



Plymouth County Retirement Association

March 26, 2024

Meeting Materials

Agenda

1. Estimated Retirement Association Performance As of February 29, 2024
2. Performance Update As of January 31, 2024
3. Current Issues
 - PCRA Peer Ranks As of 12/31/23: Follow Up
 - Asset Allocation Review
 - Fund Coordination Update
 - Global Public Equity Search Notice
4. Appendices
 - Economic Market Update As of January 31, 2024
 - Corporate Update
 - Disclaimer, Glossary, and Notes

**Estimated Retirement Association Performance
As of February 29, 2024**

Estimated Aggregate Performance¹

	February ² (%)	QTD (%)	1 YR (%)	3 YR (%)	5 YR (%)	10 YR (%)
Total Retirement Association	2.1	1.7	8.2	5.5	8.2	6.6

Benchmark Returns

	February (%)	QTD (%)	1 YR (%)	3 YR (%)	5 YR (%)	10 YR (%)
Russell 3000	5.4	6.6	28.6	9.9	13.9	12.0
MSCI EAFE	1.8	2.4	14.4	4.4	6.8	4.4
MSCI Emerging Markets	4.8	-0.1	8.7	-6.3	1.9	3.0
Bloomberg Aggregate	-1.4	-1.7	3.3	-3.2	0.6	1.4
Bloomberg TIPS	-1.1	-0.9	2.5	-0.9	2.7	2.1
Bloomberg High Yield	0.3	0.3	11.0	1.8	4.2	4.3
JPM EMBI Global Diversified (Hard Currency)	1.0	-0.1	10.1	-2.4	0.6	3.0
S&P Global Natural Resources	-0.4	-5.7	-3.4	7.4	7.5	4.6

Estimated Total Assets

Estimated Total Retirement Assets As of February 29, 2024	\$1,406,824,952
Current Month Performance Estimate through March 14, 2024	1.2%

¹ The February 29, 2024, performance estimates are calculated using index returns as of February 29, 2024, for each asset class. No performance estimate was included for portfolio completion, private equity, real estate, infrastructure, and private natural resources asset classes.

² As of February 29, 2024.

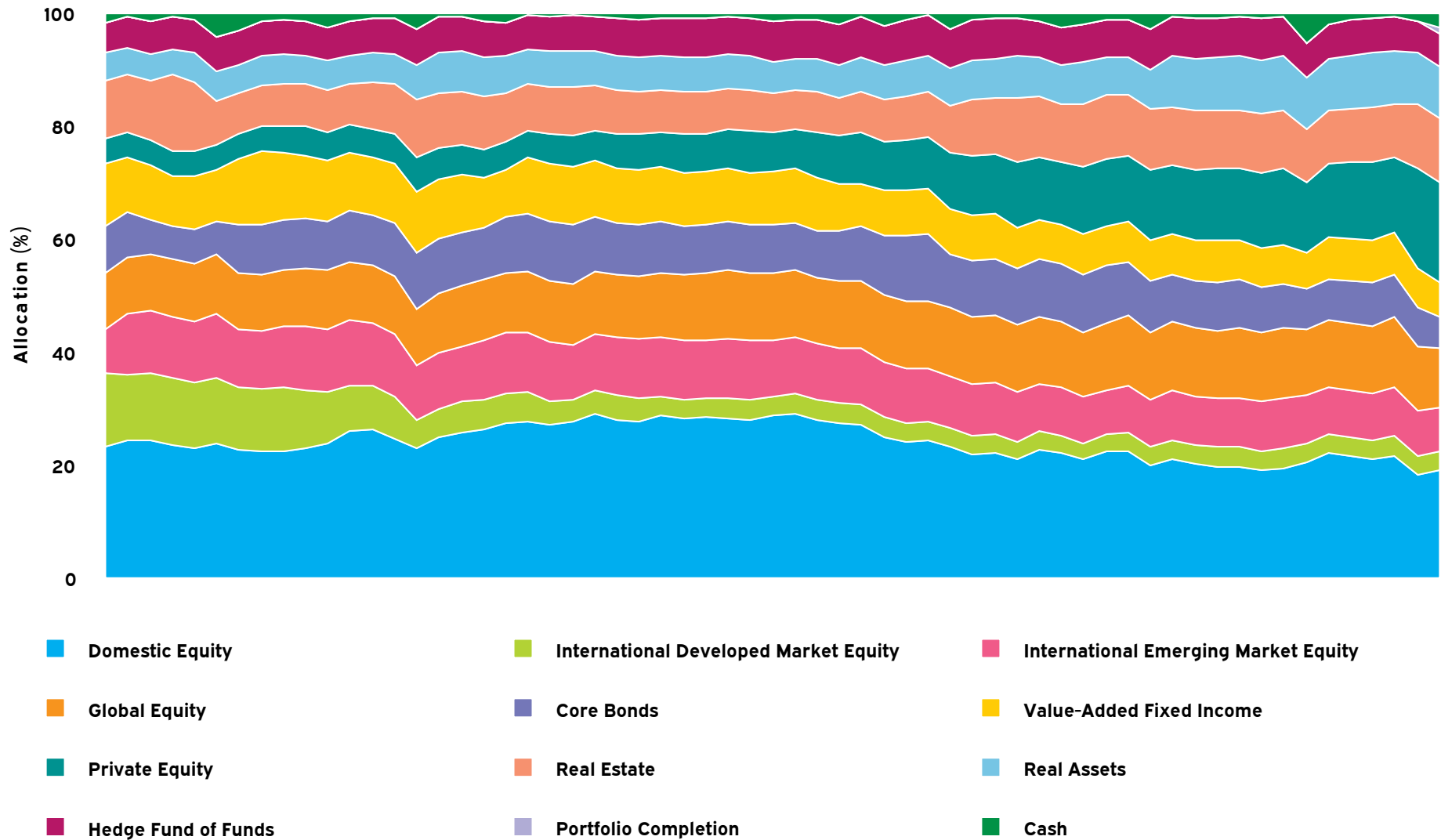
**Performance Update
As of January 31, 2024**

DRAFT

Asset Allocation Compliance | As of January 31, 2024

	Current Balance (\$)	Current Allocation (%)	Policy (%)	Policy Range (%)	Within IPS Range?
Total Equity	905,754,721	65	67	60 - 80	Yes
Domestic Equity	265,961,589	19	23	13 - 33	Yes
International Developed Market Equity	44,092,056	3	6	1 - 16	Yes
International Emerging Market Equity	109,077,470	8	10	5 - 20	Yes
Global Equity	145,454,524	10	10	5 - 20	Yes
Private Equity	246,633,551	18	13	3 - 23	Yes
Hedge Fund of Funds	79,532,643	6	4	2 - 8	Yes
Portfolio Completion	15,002,888	1	1	0 - 1	No
Total Fixed Income	163,206,204	12	15	5 - 25	Yes
Core Bonds	75,857,121	5	9	4 - 14	Yes
Value-Added Fixed Income	87,349,083	6	6	2 - 12	Yes
Total Real Assets and Real Estate	283,331,899	20	16	7 - 25	Yes
Real Estate	155,631,703	11	10	5 - 15	Yes
Real Assets	127,700,195	9	6	2 - 10	Yes
Cash	36,190,050	3	2	0 - 4	Yes
Cash	36,190,050	3	2	0 - 4	Yes
Total	1,388,482,874	100	100		

Asset Allocation History 5 Years Ending January 31, 2024



Asset Allocation & Performance | As of January 31, 2024

	Market Value \$	% of Portfolio	1 Mo (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Total Retirement Association	1,388,482,874	100.0	-0.3	4.5	5.5	8.2	6.8	7.8	Nov-89
<i>Policy Benchmark (Net)</i>			<i>-0.1</i>	<i>8.8</i>	<i>4.3</i>	<i>7.4</i>	<i>6.6</i>	<i>--</i>	
<i>Actual Allocation (Net)</i>			<i>0.0</i>	<i>8.7</i>	<i>4.0</i>	<i>6.8</i>	<i>--</i>	<i>--</i>	
Domestic Equity Assets	265,961,589	19.2	-0.4	10.5	5.0	12.0	--	12.0	Jan-16
<i>Russell 3000 Index</i>			<i>1.1</i>	<i>19.1</i>	<i>9.1</i>	<i>13.5</i>	<i>12.0</i>	<i>12.8</i>	
International Developed Market Equity Assets	44,092,056	3.2	0.5	9.7	0.9	2.9	--	3.7	Jan-16
<i>MSCI EAFE (Net)</i>			<i>0.6</i>	<i>10.0</i>	<i>4.6</i>	<i>6.9</i>	<i>4.8</i>	<i>6.2</i>	
International Emerging Market Equity Assets	109,077,470	7.9	-2.2	2.7	-5.6	2.7	--	5.2	Jan-16
<i>MSCI Emerging Markets (Net)</i>			<i>-4.6</i>	<i>-2.9</i>	<i>-7.5</i>	<i>1.0</i>	<i>2.9</i>	<i>5.1</i>	
Global Equity Assets	145,454,524	10.5	-0.9	8.2	6.6	9.0	--	6.4	Feb-18
<i>MSCI AC World Index (Net)</i>			<i>0.6</i>	<i>14.7</i>	<i>6.1</i>	<i>10.2</i>	<i>8.4</i>	<i>7.0</i>	
Portfolio Completion	15,002,888	1.1							
Core Fixed Income	75,857,121	5.5	0.2	3.4	-1.2	1.9	--	2.2	Jan-16
<i>75% Bbg Aggregate/25% Bbg US TIPs 1-10 year</i>			<i>-0.1</i>	<i>2.4</i>	<i>-2.2</i>	<i>1.5</i>	<i>1.8</i>	<i>1.8</i>	
Value Added Fixed Income	87,349,083	6.3	0.5	8.1	1.8	3.5	--	4.9	Jan-16
<i>Custom Benchmark - Global Fixed Income</i>			<i>-0.4</i>	<i>7.1</i>	<i>0.1</i>	<i>2.7</i>	<i>3.5</i>	<i>4.0</i>	
Hedge Funds	79,532,643	5.7	0.4	0.7	-2.3	2.2	2.3	3.2	Mar-10
<i>Custom Benchmark</i>			<i>0.4</i>	<i>5.4</i>	<i>2.4</i>	<i>5.0</i>	<i>3.3</i>	<i>3.3</i>	

Effective January 1, 2023, asset class and total plan performance is rolled up using a weighted average calculation.

As of January 1, 2024 the policy benchmark is comprised of 23% Russell 3000/ 6% MSCI EAFE/ 10% MSCI Emerging Markets/ 13% MSCI ACWI IMI (Lagged) + 2%/ 10% MSCI ACWI/ 4% Hedge Funds Custom Benchmark/ 9% (75/25 Barclays Aggregate and Barclays Tips 1-10yr)/ 6% Value Added FI Custom Benchmark/ 10% (80/20 NCREIF ODCE and Wilshire REIT)/ 6% CPI+3%/1% portfolio completion performance/2% ICE BofA 0-1 YR. U.S. Treasury Notes & Bonds Index.

The Custom Benchmark - Global Fixed Income is comprised of 25% BBgBarc/ US High Yield, 25% / Credit Suisse Leveraged Loans / 25% JP Morgan EMBI Global diversified / and 25% BBgBarc Multiverse TR

Real Estate, Private Equity, and Real Assets market values and performance are one quarter lagged. With the exception of JPM Strategic Property, IFM, and TA Realty.

Asset Allocation & Performance | As of January 31, 2024

	Market Value \$	% of Portfolio	1 Mo (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Real Estate	155,631,703	11.2	0.0	-8.4	10.0	9.1	--	7.5	Jan-16
<i>Custom Benchmark</i>			<i>0.0</i>	<i>-12.0</i>	<i>4.9</i>	<i>4.3</i>	<i>--</i>	<i>5.0</i>	
Private Equity	246,633,551	17.8	0.0	5.1	22.2	18.1	--	12.5	Jan-16
<i>MSCI ACWI IMI (1Q Lagged)+2%</i>			<i>0.0</i>	<i>22.5</i>	<i>9.0</i>	<i>8.2</i>	<i>9.5</i>	<i>10.8</i>	
Real Assets	127,700,195	9.2	-0.6	7.7	13.1	9.3	--	4.7	Jan-16
<i>CPI +3% (Unadjusted)</i>			<i>0.8</i>	<i>6.2</i>	<i>8.8</i>	<i>7.3</i>	<i>5.9</i>	<i>6.4</i>	
Cash and Cash Equivalent	36,190,050	2.6							

Asset Allocation & Performance | As of January 31, 2024

	Market Value \$	% of Portfolio	1 Mo (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Total Retirement Association	1,388,482,874	100.0	-0.3	4.5	5.5	8.2	6.8	7.8	Nov-89
<i>Policy Benchmark (Net)</i>			<i>-0.1</i>	<i>8.8</i>	<i>4.3</i>	<i>7.4</i>	<i>6.6</i>	<i>--</i>	
<i>Actual Allocation (Net)</i>			<i>0.0</i>	<i>8.7</i>	<i>4.0</i>	<i>6.8</i>	<i>--</i>	<i>--</i>	
Domestic Equity Assets	265,961,589	19.2	-0.4	10.5	5.0	12.0	--	12.0	Jan-16
<i>Russell 3000 Index</i>			<i>1.1</i>	<i>19.1</i>	<i>9.1</i>	<i>13.5</i>	<i>12.0</i>	<i>12.8</i>	
Rhumblin Russell 1000 Value	71,457,364	5.1	0.1	6.1	9.2	9.3	8.7	9.2	May-13
<i>Russell 1000 Value Index</i>			<i>0.1</i>	<i>6.1</i>	<i>9.2</i>	<i>9.3</i>	<i>8.8</i>	<i>9.3</i>	
Rhumblin Russell 1000 Growth	65,234,472	4.7	2.5	34.9	10.0	18.0	15.4	16.0	Aug-09
<i>Russell 1000 Growth Index</i>			<i>2.5</i>	<i>35.0</i>	<i>10.0</i>	<i>18.0</i>	<i>15.5</i>	<i>16.1</i>	
Fisher Midcap Value	47,548,073	3.4	-0.8	7.2	9.3	14.5	11.2	9.2	May-07
<i>Russell Midcap Value Index</i>			<i>-1.8</i>	<i>2.4</i>	<i>7.8</i>	<i>8.6</i>	<i>8.3</i>	<i>7.2</i>	
Newton Small Cap Growth	38,009,774	2.7	-3.0	0.4	-9.1	9.8	10.3	12.9	Sep-09
<i>Russell 2000 Growth Index</i>			<i>-3.2</i>	<i>4.5</i>	<i>-6.0</i>	<i>6.2</i>	<i>7.0</i>	<i>10.8</i>	
Vulcan Partners Small Cap Value	11,509,903	0.8	-2.9	3.7	--	--	--	-9.5	Apr-22
<i>Russell 2000 Value Index</i>			<i>-4.5</i>	<i>-0.1</i>	<i>4.5</i>	<i>6.7</i>	<i>6.7</i>	<i>-2.3</i>	
Systematic Small Cap Free Cash Flow	32,202,002	2.3	-2.4	6.4	--	--	--	6.0	Apr-22
<i>Russell 2000 Value Index</i>			<i>-4.5</i>	<i>-0.1</i>	<i>4.5</i>	<i>6.7</i>	<i>6.7</i>	<i>-2.3</i>	
International Developed Market Equity Assets	44,092,056	3.2	0.5	9.7	0.9	2.9	--	3.7	Jan-16
<i>MSCI EAFE (Net)</i>			<i>0.6</i>	<i>10.0</i>	<i>4.6</i>	<i>6.9</i>	<i>4.8</i>	<i>6.2</i>	
Aristotle International Equity	23,362,194	1.7	-0.2	9.7	--	--	--	2.7	Mar-21
<i>MSCI EAFE (Net)</i>			<i>0.6</i>	<i>10.0</i>	<i>4.6</i>	<i>6.9</i>	<i>4.8</i>	<i>3.9</i>	

Asset Allocation & Performance | As of January 31, 2024

	Market Value \$	% of Portfolio	1 Mo (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Walter Scott International Equity <i>MSCI EAFE (Net)</i>	20,729,862	1.5	1.3 <i>0.6</i>	9.7 <i>10.0</i>	-- <i>4.6</i>	-- <i>6.9</i>	-- <i>4.8</i>	2.0 <i>3.9</i>	Mar-21
International Emerging Market Equity Assets <i>MSCI Emerging Markets (Net)</i>	109,077,470	7.9	-2.2 <i>-4.6</i>	2.7 <i>-2.9</i>	-5.6 <i>-7.5</i>	2.7 <i>1.0</i>	-- <i>2.9</i>	5.2 <i>5.1</i>	Jan-16
ABS Emerging Markets <i>MSCI Emerging Markets (Net)</i>	57,521,788	4.1	-3.5 <i>-4.6</i>	2.2 <i>-2.9</i>	-4.9 <i>-7.5</i>	4.1 <i>1.0</i>	-- <i>2.9</i>	5.4 <i>2.1</i>	Dec-18
Driehaus Emerging Markets Growth <i>MSCI Emerging Markets (Net)</i>	51,555,682	3.7	-0.6 <i>-4.6</i>	3.2 <i>-2.9</i>	-6.3 <i>-7.5</i>	-- <i>1.0</i>	-- <i>2.9</i>	4.7 <i>1.0</i>	Mar-19
Global Equity Assets <i>MSCI AC World Index (Net)</i>	145,454,524	10.5	-0.9 <i>0.6</i>	8.2 <i>14.7</i>	6.6 <i>6.1</i>	9.0 <i>10.2</i>	-- <i>8.4</i>	6.4 <i>7.0</i>	Feb-18
First Eagle Global Value Fund <i>MSCI AC World Index Value (Net)</i>	22,065,006	1.6	0.4 <i>-0.1</i>	6.4 <i>6.4</i>	6.5 <i>7.6</i>	7.5 <i>6.7</i>	-- <i>5.9</i>	5.2 <i>4.0</i>	Feb-18
Kopernik Global All Cap Fund <i>MSCI AC World Index Value (Net)</i>	41,557,822	3.0	-3.2 <i>-0.1</i>	3.6 <i>6.4</i>	6.0 <i>7.6</i>	10.5 <i>6.7</i>	-- <i>5.9</i>	7.4 <i>4.0</i>	Feb-18
Lee Munder Global Multi-Cap Strategy <i>MSCI AC World Index (Net)</i>	33,028,009	2.4	0.5 <i>0.6</i>	14.3 <i>14.7</i>	6.7 <i>6.1</i>	8.6 <i>10.2</i>	-- <i>8.4</i>	6.5 <i>7.9</i>	Mar-18
Wellington Durable Enterprises, L.P. <i>MSCI AC World Index (Net)</i>	48,803,686	3.5	-0.3 <i>0.6</i>	8.2 <i>14.7</i>	7.4 <i>6.1</i>	9.6 <i>10.2</i>	-- <i>8.4</i>	8.6 <i>7.9</i>	Mar-18
Portfolio Completion	15,002,888	1.1							
Parametric Cash Overlay	15,002,888	1.1							

Asset Allocation & Performance | As of January 31, 2024

	Market Value \$	% of Portfolio	1 Mo (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Core Fixed Income	75,857,121	5.5	0.2	3.4	-1.2	1.9	--	2.2	Jan-16
<i>75% Bbg Aggregate/25% Bbg US TIPs 1-10 year</i>			<i>-0.1</i>	<i>2.4</i>	<i>-2.2</i>	<i>1.5</i>	<i>1.8</i>	<i>1.8</i>	
Lord Abbett Short Duration Credit Trust II	30,233,195	2.2	0.5	4.8	0.7	--	--	1.6	Aug-19
<i>Blmbg. 1-3 Year Credit</i>			<i>0.4</i>	<i>4.7</i>	<i>0.6</i>	<i>2.0</i>	<i>1.8</i>	<i>1.6</i>	
Lord Abbett Core Fixed Income Trust II	32,171,776	2.3	-0.1	2.5	--	--	--	-3.9	Dec-21
<i>Blmbg. U.S. Aggregate Index</i>			<i>-0.3</i>	<i>2.1</i>	<i>-3.2</i>	<i>0.8</i>	<i>1.6</i>	<i>-4.1</i>	
Rhumblin TIPS Trust	13,452,150	1.0	0.2	2.1	-1.1	--	--	-0.5	Sep-20
<i>Blmbg. U.S. TIPS</i>			<i>0.2</i>	<i>2.2</i>	<i>-1.0</i>	<i>2.9</i>	<i>2.2</i>	<i>-0.5</i>	
Value Added Fixed Income	87,349,083	6.3	0.5	8.1	1.8	3.5	--	4.9	Jan-16
<i>Custom Benchmark - Global Fixed Income</i>			<i>-0.4</i>	<i>7.1</i>	<i>0.1</i>	<i>2.7</i>	<i>3.5</i>	<i>4.0</i>	
Eaton Vance High Yield	13,016,990	0.9	0.3	8.1	2.1	4.2	4.4	6.1	May-06
<i>ICE BofA High Yield Master II</i>			<i>0.0</i>	<i>9.2</i>	<i>1.9</i>	<i>4.3</i>	<i>4.4</i>	<i>6.3</i>	
First Eagle Bank Loan Select Fund	11,935,380	0.9	0.5	10.9	4.7	4.7	4.4	5.1	Oct-10
<i>Credit Suisse Leveraged Loan Index</i>			<i>0.8</i>	<i>11.1</i>	<i>5.5</i>	<i>5.2</i>	<i>4.4</i>	<i>4.9</i>	
Manulife Strategic Fixed Income	26,187,569	1.9	-0.1	4.5	-0.3	--	--	2.0	Aug-19
<i>Blmbg. Global Multiverse</i>			<i>-1.3</i>	<i>1.3</i>	<i>-5.4</i>	<i>-0.7</i>	<i>0.3</i>	<i>-1.6</i>	
Mesirow High Yield	16,555,422	1.2	0.7	12.7	4.5	--	--	6.6	Aug-19
<i>Blmbg. U.S. Corp: High Yield Index</i>			<i>0.0</i>	<i>9.3</i>	<i>1.9</i>	<i>4.4</i>	<i>4.5</i>	<i>3.6</i>	
Eaton Vance EMD Opportunities Fund	9,108,033	0.7	1.2	9.8	1.4	--	--	3.6	Aug-20
<i>JPM EMBI Global Diversified</i>			<i>-1.0</i>	<i>6.6</i>	<i>-3.5</i>	<i>0.6</i>	<i>3.2</i>	<i>-2.2</i>	

First Eagle Bank Loan Select market value and performance is estimated based on manager returns.

Asset Allocation & Performance | As of January 31, 2024

	Market Value \$	% of Portfolio	1 Mo (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Schroder All ILS Fund LTD	10,545,689	0.8	1.5	--	--	--	--	5.5	Aug-23
<i>Eurekahedge ILS Advisers Index - USD Hedged</i>			<i>1.3</i>	<i>15.1</i>	<i>--</i>	<i>--</i>	<i>--</i>	<i>7.4</i>	
Hedge Funds	79,532,643	5.7	0.4	0.7	-2.3	2.2	2.3	3.2	Mar-10
<i>Custom Benchmark</i>			<i>0.4</i>	<i>5.4</i>	<i>2.4</i>	<i>5.0</i>	<i>3.3</i>	<i>3.3</i>	
ABS Offshore SPC - Global Segregated Portfolio	32,856,052	2.4	0.8	7.0	1.9	5.6	4.2	5.1	Sep-10
<i>HFRI Equity Hedge (Total) Index</i>			<i>-0.1</i>	<i>7.2</i>	<i>3.3</i>	<i>7.3</i>	<i>5.4</i>	<i>5.7</i>	
Entrust Special Opportunities Fund III, Ltd.	12,739,590	0.9	0.0	-4.5	-8.4	-2.0	--	1.5	Oct-16
<i>HFRI Fund of Funds Composite Index (QTR)</i>			<i>0.7</i>	<i>4.9</i>	<i>2.7</i>	<i>4.7</i>	<i>3.4</i>	<i>4.2</i>	
Old Farm Partners Master Fund, L.P.	16,738,991	1.2	0.7	6.6	2.2	5.7	--	4.7	Oct-18
<i>HFRI Fund of Funds Composite Index</i>			<i>0.7</i>	<i>4.9</i>	<i>2.7</i>	<i>4.7</i>	<i>3.4</i>	<i>3.9</i>	
EnTrustPermal Special Opportunities Evergreen Fund, Ltd.	17,198,010	1.2	0.0	-10.6	-7.7	-1.0	--	-0.6	Jan-19
<i>HFRI Fund of Funds Composite Index (QTR)</i>			<i>0.7</i>	<i>4.9</i>	<i>2.7</i>	<i>4.7</i>	<i>3.4</i>	<i>5.2</i>	
Real Estate	155,631,703	11.2	0.0	-8.4	10.0	9.1	--	7.5	Jan-16
<i>Custom Benchmark</i>			<i>0.0</i>	<i>-12.0</i>	<i>4.9</i>	<i>4.3</i>	<i>--</i>	<i>5.0</i>	
Core Real Estate	95,737,677	6.9	-0.1	-11.4	5.9	5.9	--	6.4	Jan-16
<i>NCREIF Fund Index-Open End Diversified Core Equity (VW)</i>			<i>0.0</i>	<i>-12.0</i>	<i>4.9</i>	<i>4.2</i>	<i>7.3</i>	<i>5.7</i>	
TA Realty Core Property Fund, L.P.	67,882,376	4.9	0.0	-9.7	8.4	8.5	--	8.5	Apr-18
<i>NCREIF Fund Index-Open End Diversified Core Equity (VW)</i>			<i>0.0</i>	<i>-12.0</i>	<i>4.9</i>	<i>4.2</i>	<i>7.3</i>	<i>4.7</i>	
JPMorgan Strategic Property	27,855,301	2.0	-0.2	-15.1	1.5	--	--	1.7	Apr-19
<i>NCREIF Fund Index-Open End Diversified Core Equity (VW)</i>			<i>0.0</i>	<i>-12.0</i>	<i>4.9</i>	<i>4.2</i>	<i>7.3</i>	<i>4.1</i>	

Entrust Special Opportunities Fund III and Entrust Permal Special Opportunities Evergreen Fund: Data is based on September 30, 2023 fair market value, adjusted for subsequent cash flows.

Note: The data for JPMorgan Strategic Property is as of January 31, 2024.

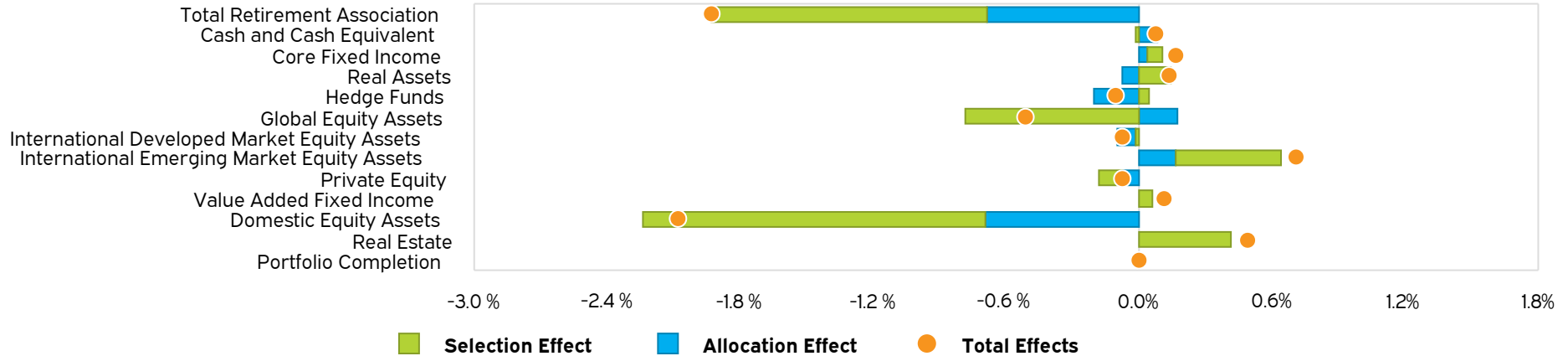
Asset Allocation & Performance | As of January 31, 2024

	Market Value \$	% of Portfolio	1 Mo (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Non-Core Real Estate	59,894,027	4.3	0.0	-3.0	18.2	15.2	--	7.9	Jan-16
Private Equity	246,633,551	17.8	0.0	5.1	22.2	18.1	--	12.5	Jan-16
MSCI ACWI IMI (1Q Lagged)+2%			0.0	22.5	9.0	8.2	9.5	10.8	
Private Equity	229,908,236	16.6	0.0	5.4	22.4	19.1	--	12.3	Feb-16
Venture Capital	16,725,315	1.2	0.0	2.0	18.9	9.6	--	10.2	Feb-16
Real Assets	127,700,195	9.2	-0.6	7.7	13.1	9.3	--	4.7	Jan-16
CPI +3% (Unadjusted)			0.8	6.2	8.8	7.3	5.9	6.4	
Core Real Assets	76,253,210	5.5	-1.0	6.4	11.0	10.3	--	10.2	Oct-18
CPI +3% (Unadjusted)			0.8	6.2	8.8	7.3	5.9	6.9	
IFM Global Infrastructure	76,253,210	5.5	-1.0	6.4	11.0	10.3	--	10.2	Oct-18
CPI +3% (Unadjusted)			0.8	6.2	8.8	7.3	5.9	6.9	
Non-Core Real Assets	51,446,986	3.7	0.0	9.7	15.5	8.4	--	4.7	Jan-16
CPI +3% (Unadjusted)			0.8	6.2	8.8	7.3	5.9	6.4	
Cash and Cash Equivalent	36,190,050	2.6							
Cash	36,190,050	2.6							

Note: The data for Real Estate, Private Equity, and Real Assets is based on September 30, 2023 fair market value, adjusted for subsequent cash flows.

Note: The data for IFM Global Infrastructure is as of January 31, 2024.

Attribution Effects 1 Year Ending January 31, 2024



Attribution Summary 1 Year Ending January 31, 2024

	Wtd. Actual Return (%)	Wtd. Index Return (%)	Excess Return (%)	Selection Effect (%)	Allocation Effect (%)	Total Effect (%)
Cash and Cash Equivalent	2.3	5.1	-2.8	0.0	0.1	0.1
Core Fixed Income	3.4	1.7	1.7	0.1	0.0	0.2
Real Assets	7.7	5.4	2.3	0.1	-0.1	0.1
Hedge Funds	0.7	-0.6	1.3	0.0	-0.2	-0.1
Global Equity Assets	8.2	13.9	-5.7	-0.8	0.2	-0.5
International Developed Market Equity Assets	9.7	9.2	0.5	0.0	-0.1	-0.1
International Emerging Market Equity Assets	2.7	-3.6	6.3	0.5	0.2	0.7
Private Equity	5.1	5.1	0.0	-0.1	-0.1	-0.1
Value Added Fixed Income	8.1	6.3	1.8	0.1	0.0	0.1
Domestic Equity Assets	10.5	18.3	-7.8	-1.5	-0.7	-2.1
Real Estate	-8.4	-12.7	4.3	0.4	0.0	0.5
Portfolio Completion	0.1	0.1	0.0	0.0	0.0	0.0
Total Retirement Association	4.5	6.4	-1.9	-1.2	-0.7	-1.9

	Risk Return Statistics	
	3 Yrs	5 Yrs
	Total Retirement Association	Total Retirement Association
RETURN SUMMARY STATISTICS		
Maximum Return	3.8	6.9
Minimum Return	-4.0	-10.5
Return	5.5	8.2
Excess Return	3.4	6.5
Excess Performance	1.2	0.8
RISK SUMMARY STATISTICS		
Beta	0.7	0.9
Upside Risk	6.2	7.9
Downside Risk	4.8	6.5
RISK/RETURN SUMMARY STATISTICS		
Standard Deviation	7.7	9.9
Sortino Ratio	0.7	1.0
Alpha	2.3	1.7
Sharpe Ratio	0.4	0.6
Excess Risk	7.7	10.0
Tracking Error	3.9	3.8
Information Ratio	0.2	0.2
CORRELATION STATISTICS		
R-Squared	0.9	0.9
Actual Correlation	0.9	0.9

Annual Investment Expense Analysis		Market Value	Estimated Expense	Expense Ratio (%)
Fee Schedule				
Domestic Equity Assets		265,961,589	876,381	0.33
Rhumblin Russell 1000 Value	0.05 % of First \$25 M 0.04 % of Next \$25 M 0.03 % Thereafter	71,457,364	28,937	0.04
Rhumblin Russell 1000 Growth	0.05 % of First \$25 M 0.04 % of Next \$25 M 0.03 % Thereafter	65,234,472	27,070	0.04
Fisher Midcap Value	0.65 % of Assets	47,548,073	309,062	0.65
Newton Small Cap Growth	0.45 % of Assets	38,009,774	171,044	0.45
Vulcan Partners Small Cap Value	0.83 % of Assets	11,509,903	95,532	0.83
Systematic Small Cap Free Cash Flow	0.76 % of Assets	32,202,002	244,735	0.76
International Developed Market Equity Assets		44,092,056	269,949	0.61
Aristotle International Equity	0.49 % of Assets	23,362,194	114,475	0.49
Walter Scott International Equity	0.75 % of Assets	20,729,862	155,474	0.75
International Emerging Market Equity Assets		109,077,470	484,883	0.44
ABS Emerging Markets	Performance Based 0.35 and 0.10	57,521,788	201,326	0.35
Driehaus Emerging Markets Growth	0.55 % of Assets	51,555,682	283,556	0.55
Global Equity Assets		145,454,524	939,398	0.65
First Eagle Global Value Fund	0.75 % of Assets	22,065,006	165,488	0.75
Kopernik Global All Cap Fund	0.80 % of First \$50 M 0.75 % of Next \$150 M 0.70 % of Next \$250 M 0.65 % of Next \$350 M 0.00 % Thereafter	41,557,822	332,463	0.80
Lee Munder Global Multi-Cap Strategy	0.45 % of Assets	33,028,009	148,626	0.45
Wellington Durable Enterprises, L.P.	0.60 % of Assets	48,803,686	292,822	0.60
Schroder All ILS Fund LTD	15% of the increase in Net Asset Value per Share over a hurdle equal to 8%	10,545,689	-	-
Portfolio Completion		15,002,888	-	-
Parametric Cash Overlay	Monthly retainer of \$1,500 plus a fee based on the following schedule: First \$100,000,000 the annual fee is 0.10% Next \$100,000,000 the annual fee is 0.08% Above \$200,000,000 the annual fee is 0.05% Minimum Quarterly Fee of \$18,750	15,002,888	-	-

Fee Schedule | As of January 31, 2024

Fee Schedule		Market Value	Estimated Expense	Expense Ratio (%)
Core Fixed Income		75,857,121	104,190	0.14
Lord Abbett Short Duration Credit Trust II	0.17 % of Assets	30,233,195	51,396	0.17
Lord Abbett Core Fixed Income Trust II	0.15 % of Assets	32,171,776	48,258	0.15
Rhumblin TIPS Trust	0.04 % of First \$5 M 0.03 % Thereafter	13,452,150	4,536	0.03
Value Added Fixed Income		87,349,083	287,615	0.33
Eaton Vance High Yield	0.42 % of Assets	13,016,990	54,671	0.42
First Eagle Bank Loan Select Fund	0.40 % of Assets	11,935,380	47,742	0.40
Manulife Strategic Fixed Income	0.35 % of Assets	26,187,569	91,656	0.35
Mesirow High Yield	0.40 % of Assets	16,555,422	66,222	0.40
Eaton Vance EMD Opportunities Fund	0.30 % of Assets	9,108,033	27,324	0.30
Total		717,246,154	2,962,416	

Eaton Vance EMD Opportunities Fund: Stated fee of 0.30% with other operating expenses capped at 0.15%.

Private Equity	Commitment	Total Contributions	Total Distributions	Value
Ascend Ventures II, L.P.	2,500,000	2,327,488	995,193	4,793
Ascent Venture Partners V, L.P.	5,000,000	5,004,731	4,494,116	3,247,896
Audax Mezzanine Fund IV, L.P.	10,000,000	9,050,117	7,843,847	3,268,094
Charlesbank Technology Opportunities Fund, L.P.	12,000,000	11,150,839	1,999,703	20,835,539
Ironsides Opportunities Fund II	20,000,000	5,630,170	713,504	5,452,370
Ironsides Co-Investment Fund VI, L.P.	13,000,000	12,228,510	389,524	14,037,442
DN Partners II, L.P.	5,000,000	2,375,841	72,991	2,553,293
Euro Choice V, L.P.	6,078,518	5,919,759	6,026,656	3,030,102
FS Equity Partners VIII, L.P.	12,000,000	9,841,836	324,324	15,239,633
Globespan Capital Partners V, L.P.	5,000,000	4,852,500	10,036,999	1,191,302
HarbourVest Partners Co-Investment Fund V, L.P.	12,000,000	9,300,000	2,373,256	14,092,698
HarbourVest Partners Co-Investment Fund VI, L.P.	13,000,000	7,150,000	0	7,521,746
Ironsides Direct Investment Fund V, L.P.	12,000,000	13,092,844	3,222,510	20,886,093
Kohlberg Investors IX	10,000,000	8,363,166	294,108	11,808,613
Landmark Equity Partners XIV, L.P.	6,000,000	5,843,572	7,504,026	359,483
Leeds Equity Partners V, L.P.	2,500,000	3,525,207	5,594,639	252,900
Lexington Capital Partners VII, L.P.	10,000,000	8,963,706	13,449,078	1,099,612
LLR Equity Partners V, L.P.	12,000,000	11,640,000	4,731,437	17,154,468
Mesirow Financial Capital Partners IX, L.P.	4,000,000	3,840,731	2,021,056	80,440
Ridgemont Equity Partners III, L.P.	12,000,000	12,910,739	7,072,051	16,047,905
Ridgemont Equity Partners IV, L.P.	13,000,000	3,884,846	0	3,887,915
Rimco Production Company, Inc	2,000,000	2,000,000	7,651,066	1
Searchlight Capital III, L.P.	12,000,000	10,270,939	4,284,180	12,311,711
Siguler Guff Distressed Opportunities Fund III, L.P.	6,000,000	5,820,000	9,239,704	367,544
Summit Partners Growth Equity Fund IX, L.P.	10,000,000	11,781,000	12,913,557	13,502,957
Summit Partners Venture Capital Fund V	10,000,000	5,628,348	444,178	5,247,536
Summit Partners Growth Equity Fund XI, L.P.	13,000,000	3,318,472	0	3,584,097
TRG Growth Partnership II, L.P.	7,500,000	7,366,152	9,122,656	450,300
Trilantic Capital Partners VI (North America), L.P.	12,000,000	12,229,193	1,214,226	15,278,715
Waud Capital Partners V, L.P.	10,000,000	10,036,521	52,149	15,104,840
Wellspring Capital Partners VI, L.P.	12,000,000	11,801,119	2,594,018	16,070,943
Kohlberg Investors X, L.P.	10,000,000	0	0	0
Waud Capital Partners VI	10,000,000	1,206,218	0	1,159,752
Trilantic Capital Partners VII	10,000,000	0	0	0
Mesirow Financial Capital Partners IX, L.P.	4,000,000	3,840,731	2,021,056	80,440
Atlantic Street Capital V, L.P.	10,000,000	0	0	0
Total Plymouth County - PE	335,578,518	242,195,297	128,695,806	245,211,173

Real Assets	Commitment	Total Contributions	Total Distributions	Value
Basalt Infrastructure Partners II	10,000,000	9,416,866	5,845,746	7,375,110
BlackRock Global Renewable Power Infrastructure Fund III, L.P.	10,000,000	6,291,398	282,545	6,305,557
BTG Pactual Global Timberland Resources Fund, LLC	5,043,536	5,043,536	1,869,240	1,441,400
Climate Adaptive Infrastructure Fund I	10,000,000	4,921,629	584,326	5,271,387
Global Infrastructure Partners III, L.P.	10,000,000	10,320,358	4,885,650	10,389,781
Global Infrastructure Partners IV, L.P.	10,000,000	8,701,140	206,895	8,153,443
IFM Global Infrastructure (U.S.), L.P.	60,000,000	60,000,000	3,832,424	76,253,210
ISQ Global Infrastructure Fund III (USTE), L.P.	10,000,000	2,815,287	1,223	2,932,979
JPMorgan Global Maritime Investment	10,000,000	10,034,375	5,459,408	3,428,354
Domain Timbervest Partners III, L.P.	5,000,000	5,000,000	4,151,126	3,579,478
BlackRock Global Infrastructure Fund IV	10,000,000	2,949,383	0	1,794,988
Total Plymouth County - RA	140,043,536	116,077,106	21,272,837	119,550,577

Real Estate	Commitment	Total Contributions	Total Distributions	Value
1921 Realty, Inc.	5,000,000	5,378,194	0	544,736
AEW Partners IX, L.P.	10,000,000	7,201,646	141,499	7,658,914
AEW Partners Real Estate Fund VIII, L.P.	25,000,000	23,989,589	29,352,491	6,254,291
Berkshire Value Fund V, L.P.	9,000,000	6,283,181	1,058,371	5,782,165
Carlyle Realty Partners VIII, L.P.	18,000,000	15,483,099	11,476,769	9,959,998
DSF Capital Partners IV, L.P.	5,000,000	5,000,000	7,406,550	0
DSF Multi-Family Real Estate Fund III, L.P.	15,000,000	15,079,717	22,982,692	4,416,237
JPMorgan Strategic Property Fund	27,000,000	27,000,000	8,022,003	27,855,301
PCCP Equity IX, L.P.	10,000,000	7,219,943	0	6,939,010
Real Estate International Partnership Fund I, L.P.	15,000,000	12,677,141	11,372,161	591,899
Rockpoint Real Estate Fund VI, L.P.	9,000,000	7,723,643	1,091,059	7,653,917
TA Realty Core Property Fund, L.P.	60,000,000	62,829,005	12,716,157	67,882,376
TerraCap Partners V, L.P.	10,000,000	10,398,080	1,045,339	10,630,682
Total Plymouth County - RE	218,000,000	206,263,238	106,665,091	156,169,526

Note: The value is based on September 30, 2023 FMV.

Note: The value for IFM Global Infrastructure and JPMorgan Strategic Property is as of January 31, 2024. The Value for TA Realty Core Property Fund is based on 12/31/2023 FMV as this fund is reported in real time.

Financial Reconciliation | 1 Month Ending January 31, 2024

	Beginning Market Value	Contributions	Distributions	Net Cash Flow	Ending Market Value
Rhumblin Russell 1000 Value	61,369,353	10,000,000	-	10,000,000	71,457,364
Rhumblin Russell 1000 Growth	53,611,500	10,000,000	-	10,000,000	65,234,472
Fisher Midcap Value	57,958,479	-	-10,000,000	-10,000,000	47,548,073
Newton Small Cap Growth	39,169,237	-	-	-	38,009,774
Vulcan Partners Small Cap Value	11,620,926	-	-	-	11,509,903
Systematic Small Cap Free Cash Flow	33,004,926	-	-	-	32,202,002
Aristotle International Equity	23,410,899	-	-	-	23,362,194
Walter Scott International Equity	20,491,014	-	-35,848	-35,848	20,729,862
ABS Emerging Markets	59,628,503	-	-	-	57,521,788
Driehaus Emerging Markets Growth	51,862,764	-	-	-	51,555,682
First Eagle Global Value Fund	26,984,277	-	-5,000,000	-5,000,000	22,065,006
Kopernik Global All Cap Fund	42,911,980	-	-	-	41,557,822
Lee Munder Global Multi-Cap Strategy	42,860,957	-	-10,000,000	-10,000,000	33,028,009
Wellington Durable Enterprises, L.P.	48,954,932	-	-	-	48,803,686
Parametric Cash Overlay	-	15,000,000	-	15,000,000	15,002,888
Lord Abbett Short Duration Credit Trust II	40,086,202	-	-10,000,000	-10,000,000	30,233,195
Lord Abbett Core Fixed Income Trust II	42,285,945	-	-10,000,000	-10,000,000	32,171,776
Rhumblin TIPS Trust	13,429,516	-	-	-	13,452,150
Eaton Vance High Yield	12,975,752	-	-	-	13,016,990
First Eagle Bank Loan Select Fund	11,871,275	-	-	-	11,935,380
Manulife Strategic Fixed Income	36,322,510	-	-9,969,052	-9,969,052	26,187,569
Mesirow High Yield	16,443,645	-	-	-	16,555,422
Eaton Vance EMD Opportunities Fund	8,998,625	-	-	-	9,108,033
Schroder All ILS Fund LTD	10,386,664	-	-	-	10,545,689
ABS Offshore SPC - Global Segregated Portfolio	32,609,888	-	-	-	32,856,052
Entrust Special Opportunities Fund III, Ltd.	12,739,590	-	-	-	12,739,590
Old Farm Partners Master Fund, L.P.	16,630,135	-	-	-	16,738,991
EnTrustPermal Special Opportunities Evergreen Fund, Ltd.	17,198,010	-	-	-	17,198,010
TA Realty Core Property Fund, L.P.	67,882,376	-	-	-	67,882,376

Financial Reconciliation | 1 Month Ending January 31, 2024

	Beginning Market Value	Contributions	Distributions	Net Cash Flow	Ending Market Value
JPMorgan Strategic Property	28,328,634	-	-430,681	-430,681	27,855,301
Mesirow Financial International Real Estate Fund I	591,899	-	-	-	591,899
DSF Multi-Family Real Estate Fund III	4,443,478	-	-	-	4,443,478
AEW Partners Real Estate VIII	5,370,205	-	-	-	5,370,205
1921 Realty, Inc	548,883	-	-	-	548,883
Carlyle Realty Partners VIII	9,231,015	-	-	-	9,231,015
Berkshire Value Fund V	5,688,047	-	-	-	5,688,047
Rockpoint Real Estate Fund VI, L.P.	8,276,665	-	-	-	8,276,665
TerraCap Partners V, L.P.	10,401,828	-	-	-	10,401,828
AEW Partners Real Estate Fund IX, L.P.	7,710,474	-	-	-	7,710,474
PCCP Equity IX, L.P.	7,631,533	-	-	-	7,631,533
Euro Choice V Programme	2,544,436	-	-	-	2,544,436
Lexington Capital Partners VII	1,071,659	-	-43,854	-43,854	1,027,805
TRG Growth Partnership II	395,987	-	-	-	395,987
Landmark Equity Partners XIV	359,483	-	-19,131	-19,131	340,353
Summit Partners Growth Equity Fund IX	13,502,957	-	-	-	13,502,957
Leeds Equity Partners V	237,070	-	-	-	237,070
Audax Mezzanine Debt IV	3,250,294	44,064	-248,324	-204,261	3,046,033
Siguler Guff Distressed Opportunities Fund III, LP	356,246	-	-	-	356,246
Mesirow Financial Capital Partners IX, LP	-	-	-	-	-
DN Partners II, LP	2,476,693	-	-76,517	-76,517	2,400,176
LLR Equity Partners V, LP.	17,394,468	-	-	-	17,394,468
Wellspring Capital Partners VI	16,247,800	-	-	-	16,247,800
Trilantic Capital Partners VI, L.P.	13,313,972	-	-	-	13,313,972
HarbourVest Partners Co-Investment V	14,092,698	-	-	-	14,092,698
Ironsides Direct Investment Fund V, L.P.	20,886,093	-	-	-	20,886,093
Ridgemont Equity Partners III, L.P.	15,899,487	-	-	-	15,899,487
FS Equity Partners VIII, L.P.	15,473,679	96,179	-23,511	72,668	15,546,347
Charlesbank Technology Opportunities Fund	20,994,923	-	-	-	20,994,923

Financial Reconciliation | 1 Month Ending January 31, 2024

	Beginning Market Value	Contributions	Distributions	Net Cash Flow	Ending Market Value
Searchlight Capital III, L.P.	12,498,060	76,444	-48,151	-48,151	12,449,909
Waud Capital Partners V	14,089,710	-	-	-	14,089,710
Summit Partners Venture Capital Fund V	5,285,796	-	-	-	5,285,796
Ironsides Co-Investment Fund VI, L.P.	14,037,442	-	-	-	14,037,442
HarbourVest Partners Co-Investment Fund VI, L.P.	9,471,746	-	-39,353	-39,353	9,432,393
Ridgemont Equity Partners IV, L.P.	5,226,749	-	-	-	5,226,749
Summit Partners Growth Equity Fund XI	3,603,252	-	-	-	3,603,252
Ironsides Opportunities Fund II, L.P.	6,058,466	-	-	-	6,058,466
Waud Capital Partners VI	1,159,752	-	-	-	1,159,752
Atlantic Street Capital V, L.P.	337,917	-	-	-	337,917
Ascent Ventures V	3,247,896	-	-	-	3,247,896
Globespan Capital V	1,191,302	-	-	-	1,191,302
Kohlberg Investors IX	12,286,117	-	-	-	12,286,117
IFM Global Infrastructure	77,046,713	-	-	-	76,253,210
JP Morgan Global Maritime Investment	216,543	-	-	-	216,543
Timbervest Partners III, LP	3,445,057	-	-	-	3,445,057
BTG Pactual Global Timberland Resources	1,402,673	-	-	-	1,402,673
Global Infrastructure Partners III	10,094,734	-	-	-	10,094,734
Basalt Infrastructure Partners II	7,303,291	-	-	-	7,303,291
Global Infrastructure Partners IV, L.P.	8,952,919	-	-	-	8,952,919
ISQ Global Infrastructure Fund III (USTE), L.P.	4,086,693	-	-	-	4,086,693
BlackRock Global Renewable Power Infrastructure Fund III, L.P.	7,767,672	-	-	-	7,767,672
Climate Adaptive Infrastructure Fund	5,556,256	-	-	-	5,556,256
BlackRock Global Infrastructure Fund IV, L.P.	2,791,769	1,256,651	-170,621	-170,621	2,621,148
Cash	17,893,641	61,261,184	-42,964,775	18,296,409	36,190,050
Total	1,395,472,653	97,734,522	-99,069,818	-2,668,391	1,388,482,874

Financial Reconciliation | Year To Date Ending January 31, 2024

	Beginning Market Value	Contributions	Distributions	Net Cash Flow	Ending Market Value
Rhumblin Russell 1000 Value	61,369,353	10,000,000	-	10,000,000	71,457,364
Rhumblin Russell 1000 Growth	53,611,500	10,000,000	-	10,000,000	65,234,472
Fisher Midcap Value	57,958,479	-	-10,000,000	-10,000,000	47,548,073
Newton Small Cap Growth	39,169,237	-	-	-	38,009,774
Vulcan Partners Small Cap Value	11,620,926	-	-	-	11,509,903
Systematic Small Cap Free Cash Flow	33,004,926	-	-	-	32,202,002
Aristotle International Equity	23,410,899	-	-	-	23,362,194
Walter Scott International Equity	20,491,014	-	-35,848	-35,848	20,729,862
ABS Emerging Markets	59,628,503	-	-	-	57,521,788
Driehaus Emerging Markets Growth	51,862,764	-	-	-	51,555,682
First Eagle Global Value Fund	26,984,277	-	-5,000,000	-5,000,000	22,065,006
Kopernik Global All Cap Fund	42,911,980	-	-	-	41,557,822
Lee Munder Global Multi-Cap Strategy	42,860,957	-	-10,000,000	-10,000,000	33,028,009
Wellington Durable Enterprises, L.P.	48,954,932	-	-	-	48,803,686
Parametric Cash Overlay	-	15,000,000	-	15,000,000	15,002,888
Lord Abbett Short Duration Credit Trust II	40,086,202	-	-10,000,000	-10,000,000	30,233,195
Lord Abbett Core Fixed Income Trust II	42,285,945	-	-10,000,000	-10,000,000	32,171,776
Rhumblin TIPS Trust	13,429,516	-	-	-	13,452,150
Eaton Vance High Yield	12,975,752	-	-	-	13,016,990
First Eagle Bank Loan Select Fund	11,871,275	-	-	-	11,935,380
Manulife Strategic Fixed Income	36,322,510	-	-9,969,052	-9,969,052	26,187,569
Mesirow High Yield	16,443,645	-	-	-	16,555,422
Eaton Vance EMD Opportunities Fund	8,998,625	-	-	-	9,108,033
Schroder All ILS Fund LTD	10,386,664	-	-	-	10,545,689
ABS Offshore SPC - Global Segregated Portfolio	32,609,888	-	-	-	32,856,052
Entrust Special Opportunities Fund III, Ltd.	12,739,590	-	-	-	12,739,590
Old Farm Partners Master Fund, L.P.	16,630,135	-	-	-	16,738,991
EnTrustPermal Special Opportunities Evergreen Fund, Ltd.	17,198,010	-	-	-	17,198,010
TA Realty Core Property Fund, L.P.	67,882,376	-	-	-	67,882,376

Financial Reconciliation | Year To Date Ending January 31, 2024

	Beginning Market Value	Contributions	Distributions	Net Cash Flow	Ending Market Value
JPMorgan Strategic Property	28,328,634	-	-430,681	-430,681	27,855,301
Mesirow Financial International Real Estate Fund I	591,899	-	-	-	591,899
DSF Multi-Family Real Estate Fund III	4,443,478	-	-	-	4,443,478
AEW Partners Real Estate VIII	5,370,205	-	-	-	5,370,205
1921 Realty, Inc	548,883	-	-	-	548,883
Carlyle Realty Partners VIII	9,231,015	-	-	-	9,231,015
Berkshire Value Fund V	5,688,047	-	-	-	5,688,047
Rockpoint Real Estate Fund VI, L.P.	8,276,665	-	-	-	8,276,665
TerraCap Partners V, L.P.	10,401,828	-	-	-	10,401,828
AEW Partners Real Estate Fund IX, L.P.	7,710,474	-	-	-	7,710,474
PCCP Equity IX, L.P.	7,631,533	-	-	-	7,631,533
Euro Choice V Programme	2,544,436	-	-	-	2,544,436
Lexington Capital Partners VII	1,071,659	-	-43,854	-43,854	1,027,805
TRG Growth Partnership II	395,987	-	-	-	395,987
Landmark Equity Partners XIV	359,483	-	-19,131	-19,131	340,353
Summit Partners Growth Equity Fund IX	13,502,957	-	-	-	13,502,957
Leeds Equity Partners V	237,070	-	-	-	237,070
Audax Mezzanine Debt IV	3,250,294	44,064	-248,324	-204,261	3,046,033
Siguler Guff Distressed Opportunities Fund III, LP	356,246	-	-	-	356,246
Mesirow Financial Capital Partners IX, LP	-	-	-	-	-
DN Partners II, LP	2,476,693	-	-76,517	-76,517	2,400,176
LLR Equity Partners V, LP.	17,394,468	-	-	-	17,394,468
Wellspring Capital Partners VI	16,247,800	-	-	-	16,247,800
Trilantic Capital Partners VI, L.P.	13,313,972	-	-	-	13,313,972
HarbourVest Partners Co-Investment V	14,092,698	-	-	-	14,092,698
Ironsides Direct Investment Fund V, L.P.	20,886,093	-	-	-	20,886,093
Ridgemont Equity Partners III, L.P.	15,899,487	-	-	-	15,899,487
FS Equity Partners VIII, L.P.	15,473,679	96,179	-23,511	72,668	15,546,347
Charlesbank Technology Opportunities Fund	20,994,923	-	-	-	20,994,923

Financial Reconciliation | Year To Date Ending January 31, 2024

	Beginning Market Value	Contributions	Distributions	Net Cash Flow	Ending Market Value
Searchlight Capital III, L.P.	12,498,060	76,444	-48,151	-48,151	12,449,909
Waud Capital Partners V	14,089,710	-	-	-	14,089,710
Atlantic Street Capital V, L.P.	337,917	-	-	-	337,917
Summit Partners Venture Capital Fund V	5,285,796	-	-	-	5,285,796
Ironsides Co-Investment Fund VI, L.P.	14,037,442	-	-	-	14,037,442
HarbourVest Partners Co-Investment Fund VI, L.P.	9,471,746	-	-39,353	-39,353	9,432,393
Ridgemont Equity Partners IV, L.P.	5,226,749	-	-	-	5,226,749
Summit Partners Growth Equity Fund XI	3,603,252	-	-	-	3,603,252
Ironsides Opportunities Fund II, L.P.	6,058,466	-	-	-	6,058,466
Waud Capital Partners VI	1,159,752	-	-	-	1,159,752
Ascent Ventures V	3,247,896	-	-	-	3,247,896
Globespan Capital V	1,191,302	-	-	-	1,191,302
Kohlberg Investors IX	12,286,117	-	-	-	12,286,117
IFM Global Infrastructure	77,046,713	-	-	-	76,253,210
JP Morgan Global Maritime Investment	216,543	-	-	-	216,543
Timbervest Partners III, LP	3,445,057	-	-	-	3,445,057
BTG Pactual Global Timberland Resources	1,402,673	-	-	-	1,402,673
Global Infrastructure Partners III	10,094,734	-	-	-	10,094,734
Basalt Infrastructure Partners II	7,303,291	-	-	-	7,303,291
Global Infrastructure Partners IV, L.P.	8,952,919	-	-	-	8,952,919
ISQ Global Infrastructure Fund III (USTE), L.P.	4,086,693	-	-	-	4,086,693
BlackRock Global Renewable Power Infrastructure Fund III, L.P.	7,767,672	-	-	-	7,767,672
Climate Adaptive Infrastructure Fund	5,556,256	-	-	-	5,556,256
BlackRock Global Infrastructure Fund IV, L.P.	2,791,769	1,256,651	-170,621	-170,621	2,621,148
Cash	17,893,641	61,261,184	-42,964,775	18,296,409	36,190,050
Total	1,395,472,653	97,734,522	-99,069,818	-2,668,391	1,388,482,874

Current Issues

PCRA Peer Ranks As of 12/31/23: Follow Up

PCRA Peer Ranks As of December 31, 2023

	Market Value (\$)	% of Portfolio	1 Mo (%)	QTD (%)	1 Yr (%)	2 Yrs (%)	3 Yrs (%)	4 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Total Retirement Association	1,395,472,653	100.0	2.4	4.5	8.5	0.7	5.7	7.4	9.4	6.6	7.8	Nov-89
Policy Benchmark (Net)			2.3	5.7	13.6	-0.8	4.3	6.3	8.3	6.5	--	
Actual Allocation (Net)			1.6	4.4	12.2	-1.5	3.9	5.6	7.9	--	--	
InvMetrics All Public DB Plans Net Median			4.0	8.2	13.2	-1.1	3.7	6.0	8.7	6.5	8.0	
InvMetrics AllMetrics All Public DB Plans Net Rank			96	97	95	8	8	9	19	45	60	

Asset Allocation Review and Risk Analysis

Asset Allocation Overview

Asset Allocation

What is Asset Allocation?

→ Asset allocation refers to the distribution of assets across a number of asset classes that exhibit different correlations with each other. Each asset class exhibits a unique combination of risk and reward. The expected and realized long-term returns vary by asset class, as does the interim volatility of those returns. Some asset classes, like equities, exhibit high degrees of volatility, but also offer high returns over time. Other asset classes, like cash, experience very little volatility, but offer limited return potential.

Why is Asset Allocation important?

→ The distribution of assets across various asset classes exerts a major influence on the return behavior of the aggregate pool over short and long time periods.

How does Asset Allocation affect aggregate performance?

→ In addition to exhibiting unique characteristics, each asset class interacts differently with other asset classes. Because of low correlations, the likelihood that any two asset classes will move together in the same direction is limited, with the movement of one asset class often offsetting another's. Combining asset classes allows investors to control more fully the aggregate risk and return of their portfolios, and to benefit from the reduction in volatility that stems from diversification.

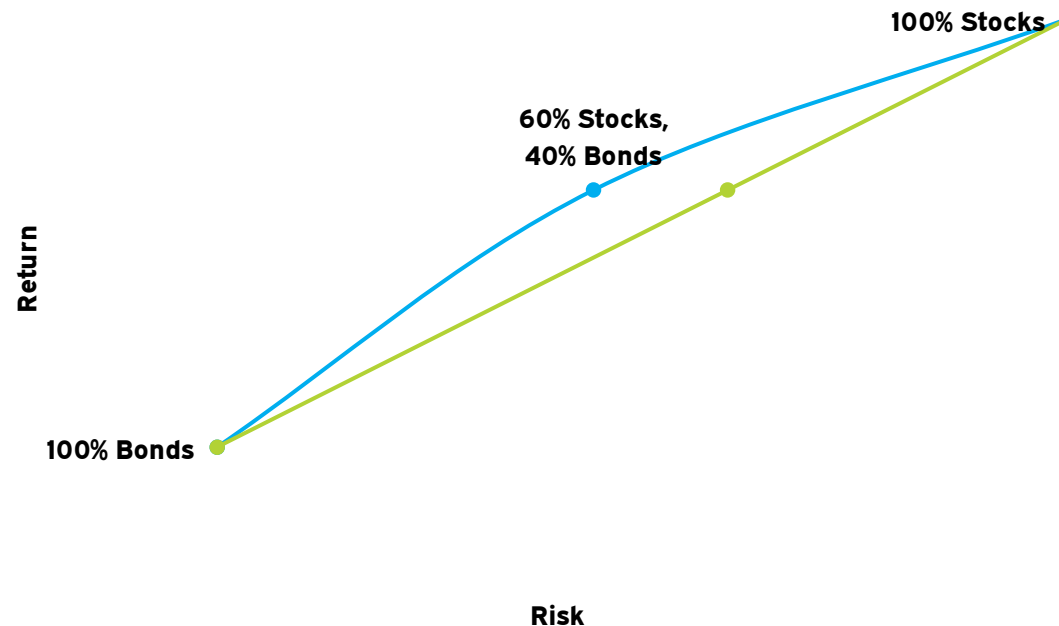
Secular Changes in Investment Returns¹



→ The chart above illustrates that a portfolio comprising of 65% domestic stocks and 35% investment grade bonds has produced diminishing expected returns as well as actual returns over the past 30 years.

¹ Expected return assumptions for 1) Bonds equals the yield of the ten-year Treasury plus 100 basis points, and 2) Equities equals the dividend yield plus the earnings yield of the S&P 500 index (using the inflation-adjusted trailing 10-year earnings). Note that these short-hand models do not reflect Meketa's capital markets expectations. Probability calculation is for the subsequent ten years.

The Efficient Frontier



- Combining uncorrelated assets produces an “efficient frontier.” Different combinations of assets (e.g., 60% stocks and 40% bonds) will lie along this efficient frontier.
- By combining assets that are not highly correlated with each other, the Association can produce a higher return for a given level of risk than it could by investing in perfectly correlated assets.
 - Alternatively, it can experience lower risk for a given level of return.

Proposed Policy Options

Asset Allocation Policy Options¹

	Current Policy (%)	Policy A (%)	Policy B (%)	PRIM 2023 (%)	2023 - IM All Public DB (%)
Growth/Equity	63	56	56	57	51
Credit	6	10	10	7	8
Rate Sensitive	11	13	13	14	16
Real Assets	16	18	18	14	14
Other	4	3	3	8	12
Expected Return (20 years)	8.86	8.80	8.78	8.55	8.14
Standard Deviation	14.5	13.8	13.8	13.0	12.3
Prob. Of 7.875% over 20 Years	61.6	61.4	61.2	58.8	53.4

¹ Expected return and standard deviation are based upon Meketa Investment Group's Annual Capital Markets Expectations. Throughout this document, returns for periods longer than one year are annualized.

Asset Allocation Policy Options¹

	Current Policy (%)	Policy A (%)	Policy B (%)	PRIM 2023 (%)	2023 - IM All Public DB (%)
Growth/Equity	63	56	56	57	51
US Equity	25	21	21	24	31
Developed Market Equity (non-US)	6	4	0	11	7
Emerging Market Equity	10	5	5	4	4
Global Equity	10	10	14	0	0
Private Equity	13	15	15	17	9
Portfolio Completion / Other	0	1	1	0	7
Credit	6	10	10	7	8
High Yield Bonds	2	4	4	2	2
Bank Loans	2	2	2	3	1
Private Debt	0	2	2	1	4
Foreign/EM Bonds	2	1	1	1	1
Insurance-Linked Strategies	0	1	1	0	0
Rate Sensitive	11	13	13	14	16
Cash	2	0	0	0	3
Investment Grade Bonds	7	10	10	10	12
TIPS	2	3	3	4	1

¹ Expected return and standard deviation are based upon Meketa Investment Group's Annual Capital Markets Expectations. Throughout this document, returns for periods longer than one year are annualized.

Asset Allocation Policy Options(con't)¹

	Current Policy (%)	Policy A (%)	Policy B (%)	PRIM 2023 (%)	2023 - IM All Public DB (%)
Real Assets	16	18	18	14	14
Real Estate	10	10	10	10	8
Infrastructure/N.R.	6	8	8	4	7
Other	4	3	3	8	12
Hedge Funds	4	3	3	8	12
Expected Return (20 years)	8.86	8.80	8.78	8.55	8.14
Standard Deviation	14.5	13.8	13.8	13.0	12.3
Prob. Of 7.875% over 20 Years	61.6	61.4	61.2	58.8	53.4

¹ Expected return and standard deviation are based upon Meketa Investment Group's Annual Capital Markets Expectations. Throughout this document, returns for periods longer than one year are annualized.

Tracking Error

Comparison to Peers - Tracking Error

- The Association's current target and proposed asset allocation policies are different than those of its peers.
- Each fund in the peer group is unique and differs in some way from the average of the peer group.
- Based on the peer average, The Association can expect long-term tracking error (i.e., over a 20-year period) for each policy as follows:

Policy	Tracking Error per Annum (%)
Current Allocation	2.7
Policy A	2.0
Policy B	2.0
PRIM 2023	1.5

- While we would expect higher tracking error over shorter periods of time, over the long-term, tracking error relative to peers would be between 2.0% and 2.7% per annum based on the proposed options.¹
- A positive 2% tracking error could move a median plan into the top quartile over a ten-year period; while a negative 2% tracking error could move a median plan down to the bottom quartile.

¹ Assuming a one standard deviation event.

Diversification & Risk Analysis

Diversification

- The primary motive for diversifying a portfolio is to reduce risk.
- Diversification is the sole “free lunch” available to investors. That is, it represents the only way to reduce risk without reducing expected returns.
- Therefore, investments should be allocated across multiple classes of assets, based in part on the expected correlation of their returns.
- Within each asset type, investments should be distributed across strategies and risk factors to further reduce volatility.

Types of Risk Analysis Addressed

→ Risk budgeting¹

- Attributes overall portfolio risks to specific asset classes
- Highlights the source and scale of portfolio-level risk

→ MPT-based risk analytics

- Includes worst-case return expectations and Value at Risk (VaR)²
- Relies on assumptions underlying Modern Portfolio Theory (MPT)

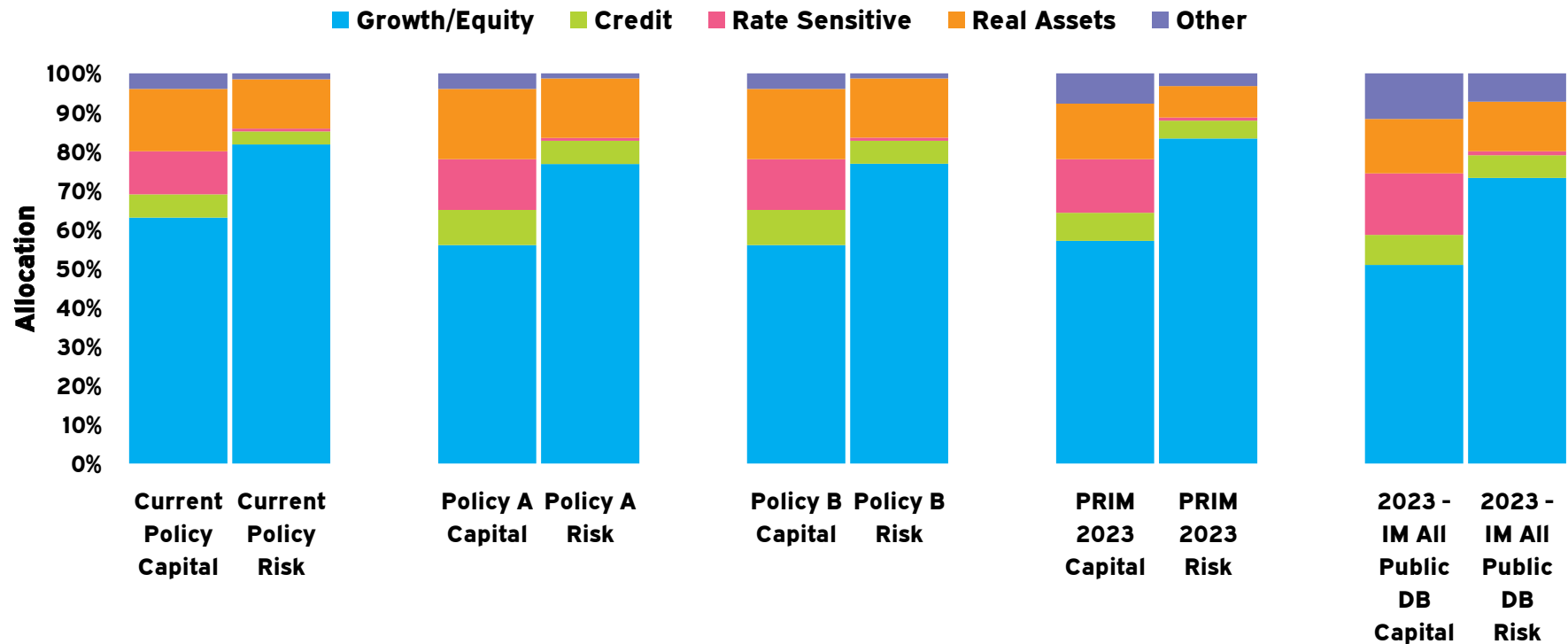
→ Scenario analysis

- Stress tests policy portfolios using actual historical examples
- Stress tests policy portfolios under specific hypothetical scenarios

¹ Risk budgeting seeks to decompose the aggregate risk of a portfolio into different sources (in this case, by asset class), with risk defined as standard deviation.

² VaR is a risk measure that estimates the maximum loss on a portfolio over a given time horizon and a given confidence level (usually 95% or 99%).

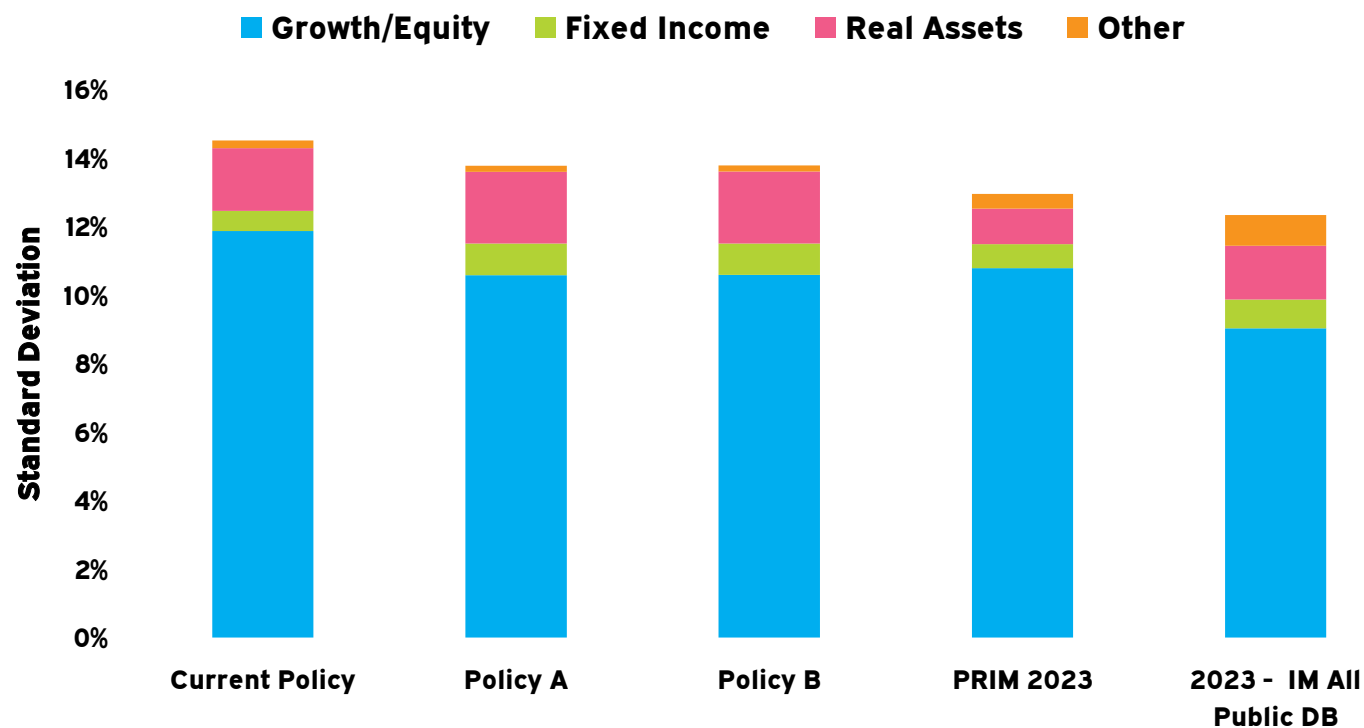
Risk Budgeting Analysis¹ (Capital Allocation vs. Risk Allocation)



→ Assets with low relative volatility, such as rate sensitive fixed income, contribute less to risk than their asset weighting implies.

¹ Other includes Hedge Funds. Risk allocation is calculated by multiplying the weight of the asset class by its standard deviation and its correlation with the total portfolio and then dividing this by the standard deviation of the total portfolio.

Risk Budgeting Analysis¹ (Absolute Contribution to Risk)



→ In each policy option, equity risk dominates the risk profile of the portfolio.

¹ Contribution to risk is calculated by multiplying the weight of the asset class by its standard deviation and its correlation with the total portfolio.

MPT-Based Risk Analysis

Scenario	Current Policy (%)	Policy A (%)	Policy B (%)	PRIM 2023 (%)	2023 - IM All Public DB (%)
Worst Case Returns (1)					
One Year (annualized)	-19.9	-18.7	-18.7	-17.6	-16.9
Three Years (annualized)	-8.8	-8.1	-8.1	-7.4	-7.1
Five Years (annualized)	-5.1	-4.5	-4.5	-4.0	-3.9
Ten Years (annualized)	-1.2	-0.8	-0.8	-0.5	-0.5
Twenty Years (annualized)	1.6	1.9	1.9	2.0	1.9
Probability of Experiencing Negative Returns					
One Year	26.1	25.1	25.2	24.5	24.5
Three Years	13.3	12.3	12.3	11.5	11.6
Five Years	7.6	6.7	6.7	6.1	6.1
Ten Years	2.1	1.7	1.7	1.4	1.5
Twenty Years	0.2	0.1	0.1	0.1	0.1

¹ "Worst Case Returns" refers to the 99.7th percentile return.

Value at Risk¹

Scenario	Current Policy	Policy A	Policy B	PRIM 2023	2023 - IM All Public DB
VaR (%):					
1 month	-9.0	-8.5	-8.5	-8.0	-7.6
3 months	-14.6	-13.7	-13.7	-12.8	-12.2
6 months	-19.1	-18.0	-18.0	-16.8	-16.0
VaR (\$ mm):					
1 month	-125	-118	-118	-111	-105
3 months	-202	-191	-191	-178	-170
6 months	-266	-250	-250	-233	-222

Conditional Value at Risk¹

Scenario	Current Policy	Policy A	Policy B	PRIM 2023	2023 - IM All Public DB
CVaR (%):					
1 month	-10.4	-9.8	-9.8	-9.2	-8.8
3 months	-16.9	-16.0	-16.0	-14.9	-14.2
6 months	-22.5	-21.2	-21.2	-19.8	-18.8
CVaR (\$ mm):					
1 month	-144	-136	-136	-128	-122
3 months	-235	-221	-222	-207	-198
6 months	-312	-294	-294	-274	-262

¹ Calculated with a 99% confidence level and based upon Meketa Investment Group's Annual Capital Markets Expectations. cVaR represents the average loss past the 99th percentile.

Historical Negative Scenario Analysis¹ (Cumulative Return)

Scenario	Current Policy (%)	Policy A (%)	Policy B (%)	PRIM 2023 (%)	2023 - IM All Public DB (%)
Post-COVID Rate Hikes (Jan 2022-Oct 2023)	-8.9	-6.4	-6.4	-8.2	-7.2
COVID-19 Market Shock (Feb 2020-Mar 2020)	-20.6	-18.2	-18.3	-17.1	-18.9
Taper Tantrum (May - Aug 2013)	0.6	1.3	1.4	0.5	0.1
Global Financial Crisis (Oct 2007 - Mar 2009)	-31.0	-27.4	-27.3	-26.2	-27.0
Popping of the TMT Bubble (Apr 2000 - Sep 2002)	-18.3	-13.6	-13.6	-14.6	-14.5
LTCM (Jul - Aug 1998)	-11.0	-8.6	-8.7	-7.9	-8.4
Asian Financial Crisis (Aug 97 - Jan 98)	1.3	3.7	3.8	4.3	3.0
Rate spike (1994 Calendar Year)	2.3	2.7	2.6	3.9	2.3
Early 1990s Recession (Jun - Oct 1990)	-8.3	-6.7	-6.7	-5.8	-5.0
Crash of 1987 (Sep - Nov 1987)	-13.4	-11.0	-11.2	-10.5	-12.1
Strong dollar (Jan 1981 - Sep 1982)	2.0	3.2	3.5	3.3	4.4
Volcker Recession (Jan - Mar 1980)	-4.2	-3.7	-3.7	-4.2	-4.1
Stagflation (Jan 1973 - Sep 1974)	-24.8	-21.6	-21.8	-21.9	-18.8

¹ See the Appendix for our scenario inputs. In periods where the ideal benchmark was not yet available, we used the next closest benchmark(s) as a proxy.

Historical Positive Scenario Analysis¹ (Cumulative Return)

Scenario	Current Policy (%)	Policy A (%)	Policy B (%)	PRIM 2023 (%)	2023 - IM All Public DB (%)
Covid Recovery (Apr 2020-Dec 2021)	60.8	58.7	59.5	57.7	55.9
Global Financial Crisis Recovery (Mar 2009 - Nov 2009)	36.9	32.4	32.4	31.4	33.3
Best of Great Moderation (Apr 2003 - Feb 2004)	34.7	29.6	29.2	29.5	27.7
Peak of the TMT Bubble (Oct 1998 - Mar 2000)	53.9	44.8	44.9	45.8	39.5
Plummeting Dollar (Jan 1986 - Aug 1987)	53.4	44.1	42.5	47.9	47.9
Volcker Recovery (Aug 1982 - Apr 1983)	35.0	31.0	31.6	31.1	33.4

¹ See the Appendix for our scenario inputs. In periods where the ideal benchmark was not yet available, we used the next closest benchmark(s) as a proxy.

Stress Testing: Impact of Negative Market Movements (Expected Return under Negative Conditions)¹

Scenario	Current Policy (%)	Policy A (%)	Policy B (%)	PRIM 2023 (%)	2023 - IM All Public DB (%)
10-year Treasury Bond rates rise 100 bps	5.0	4.3	4.2	3.9	3.8
10-year Treasury Bond rates rise 200 bps	-1.4	-1.8	-1.8	-1.9	-2.1
10-year Treasury Bond rates rise 300 bps	-0.5	-1.3	-1.2	-3.1	-2.6
Baa Spreads widen by 50 bps, High Yield by 200 bps	-0.3	-0.3	-0.3	0.4	0.3
Baa Spreads widen by 300 bps, High Yield by 1000 bps	-23.7	-21.5	-21.4	-20.6	-21.0
Trade Weighted Dollar gains 10%	-4.5	-3.9	-3.7	-3.4	-3.1
Trade Weighted Dollar gains 20%	-2.2	-1.8	-1.7	-0.3	-0.9
US Equities decline 10%	-6.6	-6.1	-6.1	-6.0	-5.5
US Equities decline 25%	-19.1	-17.7	-17.7	-16.9	-16.4
US Equities decline 40%	-29.2	-26.6	-26.6	-25.2	-25.9

¹ Assumes that assets not directly exposed to the factor are affected, nonetheless. See the Appendix for further details.

Stress Testing: Impact of Positive Market Movements (Expected Return under Positive Conditions)¹

Scenario	Current Policy (%)	Policy A (%)	Policy B (%)	PRIM 2023 (%)	2023 - IM All Public DB (%)
10-year Treasury Bond rates drop 100 bps	1.7	1.7	1.8	2.6	2.4
10-year Treasury Bond rates drop 200 bps	10.1	8.8	8.7	10.3	10.2
10-year Treasury Bond rates drop 300 bps	12.9	11.3	11.3	13.3	13.0
Baa Spreads narrow by 30bps, High Yield by 100 bps	7.8	7.4	7.4	7.5	7.2
Baa Spreads narrow by 100bps, High Yield by 300 bps	14.4	13.1	13.1	12.4	12.8
Trade Weighted Dollar drops 10%	7.9	6.9	6.9	7.0	7.1
Trade Weighted Dollar drops 20%	22.5	19.1	18.6	20.5	19.5
US Equities rise 10%	7.2	6.7	6.8	7.0	6.6
US Equities rise 30%	17.5	15.6	15.8	15.7	16.3

¹ Assumes that assets not directly exposed to the factor are affected, nonetheless. See the Appendix for further details.

Inflation Stress Testing: Negative Scenarios
(Expected Return under Negative Inflationary Conditions)¹

Scenario	Current Policy (%)	Policy A (%)	Policy B (%)	PRIM 2023 (%)	2023 - IM All Public DB (%)
Inflation slightly higher than expected	-0.3	-0.3	-0.3	-0.3	-0.4
Inflation meaningfully higher than expected	-5.1	-4.4	-4.4	-4.7	-5.1
Low Growth and Low Inflation	-8.0	-6.8	-6.7	-6.8	-6.7
Low Growth and High Inflation	-11.5	-9.5	-9.3	-9.8	-9.6
Brief, moderate inflation spike	-3.4	-2.7	-2.6	-3.2	-2.3
Extended, moderate inflation spike	-6.8	-5.6	-5.6	-6.2	-5.3
Brief, extreme inflation spike	-8.9	-7.4	-7.4	-8.1	-7.2
Extended, extreme inflation spike	-11.8	-10.0	-10.0	-10.7	-9.9

¹ See the Appendix for further details.

Inflation Stress Testing: Positive Scenarios
(Expected Return under Positive Inflationary Conditions)¹

Scenario	Current Policy (%)	Policy A (%)	Policy B (%)	PRIM 2023 (%)	2023 - IM All Public DB (%)
High Growth and Low Inflation	12.6	10.9	10.9	10.2	10.6
High Growth and Moderate Inflation	10.3	9.1	9.2	8.4	9.0
High Growth and High Inflation	7.6	7.0	7.2	6.1	6.9

¹ See the Appendix for further details.

Fund Coordination Update

Recent Search Activity

Global Equity

- On February 27, 2024, Meketa issued a Global Equity search on behalf of the Association. The search was conducted in an effort to comply with PERAC's seven-year investment vendor regulation.
- Responses were due on March 15, 2024, and will be reviewed at a subsequent meeting.

Recent Hires / Terminations

Portfolio Hires

→ The Association hired Parametric to run a Portfolio Overlay strategy. The strategy went live in early January 2024 and was funded with \$15 million.

Portfolio Terminations

→ No recent terminations.

Request for Proposal Global Equity Manager

Public Notice

The Board Members of the Plymouth County Retirement Association (hereinafter "Board") are seeking proposals from managers of global equity strategies. This search is being conducted in an effort to comply with PERAC's seven-year investment vendor regulation.

The Board intends to commit approximately \$20 - 40 million to a global equity manager. Only proposals from experienced managers of global equity strategies will be considered. The objective of this Request for Proposal shall be to identify manager(s) whose expertise will best meet the Board's goals and needs. The Board reserves the right to reject any and all proposals at its discretion.

The selected manager(s) must have familiarity with, and agree to comply with Massachusetts General Laws, Chapter 32 and Chapter 176, the regulations of the Massachusetts Division of Public Employee Retirement Administration Commission, 840 CMR, and the PERAC Placement Agent Policy. Please see <http://www.mass.gov/perac/> for details. All materials submitted in connection with this search may be subject to disclosure consistent with Massachusetts Public Record laws.

All bidders are hereby advised that any proposal selected shall be subject to (1) approval of the Board, (2) a written contract and (3) approval of the engagement by the Massachusetts Public Employee Retirement Administration Commission (PERAC).

To request a copy of the RFP: Please visit Meketa Investment Group's Investment Manager Center at <https://meketa.com/manager-center/request-for-proposal/>.

Due date deadline: March 15, 2024 at 12:00pm EST

Any questions pertaining to this Request for Proposal are to be e-mailed directly to Greg Price at gprice@meketa.com.

Appendices

Economic and Market Update

Data As of January 31, 2024

Commentary

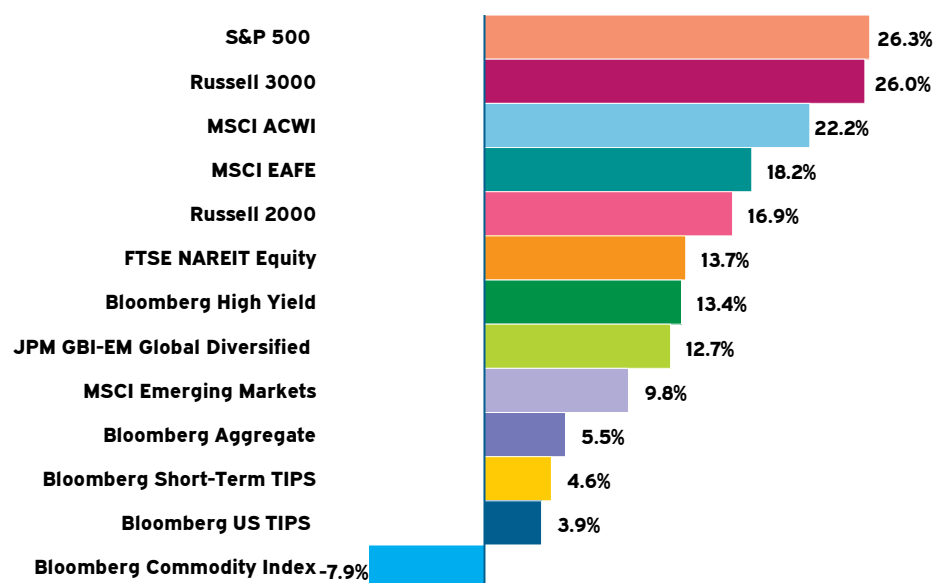
→ Markets were mixed in January after posting strong returns in 2023.

- Major central banks have largely paused interest rate hikes with expectations for many to cut rates this year. During the month there were signs though that many central banks, including the US, might not cut rates as soon as expected given strong economic data.
- In general inflation pressures have receded in most countries, but some uncertainty remains. Headline inflation fell in January in the US, but core inflation remained unchanged and elevated. China moved further into deflationary territory (-0.8%) in January.
- US equity markets (Russell 3000 index) rose 1.1% in January after a very strong 2023 (26.0%). There were mixed results across sectors, but technology continued to do well.
- Non-US developed equity markets gained 0.6% in January but 2.6% in local terms as the US dollar reversed course and strengthened during the month. The appreciation of the dollar was largely driven by strong economic data and related expectations that the Fed may delay policy rate cuts this year.
- Emerging market equity returns were also negatively influenced by the strong US dollar, but the biggest headwind in January was China (-10.6%). Emerging market equities had the weakest results for the month, down 4.6%.
- Bonds experienced selling pressure over the month, but ultimately finished the month nearly unchanged. The broad US bond market (Bloomberg Aggregate) declined (0.3%) in January.

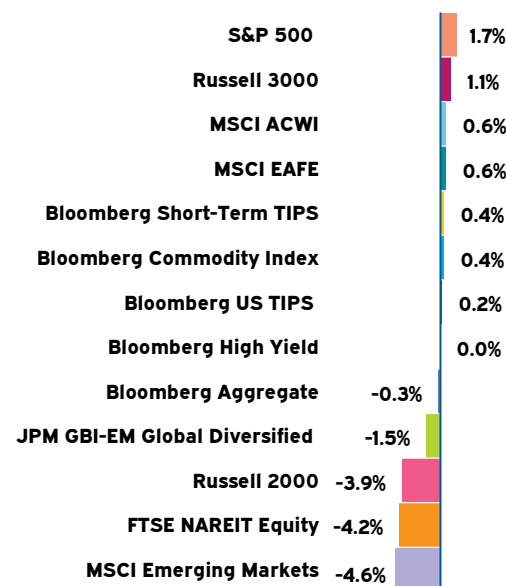
→ Looking to the rest of this year, the paths of inflation and monetary policy, China's economic disorder and slowing economic growth, the many looming elections, and the wars in Ukraine and Israel, will be key.

Index Returns¹

2023



January



→ After a strong market performance in 2023, the start of 2024 saw US large cap growth stocks continue their rally causing the S&P 500 to lead the way. Emerging market equity was the worst performer, dragged down by the continued sell-off of Chinese stocks.

→ Better than expected economic news in the US weighed on bond markets for the month with the broad US bond market (Bloomberg Aggregate) down slightly.

¹ Source: Bloomberg. Data is as of January 31, 2024.

Domestic Equity Returns¹

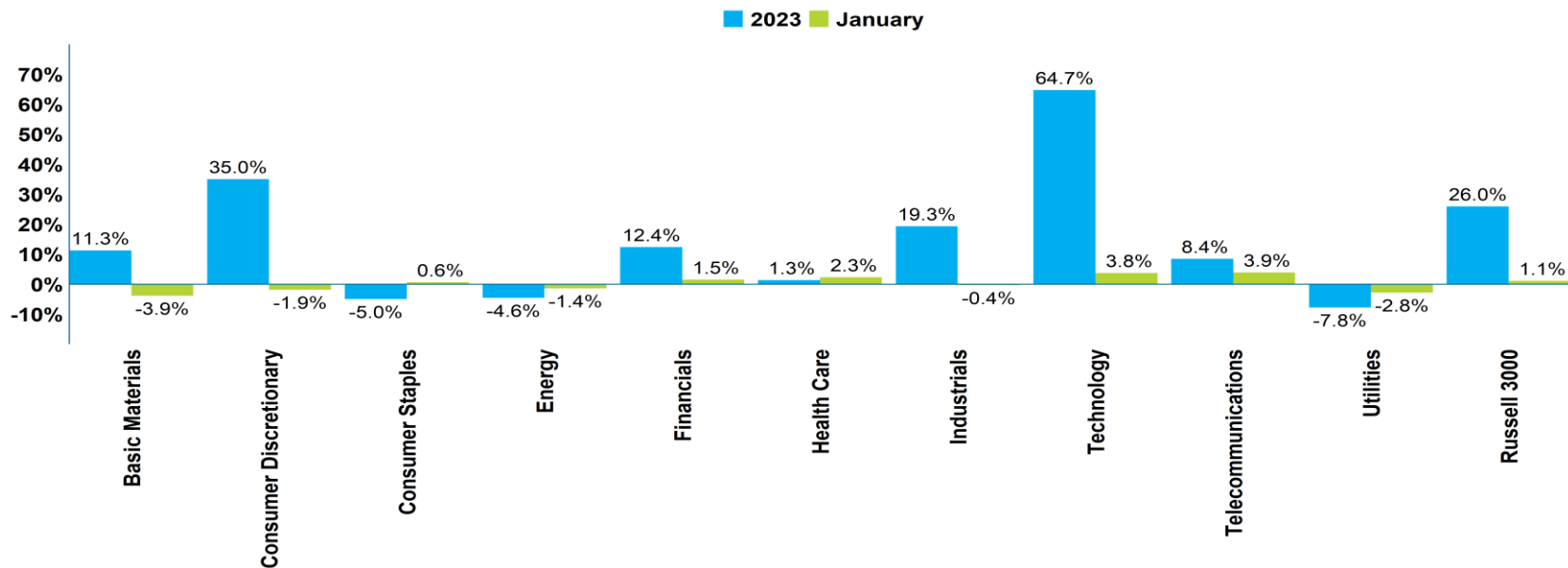
Domestic Equity	January (%)	Q4 2023 (%)	1 YR (%)	3 YR (%)	5 YR (%)	10 YR (%)
S&P 500	1.7	11.7	20.8	11.0	14.3	12.6
Russell 3000	1.1	12.1	19.1	9.1	13.5	12.0
Russell 1000	1.4	12.0	20.2	9.8	14.0	12.3
Russell 1000 Growth	2.5	14.2	35.0	10.0	18.0	15.5
Russell 1000 Value	0.1	9.5	6.1	9.2	9.3	8.8
Russell MidCap	-1.4	12.8	6.7	5.5	10.1	9.5
Russell MidCap Growth	-0.5	14.5	15.1	1.2	11.2	10.7
Russell MidCap Value	-1.8	12.1	2.4	7.8	8.6	8.2
Russell 2000	-3.9	14.0	2.4	-0.8	6.8	7.0
Russell 2000 Growth	-3.2	12.7	4.5	-6.0	6.2	7.0
Russell 2000 Value	-4.5	15.3	-0.1	4.5	6.7	6.7

US Equities: The Russell 3000 increased 1.1% in January with a one-year return of 19.1%.

- US equities built on their large gains from last year in January. Strong corporate earnings, economic data suggesting a soft landing might be achievable, and hopes for significant interest rate cuts (for most of the month) all drove results.
- Large cap stocks accounted for all the US equity market gains in January. NVIDIA, Microsoft, and Meta Platforms made up nearly 90% of the increase in the Russell 1000 index. Growth stocks outperformed value stocks across the market cap spectrum.
- While US equities advanced as a group, small and mid-cap stocks both declined in January. Banks contributed to this dynamic after a surprise loss at New York Community Bancorp rekindled fears regarding the banking system.

¹ Source: Bloomberg. Data is as of January 31, 2024.

Russell 3000 Sector Returns¹



- In January, telecommunications (3.9%), technology stocks (3.8%), and health care (2.3%) outperformed other sectors. Traditionally defensive sector utilities (-2.8%) trailed along with basic materials (-3.9%) and energy stocks (-1.4%).
- In 2023, technology (64.7%) and consumer discretionary (35.0%) sectors had the best results, helped respectively by artificial intelligence optimism and a healthy US consumer.

¹ Source: Bloomberg. Data is as of January 31, 2024.

Foreign Equity Returns¹

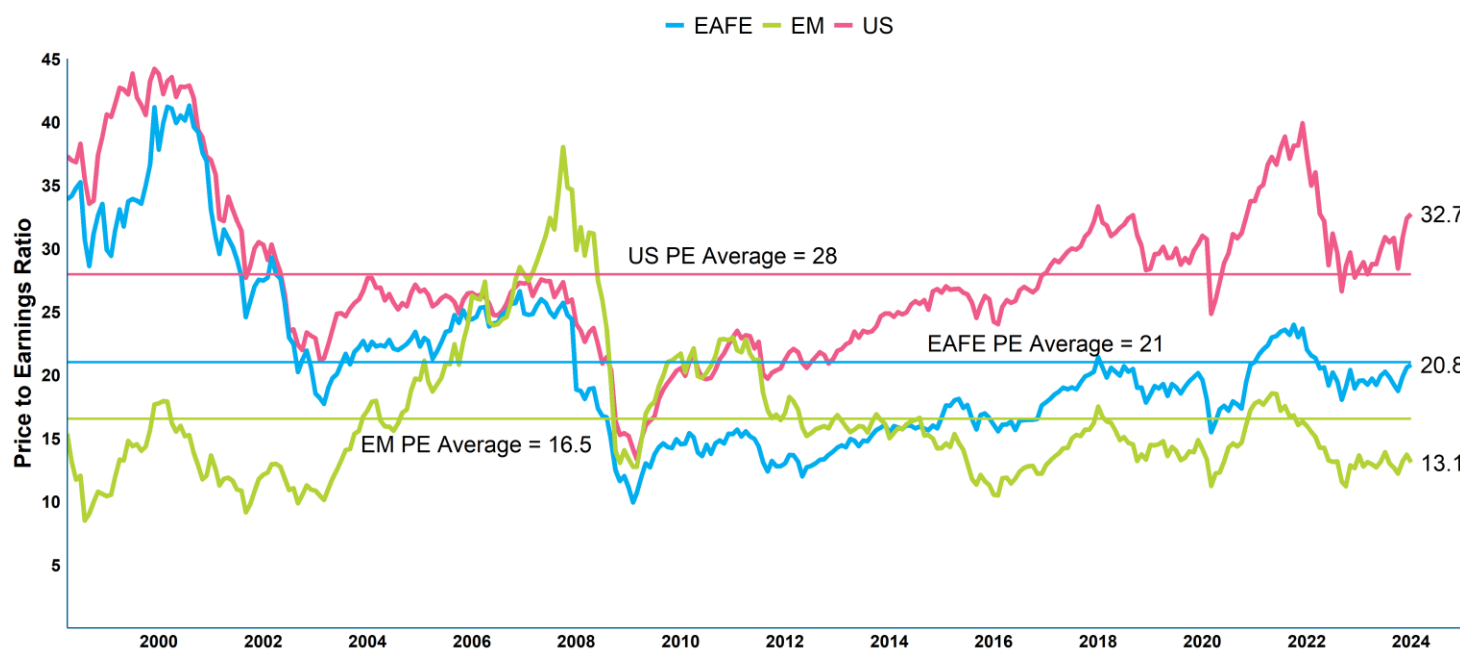
Foreign Equity	January (%)	Q4 2023 (%)	1 YR (%)	3 YR (%)	5 YR (%)	10 YR (%)
MSCI ACWI ex. US	-1.0	9.8	5.9	1.1	5.3	4.2
MSCI EAFE	0.6	10.4	10.0	4.6	6.9	4.8
MSCI EAFE (Local Currency)	2.6	5.0	12.1	9.7	8.9	7.2
MSCI EAFE Small Cap	-1.6	11.1	3.6	-1.1	4.6	4.8
MSCI Emerging Markets	-4.6	7.9	-2.9	-7.5	1.0	2.9
MSCI Emerging Markets (Local Currency)	-3.5	5.6	-0.5	-4.9	3.2	5.3
MSCI China	-10.6	-4.2	-29.0	-23.2	-6.9	0.4

Foreign Equity: Developed international equities (MSCI EAFE) gained 0.6% in January and had a one-year return of 10.0%. Emerging market equities (MSCI EM) fell -4.6% in January, and -2.9% for the trailing year.

- International developed equities saw slight gains for the month, while emerging market equities saw large losses for the same period; both were hampered by the US dollar reversing its sell-off from the end of last year. Outside of emerging markets, growth outperformed value for the month.
- Eurozone equities performed well, benefiting from ECB policy expectations, developments in the tech sector, and promising manufacturing data. U.K. equities stalled, as an unexpected increase in inflation pushed out the expected timing of rate cuts. Japan continues to see the highest returns globally over optimism on structural changes, January being no exception.
- EM equities continue to be bogged down by China (-10.6%) despite news of further stimulus by the PBOC.

¹ Source: Bloomberg. Data is as of January 31, 2024.

Equity Cyclically Adjusted P/E Ratios¹



- In January, the US equity price-to-earnings ratio increased further above its 21st century average.
- International market valuations were mixed in January and remain below the US. In the case of developed markets, valuations increased slightly to just below their long-term average, while emerging market valuations declined, remaining well below their average.

¹ US Equity Cyclically Adjusted P/E on S&P 500 Index. Source: Robert Shiller, Yale University, and Meketa Investment Group. Developed and Emerging Market Equity (MSCI EAFE and EM Index) Cyclically Adjusted P/E – Source: Bloomberg. Earnings figures represent the average of monthly “as reported” earnings over the previous ten years. Data is as of January 2023. The average line is the long-term average of the US, EM, and EAFE PE values from April 1998 to the recent month-end respectively.

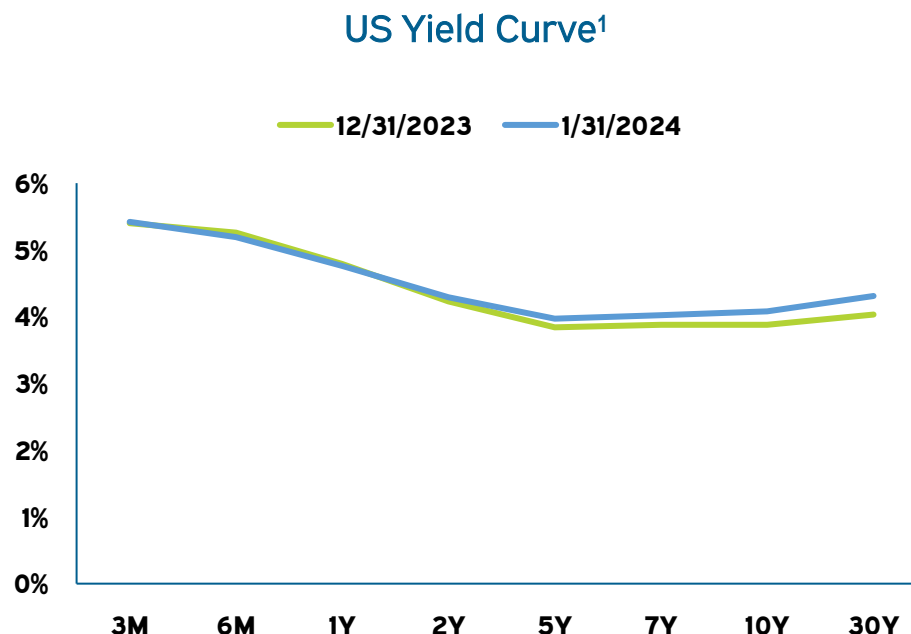
Fixed Income Returns¹

Fixed Income	January (%)	Q4 2023 (%)	1 YR (%)	3 YR (%)	5 YR (%)	10 YR (%)	Current Yield (%)	Duration (Years)
Bloomberg Universal	-0.2	6.8	2.7	-2.8	1.1	1.9	4.9	6.0
Bloomberg Aggregate	-0.3	6.8	2.1	-3.2	0.8	1.6	4.6	6.2
Bloomberg US TIPS	0.2	4.7	2.2	-1.0	2.9	2.2	4.2	6.9
Bloomberg Short-term TIPS	0.4	2.6	4.3	2.3	3.3	2.0	4.4	2.6
Bloomberg High Yield	0.0	7.2	9.3	1.9	4.4	4.5	7.8	3.7
JPM GBI-EM Global Diversified (USD)	-1.5	8.1	6.4	-3.3	-0.2	0.4	6.3	5.0

Fixed Income: The Bloomberg Universal index fell -0.2% in January but gained 2.7% on a one-year basis.

- Strong economic data in January and comments toward the end of the month by Federal Reserve Chair Jerome Powell hinting that rate cuts were not imminent drove rates up over the month, weighing on bonds.
- The broad US bond market (Bloomberg Aggregate) declined 0.3% for the month. The broader TIPS index rose 0.2%, while the less interest-rate-sensitive short-term TIPS index rose 0.4%.
- High yield bonds ended the month unchanged, while emerging market debt declined by 1.5%. Both asset classes produced double-digit gains last year.

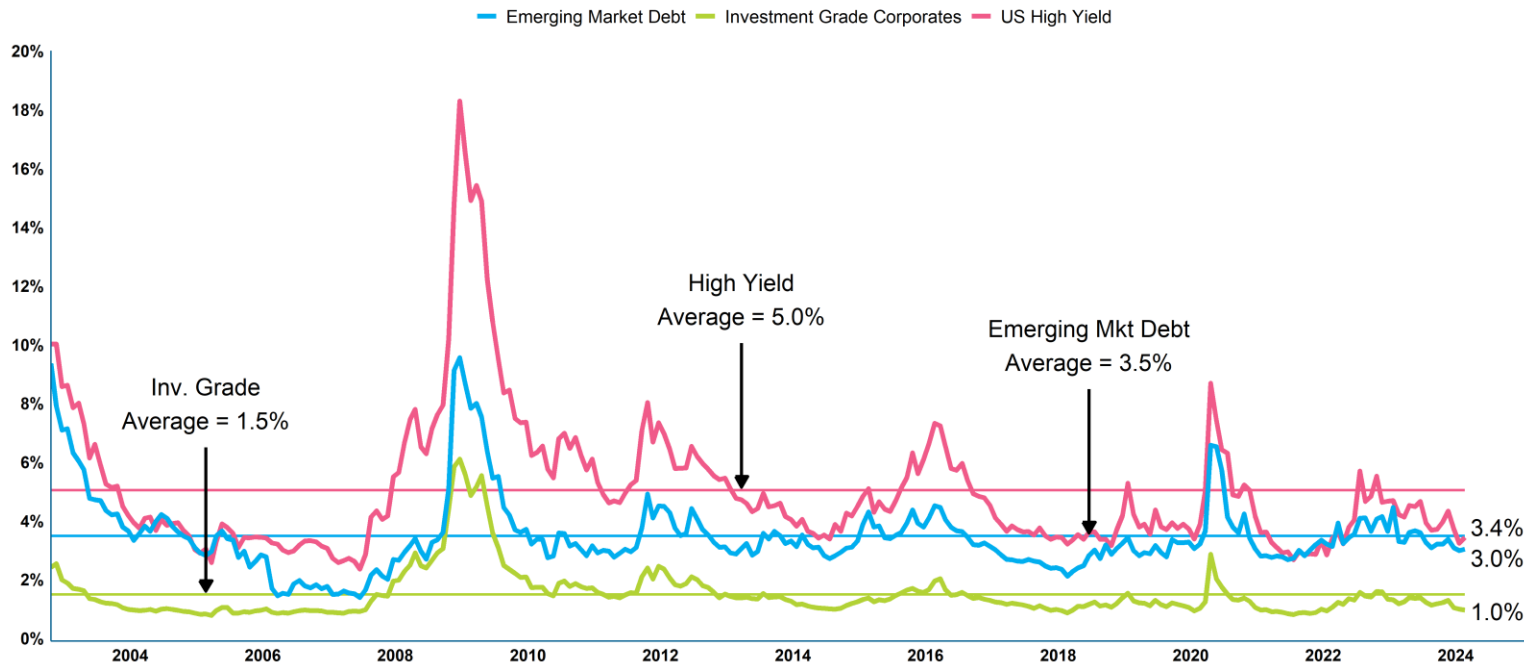
¹ Source: Bloomberg. JPM GBI-EM data is from InvestorForce. Data is as of January 31, 2024. The yield and duration data from Bloomberg is defined as the index's yield to worst and modified duration respectively.



- Both short-term and longer-term maturities ended the month largely unchanged, however, yields were volatile over the month on surprisingly strong economic data and shifts in monetary policy expectations.
- For the month, two-year Treasury yields ended at 4.2% (around 1% below the peak from October) while 10-year Treasury yields ended at 3.9%.
- The yield curve remained inverted at month-end despite a recent flattening trend. The yield spread between the two-year and ten-year Treasury was -0.3% at the end of January.

¹ Source: Bloomberg. Data is as of January 31, 2024.

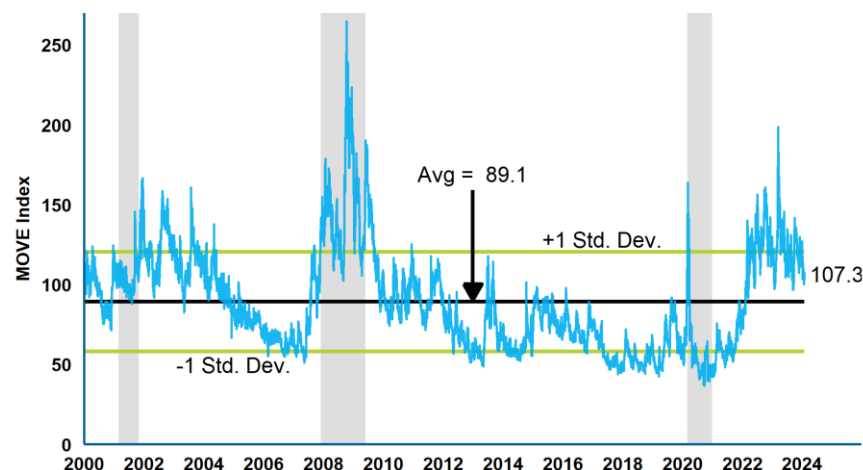
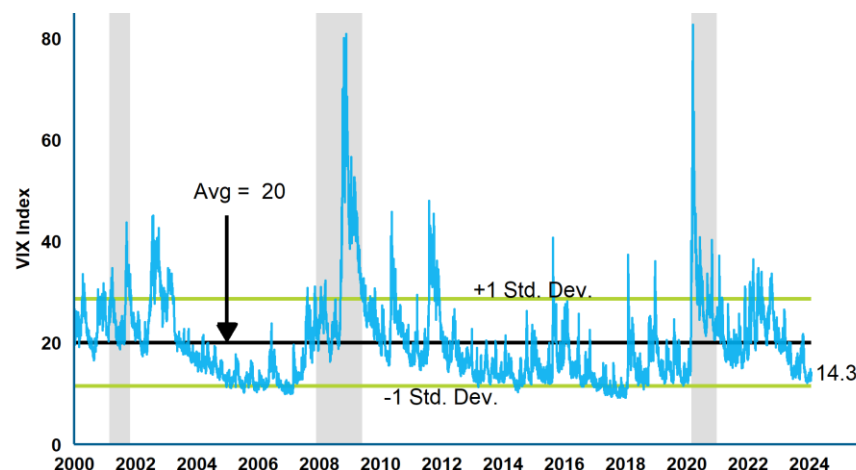
Credit Spreads vs. US Treasury Bonds¹



- Credit spreads widened slightly for high yield in January (3.2% to 3.4%) while spreads for investment grade corporate and emerging market bonds remained the same.
- Expectations of peaking policy rates and the corresponding increase in risk appetite have recently benefited credit, with spreads (the added yield above a comparable maturity Treasury) narrowing.
- All spreads remain below their respective long run averages, particularly within high yield.

¹ Sources: Bloomberg. Data is as of January 31, 2024. Average lines denote the average of the investment grade, high yield, and emerging market spread values from September 2002 to the recent month-end, respectively.

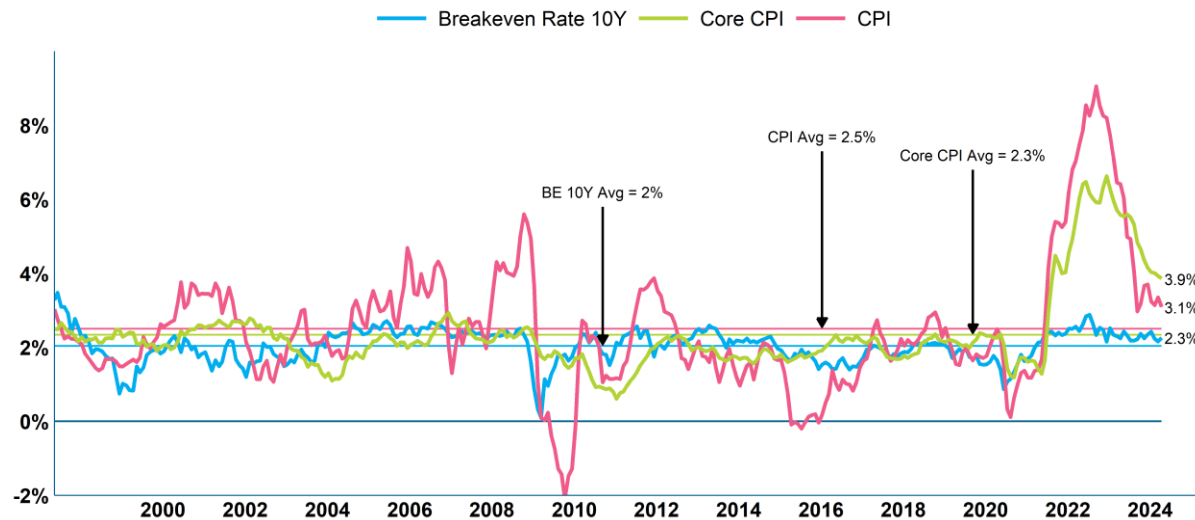
Equity and Fixed Income Volatility¹



- Volatility in equities (VIX) remains close to one standard deviation below the long-term average as the focus shifted late last year to peaking policy rates and the potential for a soft landing.
- Volatility in the bond market (MOVE) came down over the month (114.6 to 107.3) but remains elevated and well above its long-run average (89.1). The bond market remained on edge for most of 2023, driven largely by uncertainty about the ultimate path of monetary policy, as well as continued (and surprising) strength in economic data.

¹ Equity Volatility – Source: FRED. Fixed Income Volatility – Source: Bloomberg. Implied volatility as measured using VIX Index for equity markets and the MOVE Index to measure interest rate volatility for fixed income markets. Data is as of January 2024. The average line indicated is the average of the VIX and MOVE values between January 2000 and January 2024.

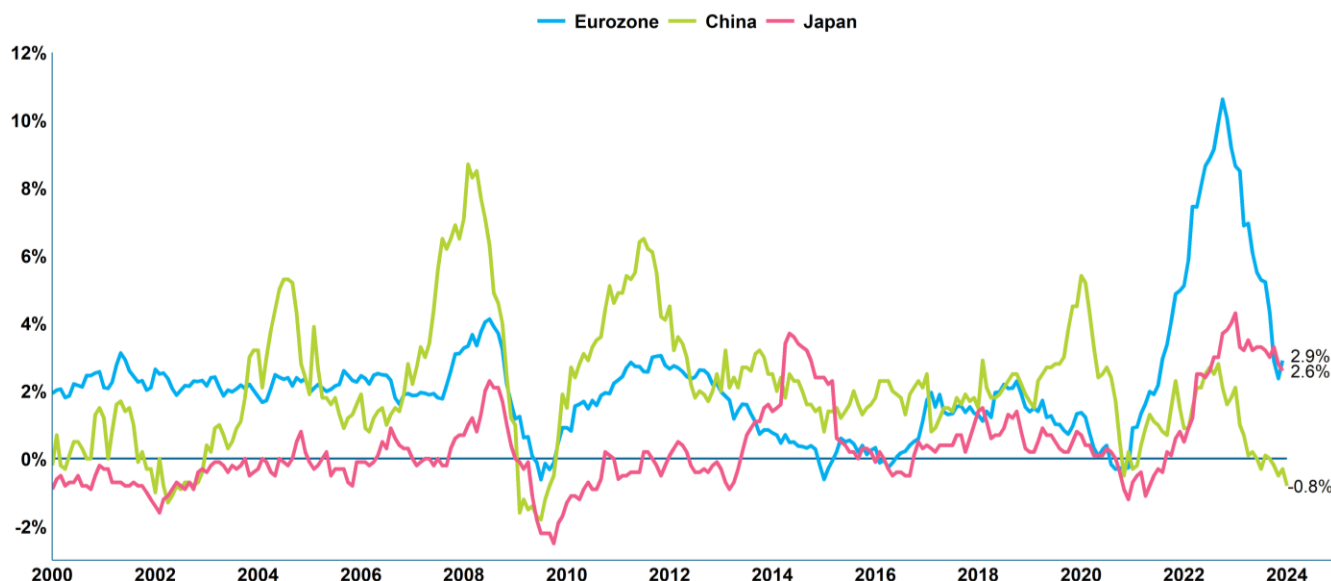
US Ten-Year Breakeven Inflation and CPI¹



- Year-over-year headline inflation declined in January (3.4% to 3.1%) but not by as much as expected (expectations were for a 2.9% reading). Month-over-month inflation came in at 0.3%, the same as last month and slightly above expectations of 0.2%. Shelter continues to keep inflation elevated, increasing 6.0% from a year prior. Food rose 2.6% over the same period, while downward pressure on energy prices continued, falling 4.6%.
- Core inflation - excluding food and energy - remained unchanged at 3.9% year-over-year (expectations were for a decline to 3.7%), with shelter costs again driving the total core index increase.
- Inflation expectations (breakevens) have remained relatively stable despite the recent significant volatility in inflation.

¹ Source: FRED. Data is as January 2024. The CPI and 10 Year Breakeven average lines denote the average values from February 1997 to the present month-end, respectively. Breakeven values represent month-end values for comparative purposes.

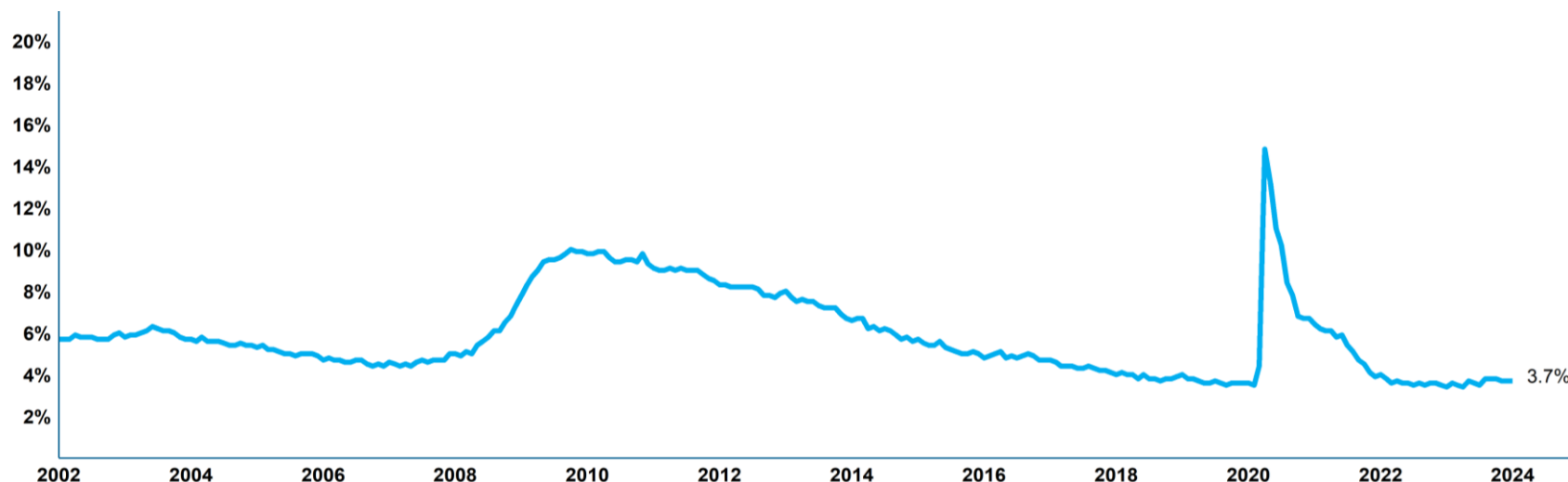
Global Inflation (CPI Trailing Twelve Months)¹



- Outside the US, inflation is also falling across major economies with China slipping further into deflation.
- In the eurozone, inflation experienced a dramatic decline last year. In January inflation rose slightly (2.8% to 2.9%), remaining below the 3.1% year-over-year level in the US.
- Inflation in Japan has slowly declined from the early 2023 peak, but it remains near levels not seen in almost a decade, largely driven by higher food prices.

¹ Source: FRED for United States CPI and Eurozone CPI. Source: Bloomberg for Japan CPI, China CPI, and Eurozone CPI. Data is as January 31, 2024, except Japan which is as of December 31, 2023.

US Unemployment¹

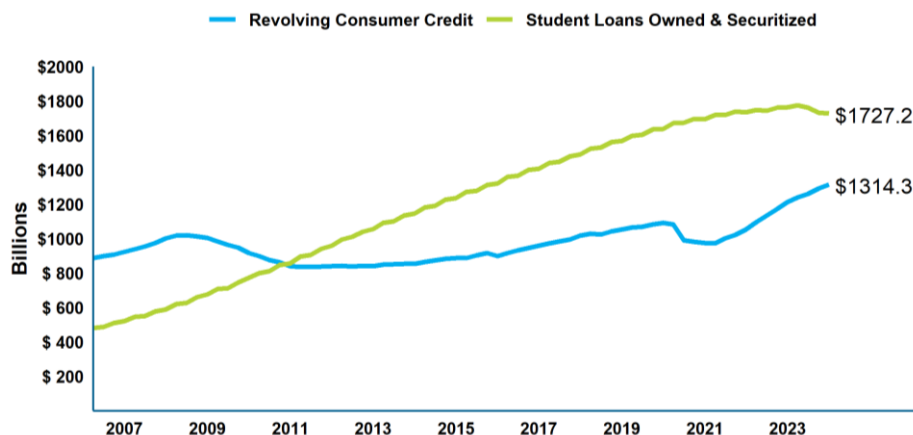


- Overall, the US labor market remains healthy with the unemployment rate relatively low, wage growth now positive in real terms, and initial claims for unemployment staying subdued.
- In January, the number of jobs added in the US was stronger than expected (353,000 versus 185,000) with the unemployment rate remaining at 3.7%. Payrolls from November and December of last year were also revised upward. Business and professional, health care, and retail sales jobs rose the most in January.
- The labor force participation remained relatively stable at 62.5%, well off the lows of the pandemic (60.1%) but not back to pre-pandemic levels (63.3%).
- The pace of hourly wage growth has declined from its peak of close to 6.0% but is above the 3.1% level of inflation. Wage growth rose at 4.5% year-on-year in January, an increase from the 4.1% level in December and above expectations of 4.1%.

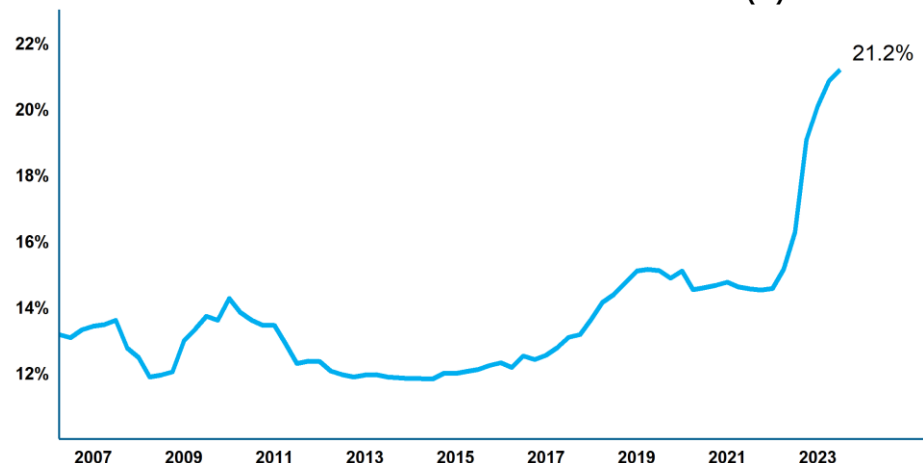
¹ Source: FRED. Data is as January 31, 2024.

US Consumer Under Stress?¹

Revolving Consumer Credit & Student Loans (\$B)



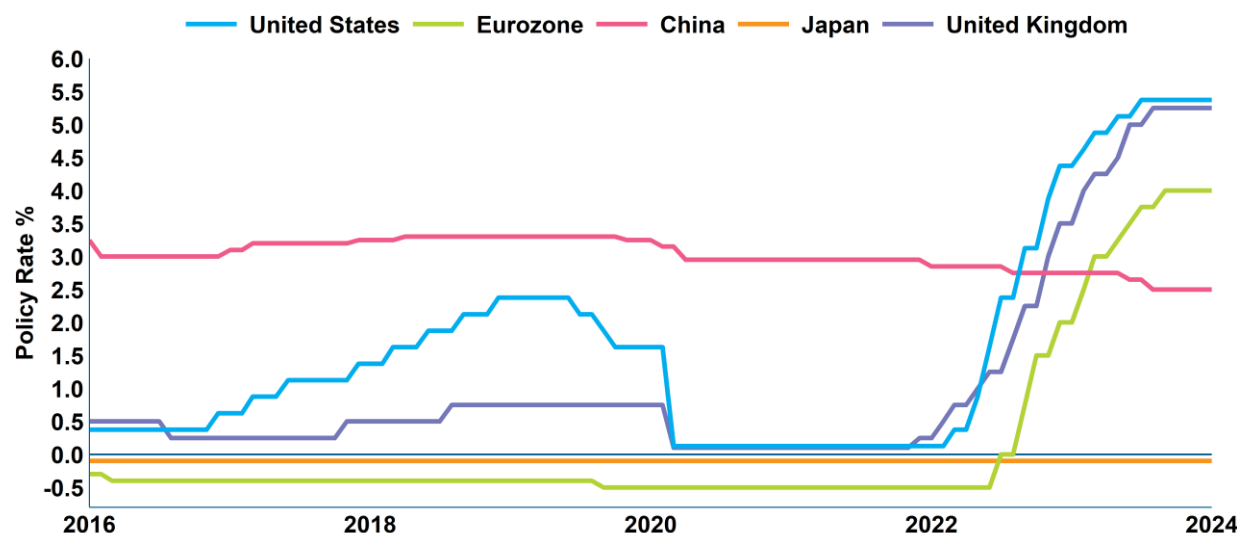
Consumer Credit Card Interest Rates (%)



- Despite the strong labor market and higher wages, pressures have started to build on the US consumer. This is an important consideration as consumer spending has been a key driver of economic growth.
- Revolving consumer credit surged to new highs in 2023 even as credit card interest rates hit levels not seen before (the prior peak was around 19% in the 1980s). Recently we have also seen payment delinquencies on credit cards start to increase.
- The return of student loan repayments after a three-year pandemic-related reprieve could add to pressures on consumers' budgets. This might be partially mitigated by recently initiated repayment and forgiveness programs.
- As we look ahead, the strength of the US consumer will remain key as this sector makes up most of the domestic economy (GDP).

¹ Source: FRED. Data is as of December 31, 2023. Consumer Credit Card Rate data is as of September 30, 2023. Revolving Consumer Credit data is seasonally adjusted to remove distortions during the holiday season.

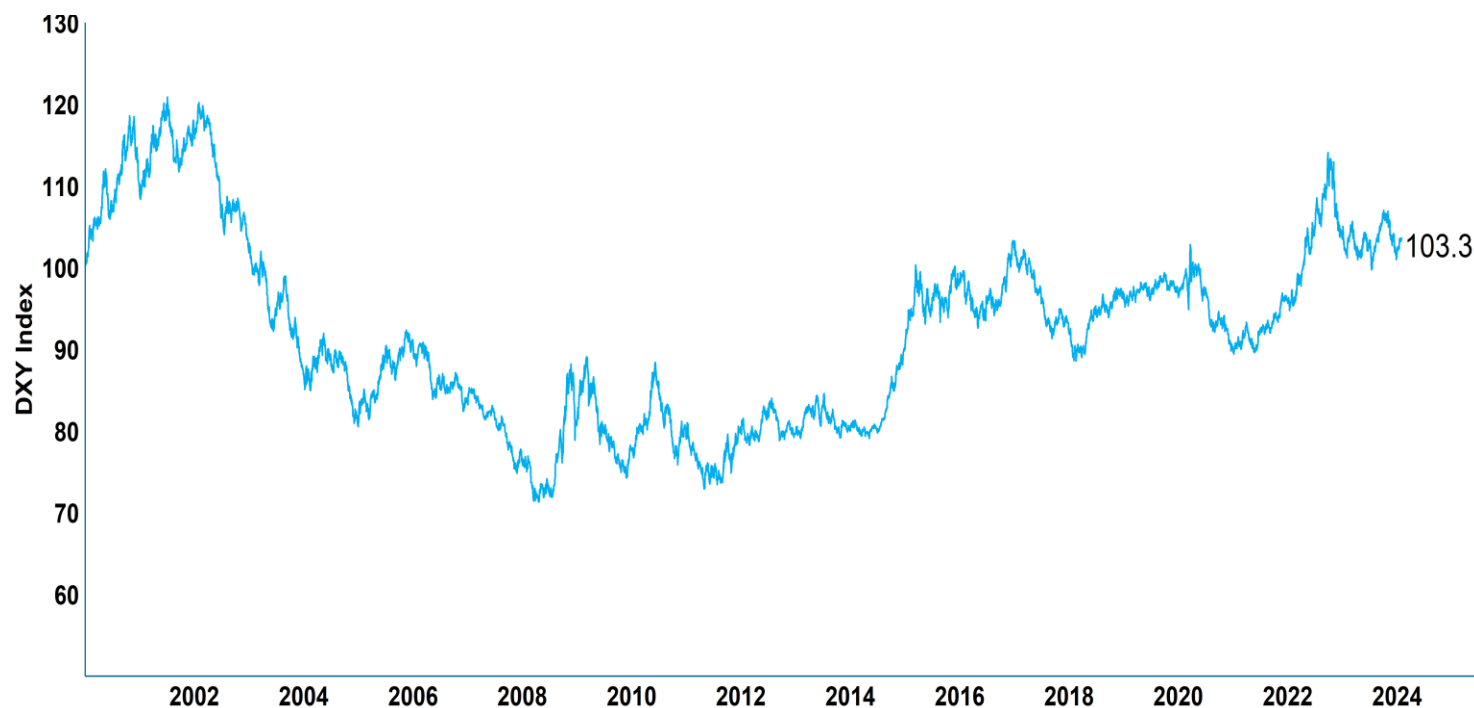
Policy Rates¹



- The Fed has been on hold since July 2023 when it raised rates to a range of 5.25%-5.50%. Markets are now pricing in around four rate cuts this year down from close to seven late last year as economic data has come in above expectations. There remains a gap between the amount of rate cuts the Fed is predicting compared to the market's expectations, but it has significantly narrowed.
- The European and UK central banks also recently paused their rate increases on slowing inflation with cuts likely to follow there too. In Japan, the BoJ has further relaxed its yield curve control on the 10-year bond, and expectations for further policy normalization are rising.
- The central bank in China has maintained interest rates at record low levels and continues to inject liquidity into the banking system, as weaker than expected economic data appears to indicate a widespread slowdown.

¹ Source: Bloomberg. Data is as of January 2024.

US Dollar vs. Broad Currencies¹



- Overall, the dollar finished last year only slightly below where it started but it was a volatile year for the US currency as expectations related to monetary policy evolved.
- Strong economic data in the US may delay policy rate cuts this year which could contribute to upward pressure on the dollar as other countries pivot to rate cuts.

¹ Source: Bloomberg. Data as of January 31, 2024.

Summary

Key Trends:

- The impact of inflation still above policy targets will remain important, with bond market volatility likely to stay high.
- Global monetary policies could diverge going forward. The risk of policy errors remains elevated as central banks try to further reduce inflation toward targets while not tipping their economies into recession. In the case of the US the resolution of the disparity between market expectations for the path of interest rates versus the Fed's dot plot will be key.
- Global growth is expected to slow this year, with some economies forecasted to tip into recession. However, optimism has been building that certain economies could experience soft landings. Inflation, monetary policy, and geopolitical issues will remain key in 2024.
- US consumers could feel pressure as certain components of inflation (e.g., shelter), remain high, borrowing costs are elevated, and the job market may weaken.
- A focus for US equities going forward will be whether earnings can remain resilient if growth continues to slow. Also, the future paths of the large technology companies that have driven market gains will be important.
- Equity valuations remain lower in emerging and developed markets, but risks remain, including China's economic uncertainty and on-going weakness in the real estate sector which could spill over into key trading partners' economies. Japan's recent hint at potentially tightening monetary policy along with changes in corporate governance in the country could influence relative results.

Corporate Update



7
Offices



235+
Employees



245+
Clients



\$1.8T
Assets Under Advisement



\$200B
Assets in Alternative Investments



98%
Client Retention Rate



5:1
Client | Consultant Ratio

Meketa
Investment Group
is proud to work
for over 15 million
American families
everyday!

UPCOMING EVENTS



Q4 Investment Perspectives Webcast
April 2024



Emerging and Diverse Manager Research Day
April 2024

Client and employee counts as of December 31, 2023; assets as of September 30, 2023.
Client retention rate is one minus the number of clients lost divided by the number of clients at prior year-end.

THOUGHT LEADERSHIP



Read our December Connectives “Navigating US China Tensions with Dynamic Portfolio Levers”

Sifting through economic, financial, and political factors is proving to be increasingly challenging for institutional investors as sentiment toward China continues to turn negative in western governments.

While some US investors have decided to actively underweight or even exit China altogether, others are seeking dynamic portfolio and manager solutions.

Read more here:

<https://meketa.com/news/meketa-connectives-navigating-us-china-tensions-with-dynamic-portfolio-levers/>



Read our recent white paper “Opportunities in Critical Minerals”

The push toward net-zero emissions has expedited the need for green energy and technology. At the forefront of this green energy boom are critical minerals, the essential inputs to all types of green technologies, especially electric vehicles (“EVs”) and EV batteries.

This research note provides an overview of critical minerals, their uses, current market size, as well as describes the unique opportunity that critical minerals may provide for investors.

Read more here:

<https://meketa.com/leadership/the-opportunity-in-critical-minerals/>



Watch our recent webinar “Mission Driven Investing Manager Research Day Roundtable”

As part of Meketa’s first Public and Private Markets Mission Driven Investing Manager Research Day, we hosted a one-hour roundtable discussion with a panel of institutional investors speaking about their experiences with mission driven investing. The panel includes perspectives from investors who invest broadly in mission-driven investments, as well as specifically for economic development in a particular state or region and as informed by religious values. Discussion topics include impact and return goals, mission related investment structures, best practices in manager due diligence and other areas relevant for the mission driven investor.

Read more here:

<https://meketa.com/leadership/december-2023-mission-driven-investing-manager-research-day-roundtable/>

MEKETA VALUES CULTURE

Whether looking for new team members or getting to know our current fellow team mates better, Meketa values the people we work with.



MEKETA IN THE NEWS

Pensions&Investments **Asset owners lean on consultants to be educated about ESG**

By Palash Ghosh | 11.20.23

[Read full article here](#)

Meketa assists clients in understanding different approaches to sustainability, including focusing on integrating material sustainability financial risks and opportunities, seeking investments that also offer impact on a given environmental or social themes, and investing in products for socially responsible ends that do not include a performance expectation to meet or exceed a market beta, said [Sarah Bernstein](#), head of sustainability. “Some pension funds have specific requests, for

example how to respond to ESG and/or anti-ESG legislation; provide analysis on options to address climate risks and opportunities; or address diversity, equity and inclusion concerns,” she added.

One area that is seeing a lot of interest from investors is opportunities around the energy transition. [Lisa Bacon](#), managing principal, private markets consultant and infrastructure program lead at Meketa, said deploying capital into renewables and related infrastructure has been going on for a number of years even before “energy transition” and “decarbonization” became common terms.

In fact, “as both governmental entities and corporates in the U.S. and abroad have established more ambitious goals for reducing greenhouse gases and reaching net-zero carbon emissions, demand for private capital to support investments in assets and companies that will help meet these goals has also increased,” Bacon said. “Opportunities have also arisen in the natural resources sector involving alternative fuels, metals and minerals for batteries and electric chargers, and other sustainable inputs and activities.” Bacon added that Meketa and its clients want to be investing in the areas “where economic activity is increasing and where growth potential supports attractive risk-adjusted returns.”

Impact of higher rates top of mind for institutions

By Palash Ghosh | 11.20.23

[Read full article here](#)

Aside from rising interest rates, noted Frank Benham, director of research at [Meketa](#), his firm’s clients are also concerned about the potential for an economic hard landing, as well as both political and economic risks in China.

Regarding China, Amy Hsiang, director of public markets manager research at Meketa, said clients are interested in learning more about emerging markets. “Whether or not

translates to actually increasing allocations to emerging markets, only time will tell,” Hsiang said. “We have not seen clients actively avoid China.”

“Clients are increasing exposure to select alternatives like private credit and private equity. This needs to be balanced with an understanding of each clients’ liquidity needs to ensure the portfolio can deliver on all commitments through a market cycle.” John A. Haggerty, director of private market investments at Meketa, noted that in times of uncertainty and market volatility, the issue of placing value on alternative assets naturally receives more scrutiny. “Private market performance lags public market performance in both up markets and down markets,” he said. “So, the gaps have been greater in recent years with the stock market swings, negative in 2022 and positive for much of 2023.”

FUNDfire

Corporate Pensions at ‘Inflection Point’ as Funded Statuses Improve

By Bridget Hickey 11.28.23

[Read full article here](#)

Corporate pension sponsors are at an “inflection point” when it comes to deciding about the future of their plans, said Jonathan Camp, a managing principal at investment consultant Meketa.

Companies may choose to hedge their liabilities or transfer risk. Almost 90% of corporate pension respondents to a recent survey by MetLife said they were interested in completely divesting all their defined benefit plan liabilities.

However, the news earlier this month that International Business Machines, better known as IBM, is reopening its defined benefit pension as a cash balance plan has sparked a conversation within the industry about whether other companies will follow suit.

Companies that are over-funded may opt to follow in IBM’s stead, Camp suggested. He added that one client, (unnamed), re-opened its pension plan more than a year ago.

“The benefit of just keeping your frozen pension plan on your books is that it’s very easy to open it back up in a different form in the future, versus if you terminate your plan,” he said. “It will be interesting to see, if now that we have this first mover publicly, if other companies think to themselves, ‘well, you know, I can do that too’.”

Disclaimer, Glossary, and Notes

WE HAVE PREPARED THIS REPORT (THIS "REPORT") FOR THE SOLE BENEFIT OF THE INTENDED RECIPIENT (THE "RECIPIENT").

SIGNIFICANT EVENTS MAY OCCUR (OR HAVE OCCURRED) AFTER THE DATE OF THIS REPORT AND THAT IT IS NOT OUR FUNCTION OR RESPONSIBILITY TO UPDATE THIS REPORT. ANY OPINIONS OR RECOMMENDATIONS PRESENTED HEREIN REPRESENT OUR GOOD FAITH VIEWS AS OF THE DATE OF THIS REPORT AND ARE SUBJECT TO CHANGE AT ANY TIME. ALL INVESTMENTS INVOLVE RISK. THERE CAN BE NO GUARANTEE THAT THE STRATEGIES, TACTICS, AND METHODS DISCUSSED HERE WILL BE SUCCESSFUL.

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CERTAIN INFORMATION CONTAINED IN THIS REPORT MAY CONSTITUTE "FORWARD - LOOKING STATEMENTS," WHICH CAN BE IDENTIFIED BY THE USE OF TERMINOLOGY SUCH AS "MAY," "WILL," "SHOULD," "EXPECT," "AIM," "ANTICIPATE," "TARGET," "PROJECT," "ESTIMATE," "INTEND," "CONTINUE" OR "BELIEVE," OR THE NEGATIVES THEREOF OR OTHER VARIATIONS THEREON OR COMPARABLE TERMINOLOGY. ANY FORWARD-LOOKING STATEMENTS, FORECASTS, PROJECTIONS, VALUATIONS, OR RESULTS IN THIS PRESENTATION ARE BASED UPON CURRENT ASSUMPTIONS. CHANGES TO ANY ASSUMPTIONS MAY HAVE A MATERIAL IMPACT ON FORWARD - LOOKING STATEMENTS, FORECASTS, PROJECTIONS, VALUATIONS, OR RESULTS. ACTUAL RESULTS MAY THEREFORE BE MATERIALLY DIFFERENT FROM ANY FORECASTS, PROJECTIONS, VALUATIONS, OR RESULTS IN THIS PRESENTATION.

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

Credit Risk: Refers to the risk that the issuer of a fixed income security may default (i.e., the issuer will be unable to make timely principal and/or interest payments on the security).

Duration: Measure of the sensitivity of the price of a bond to a change in its yield to maturity. Duration summarizes, in a single number, the characteristics that cause bond prices to change in response to a change in interest rates. For example, the price of a bond with a duration of three years will rise by approximately 3% for each 1% decrease in its yield to maturity. Conversely, the price will decrease 3% for each 1% increase in the bond's yield. Price changes for two different bonds can be compared using duration. A bond with a duration of six years will exhibit twice the percentage price change of a bond with a three-year duration. The actual calculation of a bond's duration is somewhat complicated, but the idea behind the calculation is straightforward. The first step is to measure the time interval until receipt for each cash flow (coupon and principal payments) from a bond. The second step is to compute a weighted average of these time intervals. Each time interval is measured by the present value of that cash flow. This weighted average is the duration of the bond measured in years.

Information Ratio: This statistic is a measure of the consistency of a portfolio's performance relative to a benchmark. It is calculated by subtracting the benchmark return from the portfolio return (excess return), and dividing the resulting excess return by the standard deviation (volatility) of this excess return. A positive information ratio indicates outperformance versus the benchmark, and the higher the information ratio, the more consistent the outperformance.

Jensen's Alpha: A measure of the average return of a portfolio or investment in excess of what is predicted by its beta or "market" risk. $\text{Portfolio Return} - [\text{Risk Free Rate} + \text{Beta} \times (\text{market return} - \text{Risk Free Rate})]$.

Market Capitalization: For a firm, market capitalization is the total market value of outstanding common stock. For a portfolio, market capitalization is the sum of the capitalization of each company weighted by the ratio of holdings in that company to total portfolio holdings; thus it is a weighted-average capitalization. Meketa Investment Group considers the largest 65% of the broad domestic equity market as large capitalization, the next 25% of the market as medium capitalization, and the smallest 10% of stocks as small capitalization.

Market Weighted: Stocks in many indices are weighted based on the total market capitalization of the issue. Thus, the individual returns of higher market-capitalization issues will more heavily influence an index's return than the returns of the smaller market-capitalization issues in the index.

Maturity: The date on which a loan, bond, mortgage, or other debt/security becomes due and is to be paid off.

Prepayment Risk: The risk that prepayments will increase (homeowners will prepay all or part of their mortgage) when mortgage interest rates decline; hence, investors' monies will be returned to them in a lower interest rate environment. Also, the risk that prepayments will slow down when mortgage interest rates rise; hence, investors will not have as much money as previously anticipated in a higher interest rate environment. A prepayment is any payment in excess of the scheduled mortgage payment.

Price-Book Value (P/B) Ratio: The current market price of a stock divided by its book value per share. Meketa Investment Group calculates P/B as the current price divided by Compustat's quarterly common equity. Common equity includes common stock, capital surplus, retained earnings, and treasury stock adjusted for both common and nonredeemable preferred stock. Similar to high P/E stocks, stocks with high P/B's tend to be riskier investments.

Price-Earnings (P/E) Ratio: A stock's market price divided by its current or estimated future earnings. Lower P/E ratios often characterize stocks in low growth or mature industries, stocks in groups that have fallen out of favor, or stocks of established blue chip companies with long records of stable earnings and regular dividends. Sometimes a company that has good fundamentals may be viewed unfavorably by the market if it is an industry that is temporarily out of favor. Or a business may have experienced financial problems causing investors to be skeptical about its future. Either of these situations would result in lower relative P/E ratios. Some stocks exhibit above-average sales and earnings growth or expectations for above average growth. Consequently, investors are willing to pay more for these companies' earnings, which results in elevated P/E ratios. In other words, investors will pay more for shares of companies whose profits, in their opinion, are expected to increase faster than average. Because future events are in no way assured, high P/E stocks tend to be riskier and more volatile investments. Meketa Investment Group calculates P/E as the current price divided by the I/B/E/S consensus of twelve-month forecast earnings per share.

Quality Rating: The rank assigned a security by such rating services as Fitch, Moody's, and Standard & Poor's. The rating may be determined by such factors as (1) the likelihood of fulfillment of dividend, income, and principal payment of obligations; (2) the nature and provisions of the issue; and (3) the security's relative position in the event of liquidation of the company. Bonds assigned the top four grades (AAA, AA, A, BBB) are considered investment grade because they are eligible bank investments as determined by the controller of the currency.

Sharpe Ratio: A commonly used measure of risk-adjusted return. It is calculated by subtracting the risk free return (usually three-month Treasury bill) from the portfolio return and dividing the resulting excess return by the portfolio's total risk level (standard deviation). The result is a measure of return per unit of total risk taken. The higher the Sharpe ratio, the better the fund's historical risk adjusted performance.

STIF Account: Short-term investment fund at a custodian bank that invests in cash-equivalent instruments. It is generally used to safely invest the excess cash held by portfolio managers.

Standard Deviation: A measure of the total risk of an asset or a portfolio. Standard deviation measures the dispersion of a set of numbers around a central point (e.g., the average return). If the standard deviation is small, the distribution is concentrated within a narrow range of values. For a normal distribution, about two thirds of the observations will fall within one standard deviation of the mean, and 95% of the observations will fall within two standard deviations of the mean.

Style: The description of the type of approach and strategy utilized by an investment manager to manage funds. For example, the style for equities is determined by portfolio characteristics such as price-to-book value, price-to-earnings ratio, and dividend yield. Equity styles include growth, value, and core.

Tracking Error: A divergence between the price behavior of a position or a portfolio and the price behavior of a benchmark, as defined by the difference in standard deviation.

Yield to Maturity: The yield, or return, provided by a bond to its maturity date; determined by a mathematical process, usually requiring the use of a “basis book.” For example, a 5% bond pays \$5 a year interest on each \$100 par value. To figure its current yield, divide \$5 by \$95—the market price of the bond—and you get 5.26%. Assume that the same bond is due to mature in five years. On the maturity date, the issuer is pledged to pay \$100 for the bond that can be bought now for \$95. In other words, the bond is selling at a discount of 5% below par value. To figure yield to maturity, a simple and approximate method is to divide 5% by the five years to maturity, which equals 1% pro rata yearly. Add that 1% to the 5.26% current yield, and the yield to maturity is roughly 6.26%.

$$\frac{5\% \text{ (discount)}}{5 \text{ (yrs. to maturity)}} = 1\% \text{ pro rata, plus } 5.26\% \text{ (current yield)} = 6.26\% \text{ (yield to maturity)}$$

Yield to Worst: The lowest potential yield that can be received on a bond without the issuer actually defaulting. The yield to worst is calculated by making worst-case scenario assumptions on the issue by calculating the returns that would be received if provisions, including prepayment, call, or sinking fund, are used by the issuer.

NCREIF Property Index (NPI): Measures unleveraged investment performance of a very large pool of individual commercial real estate properties acquired in the private market by tax-exempt institutional investors for investment purposes only. The NPI index is capitalization-weighted for a quarterly time series composite total rate of return.

NCREIF Fund Index - Open End Diversified Core Equity (NFI-ODCE): Measures the investment performance of 28 open-end commingled funds pursuing a core investment strategy that reflects funds' leverage and cash positions. The NFI-ODCE index is equal-weighted and is reported gross and net of fees for a quarterly time series composite total rate of return.

Sources: Investment Terminology, International Foundation of Employee Benefit Plans, 1999.

The Handbook of Fixed Income Securities, Fabozzi, Frank J., 1991

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Throughout this report, numbers may not sum due to rounding.

Returns for periods greater than one year are annualized throughout this report.

Values shown are in millions of dollars, unless noted otherwise.