

**EASTERN MICHIGAN UNIVERSITY**  
**BOARD OF REGENTS**  
**INVESTMENT PERFORMANCE ANALYSIS**

4<sup>TH</sup> QUARTER 2023



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# TABLE OF CONTENTS

- 2023 Markets in Review – 3
- Q4 2023 Performance Review – 9
  - Total Fund Summary
- 2024 Market Themes – 23
- Asset Allocation Review – 32
- Appendix – 35





# 2023 MARKETS IN REVIEW



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# CALENDAR YEAR INDEX PERFORMANCE

	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	Dec	QTD	YTD
<b>S&amp;P 500</b>	32.4%	13.7%	1.4%	12.0%	21.8%	-4.4%	31.5%	18.4%	28.7%	-18.1%	4.5%	11.7%	26.3%
<b>Russell 1000</b>	33.1%	13.2%	0.9%	12.1%	21.7%	-4.8%	31.4%	21.0%	26.5%	-19.1%	4.9%	12.0%	26.5%
<b>Russell 2000</b>	38.8%	4.9%	-4.4%	21.3%	14.6%	-11.0%	25.5%	20.0%	14.8%	-20.4%	12.2%	14.0%	16.9%
<b>Russell 2500</b>	36.8%	7.1%	-2.9%	17.6%	16.8%	-10.0%	27.8%	20.0%	18.2%	-18.4%	10.7%	13.4%	17.4%
<b>MSCI EAFE</b>	22.8%	-4.9%	-0.8%	1.0%	25.0%	-13.8%	22.0%	7.8%	11.3%	-14.5%	5.3%	10.4%	18.2%
<b>MSCI EM</b>	-2.6%	-2.2%	-14.9%	11.2%	37.3%	-14.6%	18.4%	18.3%	-2.5%	-20.1%	3.9%	7.9%	9.8%
<b>MSCI ACWI</b>	22.8%	4.2%	-2.4%	7.9%	24.0%	-9.4%	26.6%	16.3%	18.5%	-18.4%	4.8%	11.0%	22.2%
<b>Private Equity</b>	12.6%	22.3%	14.6%	10.4%	10.3%	21.0%	13.1%	17.2%	45.0%	-9.3%	-	-	2.2%
<b>BBG TIPS</b>	-8.6%	3.6%	-1.4%	4.7%	3.0%	-1.3%	8.4%	11.0%	6.0%	-11.8%	2.7%	4.7%	3.9%
<b>BBG Municipal</b>	-2.6%	9.1%	3.3%	0.2%	5.4%	1.3%	7.5%	5.2%	1.5%	-8.5%	2.3%	7.9%	6.4%
<b>BBG Muni High Yield</b>	-5.5%	13.8%	1.8%	3.0%	9.7%	4.8%	10.7%	4.9%	7.8%	-13.1%	3.0%	9.2%	9.2%
<b>BBG US Corporate HY</b>	7.4%	2.5%	-4.5%	17.1%	7.5%	-2.1%	14.3%	7.1%	5.3%	-11.2%	3.7%	7.2%	13.4%
<b>BBG US Agg Bond</b>	-2.0%	6.0%	0.5%	2.6%	3.5%	0.0%	8.7%	7.5%	-1.5%	-13.0%	3.8%	6.8%	5.5%
<b>BBG Global Agg</b>	-2.6%	0.6%	-3.2%	2.1%	7.4%	-1.2%	6.8%	9.2%	-4.7%	-16.2%	4.2%	8.1%	5.7%
<b>BBG Long Treasuries</b>	-12.7%	25.1%	-1.2%	1.3%	8.5%	-1.8%	14.8%	17.7%	-4.6%	-29.3%	8.6%	12.7%	3.1%
<b>BBG US Long Credit</b>	-6.6%	16.4%	-4.6%	10.2%	12.2%	-6.8%	23.4%	13.3%	-1.2%	-25.3%	7.3%	13.7%	10.7%
<b>BBG US STRIPS 20+ Yr</b>	-21.0%	46.4%	-3.7%	1.4%	13.7%	-4.1%	20.9%	24.0%	-5.2%	-39.6%	12.9%	18.9%	1.1%
<b>JPM GBI-EM Global Div</b>	-9.0%	-5.7%	-14.9%	9.9%	15.2%	-6.2%	13.5%	2.7%	-8.7%	-11.7%	3.2%	8.1%	12.7%
<b>JPM EMBI Glob Div</b>	-5.3%	7.4%	1.2%	10.2%	10.3%	-4.3%	15.0%	5.3%	-1.8%	-17.8%	4.7%	9.2%	11.1%
<b>CS Hedge Fund</b>	9.7%	4.1%	-0.7%	1.2%	7.1%	-3.2%	9.3%	6.4%	8.2%	1.1%	-	1.3%	5.1%
<b>BBG Commodity</b>	-9.5%	-17.0%	-24.7%	11.8%	1.7%	-11.2%	7.7%	-3.1%	27.1%	16.1%	-2.7%	-4.6%	-7.9%
<b>Alerian Midstream</b>	-	16.4%	-37.3%	33.8%	-2.4%	-13.3%	24.0%	-23.4%	38.4%	21.5%	-0.5%	6.4%	14.0%
<b>FTSE NAREIT Equity REITs</b>	2.5%	30.1%	3.2%	8.5%	5.2%	-4.6%	26.0%	-8.0%	43.2%	-24.4%	9.9%	16.2%	13.7%

\*Private Equity return represents calendar year pooled IRR and is subject to a one quarter lag  
Source: FactSet, Barclays, Thomson One



# CAPITAL MARKETS OVERVIEW

**The U.S. economy experienced a “no landing” in 2023** as inflation pressures declined, while consumption and growth defied expectations

The Federal Reserve raised interest rates more than expected this year; **the “long and variable” lag may be longer and more variable today**

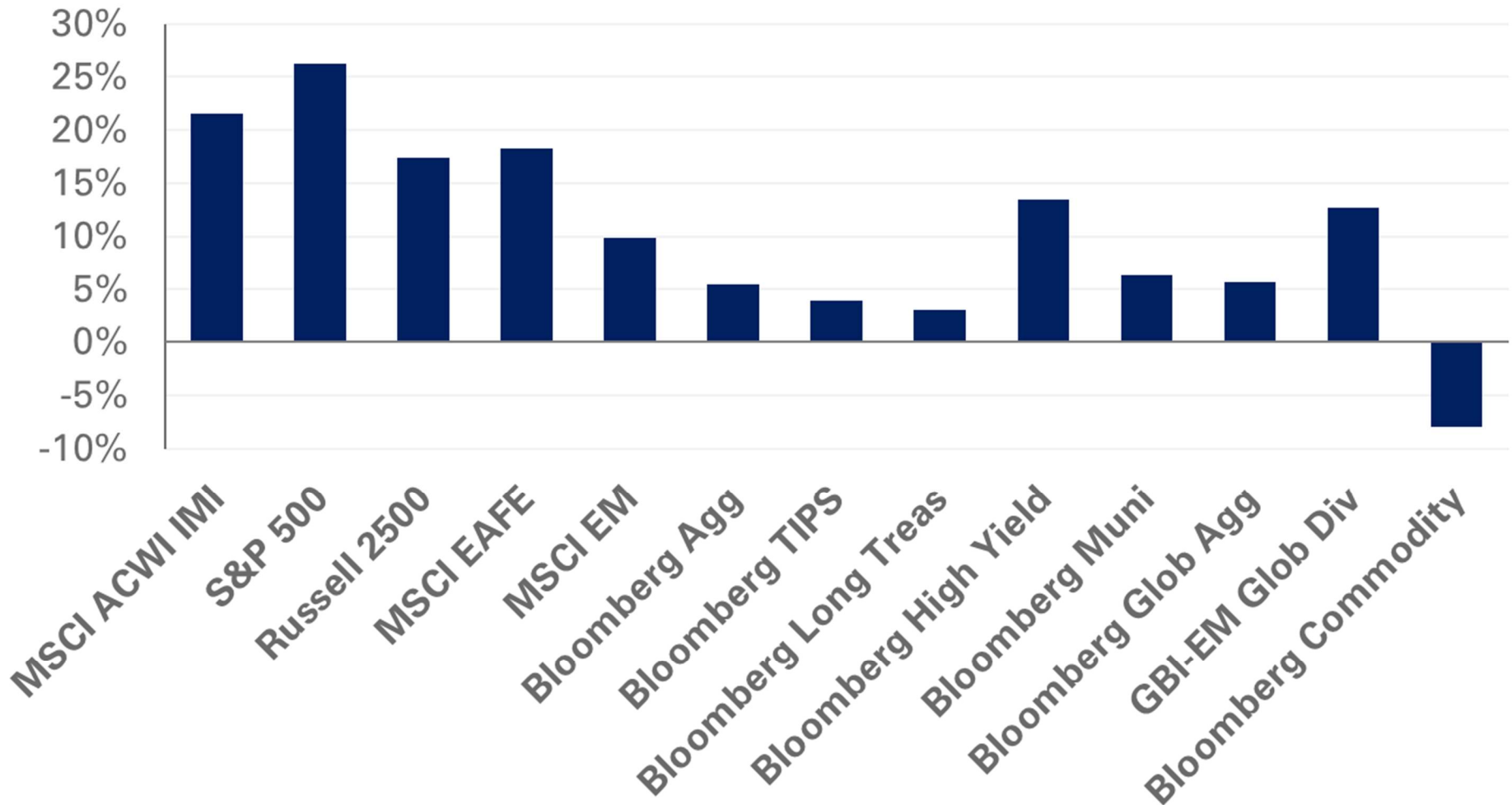
**Markets remain anchored to a lower interest rate and inflation environment,** pricing in an aggressive cutting path for the Fed in 2024

**The Magnificent 7 drove U.S. equity market outperformance in 2023** – surpassing lofty market expectations for revenue and earnings growth

A backdrop of elevated global geopolitical tensions **heightens economic tail risks and introduces uncertainty** for capital markets in 2024

# RISK ASSETS RALLIED DESPITE HIGHER RATES

## 2023 ANNUAL ASSET CLASS RETURNS











Sources: MSCI, S&P, Russell, MSCI, Bloomberg, JPM, FactSet

# INFLATION MAY NORMALIZE ABOVE EXPECTATIONS

## ROLLING 6-MONTH AVG CONSUMER INFLATION EXPECTATIONS



# MARKET BACKDROP

		2022	2024			2022	2024
	S&P 500	4,766	4,769		Fed Funds	0.25	5.50
	IG OAS	0.92	0.99		US 10 Year	1.51	3.88
	HY OAS	2.93	3.23		CPI	7.19	3.12
	Gold	1,895	2,072				
	Oil	75	72				



# Q4 2023 PERFORMANCE REVIEW

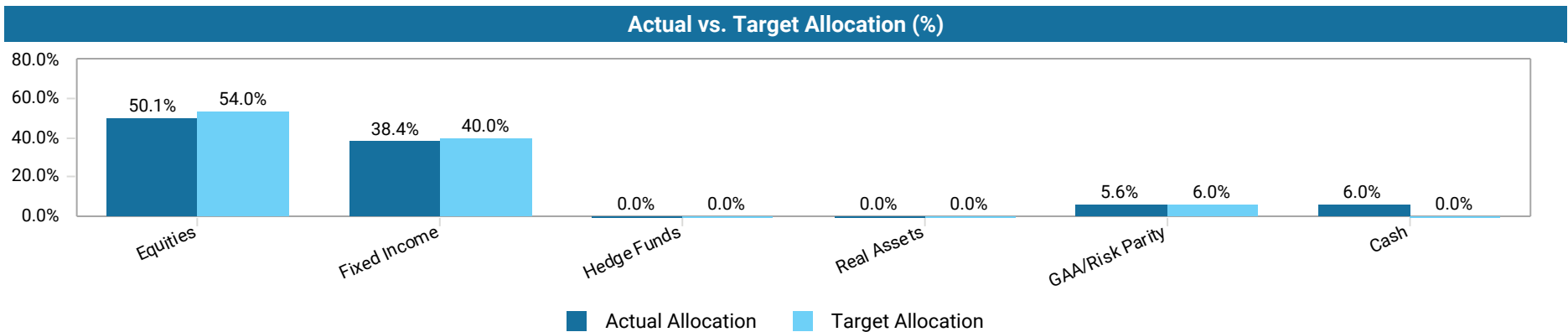


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# TOTAL FUND PERFORMANCE SUMMARY

	Market Value (\$)	3 Mo (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)
<b>Board of Regents Total Composite</b>	<b>10,136,042</b>	<b>8.9</b>	<b>11.0</b>	<b>3.6</b>	<b>4.5</b>
<i>Allocation Index</i>		7.6	8.2	2.8	5.4

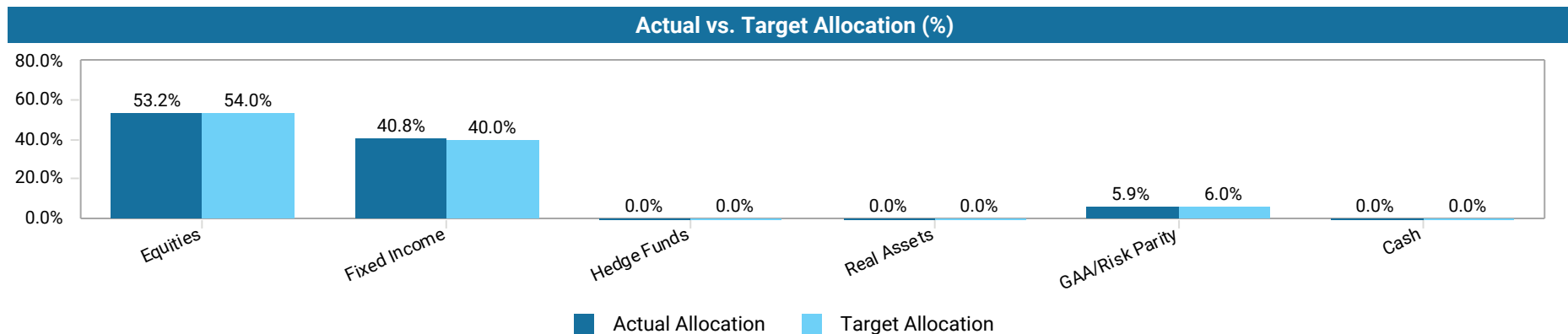
Year to Date			
	Return	Standard Deviation	Sharpe Ratio
<b>Board of Regents Total Composite</b>	<b>11.0</b>	<b>6.9</b>	<b>0.8</b>
<i>Allocation Index</i>	8.2	6.6	0.5



# LONG TERM INVESTMENT POOL PERFORMANCE SUMMARY

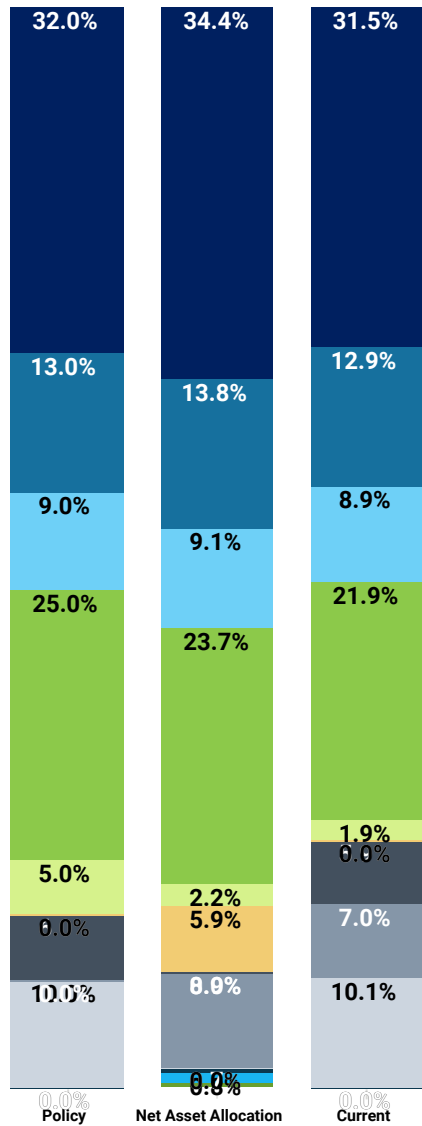
	Market Value (\$)	3 Mo (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)
<b>Long Term Investment Pool</b>	<b>9,532,250</b>	<b>8.7</b>	<b>14.0</b>	<b>2.0</b>	<b>5.7</b>
<i>Long Term Allocation Index</i>		8.5	12.5	1.5	7.6
<i>Long Term Balanced Index</i>		8.9	14.4	2.0	6.9

Year to Date			
	Return	Standard Deviation	Sharpe Ratio
<b>Long Term Investment Pool</b>	<b>14.0</b>	<b>11.5</b>	<b>0.8</b>
<i>Long Term Allocation Index</i>	12.5	11.6	0.7
<i>Long Term Balanced Index</i>	14.4	11.6	0.8



# ASSET ALLOCATION VS. POLICY

Asset Allocation vs. Target

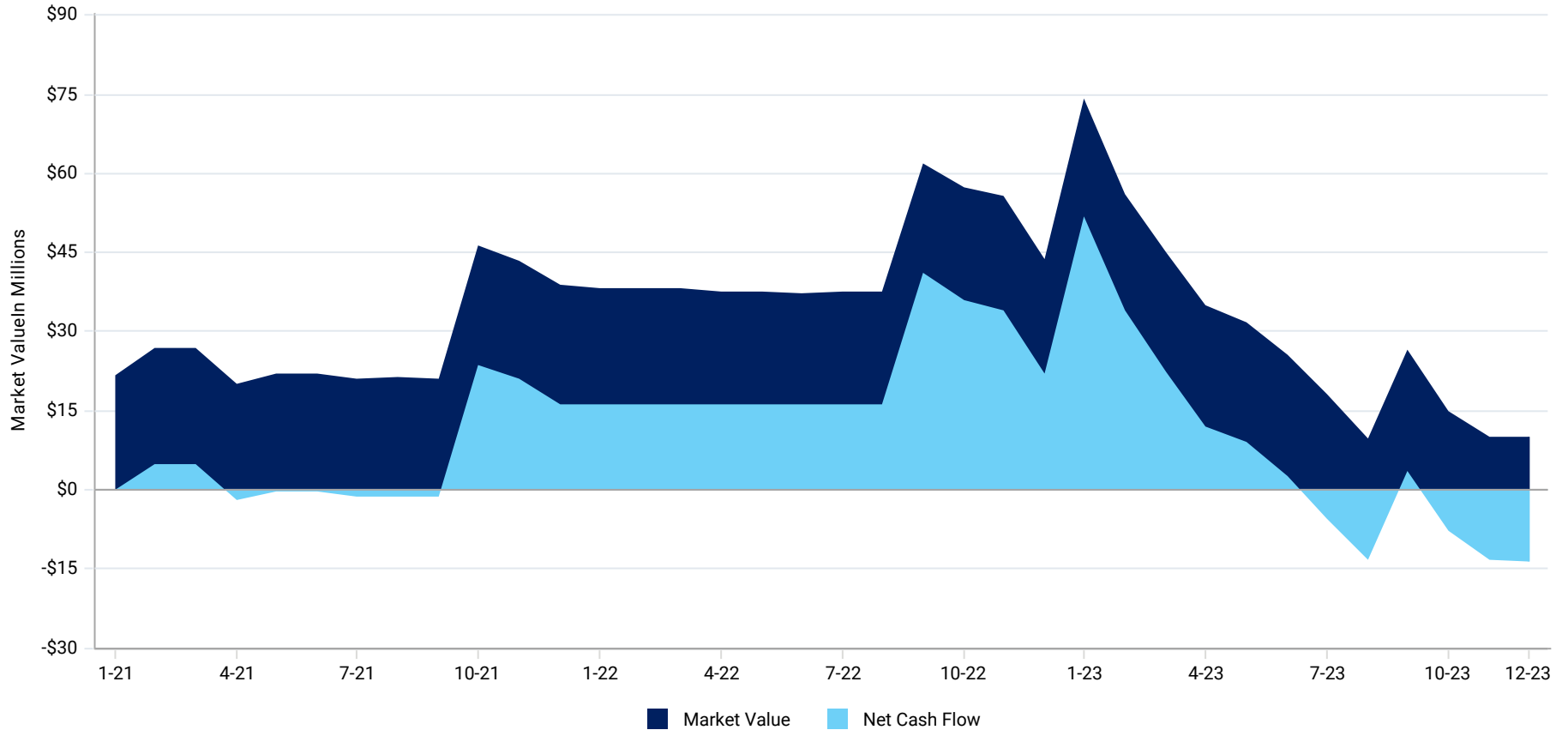


	Current (\$)	Policy (%)	Current (%)	Net Asset Allocation
Domestic Equity	2,998,889	32.0	31.5	34.4
International Equity	1,230,066	13.0	12.9	13.8
Emerging Markets Equity	846,602	9.0	8.9	9.1
Core Fixed Income	2,088,246	25.0	21.9	23.7
TIPS	176,569	5.0	1.9	2.2
Non-U.S. Fixed Income	-	0.0	0.0	5.9
GAA/Risk Parity	565,826	6.0	5.9	0.0
Treasury	663,554	0.0	7.0	8.9
Absolute Return	962,499	10.0	10.1	0.0
Hedge Funds	-	0.0	0.0	0.7
Real Assets	-	0.0	0.0	0.8
Cash	-	0.0	0.0	0.4
<b>Total</b>	<b>9,532,250</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>

The "Net Asset Allocation" analysis disaggregates the global asset allocation and the absolute return managers in order to get a better sense of the true exposures across the portfolio.

# ASSET GROWTH SUMMARY

3 Years Ending December 31, 2023



	Last Three Months	1 Year	3 Years
Beginning Market Value	26,600,118	43,636,098	21,717,375
Net Cash Flow	-17,300,421	-35,656,532	-13,705,562
Net Investment Change	836,346	2,156,477	2,124,229
<b>Ending Market Value</b>	<b>10,136,042</b>	<b>10,136,042</b>	<b>10,136,042</b>
Net Change	-16,464,075	-33,500,056	-11,581,332



# TOTAL FUND SUMMARY



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# TOTAL FUND PERFORMANCE DETAIL

	Allocation		Performance (%)						
	Market Value (\$)	% of Portfolio	3 Mo (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
<b>Board of Regents Total Composite</b>	<b>10,136,042</b>	<b>100.0</b>	<b>8.9</b>	<b>11.0</b>	<b>3.6</b>	<b>4.5</b>	<b>3.4</b>	<b>4.5</b>	<b>Apr-09</b>
<i>Allocation Index</i>			<u>7.6</u>	<u>8.2</u>	<u>2.8</u>	<u>5.4</u>	<u>4.0</u>	-	
<b>Short Term Investment Pool</b>	<b>603,793</b>	<b>6.0</b>	<b>1.2</b>	<b>4.8</b>	<b>2.0</b>	<b>1.7</b>	<b>0.9</b>	<b>0.7</b>	<b>Apr-09</b>
<i>90 Day U.S. Treasury Bill</i>			<u>1.4</u>	<u>5.0</u>	<u>2.2</u>	<u>1.9</u>	<u>1.2</u>	<u>0.9</u>	
Northern Inst Govt Select MMKT	603,793	6.0	1.3	4.9	2.1	1.5	0.8	0.6	Nov-09
<i>90 Day U.S. Treasury Bill</i>			<u>1.4</u>	<u>5.0</u>	<u>2.2</u>	<u>1.9</u>	<u>1.2</u>	<u>0.9</u>	
Bank of Ann Arbor T-Bills		0.0	0.9	4.4	1.6	1.4	0.8	0.6	Nov-09
<i>90 Day U.S. Treasury Bill</i>			<u>1.4</u>	<u>5.0</u>	<u>2.2</u>	<u>1.9</u>	<u>1.2</u>	<u>0.9</u>	
<b>Long Term Investment Pool</b>	<b>9,532,250</b>	<b>94.0</b>	<b>8.7 (54)</b>	<b>14.0 (53)</b>	<b>2.0 (75)</b>	<b>5.7 (81)</b>	<b>4.4 (87)</b>	<b>5.1 (96)</b>	<b>Apr-09</b>
<i>Long Term Allocation Index</i>			<u>8.5 (59)</u>	<u>12.5 (67)</u>	<u>1.5 (83)</u>	<u>7.6 (57)</u>	<u>5.7 (48)</u>	-	
<i>Long Term Balanced Index</i>			<u>8.9 (49)</u>	<u>14.4 (47)</u>	<u>2.0 (75)</u>	<u>6.9 (72)</u>	-	-	
<i>InvMetrics All E&amp;F &lt; \$50M Median</i>			8.8	14.3	2.8	7.7	5.6	8.3	
<b>Total Equity</b>	<b>5,075,557</b>	<b>50.1</b>	<b>10.9 (56)</b>	<b>20.7 (39)</b>	<b>4.4 (56)</b>	<b>10.4 (63)</b>	<b>7.8 (47)</b>	<b>7.8 (47)</b>	<b>Jan-14</b>
<i>MSCI AC World Index (Net)</i>			<u>11.0 (53)</u>	<u>22.2 (33)</u>	<u>5.7 (44)</u>	<u>11.7 (47)</u>	<u>7.9 (45)</u>	<u>7.9 (45)</u>	
<i>eV All Global Equity Median</i>			11.1	18.6	5.0	11.5	7.6	7.6	
Fidelity Large Cap Value - FLCOX	956,188	9.4	9.5 (54)	11.5 (49)	-	-	-	5.9 (61)	May-22
<i>Russell 1000 Value Index</i>			<u>9.5 (54)</u>	<u>11.5 (50)</u>	<u>8.9 (70)</u>	<u>10.9 (64)</u>	<u>8.4 (52)</u>	<u>5.9 (61)</u>	
<i>Large Value Median</i>			9.6	11.4	9.8	11.5	8.4	6.5	
SEG Baxter	188,671	1.9	9.7 (64)	8.7 (95)	-4.6 (85)	5.5 (93)	-	4.0 (81)	Jul-17
<i>MSCI AC World ex USA (Net)</i>			<u>9.8 (62)</u>	<u>15.6 (60)</u>	<u>1.5 (50)</u>	<u>7.1 (73)</u>	<u>3.8 (79)</u>	<u>4.7 (66)</u>	
<i>eV All ACWI ex-US Equity Median</i>			10.3	16.4	1.4	8.1	4.5	5.2	
MFS Intl International Equity	1,041,395	10.3	12.0 (7)	19.0 (15)	-	-	-	9.1 (23)	May-22
<i>MSCI EAFE Index</i>			<u>10.5 (42)</u>	<u>18.9 (16)</u>	<u>4.5 (17)</u>	<u>8.7 (22)</u>	<u>4.8 (16)</u>	<u>9.2 (21)</u>	
<i>Foreign Large Blend Median</i>			10.1	17.0	2.9	7.9	4.1	7.7	
Acadian Emerging Markets Equity	846,602	8.4	8.3 (42)	23.1 (12)	2.4 (26)	7.8 (23)	-	4.4 (25)	Oct-14
<i>MSCI Emerging Markets (Net)</i>			<u>7.9 (51)</u>	<u>9.8 (63)</u>	<u>-5.1 (61)</u>	<u>3.7 (76)</u>	<u>2.7 (72)</u>	<u>2.6 (71)</u>	
<i>eV Emg Mkts Equity Median</i>			7.9	12.0	-3.3	5.1	3.3	3.4	
Vanguard Total Stock Market VIPERs - VTI	2,042,701	20.2	12.2 (44)	26.0 (24)	8.4 (46)	15.0 (27)	-	-	Nov-16
<i>Russell 3000 Index</i>			<u>12.1 (45)</u>	<u>26.0 (24)</u>	<u>8.5 (44)</u>	<u>15.2 (25)</u>	<u>11.5 (22)</u>	<u>13.5 (26)</u>	
<i>eV All US Equity Median</i>			11.8	18.1	8.0	13.0	9.2	11.4	

# TOTAL FUND PERFORMANCE DETAIL

	Allocation		Performance (%)						
	Market Value (\$)	% of Portfolio	3 Mo (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
<b>Total Fixed</b>	<b>3,890,866</b>	<b>38.4</b>	<b>6.2 (73)</b>	<b>6.2 (79)</b>	<b>-1.8 (50)</b>	<b>1.4 (67)</b>	<b>2.0 (54)</b>	<b>2.0 (54)</b>	<b>Jan-14</b>
<i>Blmbg. U.S. Aggregate Index</i>			<i>6.8 (59)</i>	<i>5.5 (85)</i>	<i>-3.3 (66)</i>	<i>1.1 (70)</i>	<i>1.8 (57)</i>	<i>1.8 (57)</i>	
<i>eV All Global Fixed Inc Median</i>			<i>7.2</i>	<i>8.7</i>	<i>-1.9</i>	<i>2.3</i>	<i>2.3</i>	<i>2.3</i>	
BlackRock Strategic Income Opportunities Fund - BSIX	962,499	9.5	5.5 (98)	7.3 (18)	0.7 (1)	3.5 (3)	-	2.8 (8)	Oct-14
<i>Blmbg. U.S. Aggregate Index</i>			<i>6.8 (65)</i>	<i>5.5 (91)</i>	<i>-3.3 (80)</i>	<i>1.1 (97)</i>	<i>1.8 (94)</i>	<i>1.5 (93)</i>	
<i>eV US Core Plus Fixed Inc Median</i>			<i>7.0</i>	<i>6.6</i>	<i>-2.8</i>	<i>1.9</i>	<i>2.4</i>	<i>2.1</i>	
Baird Core Bond - BAGIX	1,771,844	17.5	7.2 (16)	6.4 (18)	-3.1 (53)	1.6 (36)	-	1.7 (28)	Dec-14
<i>Blmbg. U.S. Aggregate Index</i>			<i>6.8 (52)</i>	<i>5.5 (72)</i>	<i>-3.3 (69)</i>	<i>1.1 (84)</i>	<i>1.8 (76)</i>	<i>1.4 (79)</i>	
<i>eV US Core Fixed Inc Median</i>			<i>6.8</i>	<i>5.9</i>	<i>-3.1</i>	<i>1.4</i>	<i>2.0</i>	<i>1.6</i>	
MassMutual High Yield - I	316,402	3.1	6.6 (48)	-	-	-	-	5.5 (35)	Sep-23
<i>Blmbg. U.S. Corp: High Yield Index</i>			<i>7.2 (20)</i>	<i>13.4 (15)</i>	<i>2.0 (42)</i>	<i>5.4 (24)</i>	<i>4.6 (13)</i>	<i>5.9 (17)</i>	
<i>High Yield Bond Median</i>			<i>6.5</i>	<i>12.2</i>	<i>1.8</i>	<i>4.9</i>	<i>3.9</i>	<i>5.2</i>	
Vanguard Intermediate-Term Treasury ETF - VGIT	663,554	6.5	4.9 (46)	4.3 (95)	-	-	-	-	Apr-21
<i>Blmbg. U.S. Treasury: Intermediate</i>			<i>4.0 (97)</i>	<i>4.3 (95)</i>	<i>-1.9 (78)</i>	<i>1.0 (92)</i>	<i>1.2 (96)</i>	<i>-1.4 (76)</i>	
<i>eV US Interm Duration Fixed Inc Median</i>			<i>4.8</i>	<i>5.5</i>	<i>-1.6</i>	<i>1.7</i>	<i>1.8</i>	<i>-1.1</i>	
Fidelity Inflation-Protected Bond Index Fund - FIPDX	176,569	1.7	4.5 (49)	3.8 (64)	-	-	-	-1.7 (61)	Jun-21
<i>Blmbg. U.S. TIPS</i>			<i>4.7 (27)</i>	<i>3.9 (49)</i>	<i>-1.0 (49)</i>	<i>3.2 (51)</i>	<i>2.4 (31)</i>	<i>-1.6 (54)</i>	
<i>eV US TIPS / Inflation Fixed Inc Median</i>			<i>4.5</i>	<i>3.9</i>	<i>-1.0</i>	<i>3.2</i>	<i>2.3</i>	<i>-1.6</i>	
<b>GAA/ Risk Parity</b>	<b>565,826</b>	<b>5.6</b>	<b>6.8 (71)</b>	<b>8.6 (68)</b>	<b>0.5 (70)</b>	<b>-0.2 (99)</b>	<b>-</b>	<b>-0.1 (97)</b>	<b>Dec-14</b>
<i>eV Global TAA Median</i>			<i>8.3</i>	<i>11.1</i>	<i>1.5</i>	<i>6.1</i>	<i>4.6</i>	<i>4.4</i>	
PIMCO All Asset - PAAIX	565,826	5.6	6.8 (71)	8.6 (68)	-	-	-	-	Apr-21
<i>PIMCO All Asset Index</i>			<i>6.8 (71)</i>	<i>8.4 (69)</i>	<i>-0.6 (82)</i>	<i>3.6 (83)</i>	<i>3.3 (78)</i>	<i>-0.2 (73)</i>	
<i>eV Global TAA Median</i>			<i>8.3</i>	<i>11.1</i>	<i>1.5</i>	<i>6.1</i>	<i>4.6</i>	<i>1.0</i>	

-Allocation Index: Used to measure the value add from active management. Calculated as the asset weight from the prior month end multiplied by the specified market index.

-Long-Term Balanced Index: (54% - MSCI ACWI)(30% - Bloomberg Aggregate)(5% - Bloomberg US TIPS TR)(5% - Bloomberg US Treasury TR)(6% - PIMCO All Asset Index) as of 3/1/2021.

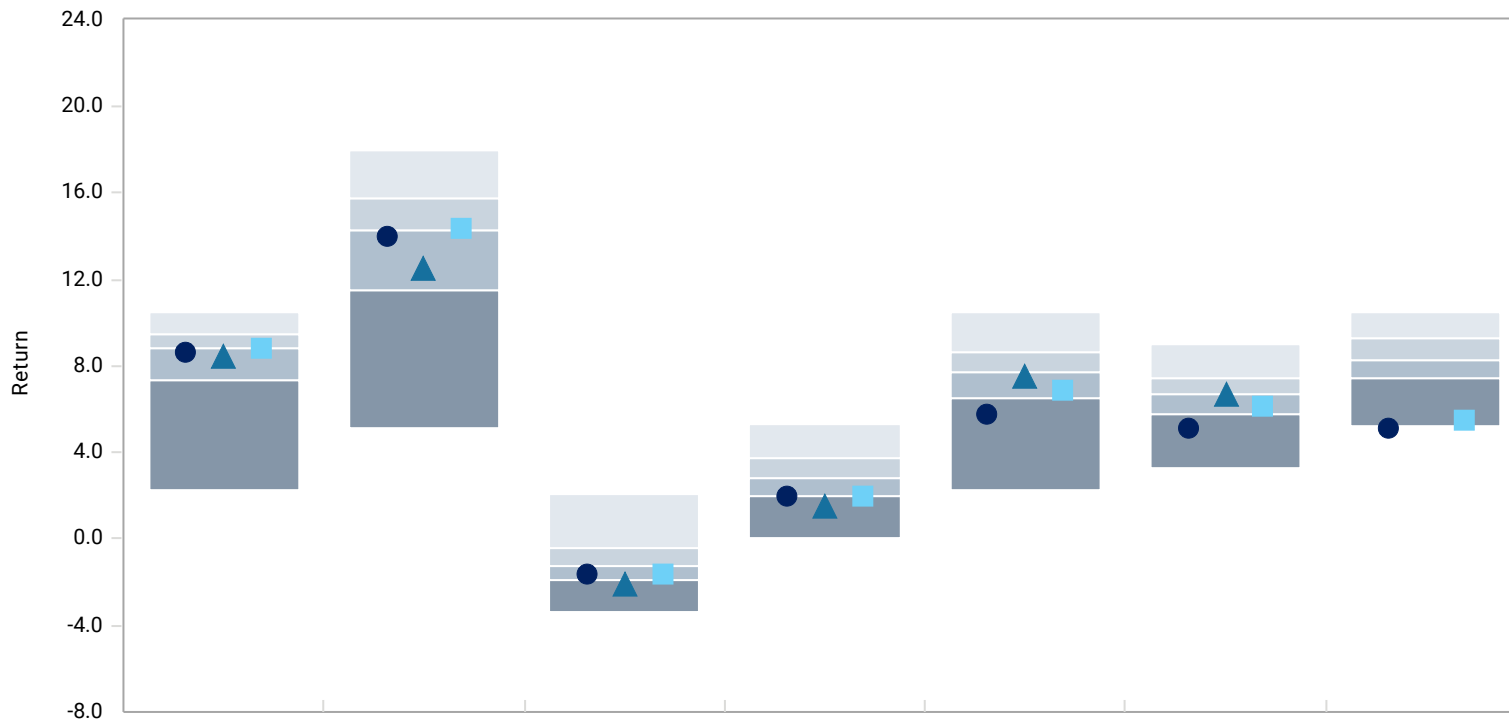
-PIMCO All Asset Index: (40% - Bloomberg Aggregate)(30% - Bloomberg US TIPS 1-10 Yr)(10% - S&P 500)(10% - Bloomberg High Yield)(10% - JP Morgan EMBI+).

# CASH FLOW SUMMARY BY MANAGER

	1 Quarter Ending December 31, 2023					
	Beginning Market Value	Contributions	Withdrawals	Net Cash Flows	Net Investment Change	Ending Market Value
Acadian Emerging Markets Equity	\$781,642	-	-\$1,494	-\$1,494	\$66,454	\$846,602
Baird Core Bond - BAGIX	\$1,652,851	-	-	-	\$118,992	\$1,771,844
Bank of Ann Arbor T-Bills	\$147,389	-	-\$148,678	-\$148,678	\$1,289	-
BlackRock Strategic Income Opportunities Fund - BSIX	\$912,238	-	-	-	\$50,260	\$962,499
Fidelity Inflation-Protected Bond Index Fund - FIPDX	\$168,962	-	-	-	\$7,607	\$176,569
Fidelity Large Cap Value - FLCOX	\$873,278	-	-	-	\$82,909	\$956,188
MassMutual High Yield - I	\$296,917	-	-	-	\$19,484	\$316,402
MFS Intl International Equity	\$929,835	-	-	-	\$111,560	\$1,041,395
Northern Inst Govt Select MMKT	\$17,666,769	\$15,483	-\$17,150,249	-\$17,134,767	\$71,791	\$603,793
PIMCO All Asset - PAAIX	\$529,919	-	-	-	\$35,907	\$565,826
SEG Baxter	\$171,974	-	-	-	\$16,697	\$188,671
Vanguard Intermediate-Term Treasury ETF - VGIT	\$639,280	-	-\$6,857	-\$6,857	\$31,131	\$663,554
Vanguard Total Stock Market VIPERs - VTI	\$1,829,063	-	-\$8,626	-\$8,626	\$222,265	\$2,042,701
<b>Total</b>	<b>\$26,600,118</b>	<b>\$15,483</b>	<b>-\$17,315,904</b>	<b>-\$17,300,421</b>	<b>\$836,346</b>	<b>\$10,136,042</b>

# RETURN SUMMARY VS. PEER UNIVERSE

Long Term Investment Pool vs. InvMetrics All E&F < \$50M



	3 Mo	1 Year	2 Years	3 Years	5 Years	7 Years	Inception
● Long Term Investment Pool	8.7 (54)	14.0 (53)	-1.6 (62)	2.0 (75)	5.7 (81)	5.2 (83)	5.1 (96)
▲ Long Term Allocation Index	8.5 (59)	12.5 (67)	-2.1 (81)	1.5 (83)	7.6 (57)	6.7 (51)	
■ Long Term Balanced Index	8.9 (49)	14.4 (47)	-1.6 (63)	2.0 (75)	6.9 (72)	6.1 (69)	5.5 (95)
5th Percentile	10.5	18.0	2.1	5.3	10.5	9.0	10.5
1st Quartile	9.5	15.7	-0.4	3.8	8.7	7.4	9.3
Median	8.8	14.3	-1.3	2.8	7.7	6.7	8.3
3rd Quartile	7.3	11.5	-1.9	2.0	6.5	5.8	7.4
95th Percentile	2.3	5.2	-3.4	0.1	2.2	3.2	5.2
Population	536	493	416	379	327	283	111

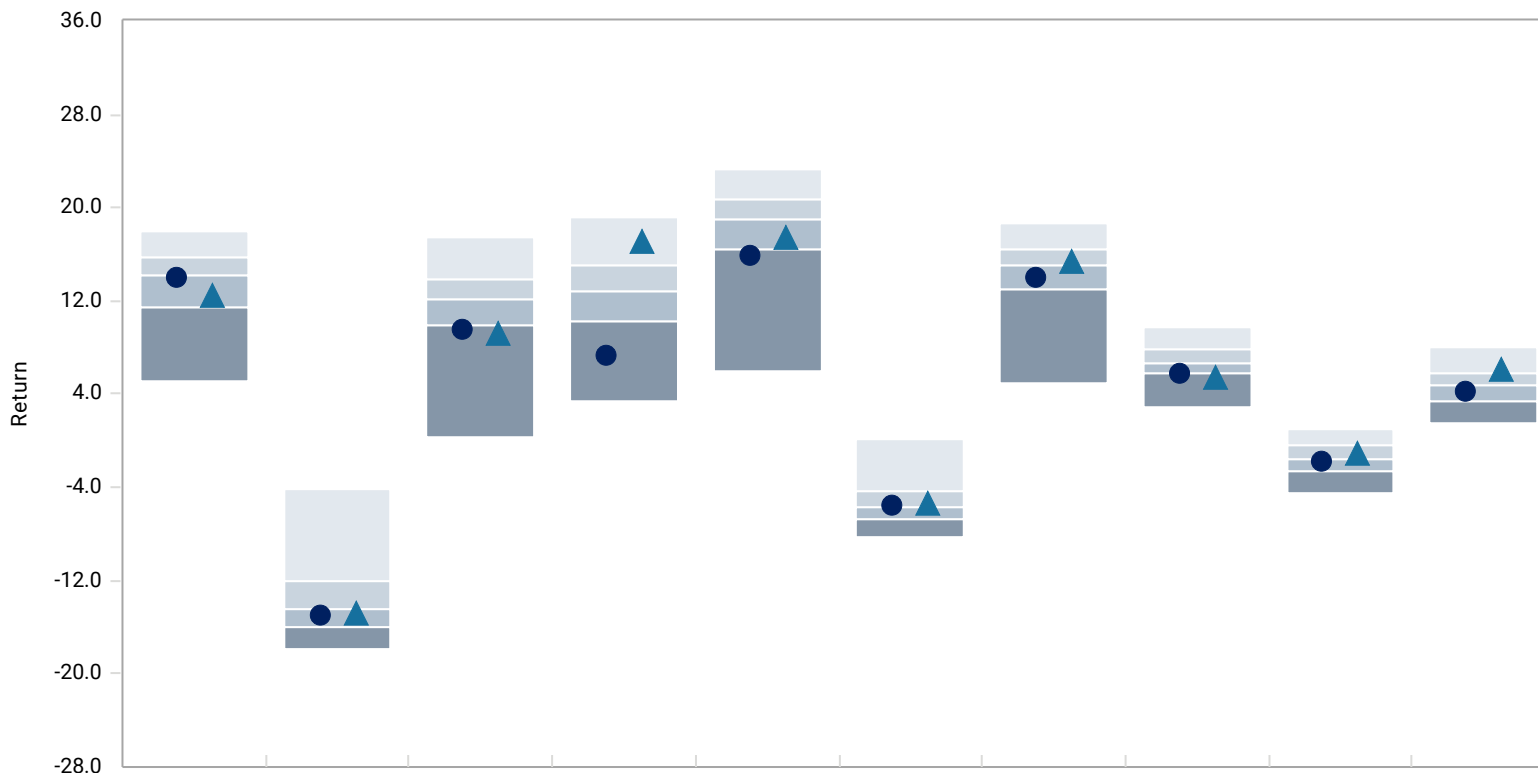
-The above Return Summary vs. Peer Universe analytic is based on the Long Term Investment Pool.





# RETURN SUMMARY VS. PEER UNIVERSE

Long Term Investment Pool vs. InvMetrics All E&F < \$50M



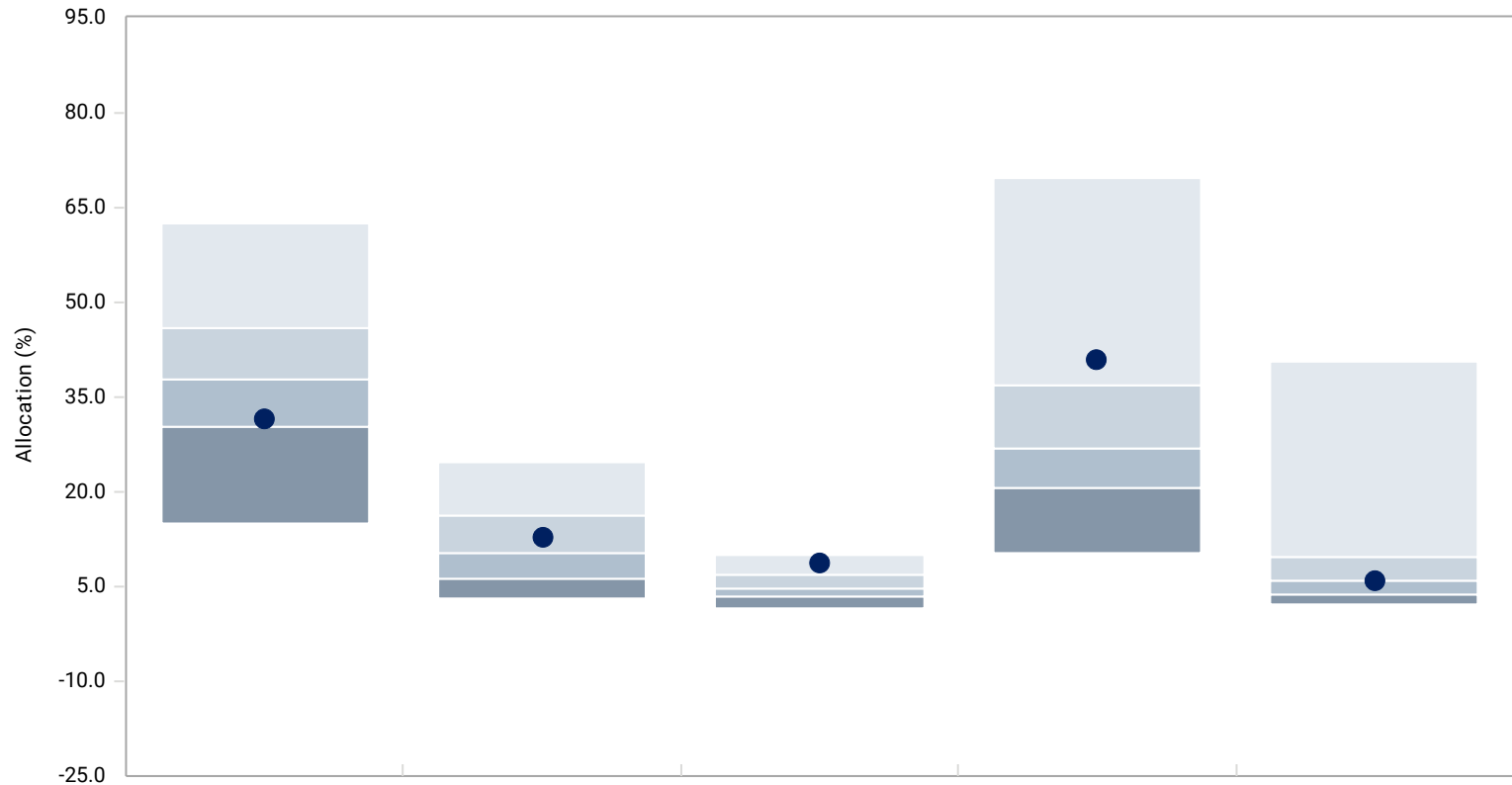
	2023	2022	2021	2020	2019	2018	2017	2016	2015	2014
● Long Term Investment Pool	14.0 (53)	-15.0 (59)	9.6 (77)	7.3 (89)	16.0 (78)	-5.5 (46)	14.0 (66)	5.8 (74)	-1.8 (57)	4.3 (59)
▲ Long Term Allocation Index	12.5 (67)	-14.8 (57)	9.2 (79)	17.2 (12)	17.4 (69)	-5.4 (43)	15.5 (42)	5.4 (80)	-1.1 (39)	6.2 (21)
5th Percentile	18.0	-4.1	17.5	19.2	23.3	0.1	18.7	9.8	0.9	8.1
1st Quartile	15.7	-12.0	13.9	15.1	20.8	-4.3	16.4	7.9	-0.5	5.9
Median	14.3	-14.5	12.1	12.8	19.1	-5.8	15.0	6.7	-1.6	4.7
3rd Quartile	11.5	-16.0	9.9	10.2	16.5	-6.8	13.0	5.7	-2.7	3.4
95th Percentile	5.2	-17.9	0.4	3.3	6.0	-8.3	4.9	2.8	-4.5	1.5
Population	493	674	743	966	847	761	750	719	666	593

-The above Return Summary vs. Peer Universe analytic is based on the Long Term Investment Pool.



# ASSET ALLOCATION VS. PEER UNIVERSE

Total Fund Allocation vs. InvMetrics All E&F < \$50M



	US Equity	Dev'd ex-US Equity	Emg Mkt Equity	Total Fixed Income	Mixed Assets
● Long Term Investment Pool	31.5 (71)	12.9 (41)	8.9 (11)	40.8 (18)	5.9 (52)
5th Percentile	62.4	24.7	9.9	69.6	40.5
1st Quartile	46.1	16.1	7.0	37.0	9.8
Median	37.9	10.4	4.8	27.0	6.0
3rd Quartile	30.3	6.3	3.4	20.6	3.9
95th Percentile	15.1	3.3	1.7	10.3	2.1

Population	794	92	281	842	34
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-The above Asset Allocation vs. Peer Universe analytic is based on the Long Term Investment Pool.

# INVESTMENT MANAGER - DUE DILIGENCE STATUS

Investment Options	Manager Changes/ Announcement	NEPC Due Diligence Committee Recommendations
Acadian Emerging Markets Equity	Departure of CEO; Promotion of CMO to CEO	Watch
PIMCO All Asset	PIMCO Litigation Update - No Change	Watch
MFS Institutional International Equity	Senior Leadership Update	No Action

# INVESTMENT MANAGER - DUE DILIGENCE STATUS

Investment Options	Manager Changes/ Announcements
Acadian Emerging Markets Equity	<p>Effective December 20, 2023, Acadian Asset Management will replace CEO, Ross Dowd, who is no longer with the firm with current Chief Marketing Officer, Kelly Young. Additionally, Ted Noon, Senior Vice President and Director of our Americas Client Group will take over as the firm’s Chief Marketing Officer following the transition of Kelly Young to CEO. Reasons for the sudden change in CEO was tied mainly to differences of opinion on the future of the firm, including its potential ownership structure. The firm pointed out that the departure had nothing to do with unethical activities of Dowd with the change being strategic in nature regarding the strategic direction of the firm. The change in CEO not expected to impact the investment strategies in any way. The departure of CEO Dowd shows that there is still uncertainty about the ownership of the firm going forward and something that we believe should still be monitored. Because of this ownership uncertainty, NEPC Research recommends that the firm maintain its due diligence status of Watch.</p>
PIMCO All Asset	<p>On November 27, 2023, PIMCO provided NEPC Research with an update on the remaining workplace discrimination lawsuit pending. The matter from May 2022 (involving two individuals) remains ongoing and is currently in the discovery phase of the litigation. As a reminder, the complaints from 2019 and 2020 have officially been “resolved and dismissed”. However, PIMCO was unable to provide any real specifics citing human resource policies and other restrictions, so there was no transparency around fault. They also noted that those matters were “dismissed with prejudice” (i.e. the plaintiffs cannot refile for the same claim again). No action, maintain current Watch status.</p>
MFS Institutional International Equity	<p>Effective January 1, 2025, Ted Maloney, CIO of MFS, will become the firm's CEO. There is sufficient overlap given this transition is expected to take place next year and Michael Roberge, MFS Chair and CEO will assume the position of Executive Chair as well as will remain a member of the MFS Funds board to ensure continuity and ensure smooth transition of responsibilities. MFS expects Mr. Maloney to continue to hold the position of CIO, managing a team of Co-CIOs across equity and fixed income disciplines. NEPC Research recommends Due Diligence Status of FYI as the change has been part of a long-term succession plan and there is sufficient period to ensure smooth transition.</p>



# 2024 MARKET THEMES



PROPRIETARY & CONFIDENTIAL



# 2024 MARKET THEMES

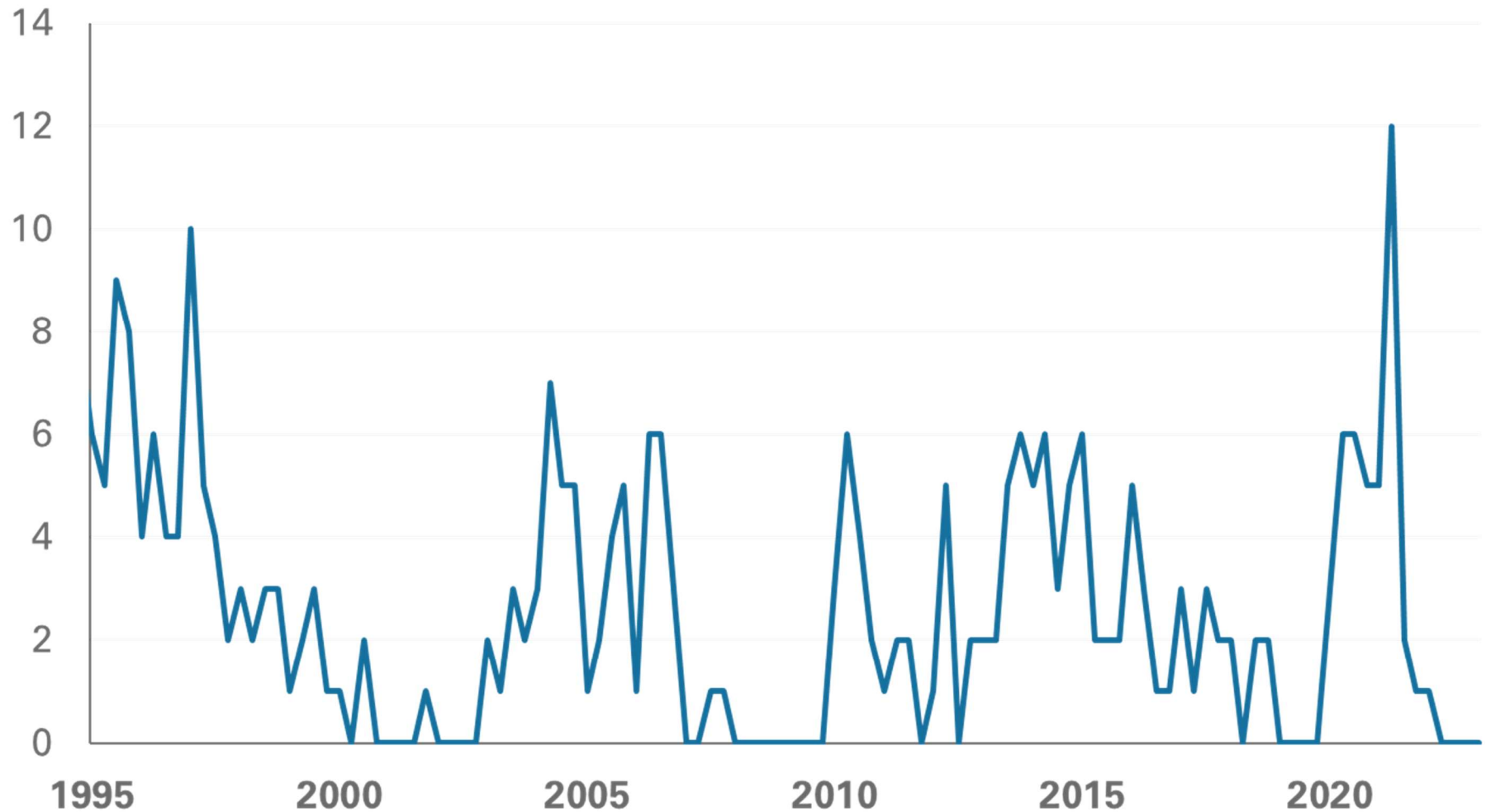
## NEPC MARKET OUTLOOK

- **At the start of each year, we identify the Market Themes that we believe will impact the investment landscape over the next 12 months**
- **Market Themes represent essential factors for investors and are likely to exert significant influence on market pricing and investor sentiment**
- **Disruptions in these factors will reveal new investment opportunities and likely alter our understanding of market dynamics**



# INTEREST RATES SUPPRESSING M&A ACTIVITY

BANKS REPORTING LOAN DEMAND DUE TO M&A FINANCING



Notes: Gray shading reflects recessions as defined by the NBER

Sources: Federal Reserve System, FactSet



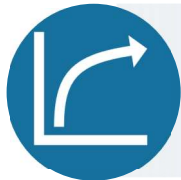
# MAGNIFICENT SEVEN

## 2024 MARKET THEMES



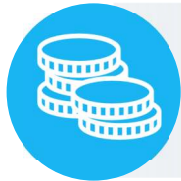
**Unprecedented Size**

**Massive Scale; Just 7 companies account for 28% of the S&P 500 Index**



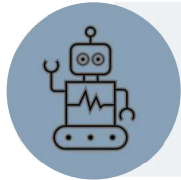
**Priced For Perfection**

**Sky-high earnings growth expectations offer limited upside at current valuations**



**Free Cash Flow Cows**

**Operating cash flows and revenue quality insulated names from higher rates**



**Tech Dominance**

**Pioneers of tech in their own right, but new tech advances can usurp them**

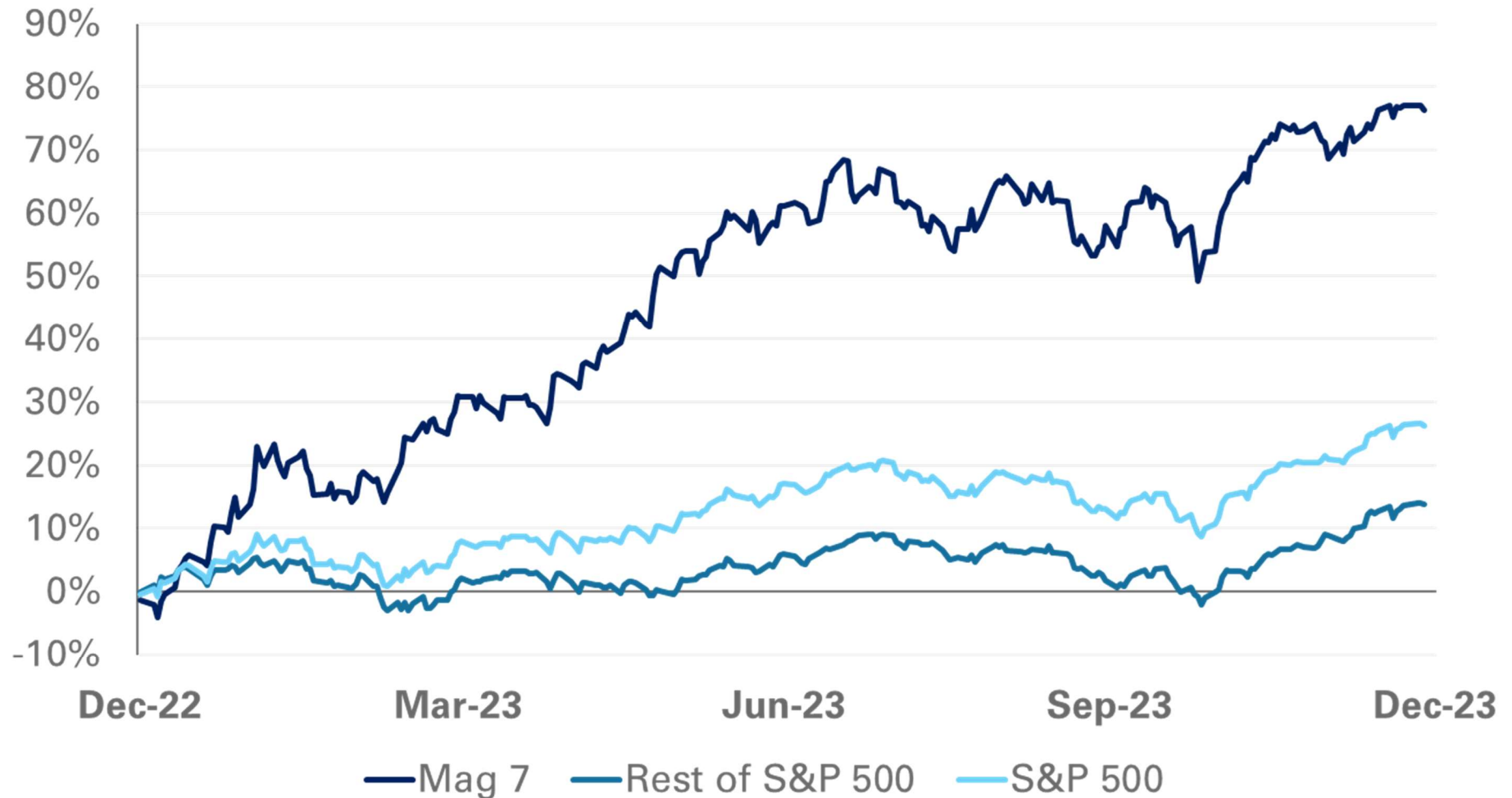


**Nifty Fifty Vibes**

**Historically, growth at this size becomes harder and darling stocks tend to fade**

# ...AND WHAT HAVE THEY DONE IN 2023?

## 2023 MARGINAL PERFORMANCE



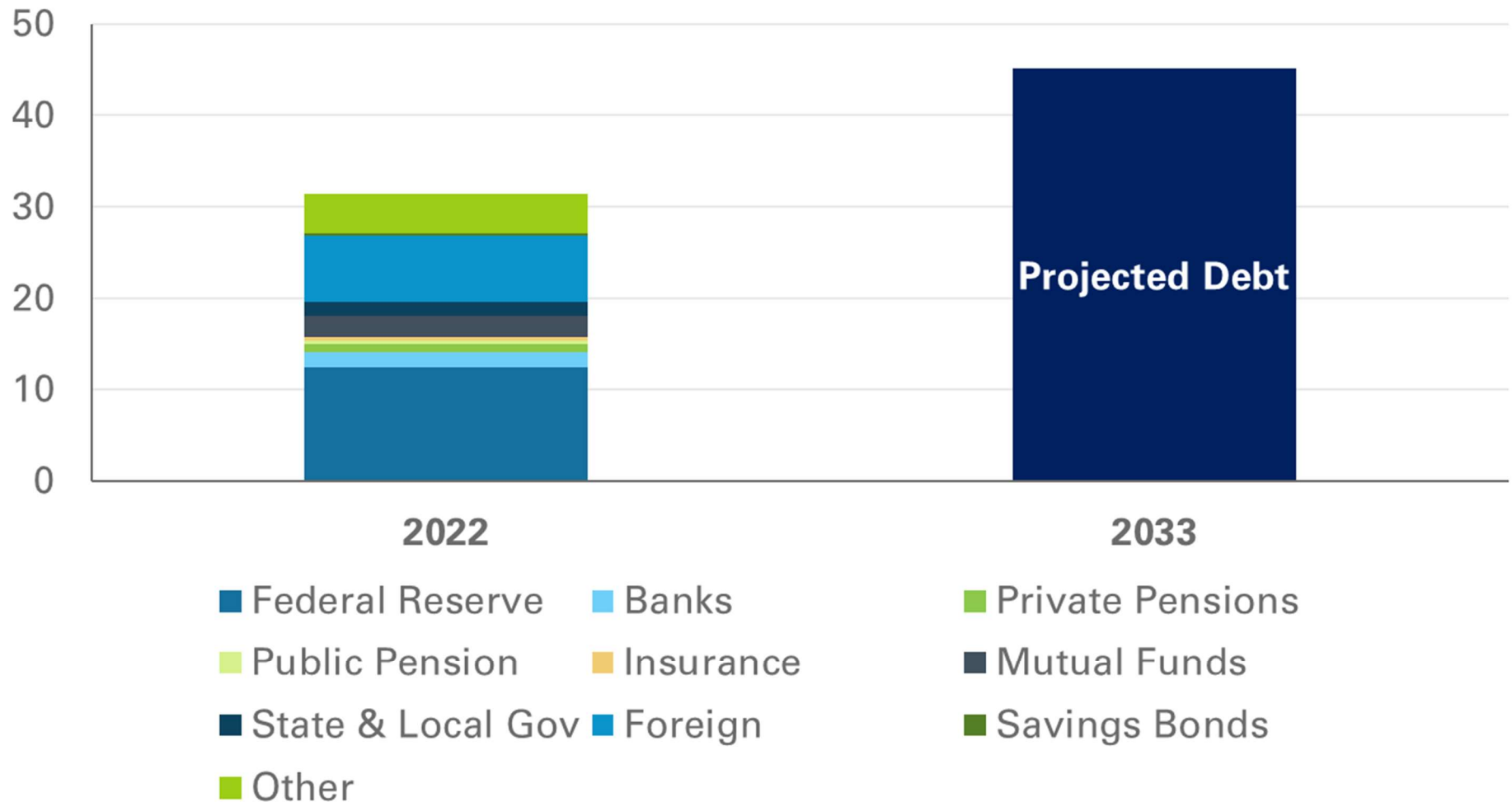
Source: FactSet, NEPC

Performance is based on marginal portfolios of each subset of the index based on daily performance and weights



# WHO'S GOING TO BUY ALL THIS DEBT?

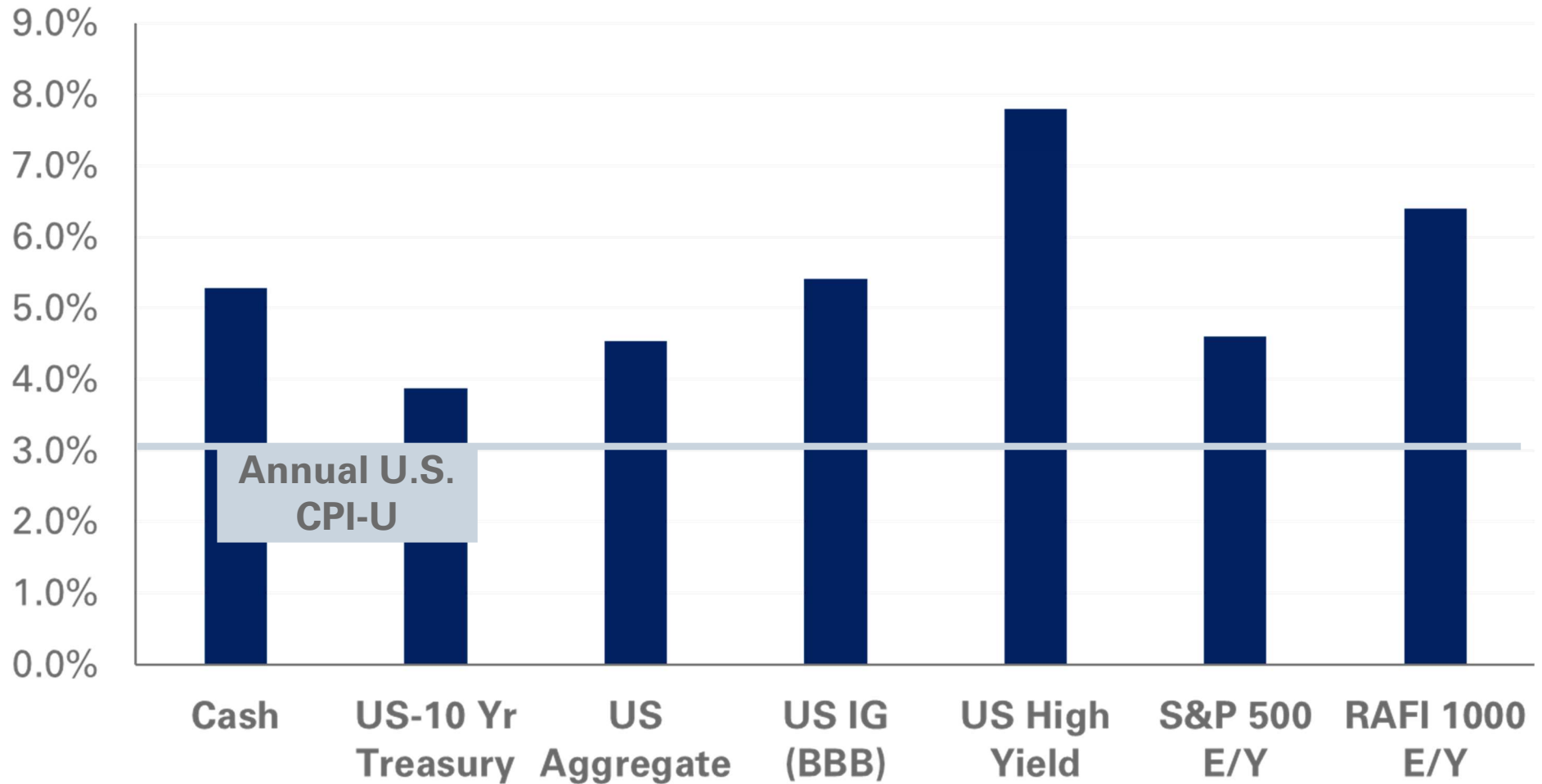
## OWNERSHIP OF U.S. TREASURY SECURITIES IN TRILLIONS



Source: U.S. Treasury, Congressional Budget Office  
As of December 31

# LOOK TO IDENTIFY HIGHER CARRY ASSETS

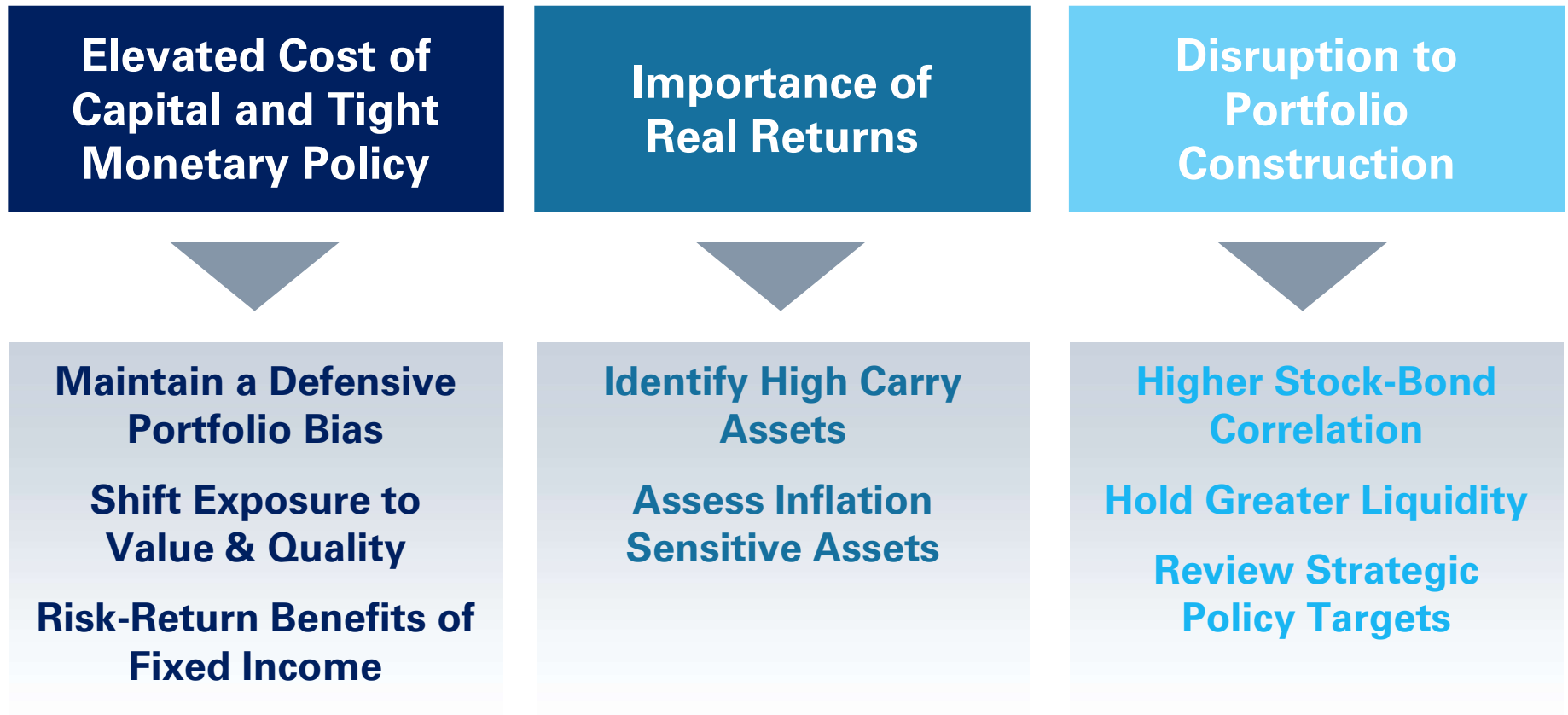
## ASSET CLASS BOND YIELDS AND EARNINGS YIELDS



Source: U.S. Department of Labor, Federal Reserve, FactSet  
Monetary Policy Tightening Cycles: Peak Fed Funds relative to U.S. Annual CPI Rate



# FRAMEWORK FOR A SHIFTING MARKET REGIME



# STRATEGIC ASSET ALLOCATION OUTLOOK

With capital markets absorbing higher interest rates and disrupting portfolios, **we encourage a review of Strategic Policy Targets**

With the **normalization of real interest rates**, we recommend introducing dedicated U.S. TIPS exposure to strategic policy targets

We recommend **creating a distinct strategic asset allocation target exclusively for safe-haven fixed income**

Portfolio balance is critical and shifts in stock-bond correlation dynamics increase the **relative benefit of diversifying asset classes**

# ASSET ALLOCATION REVIEW



PROPRIETARY & CONFIDENTIAL

# CORE ASSET CLASS RETURN ASSUMPTIONS

	Asset Class	12/31/23 10-Year Return	12/31/22 10-Year Return	Delta
	Cash	3.9%	4.0%	-0.1%
	U.S. Inflation	2.6%	2.5%	+0.1%
Equity	U.S. Large-Cap Equity	4.4%	5.4%	-1.0%
	Non-U.S. Developed Equity	4.6%	5.6%	-1.0%
	Emerging Market Equity	8.6%	9.6%	-1.0%
	Global Equity*	5.4%	6.3%	-0.9%
	Private Equity*	9.0%	9.2%	-0.2%
Fixed Income	U.S. Treasury Bond	4.2%	4.2%	-
	U.S. Municipal Bond	3.5%	4.4%	-0.9%
	U.S. Aggregate Bond*	4.6%	4.8%	-0.2%
	U.S. TIPS	4.6%	4.4%	+0.2%
	U.S. High Yield Corporate Bond	6.1%	7.1%	-1.0%
	Private Debt*	8.3%	8.8%	-0.5%
Real Assets	Commodity Futures	4.6%	4.2%	+0.4%
	REIT	6.0%	6.2%	-0.2%
	Gold	4.9%	5.1%	-0.2%
	Real Estate - Core	5.4%	4.0%	+1.4%
	Private Real Assets - Infrastructure	6.8%	6.6%	+0.2%
Multi-Asset	60% S&P 500 & 40% U.S. Aggregate	4.8%	5.3%	-0.5%
	60% MSCI ACWI & 40% U.S. Agg.	5.4%	6.0%	-0.6%
	Hedge Fund*	6.1%	6.5%	-0.4%

\*Calculated as a blend of other asset classes



# ASSET ALLOCATION OVERVIEW

	Current Target	Current Allocation*
Domestic Equity	30%	32%
International Equity	11%	13%
Emerging Markets Equity	8%	9%
<b>Equity</b>	<b>49%</b>	<b>54%</b>
<b>GAA/ Risk Parity</b>	<b>6%</b>	<b>6%</b>
Core Fixed Income	19%	19%
TIPS	5%	2%
Treasury	6%	7%
Global Multi-Sector Fxd Inc	10%	10%
High Yield	5%	3%
<b>Fixed Income</b>	<b>45%</b>	<b>41%</b>
<b>Cash</b>	<b>0%</b>	<b>0%</b>

<i>Expected Return Statistics</i>		
<i>Expected Return 10 Years (Geometric)</i>	5.5%	5.5%
<i>Asset Standard Deviation</i>	10.2%	11.0%
<i>Sharpe Ratio 10 Years</i>	0.15	0.14
<i>Expected Return 30 years (Geometric)</i>	6.5%	6.7%
<i>Sharpe Ratio 30 Years</i>	0.31	0.30

- **NEPC recommends no change to the current asset allocation targets**
- **NEPC recommends trimming equities and further increasing high yield exposure to the 5% target**
- **Recommended transactions:**
  - Sell \$50K Vanguard Total Stock Market Index
  - Sell \$30K Fidelity Large Cap Value
  - Sell \$50K MFS International Equity
  - Sell \$30K Acadian Emerging Markets Equity
  - Purchase \$160K Mass Mutual High Yield



\*May not add to 100% due to rounding



# APPENDIX





# DUE DILIGENCE MONITOR

## NEPC Due Diligence Status Key

<b>No Action</b>	Informational items have surfaced; no action is recommended.
<b>Watch</b>	Issues have surfaced to be concerned over; manager can participate in future searches, but current and prospective clients must be made aware of the issues.
<b>Hold</b>	Serious issues have surfaced to be concerned over; manager cannot be in future searches unless a client specifically requests, but current and prospective clients must be made aware of the issues.
<b>Client Review</b>	Very serious issues have surfaced with a manager; manager cannot be in future searches unless a client specifically requests. Current clients must be advised to review the manager.
<b>Terminate</b>	We have lost all confidence in the product; manager would not be recommended for searches and clients would be discouraged from using. The manager cannot be in future searches unless a client specifically requests. Current clients must be advised to replace the manager.

## NEPC Due Diligence Rating Key

1	A high conviction investment product. Product has a clear and economically-grounded investment thesis, and is managed by an investment team that is sufficiently resourced and incented to execute on the thesis.
2	NEPC has a positive view of the strategy. Strategy has a compelling and sound investment thesis. The manager is sufficiently resourced and incented to execute on the thesis. Strengths outweigh the weaknesses, but the strategy does not meet all requirements for a 1 rating.
3	A satisfactory investment product. The strategy lacks a compelling investment thesis, however there are no significant concerns around the manager's viability.
4	The strategy may have an unclear or ambiguous investment thesis or the manager may lack the ability to execute on the stated thesis. The strategy likely has strengths and weaknesses and the weaknesses may outweigh the strengths.
5	A strategy that lacks an investment thesis or NEPC has no confidence in the manager's ability to execute on the thesis, and/or the investment firm may not be viable. Serious issues have been identified with an investment manager or product. This rating aligns with a Terminate Due Diligence status for client-owned products.
NR	Due diligence has not been sufficiently completed on the product or manager.

# DISCLAIMERS

Past performance is no guarantee of future results.

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