under management at the firm.

Investment Process

The investment style that Brandes applies originates from the value investing philosophies of Benjamin Graham and David Dodd. Brandes believes that its willingness to take a long-term approach and invest in businesses at prices below their intrinsic value will generate superior long-term returns. The firm relies heavily on the bottom-up, fundamental research generated by its analysts and associates across eight global sector teams. Ken Little, Managing Director of Investments, oversees the research department and manages workflow between the sector teams and each investment committee.

Analysts are given wide latitude to identify companies within their sector(s) to research. The analysts screen for companies with attractive valuations, ideally a discount of 33% or more from intrinsic value as a basis for deeper research, however this is not always achievable. The analysts also focus on understanding a company's financial statements in order to derive an intrinsic value estimate for a company. While the majority of portfolio candidates come from analyst ideas and research, directors and investment committee members may ask an analyst to research specific stocks as well. During normal markets, analysts revisit their investment thesis on existing portfolio holdings every 12 months; however, portfolio holdings would typically be reviewed much more frequently during a financial crisis or significant market decline. Analysts described the need to revisit valuation models on a more frequent basis throughout the COVID-19 pandemic as the evolving global response to the virus impacted business conditions.

Staff inquired as to how portfolio managers and analysts are engaging with company executives to support their research. Prior to the pandemic, portfolio managers and analysts would travel to conferences and attend in-person meetings with company executives, which could be difficult due to scheduling conflicts and competition for meeting times from other asset managers. Analysts reported that the number of meetings they take with target company management increased during the shift to remote work and remains elevated. Most meetings are conducted via video conference platforms and conference calls. The availability of company executives has increased as they spend less time travelling to in-person meetings and conferences. While some travel and in-person meeting has resumed, logistical challenges remain – particularly with international travel. While the plan is to resume travel and in-person meetings gradually, the analysts that Staff spoke with are confident in their ability to effectively connect with business leaders virtually. The increased exposure to company executives through virtual meetings helped alleviate Staff concerns that the research process of a fundamental manager like Brandes, which depends on company access, may have been negatively impacted.

The International Large-Cap Investment Committee (IC) is comprised of five members and meets weekly to review the portfolio, discuss buy and sell candidates, and challenge analysts' ideas and assumptions. Members are primarily very experienced and senior members of the investment teams and the research analysts are not involved in the portfolio construction process. The objective of the analysts is to make recommendations to the IC while covering equity securities across all sectors, capitalization ranges, and geographies around the world. It is the responsibility of the IC members to decipher the reasonable entry points for any company recommended, if the IC deems the company be added to the portfolio. In addition, the IC also determines an attractive buy price and allocation size of the security. We will continue to keep this workload in mind as we monitor Brandes' commitment to resources and research staffing levels going forward.

The strategy is comprised mainly of stocks with market capitalizations above $5 billion. However, compelling stocks with market capitalizations as low as $1.5 billion may be included in the portfolio. As of September 30, 2022, about 86% of the portfolio was comprised of stocks above $5 billion, about 14% between $1.5 billion to $5 billion, and less than 1% in stocks below $1.5 billion in market cap. A stock's "margin of safety" is the main factor that the committee uses when it evaluates whether to place it in the portfolio. The margin of safety is the difference between a stock's current market price and the intrinsic value calculated by Brandes' analysts. Stocks with the largest margin of safety typically have the largest weightings in the portfolio. These are typically out-of-favor or overlooked companies and can often be in countries that are out-of-favor as well.

Brandes' focus on bottom-up stock selection often results in a portfolio that has significantly different sector and country weights compared to its benchmark. Brandes believes that portfolio risk is reduced by the margin of safety embedded in its investments. In other words, Brandes believes a portfolio of stocks purchased at attractive valuations will be able to generate attractive long-term returns with some downside risk protection. The international equity portfolio has generally held between 55 and 85 securities, and the ERS' client guidelines set country, industry, and security exposure limits to ensure it is not too concentrated. While the guidelines allow a maximum 30% allocation to emerging markets, prior to 2015 the allocation had historically been below 15%. However, because Brandes is uncovering attractive opportunities in emerging markets, the allocation has been ranging between 17-22% since 2015. The emerging market allocation as of September 30, 2022 was about 17%.

The firm maintains an Investment Oversight Committee (IOC) comprised of senior professionals to review portfolios developed by the investment committees for each strategy on a quarterly basis. The IOC reviews portfolios to prevent drift from the strategy mandate and ensure the firm's investment process is consistent across strategies. This group also works with each investment committee to make sure it receives adequate support from the research group.

Trading

Joseph Scafidi is the firm's Global Head of Trading and reports directly to Brandes' CEO, Brent Woods. The trading team is separate from portfolio management and does not participate in the stock selection process. Before an order is executed, the firm's trading and product coordinator teams review the investment strategy and develop a plan to meet the investment goals while minimizing trading costs. This plan includes defining predetermined buy and sell price limits. Traders access the market in a variety of ways, which include using brokers, Bloomberg, algorithmic strategies, and electronic crossing networks.

The trading division at Brandes saw headcount reductions due to the outsourcing of operations to SEI beginning in 2019. The trading division eliminated their Managed Accounts, Corporate Proxy, Operational Risk & Pricing, and Settlements departments. These functions are all now handled by SEI with oversight by Brandes' trading team.

Brandes' equity trading costs rank in the first quartile over the trailing 8 quarters ended September 30, 2022 according to ERS' transaction cost measurement provider, Global Trading Analytics (GTA). Brandes' foreign exchange (FX) trading during the same period ranked in the third quartile relative to its peer universe, which is deemed to be within an acceptable range of performance by Global Trading Analytics when considered in conjunction with its stock trading, which has been consistently favorable. Brandes has been good at both keeping the cost of commissions paid to brokers relatively low and keeping market impact costs to an acceptable range.

The trading division changed its process for executing FX trades in 2019. Brandes moved away from buying and selling currency on a trade-by-trade basis in favor of standing trade orders with the ERS' custodian, Northern Trust. Staff discussed this change with Brandes to understand the rationale and potential impact on strategy performance. Mr. Scafidi noted several reasons for the change: the ability to net transactions to minimize fees associated with same day buys and sells in the same currency, smoother settlement through a more automated trade process, and the elimination of per-trade custodian fees. While many institutional investors pay a fee to their custodians for each third-party FX trade executed, the ERS does not have a similar fee in the current agreement with the custodian.

Mr. Scafidi mentioned that although the ERS does not pay its custodian a fixed fee for each FX trade, the fund benefits from the netting effect of trades, with 20% and 16% of FX trades within our portfolio being executed this way in the first and second quarters of 2022, respectively. Brandes will continue to evaluate methods for obtaining best execution on all trades. During 2023, the firm plans to test modifications to the timing of FX trades and more frequent reviews of trade cost analytics from its provider, FX transparency.

Brandes' portfolio turnover has ranged between 7.8% and 29.7% over the past three years and averaged 20.7% during this time. This is consistent with the long-term view Brandes takes with its investments.

Compliance and Personal Transactions

The Due Diligence Team met with Roberta Loubier, Global Head of Compliance and Chief Compliance Officer at the firm. Ms. Loubier reports directly to Brandes' CEO, Brent Woods. The firm has not filled the role of general counsel after the recent retirement of Ian Rose from that position. Mr. Rose's duties have been redistributed among the Brandes and SEI teams.

Brandes uses their proprietary rebalance engine, Horizon, and the Charles River Order Management System to maintain portfolio compliance within client guidelines. Pre-Trade compliance is monitored through Horizon based on client restrictions. Post-trade compliance is monitored by Charles River, which generates post-trade reviews and exception reports for any outliers. Post-trade compliance is also monitored by the ERS' designated Portfolio Manager, Lawrence Taylor. Mr. Taylor and his team typically review the ERS' portfolio multiple times per week to ensure the decisions of Brandes' Investment Committee are implemented and the ERS' investment guidelines are in compliance. Any apparent compliance violations are reported to Ms. Loubier, and any material violations receive increased scrutiny by the Chief Executive Officer.

Brandes maintains a Code of Ethics and anti-money laundering policy that each employee must certify they have read and are in compliance with annually. The Code of Ethics addresses, among other things, personal trading policies for both individual securities and mutual funds. Brandes also conducts annual meetings and provides periodic training throughout the year with appropriate staff to review the company's compliance policies.

Ashland Partners & Company LLP completes an SOC 1 (Service Organization Controls) report on Brandes annually. The purpose of this examination is to evaluate the quality of Brandes' internal controls. Brandes stated that the most recent report did not identify any significant weaknesses. Ms. Loubier noted that Brandes was visited by the Securities and Exchange Commission (SEC) as part of a routine examination in 2019. The SEC inquired about Brandes' Environmental, Social & Governance policies and procedures, proxy voting, and engagement with public companies. Ms. Loubier added that the summary letter received from the SEC noted no written findings.

Operations and Business Continuity

Staff met with Stephen Farnsworth, Global Head of Operations and Technology to discuss the firm's relationship with SEI. As noted in the Firm Summary, Brandes' finalized the initial phase of a project to outsource trade settlement, reconciliation, reporting, and other operational functions to SEI in October 2019. Each operational support function continues to have an internal subject matter expert at Brandes to oversee quality control of SEI's work. In addition to the regular oversight provided by these individuals, Mr. Farnsworth and team maintain biweekly reviews with SEI to provide feedback, monitor any outstanding issues, and hear from SEI about potential enhancements. The team also conducts periodic due diligence visits to SEI's headquarters. Brandes noted that the integration with SEI has offered opportunities to not only outsource work, but improve processes by leveraging SEI's scale and expertise.

Brandes tests its disaster recovery and remote operations plans annually and indicates everything performed satisfactorily in the latest tests during December 2021. The firm's geographically remote disaster recovery facility would allow critical employees to manage client portfolios in the event something happened to the firm's headquarters. Employees are also able to complete critical tasks from home as necessary. Brandes' systems have internal redundancy enabling immediate recovery of mission critical data, which is backed up every 15 minutes to minimize the potential for data loss in the event of a system failure.

Deon Schaffer, Director of Technology at Brandes, discussed with Staff the efforts of the firm to protect against cyberattacks. Security initiatives include internal education and testing, email filters to assist with the identification of inbound impostor attacks and prevention of erroneous recipients on outbound messages, and third-party vendor security testing. Mr. Schaffer also noted that the integration with SEI has greatly increased the volume and frequency of data transmitted and received by Brandes. The technology team is responsible for making sure data moves between SEI and Brandes in a timely and secure manner.

Performance Summary and Conclusion

Brandes' net of fee returns are provided in the table below as of December 31, 2022. While they are most certainly a value manager, Brandes utilizes a core benchmark rather than a value benchmark. Brandes acknowledged that they are considering a switch to a benchmark with a value focus, but will continue to use the core benchmark for now.

	1-year	3-year	5-year	10-Year	Since Inception
Brandes	-7.2%	1.2%	1.6%	5.0%	6.7%
MSCI EAFE ND	*-14.5%*	*0.9%*	*1.5%*	*4.7%*	*4.3%*

The performance of the strategy has improved in recent years as the value factor has outperformed growth after a prolonged period of relative underperformance. This reversal has allowed Brandes to outperform its core benchmark in all of the periods presented.

In summary, Brandes continues to apply the same disciplined approach to value investing that it did when the ERS hired the firm in 1998. Brandes' comprehensive investment research capabilities alongside the disciplined implementation of Graham and Dodd value investing principles within developed and emerging markets result in two key aspects that should allow the strategy to be successful over the long term. This strategy continues to represent an important and complementary piece of the Fund's portfolio. Staff is confident that Brandes is consistently employing the strategy as intended.

Memorandum

To: CMERS Investment Committee
From: Thomas Courtright, CAIA
Date: February 9, 2023
Re: Earnest Partners Due Diligence Meeting: December 15, 2022
Team: Erich Sauer and Thomas Courtright

Background

Earnest Partners (Earnest) has managed a Mid-Cap Core Equity Strategy for the City of Milwaukee ERS (ERS) since May of 2005. As of December 31, 2022, Earnest managed 1.9% of the Fund's assets, or $105.4 million.

Key Takeaways from Recent Visit

- Earnest has experienced some modest turnover in its investment team since the last visit. Three equity investment team members departed the firm and Earnest has since hired new members for these positions. These personnel changes do not appear to have had an impact but ERS staff and Callan will continue to monitor the situation closely.
- Management noted that the firm has seen increased search activity and their strategies have been able to win new business. This has led to increases in strategy and firm AUM, and has helped to mitigate an issue noted in past reports related to AUM.
- Overall, ERS staff remains impressed with Earnest, and believes they are extremely capable of filling the role of Mid-Cap Core Equity manager for the ERS.

Firm Summary

Earnest was incorporated in 1998 and is headquartered in Atlanta, GA with an additional research office in China. Earnest is employee owned with Paul E. Viera, CEO, having a controlling interest. Mr. Viera has consistently maintained that he intends to keep the firm private and employee-owned. Earnest provides investment management services to 250 institutional clients, with assets under management (AUM) totaling approximately $24.3 billion, which is an increase compared to $22.0 billion at the time of our last visit in 2020. All of the firm's equity strategies either have core or value style philosophies. The Mid-Cap Core strategy in which the ERS is invested has approximately $1.7 billion in assets, which is up from a level of $1.3 billion in 2020. Earnest also manages a Small-Mid-Cap (SMID) strategy, which has approximately $2.2 billion in assets.

Earnest reported that they have seen an increased level of interest in the Mid-Cap strategy over the past several years, and they have been successful in winning new business. Past memos had noted falling client counts and asset levels as something staff would be monitoring, so it is nice to see the strategy grow to the point that those issues are no longer something that requires enhanced attention from ERS staff.

Earnest has 44 employees, 15 of whom are investment professionals. The equity investment team recently experienced a modest turnover of three individuals since our last meeting in 2020. The departures include one senior member, who decided to leave due to family and personal considerations, and two junior level members. Earnest has since hired replacements for all the positions and these changes do not appear to have had an impact. Earnest emphasizes a team approach to investing, and each member has responsibility for researching and monitoring all companies in the portfolio. Earnest believes the team structure and process mitigates any detrimental effects a departure typically would bring about. ERS staff and Callan are comfortable with the changes to the team that have taken place but will continue to monitor the situation closely.

Earnest employees worked successfully from home during the pandemic and have since transitioned to being primarily in the office again. The firm does continue to allow flexible work arrangements, but it appeared at our visit that the majority of employees were back in the office.

<u>Investment Process</u>

Earnest's process begins by screening a universe of over 1,000 stocks using their proprietary Return Pattern Recognition (RPR) model, which reduces the initial universe to approximately 150 stocks that are expected to outperform based on characteristics that have historically been in place when those stocks have outperformed in the past. The characteristics include valuation measures, market trends, operating trends, growth measures, profitability measures, and macroeconomics. The model divides sectors into 36 industry groups to determine which characteristics specifically drive returns in each group. Generally, Earnest believes only 2-3 characteristics are significant to the historical returns of a specific industry group. Earnest reviews the model every three years. No major changes were made at the last review.

Earnest then subjects each of the 150 companies identified by the screen to a second, more rigorous, review. They develop and test an investment thesis for each company. To test this thesis, members of the investment team meet with company management teams and industry specialists. Earnest routinely makes a concerted effort to have face-to-face meetings with company management at least annually, which they believe adds value (academic studies support this belief). In addition, they review financial reports, analyze industry trends and company-specific studies, and conduct independent field research.

Earnest's investment team represents a wide range of professional and cultural backgrounds and many members of the team are considered subject matter specialists due to prior direct work experience with companies that operate in the sector they cover. Additionally, nearly all of the firm's investment professionals have worked, studied, or lived abroad, which provides global perspectives and insight. Earnest believes being a specialist allows the member to view companies as an industry practitioner would, which provides unique perspectives and differentiated relationship networks within respective industries. This gives the investment team a number of advantages in assessing the fundamentals of the companies being analyzed.

The research responsibilities of the investment team members are classified by their respective global sector expertise. Each member is responsible for monitoring their assigned coverage companies that are in the portfolio as well as researching new companies. Historically, members analyze six to eight new companies per year. The investment team meets weekly to discuss new research ideas and current portfolio holdings.

As the final step in the investment process, Earnest then constructs a portfolio that includes stocks expected to outperform while effectively managing risk. Earnest prefers to measure risk according to downside deviation since the risk their clients are primarily concerned with is underperforming the reference benchmark. The portfolio attempts to combine securities that are likely to limit significant underperformance while maintaining a high expected return. The approach utilizes 12 fundamental factors such as price-to-book ratio, return on equity, and dividend yield.

Dinkar Singh, Ph. D., Partner, provided live demonstrations of both the RPR model and the downside deviation model to ERS staff during the meeting. Staff came away impressed with the efficiency of the models as well as the robust results of model output.

Earnest targets a portfolio of approximately 60 stocks. About four to six weeks are needed to carefully evaluate a candidate stock for inclusion in the portfolio. Each member of the investment team has a vote for purchasing, holding, or selling any stock in, or considered for, the portfolio. Before any stock is added to or removed from the portfolio, the process requires approval by 80% of the investment team members. Historically, Mr. Viera was the primary decision maker with respect to security weights in the portfolio, but he has been ceding that responsibility to senior investment team members in recent years, with an eye toward long-term succession planning.

Earnest has deliberately designed its investment process to avoid behavioral biases. In order to defend against consensus thinking, each investment team member monitors all stocks in the portfolio and is required to support and recommend three independent sell ratings per year for existing portfolio companies. One of these sell recommendations must come from outside the member's designated research responsibility.

Earnest defines their sell discipline as "crowding out." The firm's portfolio contains only its best investment ideas. As a result, less attractive stocks are sold from the portfolio. Drivers for selling a stock include:

- Stock reaches valuation target;
- Another stock presents more compelling risk and return characteristics;
- Deterioration of the company's fundamentals.

Trading

ERS staff met with Hollis Gilliam, head trader, during our visit. Mr. Gilliam was promoted to his current role after the former head, Ryan Kelly, departed in late 2020. The firm subsequently operated with two traders, which they were able to do because of the low turnover of the strategies, while they conducted a search for the right individual to bring the team back to full strength. They recently added Chris Blake to the team, and are back to three full time traders.

Mr. Gilliam emphasized that traders do not attempt to add alpha through the trading process. Earnest's definition of "best execution" is for the traders to reflect a portfolio manager's ideas in the portfolio, as quickly as possible, at a price below the target buy price specified by the portfolio manager. Earnest trades with brokers that specialize in specific industries. They believe this method works well because brokers who have a unique skill in a particular sector are able to help the traders achieve the stated goal of reflecting ideas in the portfolio as quickly as possible. The expected annual turnover for the strategy is 20-25% over the long term, which equates to a holding period of 4-5 years. The majority of turnover is caused by adding and subtracting names from the portfolio, rather than by trimming or adding to position weightings of stocks already in the portfolio.

The department has been focused on adding technology and automation to enhance productivity. They use the Bloomberg AIM trading platform, which is integrated with their portfolio accounting system, Geneva. Bloomberg AIM replaced Charles River, the platform Earnest was using at the time of our last visit.

ERS uses the services of Global Trading Analytics (GTA) to provide trade cost analysis. Earnest's trade costs results were volatile for the trailing eight quarters, ranking in the bottom quartile of GTA's universe for 2021, while ranking in the top quartile for most quarters in 2022. This inconsistency is only a minor concern – since Earnest is a low turnover manager, poor trading does not have as significant of an impact on the portfolio as it would for a manager with higher turnover. Still, ERS staff will continue to monitor this situation closely.

Compliance
Earnest has a full time compliance department. The Chief Compliance Officer (CCO) reports directly to the CEO. Primary responsibilities of the department include handling regulatory inquiries, administering the firm's trading policies, and ensuring adherence to investment guidelines. Earnest ensures compliance with ERS' guidelines by, first, screening trade orders using the compliance system, Bloomberg AIM, which would automatically flag a potential violation before a trade is executed. Bloomberg AIM then analyzes portfolios daily for compliance with client and firm guidelines. Finally, the investment team and compliance team meet each month with the specific purpose of reviewing each account's compliance with client and firm guidelines. If there are any trade errors or guideline exceptions, they are resolved in a timely fashion with the client. Earnest has maintained compliance with ERS' guidelines since inception.

The CCO is also responsible for implementing the firm's Ethics Code. Earnest uses TerraNua's MyComplianceOffice to monitor employees' personal trading and compliance with the code of ethics. This system facilitates the trade pre-clearance process and automates the capture of employee brokerage statements, which allows the compliance department to easily review trading activity against the restricted list. This system also facilitates employees' annual attestation that they are in compliance with Earnest's ethics code.

Earnest undergoes an annual SSAE 18 review, which is conducted by Schellman & Company, the most recent of which found no material deficiencies. The firm is also evaluated by the Securities and Exchange Commission. The most recent inspection was in 2016, with no material violations.

Information Systems and Disaster Recovery
The IT Department consists of two dedicated personnel. The IT infrastructure is centralized in Atlanta and is fully replicated to a redundant cloud environment.

In the event the Atlanta office building is not accessible, but the network remains operational, staff can connect via VPN. They can access email through Microsoft Outlook Web Access and can operate out of a back-up office space in Jackson, MS if needed. In addition, incoming calls can quickly be routed to cellphones of key personnel. In the case of a total outage in Atlanta, users can access the network through the redundant cloud environment.

IT backup systems have experienced real world tests in prior years, when Atlanta was impacted by snow and ice storms. The Atlanta office was inaccessible, but remote access worked seamlessly for the firm. Earnest states that testing of the Disaster Recovery Plan and systems upgrades are continuous

Proxies
Earnest's proxy director ensures all proxies are reviewed with the assistance of Institutional Shareholder Services (ISS). Any controversial decisions are referred back to Earnest's Investment Committee for review. Once the reviews are completed, ISS will cast the vote based on Earnest's recommendation. Summaries of proxy votes are provided quarterly.

Performance Summary and Conclusion
Earnest's offerings, research process, and back office continue to be stable. It is encouraging to hear them report that they are seeing increased investor interest in their offerings over the past several years. ERS Staff and Callan will continue to closely monitor turnover and performance of the investment team. The Earnest team has stayed true to their investment philosophy and style for which the Board hired them and the strategy provides an effective complement to ERS' existing US large-cap and small-cap equity managers. The strategy's focus on downside deviation has

often resulted in protection in down markets while participating in positive trending markets, which has ultimately led to relative outperformance over longer time horizons.

The table below shows Earnest's performance in comparison to its benchmark, the Russell Midcap, for multiple time periods ended December 31, 2022, net of fees:

	1 Year	3 Year	5 Year	10 Year	Since Inception (5/1/05)
Earnest Mid-Cap Core (net)	-15.6%	8.6%	9.6%	12.8%	10.3%
Russell Midcap	*-17.3%*	*5.9%*	*7.1%*	*11.0%*	*9.3%*

The strategy has outperformed, net of fees, in all time periods shown. Earnest Partners has applied its Mid-Cap Core strategy consistently over time and appears capable of continuing to provide ERS with a strong solution for our exposure to the mid-cap space.