

Plymouth County Retirement Association

February 27, 2024

Meeting Materials

Agenda

1. Estimated Retirement Association Performance As of January 31, 2024
2. Performance Update As of December 31, 2023
 - Private Markets Update As of September 30, 2023
3. 2023 Year in Review
4. Appendices
 - Investment Manager Status Report
 - Economic Market Update As of January 31, 2024
 - Investment Policy Statement Updated December 2023
 - Corporate Update
 - Disclaimer, Glossary, and Notes

**Estimated Retirement Association Performance
As of January 31, 2024**

Estimated Aggregate Performance¹

	January ² (%)	1 YR (%)	3 YR (%)	5 YR (%)	10 YR (%)
Total Retirement Association	-0.2	4.6	5.5	8.2	6.8

Benchmark Returns

	January (%)	1 YR (%)	3 YR (%)	5 YR (%)	10 YR (%)
Russell 3000	1.1	19.2	9.1	13.5	12.0
MSCI EAFE	0.6	10.0	4.6	6.9	4.8
MSCI Emerging Markets	-4.6	-2.9	-7.5	1.0	2.9
Bloomberg Aggregate	-0.3	2.1	-3.2	0.8	1.6
Bloomberg TIPS	0.2	2.2	-1.0	2.9	2.2
Bloomberg High Yield	0.0	9.3	1.9	4.4	4.5
JPM EMBI Global Diversified (Hard Currency)	-1.0	6.6	-3.5	0.6	3.2
S&P Global Natural Resources	-5.3	-8.4	10.7	7.9	5.2

Estimated Total Assets

Estimated Total Retirement Assets As of January 31, 2024	\$1,382,459,242
Current Month Performance Estimate through February 15	1.5%

¹ The January performance estimates are calculated using index returns as of January 31, 2024 for each asset class. No performance estimate was included for private equity, real estate, infrastructure, and private natural resources asset classes.

² As of January 31, 2024.

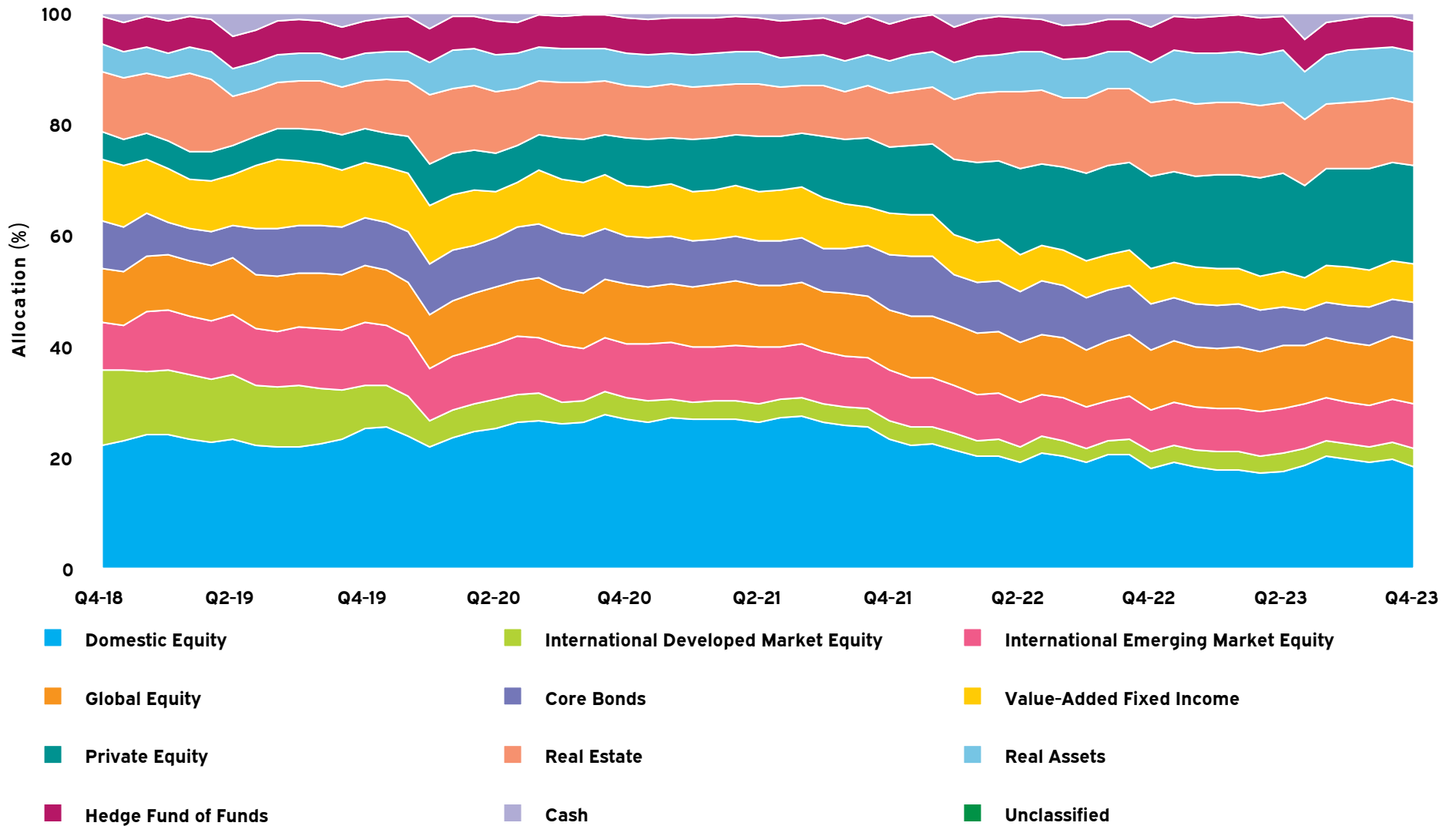
**Performance Update
As of December 31, 2023**

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Asset Allocation Compliance | As of December 31, 2023

	Current Balance (\$)	Current Allocation (%)	Policy (%)	Policy Range (%)	Within IPS Range?
Total Equity	900,009,521	64	69	60 - 80	Yes
Domestic Equity	256,734,421	18	26	21 - 36	No
International Developed Market Equity	43,901,912	3	6	1 - 16	Yes
International Emerging Market Equity	111,491,267	8	10	5 - 20	Yes
Global Equity	161,712,147	12	10	5 - 20	Yes
Private Equity	246,654,232	18	13	4 - 18	Yes
Hedge Fund of Funds	79,177,624	6	4	2 - 8	Yes
Total Fixed Income	192,800,135	14	15	5 - 25	Yes
Core Bonds	95,801,663	7	9	4 - 14	Yes
Value-Added Fixed Income	96,998,472	7	6	2 - 12	Yes
Total Real Assets and Real Estate	284,769,356	20	16	7 - 25	Yes
Real Estate	156,105,037	11	10	5 - 15	Yes
Real Assets	128,664,320	9	6	2 - 10	Yes
Cash	17,893,641	1	0	0 - 3	Yes
Cash	17,893,641	1	0	0 - 3	Yes
Total	1,395,472,653	100	100		

Asset Allocation History 5 Years Ending December 31, 2023



Asset Allocation & Performance | As of December 31, 2023

	Market Value \$	% of Portfolio	1 Mo (%)	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Total Retirement Association	1,395,472,653	100.0	2.4	4.5	8.5	5.7	9.4	6.6	7.8	Nov-89
<i>Policy Benchmark (Net)</i>			<i>2.3</i>	<i>5.7</i>	<i>13.6</i>	<i>4.3</i>	<i>8.3</i>	<i>6.5</i>	<i>--</i>	
<i>Actual Allocation (Net)</i>			<i>1.6</i>	<i>4.4</i>	<i>12.2</i>	<i>3.9</i>	<i>7.9</i>	<i>--</i>	<i>--</i>	
Domestic Equity Assets	256,734,421	18.4	8.1	11.9	20.7	5.4	14.4	--	12.2	Jan-16
<i>Russell 3000 Index</i>			<i>5.3</i>	<i>12.1</i>	<i>26.0</i>	<i>8.5</i>	<i>15.2</i>	<i>11.5</i>	<i>12.8</i>	
International Developed Market Equity Assets	43,901,912	3.1	5.4	11.8	17.9	0.3	4.5	--	3.6	Jan-16
<i>MSCI EAFE (Net)</i>			<i>5.3</i>	<i>10.4</i>	<i>18.2</i>	<i>4.0</i>	<i>8.2</i>	<i>4.3</i>	<i>6.1</i>	
International Emerging Market Equity Assets	111,491,267	8.0	3.4	7.3	12.5	-3.8	4.7	--	5.6	Jan-16
<i>MSCI Emerging Markets (Net)</i>			<i>3.9</i>	<i>7.9</i>	<i>9.8</i>	<i>-5.1</i>	<i>3.7</i>	<i>2.7</i>	<i>5.7</i>	
Global Equity Assets	161,712,147	11.6	3.6	8.6	15.6	6.3	10.9	--	6.7	Feb-18
<i>MSCI AC World Index (Net)</i>			<i>4.8</i>	<i>11.0</i>	<i>22.2</i>	<i>5.7</i>	<i>11.7</i>	<i>7.9</i>	<i>7.0</i>	
Core Fixed Income	95,801,663	6.9	2.6	4.8	5.5	-1.3	2.1	--	2.2	Jan-16
<i>75% Bbg Aggregate/25% Bbg US TIPs 1-10 year</i>			<i>3.4</i>	<i>6.1</i>	<i>5.3</i>	<i>-2.3</i>	<i>1.7</i>	<i>1.9</i>	<i>1.8</i>	
Value Added Fixed Income	96,998,472	7.0	2.6	5.0	10.8	1.8	4.1	--	4.8	Jan-16
<i>Custom Benchmark - Global Fixed Income</i>			<i>3.6</i>	<i>6.8</i>	<i>10.9</i>	<i>0.3</i>	<i>3.6</i>	<i>3.5</i>	<i>4.1</i>	
Hedge Funds	79,177,624	5.7	2.2	3.2	1.9	-2.8	2.5	2.2	3.2	Mar-10
<i>Custom Benchmark</i>			<i>2.7</i>	<i>3.2</i>	<i>6.1</i>	<i>2.2</i>	<i>5.2</i>	<i>3.3</i>	<i>3.3</i>	
Real Estate	156,105,037	11.2	-3.7	-4.3	-8.4	10.1	9.5	--	7.6	Jan-16
<i>Custom Benchmark</i>			<i>-4.8</i>	<i>-4.8</i>	<i>-12.0</i>	<i>4.9</i>	<i>4.7</i>	<i>--</i>	<i>5.0</i>	

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

The policy benchmark is comprised of 26% 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 10yr)/ 6% Value Added FI Custom Benchmark/ 10% (80/20 NCREIF ODCE and Wilshire REIT)/ 6% CPI+3%

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 December 31, 2023

	Market Value \$	% of Portfolio	1 Mo (%)	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Private Equity	246,992,149	17.7	-0.3	-0.3	5.1	22.2	18.1	--	12.6	Jan-16
<i>MSCI ACWI IMI (1Q Lagged)+2%</i>			<i>-2.9</i>	<i>-2.9</i>	<i>22.5</i>	<i>9.0</i>	<i>8.2</i>	<i>9.5</i>	<i>11.0</i>	
Real Assets	128,664,320	9.2	1.2	1.7	8.9	13.2	9.5	--	4.8	Jan-16
<i>CPI +3% (Unadjusted)</i>			<i>0.1</i>	<i>0.4</i>	<i>6.4</i>	<i>8.8</i>	<i>7.2</i>	<i>5.9</i>	<i>6.4</i>	
Cash and Cash Equivalent	17,893,641	1.3								

Asset Allocation & Performance | As of December 31, 2023

	Market Value \$	% of Portfolio	1 Mo (%)	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Total Retirement Association	1,395,472,653	100.0	2.4	4.5	8.5	5.7	9.4	6.6	7.8	Nov-89
<i>Policy Benchmark (Net)</i>			2.3	5.7	13.6	4.3	8.3	6.5	--	
<i>Actual Allocation (Net)</i>			1.6	4.4	12.2	3.9	7.9	--	--	
<i>InvMetrics All Public DB Plans Net Median</i>			4.0	8.2	13.2	3.7	8.7	6.5	8.0	
InvMetrics All Public DB Plans Net Rank			96	97	95	8	19	45	60	
Domestic Equity Assets	256,734,421	18.4	8.1	11.9	20.7	5.4	14.4	--	12.2	Jan-16
<i>Russell 3000 Index</i>			5.3	12.1	26.0	8.5	15.2	11.5	12.8	
Rhumblin Russell 1000 Value	61,369,353	4.4	5.5	9.5	11.4	8.9	10.9	8.3	9.3	May-13
<i>Russell 1000 Value Index</i>			5.5	9.5	11.5	8.9	10.9	8.4	9.4	
<i>eV US Large Cap Value Equity Median</i>			5.4	9.8	12.2	9.9	11.9	8.8	9.8	
eV US Large Cap Value Equity Rank			44	58	57	71	70	66	67	
Rhumblin Russell 1000 Growth	53,611,500	3.8	4.4	14.2	42.6	8.9	19.5	14.8	15.9	Aug-09
<i>Russell 1000 Growth Index</i>			4.4	14.2	42.7	8.9	19.5	14.9	16.0	
<i>eV US Large Cap Growth Equity Median</i>			4.5	13.7	38.0	6.1	16.4	12.8	14.1	
eV US Large Cap Growth Equity Rank			54	37	29	21	9	7	6	
Fisher Midcap Value	57,958,479	4.2	10.1	13.7	20.4	9.7	17.0	10.9	9.3	May-07
<i>Russell Midcap Value Index</i>			7.8	12.1	12.7	8.4	11.2	8.3	7.3	
<i>eV US Mid Cap Value Equity Median</i>			7.4	11.4	13.1	10.1	12.1	8.2	7.7	
eV US Mid Cap Value Equity Rank			2	12	11	58	2	3	10	
Newton Small Cap Growth	39,169,237	2.8	12.1	10.6	14.0	-7.1	13.4	10.5	13.2	Sep-09
<i>Russell 2000 Growth Index</i>			12.0	12.7	18.7	-3.5	9.2	7.2	11.2	
<i>eV US Small Cap Growth Equity Median</i>			10.1	11.0	16.4	-2.5	11.3	8.6	12.7	
eV US Small Cap Growth Equity Rank			11	56	68	79	25	18	34	

Asset Allocation & Performance | As of December 31, 2023

	Market Value \$	% of Portfolio	1 Mo (%)	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Vulcan Partners Small Cap Value	11,620,926	0.8	12.4	12.4	19.8	--	--	--	-8.4	Apr-22
<i>Russell 2000 Value Index</i>			12.4	15.3	14.6	7.9	10.0	6.8	0.3	
<i>eV US Small Cap Value Equity Median</i>			10.6	12.6	16.3	9.7	11.6	7.3	3.5	
<i>eV US Small Cap Value Equity Rank</i>			11	55	26	--	--	--	100	
Systematic Small Cap Free Cash Flow	33,004,926	2.4	8.6	10.5	17.0	--	--	--	7.8	Apr-22
<i>Russell 2000 Value Index</i>			12.4	15.3	14.6	7.9	10.0	6.8	0.3	
<i>eV US Small Cap Value Equity Median</i>			10.6	12.6	16.3	9.7	11.6	7.3	3.5	
<i>eV US Small Cap Value Equity Rank</i>			85	82	42	--	--	--	13	
International Developed Market Equity Assets	43,901,912	3.1	5.4	11.8	17.9	0.3	4.5	--	3.6	Jan-16
<i>MSCI EAFE (Net)</i>			5.3	10.4	18.2	4.0	8.2	4.3	6.1	
Aristotle International Equity	23,410,899	1.7	5.3	10.2	18.0	--	--	--	2.8	Mar-21
<i>MSCI EAFE (Net)</i>			5.3	10.4	18.2	4.0	8.2	4.3	3.8	
<i>eV EAFE Core Equity Median</i>			5.4	10.2	17.1	3.0	8.1	4.6	2.7	
<i>eV EAFE Core Equity Rank</i>			54	50	39	--	--	--	49	
Walter Scott International Equity	20,491,014	1.5	5.5	13.7	17.8	--	--	--	1.6	Mar-21
<i>MSCI EAFE (Net)</i>			5.3	10.4	18.2	4.0	8.2	4.3	3.8	
<i>eV EAFE Core Equity Median</i>			5.4	10.2	17.1	3.0	8.1	4.6	2.7	
<i>eV EAFE Core Equity Rank</i>			48	4	41	--	--	--	70	
International Emerging Market Equity Assets	111,491,267	8.0	3.4	7.3	12.5	-3.8	4.7	--	5.6	Jan-16
<i>MSCI Emerging Markets (Net)</i>			3.9	7.9	9.8	-5.1	3.7	2.7	5.7	
ABS Emerging Markets	59,628,503	4.3	3.9	6.7	13.2	-2.8	6.4	--	6.3	Dec-18
<i>MSCI Emerging Markets (Net)</i>			3.9	7.9	9.8	-5.1	3.7	2.7	3.1	
<i>eV Emg Mkts Equity Median</i>			4.1	7.8	12.0	-3.3	5.1	3.3	4.3	
<i>eV Emg Mkts Equity Rank</i>			59	77	45	48	34	--	29	

Asset Allocation & Performance | As of December 31, 2023

	Market Value \$	% of Portfolio	1 Mo (%)	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Driehaus Emerging Markets Growth	51,862,764	3.7	2.8	8.0	11.6	-5.0	--	--	4.9	Mar-19
<i>MSCI Emerging Markets (Net)</i>			3.9	7.9	9.8	-5.1	3.7	2.7	2.0	
<i>eV Emg Mkts Equity Median</i>			4.1	7.8	12.0	-3.3	5.1	3.3	3.3	
<i>eV Emg Mkts Equity Rank</i>			93	47	54	60	--	--	33	
Global Equity Assets	161,712,147	11.6	3.6	8.6	15.6	6.3	10.9	--	6.7	Feb-18
<i>MSCI AC World Index (Net)</i>			4.8	11.0	22.2	5.7	11.7	7.9	7.0	
First Eagle Global Value Fund	26,984,277	1.9	3.4	7.5	13.1	5.9	8.8	--	5.2	Feb-18
<i>MSCI AC World Index Value (Net)</i>			5.4	9.2	11.8	7.3	8.2	5.5	4.1	
<i>eV Global Value Equity Median</i>			5.6	9.5	16.4	7.6	9.8	6.3	4.9	
<i>eV Global Value Equity Rank</i>			94	85	72	73	70	--	45	
Kopernik Global All Cap Fund	42,911,980	3.1	2.1	5.9	13.4	7.0	12.9	--	8.1	Feb-18
<i>MSCI AC World Index Value (Net)</i>			5.4	9.2	11.8	7.3	8.2	5.5	4.1	
<i>eV Global All Cap Value Eq Median</i>			5.6	9.5	16.8	7.3	9.8	6.0	4.9	
<i>eV Global All Cap Value Eq Rank</i>			97	94	70	52	17	--	15	
Lee Munder Global Multi-Cap Strategy	42,860,957	3.1	4.5	11.0	22.1	6.1	10.4	--	6.5	Mar-18
<i>MSCI AC World Index (Net)</i>			4.8	11.0	22.2	5.7	11.7	7.9	7.9	
<i>eV All Global Equity Median</i>			5.3	11.1	18.6	5.0	11.5	7.6	7.6	
<i>eV All Global Equity Rank</i>			73	54	34	40	64	--	65	
Wellington Durable Enterprises, L.P.	48,954,932	3.5	4.2	9.5	13.0	6.3	11.4	--	8.8	Mar-18
<i>MSCI AC World Index (Net)</i>			4.8	11.0	22.2	5.7	11.7	7.9	7.9	
<i>eV All Global Equity Median</i>			5.3	11.1	18.6	5.0	11.5	7.6	7.6	
<i>eV All Global Equity Rank</i>			80	76	75	38	52	--	33	

Asset Allocation & Performance | As of December 31, 2023

	Market Value \$	% of Portfolio	1 Mo (%)	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Core Fixed Income	95,801,663	6.9	2.6	4.8	5.5	-1.3	2.1	--	2.2	Jan-16
<i>75% Bbg Aggregate/25% Bbg US TIPS 1-10 year</i>			<i>3.4</i>	<i>6.1</i>	<i>5.3</i>	<i>-2.3</i>	<i>1.7</i>	<i>1.9</i>	<i>1.8</i>	
Lord Abbett Short Duration Credit Trust II	40,086,202	2.9	1.4	3.0	5.7	0.6	--	--	1.5	Aug-19
<i>Blmbg. 1-3 Year Credit</i>			<i>1.3</i>	<i>3.0</i>	<i>5.3</i>	<i>0.5</i>	<i>2.0</i>	<i>1.7</i>	<i>1.5</i>	
<i>eV US Short Duration Fixed Inc Median</i>			<i>1.3</i>	<i>2.9</i>	<i>5.1</i>	<i>0.3</i>	<i>1.8</i>	<i>1.5</i>	<i>1.3</i>	
<i>eV US Short Duration Fixed Inc Rank</i>			<i>46</i>	<i>47</i>	<i>28</i>	<i>31</i>	<i>--</i>	<i>--</i>	<i>34</i>	
Lord Abbett Core Fixed Income Trust II	42,285,945	3.0	3.6	6.7	5.9	--	--	--	-4.0	Dec-21
<i>Blmbg. U.S. Aggregate Index</i>			<i>3.8</i>	<i>6.8</i>	<i>5.5</i>	<i>-3.3</i>	<i>1.1</i>	<i>1.8</i>	<i>-4.1</i>	
<i>eV US Core Fixed Inc Median</i>			<i>3.8</i>	<i>6.8</i>	<i>5.9</i>	<i>-3.1</i>	<i>1.4</i>	<i>2.0</i>	<i>-4.0</i>	
<i>eV US Core Fixed Inc Rank</i>			<i>76</i>	<i>62</i>	<i>44</i>	<i>--</i>	<i>--</i>	<i>--</i>	<i>48</i>	
Rhumblin TIPS Trust	13,429,516	1.0	2.7	4.7	3.9	-1.0	--	--	-0.5	Sep-20
<i>Blmbg. U.S. TIPS</i>			<i>2.7</i>	<i>4.7</i>	<i>3.9</i>	<i>-1.0</i>	<i>3.2</i>	<i>2.4</i>	<i>-0.5</i>	
<i>eV US TIPS / Inflation Fixed Inc Median</i>			<i>2.5</i>	<i>4.5</i>	<i>3.9</i>	<i>-1.0</i>	<i>3.2</i>	<i>2.3</i>	<i>-0.4</i>	
<i>eV US TIPS / Inflation Fixed Inc Rank</i>			<i>22</i>	<i>30</i>	<i>53</i>	<i>53</i>	<i>--</i>	<i>--</i>	<i>61</i>	
Value Added Fixed Income	96,998,472	7.0	2.6	5.0	10.8	1.8	4.1	--	4.8	Jan-16
<i>Custom Benchmark - Global Fixed Income</i>			<i>3.6</i>	<i>6.8</i>	<i>10.9</i>	<i>0.3</i>	<i>3.6</i>	<i>3.5</i>	<i>4.1</i>	
Eaton Vance High Yield	12,975,752	0.9	3.3	6.1	11.5	2.1	5.1	4.4	6.1	May-06
<i>ICE BofA High Yield Master II</i>			<i>3.7</i>	<i>7.1</i>	<i>13.5</i>	<i>2.0</i>	<i>5.2</i>	<i>4.5</i>	<i>6.4</i>	
<i>eV US High Yield Fixed Inc Median</i>			<i>3.4</i>	<i>6.5</i>	<i>12.2</i>	<i>2.1</i>	<i>5.1</i>	<i>4.3</i>	<i>5.9</i>	
<i>eV US High Yield Fixed Inc Rank</i>			<i>64</i>	<i>69</i>	<i>71</i>	<i>52</i>	<i>51</i>	<i>38</i>	<i>34</i>	
First Eagle Bank Loan Select Fund	11,871,275	0.9	1.5	3.1	12.6	5.0	5.1	4.4	5.1	Oct-10
<i>Credit Suisse Leveraged Loan Index</i>			<i>1.6</i>	<i>2.9</i>	<i>13.0</i>	<i>5.6</i>	<i>5.6</i>	<i>4.4</i>	<i>4.9</i>	
<i>Bank Loan Median</i>			<i>1.6</i>	<i>2.8</i>	<i>12.0</i>	<i>4.5</i>	<i>4.4</i>	<i>3.5</i>	<i>4.0</i>	
<i>Bank Loan Rank</i>			<i>75</i>	<i>25</i>	<i>28</i>	<i>31</i>	<i>25</i>	<i>2</i>	<i>1</i>	

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

Asset Allocation & Performance | As of December 31, 2023

	Market Value \$	% of Portfolio	1 Mo (%)	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Manulife Strategic Fixed Income	36,322,510	2.6	3.2	6.3	8.0	-0.5	--	--	2.0	Aug-19
<i>Blmbg. Global Multiverse</i>			4.2	8.1	6.1	-5.3	-0.1	0.5	-1.4	
<i>Multisector Bond Median</i>			3.3	6.3	8.6	-0.2	3.2	3.0	1.8	
Multisector Bond Rank			54	51	64	61	--	--	41	
Mesirow High Yield	16,443,645	1.2	2.9	4.8	15.8	5.0	--	--	6.5	Aug-19
<i>Blmbg. U.S. Corp: High Yield Index</i>			3.7	7.2	13.4	2.0	5.4	4.6	3.7	
<i>eV US High Yield Fixed Inc Median</i>			3.4	6.5	12.2	2.1	5.1	4.3	3.5	
eV US High Yield Fixed Inc Rank			80	83	2	3	--	--	2	
Eaton Vance EMD Opportunities Fund	8,998,625	0.6	2.3	4.6	11.3	1.2	--	--	3.3	Aug-20
<i>JPM EMBI Global Diversified</i>			4.7	9.2	11.1	-3.6	1.7	3.2	-1.9	
<i>eV Emg Mkts Fixed Inc - Blended Currency Median</i>			4.3	8.9	12.1	-2.2	2.4	2.4	0.0	
eV Emg Mkts Fixed Inc - Blended Currency Rank			95	96	69	6	--	--	7	
Schroder All ILS Fund LTD	10,386,664	0.7	0.6	2.3	--	--	--	--	3.9	Aug-23

Asset Allocation & Performance | As of December 31, 2023

	Market Value \$	% of Portfolio	1 Mo (%)	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Hedge Funds	79,177,624	5.7	2.2	3.2	1.9	-2.8	2.5	2.2	3.2	Mar-10
<i>Custom Benchmark</i>			<i>2.7</i>	<i>3.2</i>	<i>6.1</i>	<i>2.2</i>	<i>5.2</i>	<i>3.3</i>	<i>3.3</i>	
ABS Offshore SPC - Global Segregated Portfolio	32,609,888	2.3	3.6	5.9	9.1	0.8	6.2	4.0	5.1	Sep-10
<i>HFRI Equity Hedge (Total) Index</i>			<i>4.5</i>	<i>6.4</i>	<i>11.4</i>	<i>3.8</i>	<i>8.4</i>	<i>5.3</i>	<i>5.7</i>	
Entrust Special Opportunities Fund III, Ltd.	12,739,590	0.9	0.0	0.0	-4.5	-8.4	-2.0	--	1.5	Oct-16
<i>HFRI Fund of Funds Composite Index (QTR)</i>			<i>2.3</i>	<i>3.4</i>	<i>6.3</i>	<i>2.3</i>	<i>5.1</i>	<i>3.3</i>	<i>4.1</i>	
Old Farm Partners Master Fund, L.P.	16,630,135	1.2	3.8	4.1	8.6	1.6	6.3	--	4.7	Oct-18
<i>HFRI Fund of Funds Composite Index</i>			<i>2.3</i>	<i>3.4</i>	<i>6.3</i>	<i>2.3</i>	<i>5.1</i>	<i>3.3</i>	<i>3.9</i>	
EnTrustPermal Special Opportunities Evergreen Fund, Ltd.	17,198,010	1.2	0.0	0.0	-10.6	-7.7	-0.6	--	-0.6	Jan-19
<i>HFRI Fund of Funds Composite Index (QTR)</i>			<i>2.3</i>	<i>3.4</i>	<i>6.3</i>	<i>2.3</i>	<i>5.1</i>	<i>3.3</i>	<i>5.1</i>	
Real Estate	156,105,037	11.2	-3.7	-4.3	-8.4	10.1	9.5	--	7.6	Jan-16
<i>Custom Benchmark</i>			<i>-4.8</i>	<i>-4.8</i>	<i>-12.0</i>	<i>4.9</i>	<i>4.7</i>	<i>--</i>	<i>5.0</i>	
Core Real Estate	96,211,010	6.9	-5.2	-6.1	-11.4	6.0	6.3	--	6.5	Jan-16
<i>NCREIF Fund Index-Open End Diversified Core Equity (VW) Monthly</i>			<i>-4.8</i>	<i>-4.8</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	-5.4	-5.4	-9.7	8.4	8.5	--	8.6	Apr-18
<i>NCREIF Fund Index-Open End Diversified Core Equity (VW) Monthly</i>			<i>-4.8</i>	<i>-4.8</i>	<i>-12.0</i>	<i>4.9</i>	<i>4.2</i>	<i>7.3</i>	<i>4.7</i>	
JPMorgan Strategic Property	28,328,634	2.0	-4.6	-7.6	-15.2	1.7	--	--	1.8	Apr-19
<i>NCREIF Fund Index-Open End Diversified Core Equity (VW) Monthly</i>			<i>-4.8</i>	<i>-4.8</i>	<i>-12.0</i>	<i>4.9</i>	<i>4.2</i>	<i>7.3</i>	<i>4.2</i>	
Non-Core Real Estate	59,894,027	4.3	-1.3	-1.3	-3.0	18.2	15.2	--	8.0	Jan-16

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 December, 2023.

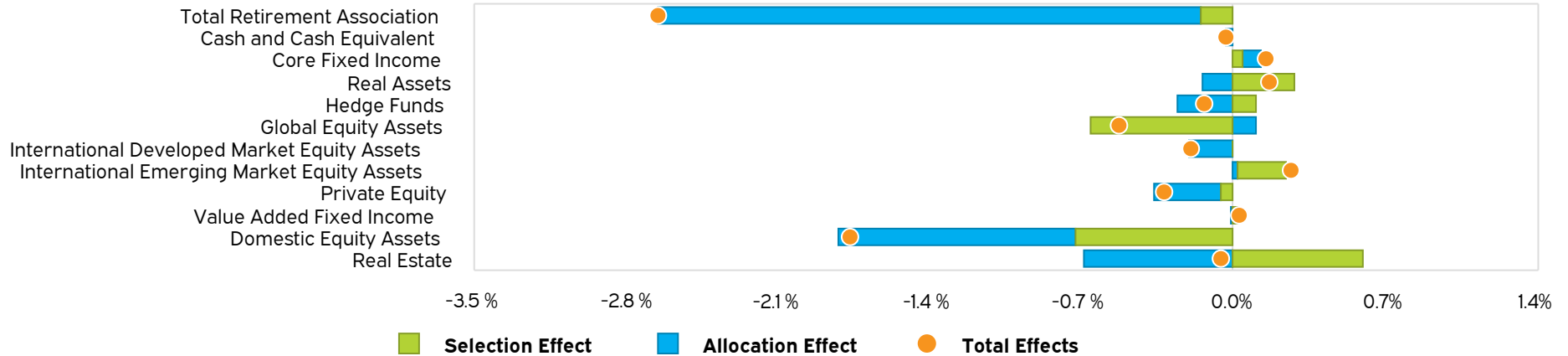
Asset Allocation & Performance | As of December 31, 2023

	Market Value \$	% of Portfolio	1 Mo (%)	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Private Equity	246,992,149	17.7	-0.3	-0.3	5.1	22.2	18.1	--	12.6	Jan-16
<i>MSCI ACWI IMI (1Q Lagged)+2%</i>			<i>-2.9</i>	<i>-2.9</i>	<i>22.5</i>	<i>9.0</i>	<i>8.2</i>	<i>9.5</i>	<i>11.0</i>	
Private Equity	230,266,834	16.5	-0.2	-0.2	5.4	22.4	19.1	--	12.4	Feb-16
Venture Capital	16,725,315	1.2	-1.4	-1.4	2.0	18.9	9.6	--	10.3	Feb-16
Real Assets	128,664,320	9.2	1.2	1.7	8.9	13.2	9.5	--	4.8	Jan-16
<i>CPI +3% (Unadjusted)</i>			<i>0.1</i>	<i>0.4</i>	<i>6.4</i>	<i>8.8</i>	<i>7.2</i>	<i>5.9</i>	<i>6.4</i>	
Core Real Assets	77,046,713	5.5	1.7	2.7	8.4	11.2	10.6	--	10.6	Oct-18
<i>CPI +3% (Unadjusted)</i>			<i>0.1</i>	<i>0.4</i>	<i>6.4</i>	<i>8.8</i>	<i>7.2</i>	<i>5.9</i>	<i>6.9</i>	
IFM Global Infrastructure	77,046,713	5.5	1.7	2.7	8.4	11.2	10.6	--	10.6	Oct-18
<i>CPI +3% (Unadjusted)</i>			<i>0.1</i>	<i>0.4</i>	<i>6.4</i>	<i>8.8</i>	<i>7.2</i>	<i>5.9</i>	<i>6.9</i>	
Non-Core Real Assets	51,617,607	3.7	0.3	0.3	9.7	15.5	8.4	--	4.7	Jan-16
<i>CPI +3% (Unadjusted)</i>			<i>0.1</i>	<i>0.4</i>	<i>6.4</i>	<i>8.8</i>	<i>7.2</i>	<i>5.9</i>	<i>6.4</i>	
Cash and Cash Equivalent	17,893,641	1.3								
Cash	17,893,641	1.3								

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 December 31, 2023.

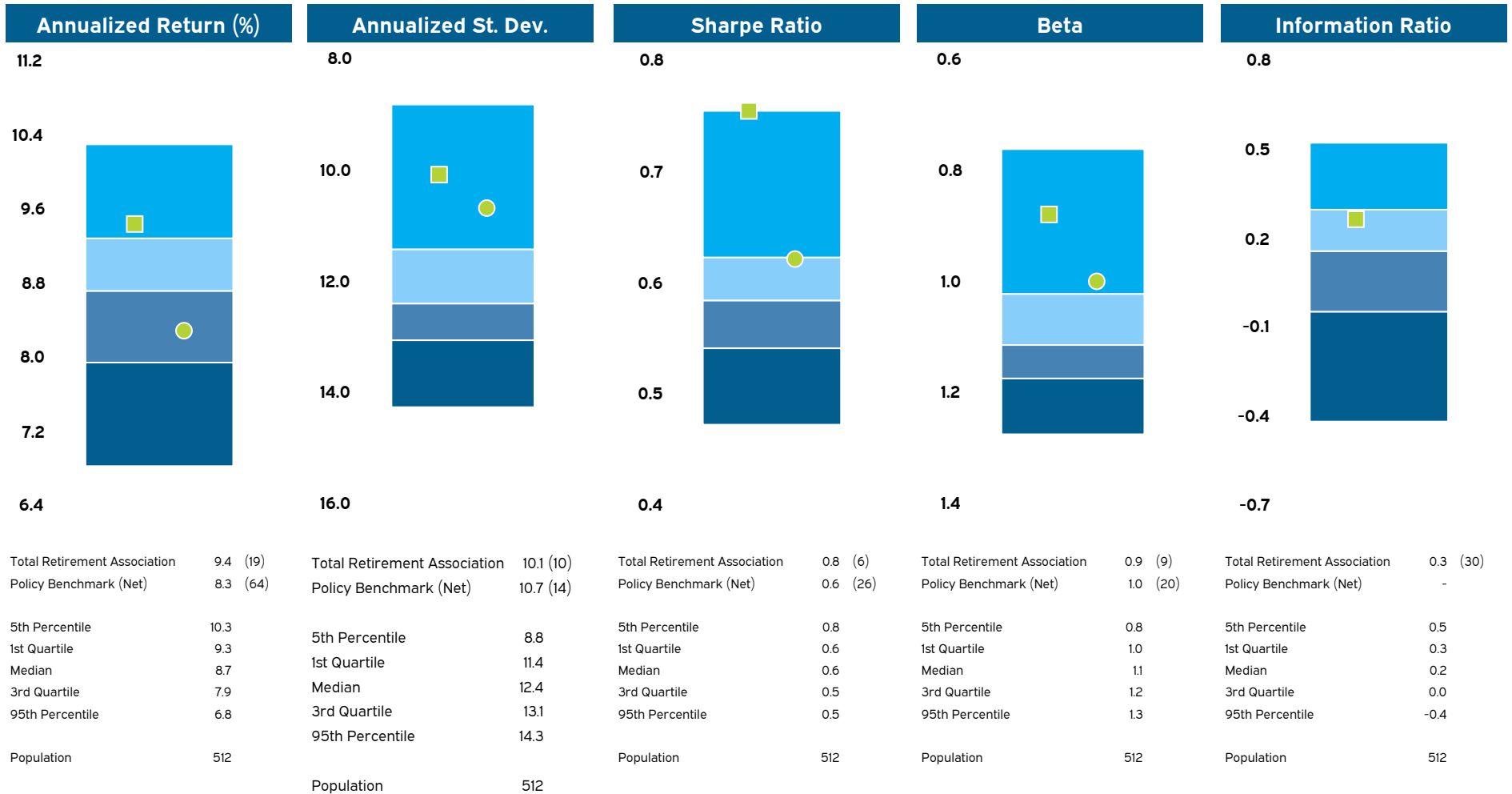
Attribution Effects 1 Year Ending December 31, 2023



Attribution Summary 1 Year Ending December 31, 2023

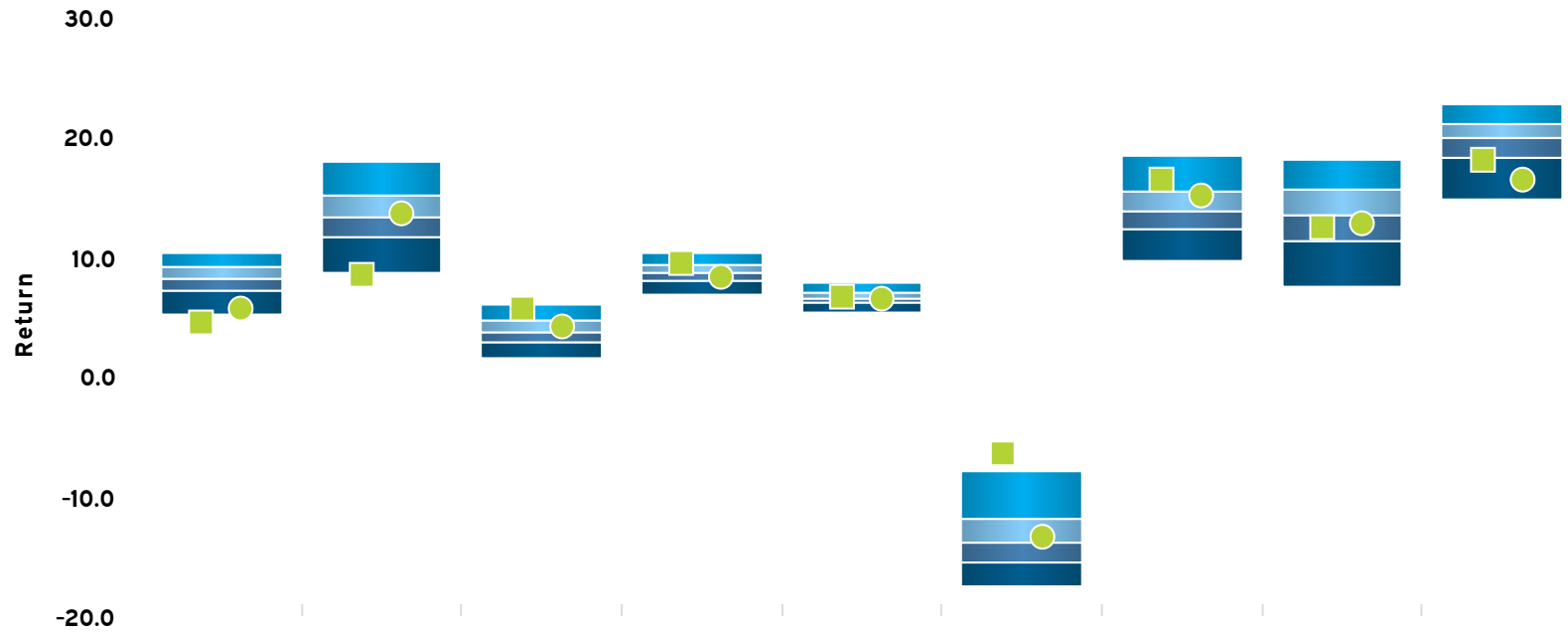
	Wtd. Actual Return (%)	Wtd. Index Return (%)	Excess Return (%)	Selection Effect (%)	Allocation Effect (%)	Total Effect (%)
Cash and Cash Equivalent	2.7	5.0	-2.4	0.0	0.0	0.0
Core Fixed Income	5.5	4.5	1.0	0.0	0.1	0.2
Real Assets	8.9	5.7	3.2	0.3	-0.1	0.2
Hedge Funds	1.9	0.1	1.7	0.1	-0.3	-0.1
Global Equity Assets	15.6	21.3	-5.8	-0.7	0.1	-0.5
International Developed Market Equity Assets	17.9	17.4	0.5	0.0	-0.2	-0.2
International Emerging Market Equity Assets	12.5	9.0	3.4	0.2	0.0	0.3
Private Equity	5.1	5.1	0.0	-0.1	-0.3	-0.3
Value Added Fixed Income	10.8	10.2	0.7	0.0	0.0	0.0
Domestic Equity Assets	20.7	25.1	-4.4	-0.7	-1.1	-1.8
Real Estate	-8.4	-12.7	4.3	0.6	-0.7	-0.1
Total Retirement Association	8.5	11.1	-2.7	-0.1	-2.5	-2.7

Multi Report Enhanced | 5 Years As of December 31, 2023



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	5.7	9.4
Excess Return	3.7	7.7
Excess Performance	1.5	1.2
RISK SUMMARY STATISTICS		
Beta	0.7	0.9
Upside Risk	6.3	8.2
Downside Risk	4.7	6.5
RISK/RETURN SUMMARY STATISTICS		
Standard Deviation	7.7	10.1
Sortino Ratio	0.7	1.1
Alpha	2.5	2.0
Sharpe Ratio	0.5	0.8
Excess Risk	7.7	10.2
Tracking Error	3.9	3.9
Information Ratio	0.3	0.3
CORRELATION STATISTICS		
R-Squared	0.9	0.9
Actual Correlation	0.9	0.9

All Public DB Peer Group Analysis | As of December 31, 2023



	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	2022	2021	2020	2019
■ Total Retirement Association	4.5 (97)	8.5 (96)	5.7 (8)	9.4 (19)	6.6 (45)	-6.5 (4)	16.5 (16)	12.5 (61)	18.0 (79)
● Policy Benchmark (Net)	5.7 (93)	13.6 (45)	4.3 (34)	8.3 (64)	6.5 (53)	-13.4 (43)	15.2 (29)	12.8 (57)	16.4 (90)
5th Percentile	10.3	18.0	6.0	10.3	7.7	-7.8	18.4	18.0	22.6
1st Quartile	9.2	15.0	4.6	9.3	7.0	-11.9	15.5	15.6	21.1
Median	8.2	13.3	3.7	8.7	6.5	-13.9	13.8	13.4	19.9
3rd Quartile	7.1	11.6	2.8	7.9	6.1	-15.6	12.4	11.3	18.2
95th Percentile	5.2	8.7	1.5	6.8	5.4	-17.5	9.6	7.5	14.8
Population	600	563	525	512	428	762	930	976	719

Parenteses contain percentile rankings.
Calculation based on monthly periodicity.

Annual Investment Expense Analysis				
	Fee Schedule	Market Value	Estimated Expense	Expense Ratio (%)
Domestic Equity Assets				
Rhumblin Russell 1000 Value	0.05 % of First \$25 M 0.04 % of Next \$25 M 0.03 % Thereafter	61,369,353	25,911	0.04
Rhumblin Russell 1000 Growth	0.05 % of First \$25 M 0.04 % of Next \$25 M 0.03 % Thereafter	53,611,500	23,583	0.04
Fisher Midcap Value	0.65 % of Assets	57,958,479	376,730	0.65
Newton Small Cap Growth	0.45 % of Assets	39,169,237	176,262	0.45
Vulcan Partners Small Cap Value	0.83 % of Assets	11,620,926	96,454	0.83
Systematic Small Cap Free Cash Flow	0.76 % of Assets	33,004,926	250,837	0.76
International Developed Market Equity Assets		43,901,912	268,396	0.61
Aristotle International Equity	0.49 % of Assets	23,410,899	114,713	0.49
Walter Scott International Equity	0.75 % of Assets	20,491,014	153,683	0.75
International Emerging Market Equity Assets		111,491,267	493,945	0.44
ABS Emerging Markets	Performance Based 0.35 and 0.10	59,628,503	208,700	0.35
Driehaus Emerging Markets Growth	0.55 % of Assets	51,862,764	285,245	0.55
Global Equity Assets		161,712,147	1,032,282	0.64
First Eagle Global Value Fund	0.75 % of Assets	26,984,277	202,382	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	42,911,980	343,296	0.80
Lee Munder Global Multi-Cap Strategy	0.45 % of Assets	42,860,957	192,874	0.45
Wellington Durable Enterprises, L.P.	0.60 % of Assets	48,954,932	293,730	0.60
Core Fixed Income		95,801,663	136,104	0.14
Lord Abbett Short Duration Credit Trust II	0.17 % of Assets	40,086,202	68,147	0.17
Lord Abbett Core Fixed Income Trust II	0.15 % of Assets	42,285,945	63,429	0.15
Rhumblin TIPS Trust	0.04 % of First \$5 M 0.03 % Thereafter	13,429,516	4,529	0.03
Value Added Fixed Income		96,998,472	321,883	0.33
Eaton Vance High Yield	0.42 % of Assets	12,975,752	54,498	0.42
First Eagle Bank Loan Select Fund	0.40 % of Assets	11,871,275	47,485	0.40
Manulife Strategic Fixed Income	0.35 % of Assets	36,322,510	127,129	0.35
Mesirow High Yield	0.40 % of Assets	16,443,645	65,775	0.40
Eaton Vance EMD Opportunities Fund	0.30 % of Assets	8,998,625	26,996	0.30
Total		756,253,218	3,202,387	

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	77,046,713
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	120,344,080

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	7,591,322	28,328,634
PCCP Equity IX, L.P.	10,000,000	7,219,943	0	6,939,010

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

Note: The value for IFM Global Infrastructure and JPMorgan Strategic Property is as of December 31, 2023. 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 December 31, 2023

	Beginning Market Value	Contributions	Distributions	Net Cash Flow	Ending Market Value
Rhumblin Russell 1000 Value	71,115,013	-	-13,000,000	-13,000,000	61,369,353
Rhumblin Russell 1000 Growth	58,342,535	-	-7,000,000	-7,000,000	53,611,500
Fisher Midcap Value	52,600,067	-	-	-	57,958,479
Newton Small Cap Growth	44,199,270	-	-10,000,000	-10,000,000	39,169,237
Vulcan Partners Small Cap Value	14,975,501	-	-5,000,000	-5,000,000	11,620,926
Systematic Small Cap Free Cash Flow	30,377,479	-	-	-	33,004,926
Aristotle International Equity	22,225,742	-	-	-	23,410,899
Walter Scott International Equity	19,412,129	-	-	-	20,491,014
ABS Emerging Markets	57,415,224	-	-	-	59,628,503
Driehaus Emerging Markets Growth	50,429,714	-	-	-	51,862,764
First Eagle Global Value Fund	26,097,202	-	-	-	26,984,277
Kopernik Global All Cap Fund	42,045,140	-	-	-	42,911,980
Lee Munder Global Multi-Cap Strategy	41,003,854	-	-	-	42,860,957
Wellington Durable Enterprises, L.P.	46,964,089	-	-	-	48,954,932
Lord Abbett Short Duration Credit Trust II	39,535,062	-	-	-	40,086,202
Lord Abbett Core Fixed Income Trust II	40,793,962	-	-	-	42,285,945
Rhumblin TIPS Trust	13,076,108	-	-	-	13,429,516
Eaton Vance High Yield	12,566,946	-	-	-	12,975,752
First Eagle Bank Loan Select Fund	11,699,296	-	-	-	11,871,275
Manulife Strategic Fixed Income	35,179,265	-	-	-	36,322,510
Mesirow High Yield	15,984,117	-	-	-	16,443,645
Eaton Vance EMD Opportunities Fund	8,795,654	-	-	-	8,998,625
Schroder All ILS Fund LTD	10,320,471	-	-	-	10,386,664
ABS Offshore SPC - Global Segregated Portfolio	31,482,123	-	-	-	32,609,888
Entrust Special Opportunities Fund III, Ltd.	12,739,590	-	-	-	12,739,590
Old Farm Partners Master Fund, L.P.	16,023,168	-	-	-6,656	16,630,135
EnTrustPermal Special Opportunities Evergreen Fund, Ltd.	17,198,010	-	-	-	17,198,010
TA Realty Core Property Fund, L.P.	71,775,851	-	-	-	67,882,376
JPMorgan Strategic Property	29,657,424	-	-	-	28,328,634

Financial Reconciliation | 1 Month Ending December 31, 2023

	Beginning Market Value	Contributions	Distributions	Net Cash Flow	Ending Market Value
Mesirow Financial International Real Estate Fund I	591,899	-	-	-	591,899
DSF Multi-Family Real Estate Fund III	4,394,141	-	-	-	4,443,478
AEW Partners Real Estate VIII	5,473,417	-	-	-	5,370,205
1921 Realty, Inc	544,736	-	-	-	548,883
Carlyle Realty Partners VIII	9,573,459	-	-347,588	-347,588	9,231,015
Berkshire Value Fund V	6,033,183	-	-	-	5,688,047
Rockpoint Real Estate Fund VI, L.P.	8,362,826	-	-	-	8,276,665
TerraCap Partners V, L.P	10,630,682	-	-	-	10,401,828
AEW Partners Real Estate Fund IX, L.P.	7,567,396	98,096	-	98,096	7,710,474
PCCP Equity IX, L.P.	7,439,010	350,000	-	350,000	7,631,533
Euro Choice V Programme	2,984,585	-	-451,415	-451,415	2,544,436
Lexington Capital Partners VII	1,067,292	-	-7,681	-7,681	1,071,659
TRG Growth Partnership II	410,440	-	-54,313	-54,313	395,987
Landmark Equity Partners XIV	351,103	-	-	-	359,483
Summit Partners Growth Equity Fund IX	15,154,988	-	-	-	13,502,957
Leeds Equity Partners V	243,814	-	-	-	237,070
Audax Mezzanine Debt IV	3,213,973	-	-	-	3,250,294
Siguler Guff Distressed Opportunities Fund III, LP	415,671	-	-11,298	-11,298	356,246
Mesirow Financial Capital Partners IX, LP	79,611	-	-81,589	-81,589	-
DN Partners II, LP	2,476,693	-	-	-	2,476,693
LLR Equity Partners V, L.P.	16,440,290	-	-	-	17,394,468
Wellspring Capital Partners VI	17,314,577	176,857	-	176,857	16,247,800
Trilantic Capital Partners VI, L.P.	13,507,692	-	-	-	13,313,972
HarbourVest Partners Co-Investment V	14,397,177	-	-	-	14,092,698
Ironsides Direct Investment Fund V, L.P.	19,891,350	-	-	-	20,886,093
Ridgemont Equity Partners III, L.P.	16,244,122	360,054	-	360,054	15,899,487
FS Equity Partners VIII, L.P.	15,575,844	119,053	-	119,053	15,473,679
Charlesbank Technology Opportunities Fund	20,323,607	-	-	-	20,994,923
Searchlight Capital III, L.P.	10,714,001	1,134,062	-	1,134,062	12,498,060

Financial Reconciliation | 1 Month Ending December 31, 2023

	Beginning Market Value	Contributions	Distributions	Net Cash Flow	Ending Market Value
Waud Capital Partners V	14,107,534	-	-	-	14,089,710
Summit Partners Venture Capital Fund V	5,363,878	-	-	-	5,285,796
Ironsides Co-Investment Fund VI, L.P.	13,754,542	-	-	-	14,037,442
HarbourVest Partners Co-Investment Fund VI, L.P.	9,410,931	-	-	-	9,471,746
Ridgemont Equity Partners IV, L.P.	5,307,997	-	-	-	5,226,749
Summit Partners Growth Equity Fund XI	3,478,171	19,155	-	19,155	3,603,252
Ironsides Opportunities Fund II, L.P.	5,172,886	606,096	-	606,096	6,058,466
Waud Capital Partners VI	1,206,218	-	-	-	1,159,752
Atlantic Street Capital V, L.P.	-	337,917	-	337,917	337,917
Ascent Ventures V	3,184,982	-	-	-	3,247,896
Globespan Capital V	2,034,972	-	-	-	1,191,302
Kohlberg Investors IX	11,261,413	477,504	-	477,504	12,286,117
IFM Global Infrastructure	75,728,962	-	-	-	77,046,713
JP Morgan Global Maritime Investment	489,306	-	-	-	216,543
Timbervest Partners III, LP	3,469,478	-	-62,500	-62,500	3,445,057
BTG Pactual Global Timberland Resources	1,441,400	-	-	-	1,402,673
Global Infrastructure Partners III	10,172,164	-	-	-	10,094,734
Basalt Infrastructure Partners II	7,144,773	-	-	-	7,303,291
Global Infrastructure Partners IV, L.P.	8,842,609	-	-	-	8,952,919
ISQ Global Infrastructure Fund III (USTE), L.P.	4,007,301	-	-	-	4,086,693
BlackRock Global Renewable Power Infrastructure Fund III, L.P.	7,370,364	208,384	-	208,384	7,767,672
Climate Adaptive Infrastructure Fund	5,191,340	337,622	-	337,622	5,556,256
BlackRock Global Infrastructure Fund IV, L.P.	2,831,127	-	-	-	2,791,769
Cash	7,071,998	31,351,848	-20,530,205	10,821,643	17,893,641
Total	1,383,491,931	35,576,647	-56,546,589	-20,976,597	1,395,472,653

Financial Reconciliation | Year To Date Ending December 31, 2023

	Beginning Market Value	Contributions	Distributions	Net Cash Flow	Ending Market Value
Rhumblin Russell 1000 Value	58,144,941	37,500,000	-39,500,000	-2,000,000	61,369,353
Rhumblin Russell 1000 Growth	37,167,306	12,500,000	-12,000,000	500,000	53,611,500
Fisher Midcap Value	55,787,552	-	-8,000,000	-8,000,000	57,958,479
Newton Small Cap Growth	43,265,221	-	-10,000,000	-10,000,000	39,169,237
Vulcan Partners Small Cap Value	13,919,774	28,497	-5,028,497	-5,000,000	11,620,926
Systematic Small Cap Free Cash Flow	28,203,474	-	-	-	33,004,926
Aristotle International Equity	19,839,194	-	-	-	23,410,899
Walter Scott International Equity	17,359,513	-	-103,148	-103,148	20,491,014
ABS Emerging Markets	52,685,835	-	-	-	59,628,503
Driehaus Emerging Markets Growth	46,198,805	-	-	-	51,862,764
First Eagle Global Value Fund	23,862,955	-	-	-	26,984,277
Kopernik Global All Cap Fund	34,061,261	4,000,000	-	4,000,000	42,911,980
Lee Munder Global Multi-Cap Strategy	38,740,800	-	-4,000,000	-4,000,000	42,860,957
Wellington Durable Enterprises, L.P.	43,333,556	-	-	-	48,954,932
Lord Abbett Short Duration Credit Trust II	52,709,058	-	-15,000,000	-15,000,000	40,086,202
Lord Abbett Core Fixed Income Trust II	39,851,657	-	-	-	42,285,945
Rhumblin TIPS Trust	16,828,767	-	-4,000,000	-4,000,000	13,429,516
Eaton Vance High Yield	11,632,494	-	-	-	12,975,752
First Eagle Bank Loan Select Fund	10,539,128	-	-	-	11,871,275
Manulife Strategic Fixed Income	40,372,490	-	-7,096,262	-7,096,262	36,322,510
Mesirow High Yield	14,195,684	-	-	-	16,443,645
Eaton Vance EMD Opportunities Fund	8,082,933	-	-	-	8,998,625
Schroder All ILS Fund LTD	-	10,000,000	-	10,000,000	10,386,664
ABS Offshore SPC - Global Segregated Portfolio	34,717,268	-	-5,000,000	-5,000,000	32,609,888
Entrust Special Opportunities Fund III, Ltd.	13,663,481	-	-335,366	-335,366	12,739,590
Old Farm Partners Master Fund, L.P.	15,330,488	-	-	-56,377	16,630,135
EnTrustPermal Special Opportunities Evergreen Fund, Ltd.	19,236,406	-	-	-397,450	17,198,010
TA Realty Core Property Fund, L.P.	77,516,051	135,653	-2,397,992	-2,262,339	67,882,376
JPMorgan Strategic Property	34,892,370	576	-1,759,824	-1,759,247	28,328,634

Financial Reconciliation | Year To Date Ending December 31, 2023

	Beginning Market Value	Contributions	Distributions	Net Cash Flow	Ending Market Value
Mesirow Financial International Real Estate Fund I	699,983	-	-	-	591,899
DSF Multi-Family Real Estate Fund III	5,039,395	-	-926,452	-926,452	4,443,478
AEW Partners Real Estate VIII	6,278,348	-	-1,106,629	-1,106,629	5,370,205
1921 Realty, Inc	556,339	-	-	-	548,883
Carlyle Realty Partners VIII	11,664,172	190,670	-1,629,486	-1,438,816	9,231,015
Berkshire Value Fund V	7,101,747	251,018	-	251,018	5,688,047
Rockpoint Real Estate Fund VI, L.P.	7,854,027	753,130	-	753,130	8,276,665
TerraCap Partners V, L.P	10,005,097	-	-	-	10,401,828
AEW Partners Real Estate Fund IX, L.P.	6,567,145	779,753	-91,518	688,235	7,710,474
PCCP Equity IX, L.P.	5,326,020	2,450,000	-	2,450,000	7,631,533
Euro Choice V Programme	2,986,491	-	-854,449	-854,449	2,544,436
Lexington Capital Partners VII	1,390,888	-	-254,741	-254,741	1,071,659
TRG Growth Partnership II	1,313,508	-1,032,045	-187,125	-1,219,170	395,987
Landmark Equity Partners XIV	460,357	-	-105,955	-105,955	359,483
Summit Partners Growth Equity Fund IX	15,085,855	77,000	-354,804	-277,804	13,502,957
Leeds Equity Partners V	238,203	-	-15,830	-15,830	237,070
Audax Mezzanine Debt IV	2,935,145	302,868	-250,016	52,852	3,250,294
Siguler Guff Distressed Opportunities Fund III, LP	496,843	-	-58,641	-58,641	356,246
Mesirow Financial Capital Partners IX, LP	78,637	-	-81,589	-81,589	-
DN Partners II, LP	2,426,338	-	-177,113	-177,113	2,476,693
LLR Equity Partners V, LP.	16,200,112	240,000	-940,619	-700,619	17,394,468
Wellspring Capital Partners VI	15,590,471	1,488,308	-202,082	1,286,226	16,247,800
Trilantic Capital Partners VI, L.P.	13,480,292	1,767,934	-2,069,970	-302,037	13,313,972
HarbourVest Partners Co-Investment V	13,632,677	-	-460,488	-460,488	14,092,698
Ironsides Direct Investment Fund V, L.P.	18,327,411	1,451,191	-299,701	1,151,490	20,886,093
Ridgemont Equity Partners III, L.P.	18,009,648	1,312,312	-2,549,288	-1,236,975	15,899,487
FS Equity Partners VIII, L.P.	14,436,439	1,191,926	-11,020	1,180,906	15,473,679
Charlesbank Technology Opportunities Fund	14,960,556	2,734,424	-921,167	1,813,257	20,994,923
Searchlight Capital III, L.P.	9,317,120	3,078,046	-1,262,180	1,815,866	12,498,060

Financial Reconciliation | Year To Date Ending December 31, 2023

	Beginning Market Value	Contributions	Distributions	Net Cash Flow	Ending Market Value
Waud Capital Partners V	14,428,940	234,744	-1,076,948	-842,204	14,089,710
Atlantic Street Capital V, L.P.	-	337,917	-	337,917	337,917
Summit Partners Venture Capital Fund V	5,029,001	474,806	-444,178	30,628	5,285,796
Ironsides Co-Investment Fund VI, L.P.	14,255,911	-	-1,023,990	-1,023,990	14,037,442
HarbourVest Partners Co-Investment Fund VI, L.P.	3,001,949	5,850,000	-	5,850,000	9,471,746
Ridgemont Equity Partners IV, L.P.	-	5,223,680	-	5,223,680	5,226,749
Summit Partners Growth Equity Fund XI	1,367,501	1,738,044	-	1,738,044	3,603,252
Ironsides Opportunities Fund II, L.P.	1,633,210	7,210,442	-3,320,889	3,889,553	6,058,466
Waud Capital Partners VI	-	1,206,218	-	1,206,218	1,159,752
Ascent Ventures V	3,124,944	-	-	-	3,247,896
Globespan Capital V	3,557,979	-	-612,060	-612,060	1,191,302
Kohlberg Investors IX	7,899,628	2,419,622	-	2,419,622	12,286,117
IFM Global Infrastructure	47,130,351	25,000,000	-1,070,224	23,929,776	77,046,713
JP Morgan Global Maritime Investment	7,222,785	-	-6,155,229	-6,155,229	216,543
Timbervest Partners III, LP	3,611,063	110,000	-217,500	-107,500	3,445,057
BTG Pactual Global Timberland Resources	1,377,651	-	-	-	1,402,673
Global Infrastructure Partners III	9,922,547	96,330	-454,805	-358,475	10,094,734
Basalt Infrastructure Partners II	6,525,463	-	-230,337	-230,337	7,303,291
Global Infrastructure Partners IV, L.P.	7,987,674	805,326	-256,564	548,762	8,952,919
ISQ Global Infrastructure Fund III (USTE), L.P.	971,137	2,828,188	-23,744	2,804,444	4,086,693
BlackRock Global Renewable Power Infrastructure Fund III, L.P.	3,841,675	2,970,750	-	2,970,750	7,767,672
Climate Adaptive Infrastructure Fund	3,187,514	1,487,411	-80,047	1,407,364	5,556,256
BlackRock Global Infrastructure Fund IV, L.P.	656,206	2,264,331	-12,423	2,251,908	2,791,769
Cash	33,771,643	225,414,595	-241,291,851	-15,877,255	17,893,641
Total	1,305,102,500	366,873,665	-385,302,742	-18,882,905	1,395,472,653

**Private Markets Update
As of September 30, 2023**

DRAFT

The purpose of this document is to offer a review of the Plymouth County Retirement Association’s aggregate private market investments.

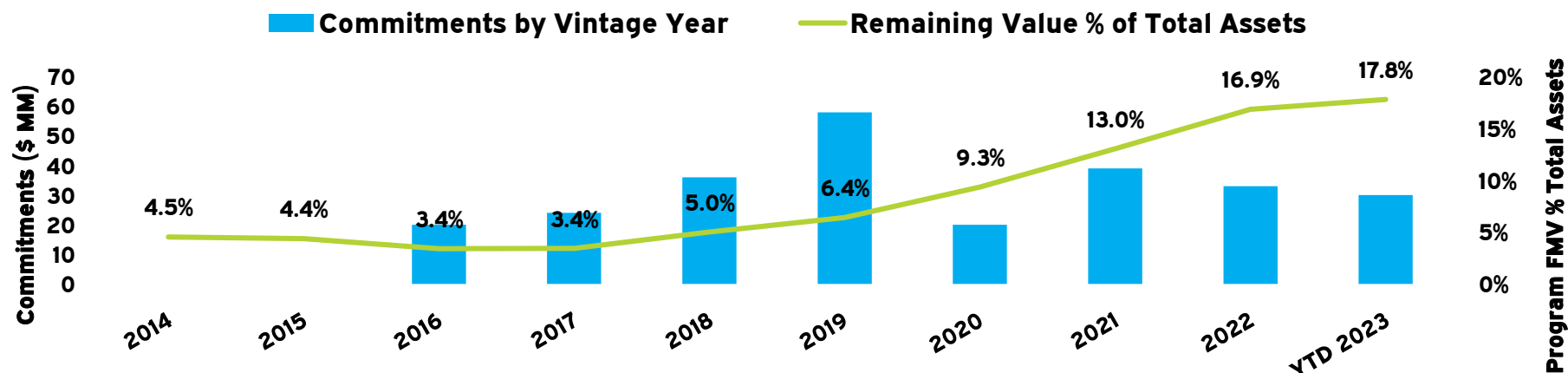
As of September 30, 2023, the Retirement Association had committed \$790.1 million to 73 partnerships. The reported fair market value of the program, in aggregate, was \$536.3 million at the end of the quarter.

Private Equity Program		Real Assets Program		Real Estate Program	
No. of Funds	41	No of Funds	11	No of Funds	21
Committed	347.1	Committed	150.0	Committed	293.0
Contributed	265.3	Contributed	125.5	Contributed	283.1
Distributed	154.8	Distributed	28.3	Distributed	233.9
Fair Market Value	245.1	Fair Market Value	127.7	Fair Market Value	163.5
TVPI	1.52x	TVPI	1.24x	TVPI	1.4
Since Inception IRR	9.1%	Since Inception IRR	5.9%	Since Inception IRR	6.2%
1-Quarter IRR	0.2%	1-Quarter IRR	0.4%	1-Quarter IRR	-2.0%
1-Year IRR	5.5%	1-Year IRR	5.7%	1-Year IRR	-8.0%

Private Equity Program

Introduction

As of September 30, 2023, the Plymouth County Retirement Association (“PCRA,” or the “Retirement Association”) had committed \$347.1 million to 41 partnerships. PCRA maintains a 13% allocation to private equity. As of the end of the third quarter of 2023, the fair market value of PCRA’s private equity program was \$245.1 million, representing 17.8% of total assets.



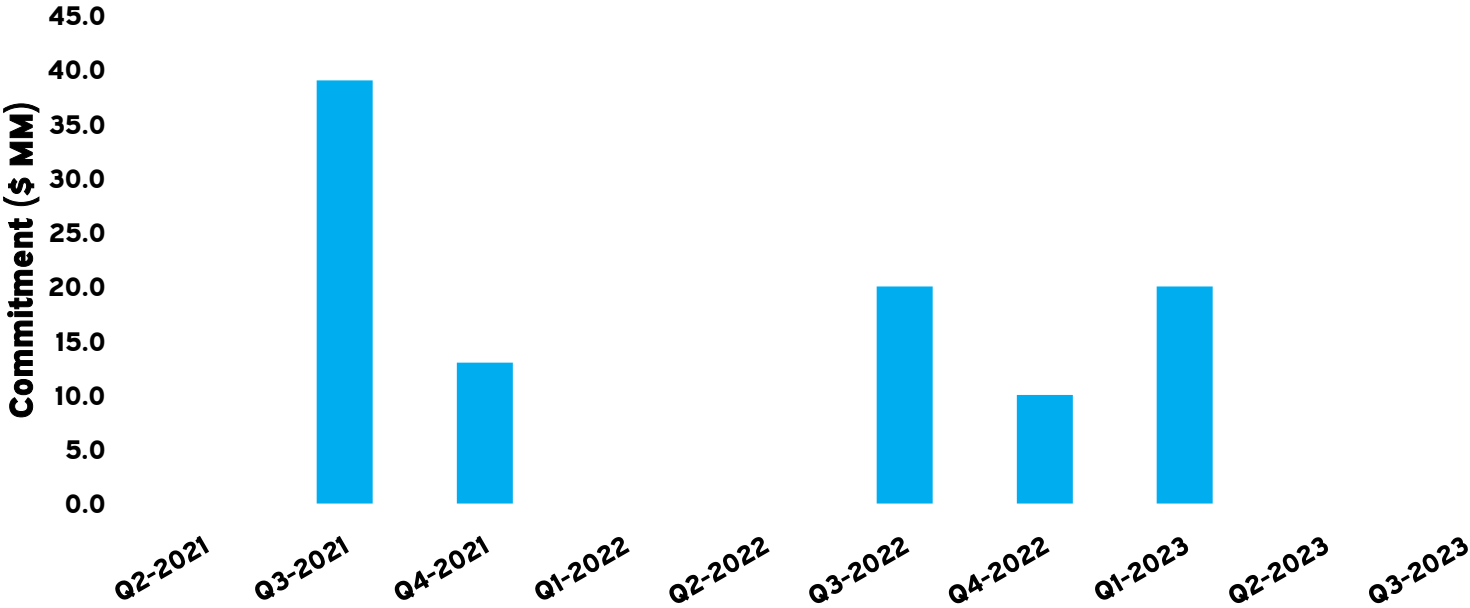
Program Status

No. of Investments	41
Committed (\$ MM)	347.1
Contributed (\$ MM)	265.3
Distributed (\$ MM)	154.8
Fair Market Value (\$ MM)	245.1

Performance Since Inception

Program	
DPI	0.58x
TVPI	1.50x
IRR	9.1%

Commitments
Recent Quarterly Commitments

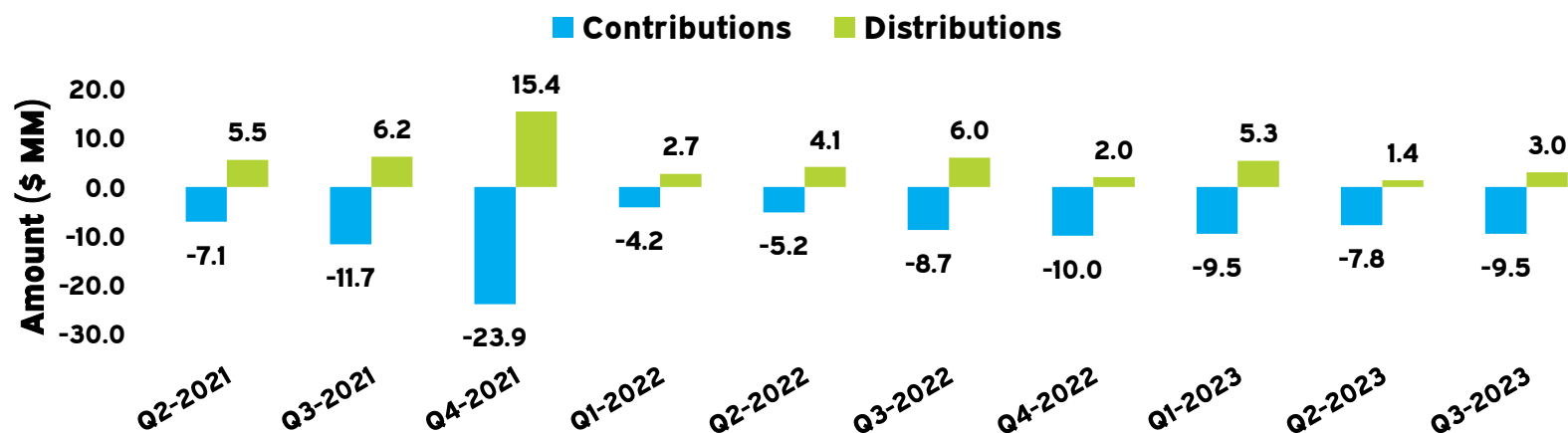


Commitments This Quarter

Fund	Strategy	Region	Amount (MM)
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None to report.

Cash Flows Recent Quarterly Cash Flows



Largest Contributions This Quarter

Fund	Vintage	Strategy	Region	Amount (\$MM)
Ridgemont IV	2022	Buyout	North America	2.88
Charlesbank Tech	2019	Buyout	Global: All	2.39
Ironsides Direct V	2018	Buyout	North America	1.22

Largest Distributions This Quarter

Fund	Vintage	Strategy	Region	Amount (\$MM)
LLR V	2017	Buyout	North America	0.74
Ironsides Opps II	2022	Private Debt	North America	0.59
Globespan V	2006	Venture Capital	North America	0.52

Significant Events

- During the third quarter of 2023, PCRA contributed \$9.53 million to its private equity partnerships and received \$2.99 million in distributions, representing a \$6.54 million net cash outflow.
- Ridgemont IV called \$2.88 million during the third quarter mainly to fund investments as well as managements fees and partnership expenses.
- In the third quarter of 2023, Charlesbank Tech called \$2.39 million to fund investments and partnership expenses.
- Ironsides Direct V called \$1.22 million in the third quarter to fund investments, management fees and partnership expenses.
- LLR V distributed \$0.74 million stemming from proceeds received by the recapitalization of LLR V's investment in Appspace Ultimate Holdings, LP.
- Ironsides Opportunity Fund II distributed \$0.59 million comprised of approximately \$0.46 million as return of capital and \$0.13 million as interest income.
- In the third quarter of 2023, Globespan V distributed \$0.52 million, as a result of cash proceeds.

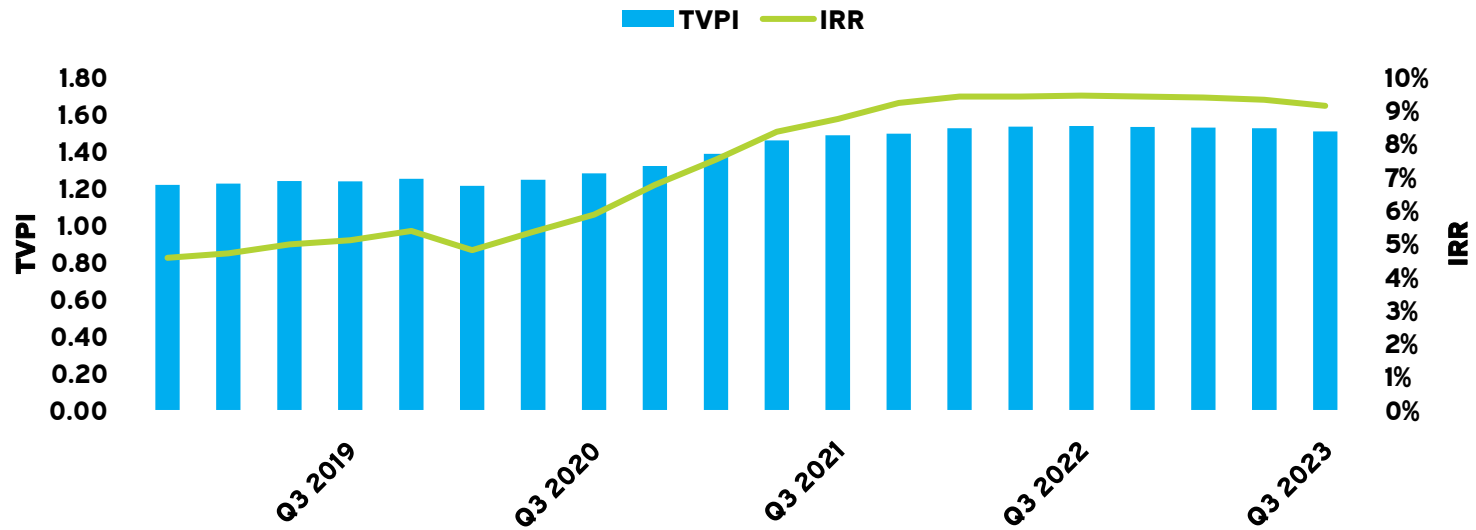
By Strategy

Group	Number	Committed (\$ MM)	Contributed (\$ MM)	Unfunded (\$ MM)	Distributed (\$ MM)	Fair Market Value (\$ MM)	Exposure (\$ MM)	DPI (X)	TVPI (X)	IRR (%)
Buyout	23	218.1	164.7	68.6	53.7	204.2	272.9	0.33	1.57	11.5
Fund of Funds	3	17.6	17.3	1.9	23.3	3.4	5.3	1.35	1.55	8.5
Growth Equity	3	30.5	22.5	13.1	22.0	17.5	30.6	0.98	1.76	12.0
Private Debt	2	30.0	14.7	17.5	8.6	8.7	26.2	0.58	1.18	10.8
Secondary	2	16.0	14.8	1.3	21.0	1.5	2.7	1.42	1.51	12.2
Special Situations	1	3.0	4.9	0.0	5.1	0.0	0.0	1.04	1.04	1.3
Venture Capital	7	31.8	26.6	5.9	21.1	9.8	15.6	0.79	1.16	2.1
Total	41	347.1	265.3	107.7	154.7	245.1	352.8	0.58	1.50	9.1

By Vintage

Group	Number	Committed (\$ MM)	Contributed (\$ MM)	Unfunded (\$ MM)	Distributed (\$ MM)	Fair Market Value (\$ MM)	Exposure (\$ MM)	DPI (X)	TVPI (X)	IRR (%)
1998	1	2.6	2.7	0.0	0.1	0.0	0.0	0.04	0.04	-25.5
1999	1	5.0	4.4	0.6	2.2	0.0	0.6	0.49	0.49	-14.9
2000	1	1.8	1.8	0.0	2.5	0.0	0.0	1.39	1.39	5.5
2001	1	2.0	2.0	0.0	7.7	0.0	0.0	3.83	3.83	29.1
2004	3	13.0	13.1	0.5	18.2	0.0	0.5	1.39	1.39	4.8
2005	3	9.5	11.0	0.3	8.1	0.2	0.5	0.73	0.75	-5.2
2006	1	5.0	4.9	0.1	10.0	1.2	1.3	2.07	2.31	12.3
2007	2	12.5	9.7	2.8	9.2	3.0	5.8	0.94	1.25	3.1
2008	2	12.0	11.7	0.3	16.7	0.7	1.1	1.44	1.50	10.2
2009	1	10.0	9.0	1.1	13.4	1.1	2.2	1.50	1.62	13.6
2010	1	2.5	3.5	0.0	5.6	0.3	0.3	1.59	1.66	12.3
2011	1	5.0	5.0	0.2	4.5	3.2	3.4	0.90	1.55	6.5
2012	1	6.1	5.9	1.4	6.0	3.0	4.4	1.02	1.53	8.1
2016	2	20.0	20.8	5.8	20.8	16.8	22.5	1.00	1.80	23.2
2017	2	24.0	23.4	3.3	7.3	33.2	36.5	0.31	1.73	18.8
2018	3	36.0	34.6	4.6	6.8	50.3	54.8	0.20	1.65	17.2
2019	5	58.0	54.2	10.6	13.7	79.5	90.1	0.25	1.72	30.6
2020	2	20.0	14.0	6.7	0.7	17.1	23.8	0.05	1.27	17.0
2021	3	39.0	22.7	16.6	0.4	25.1	41.8	0.02	1.15	NM
2022	2	33.0	9.5	24.1	0.7	9.3	33.4	0.07	1.06	NM
2023	3	30.0	1.2	28.8	0.0	1.1	29.9	0.00	0.88	NM
Total	41	347.1	265.3	107.7	154.7	245.1	352.8	0.58	1.50	9.1

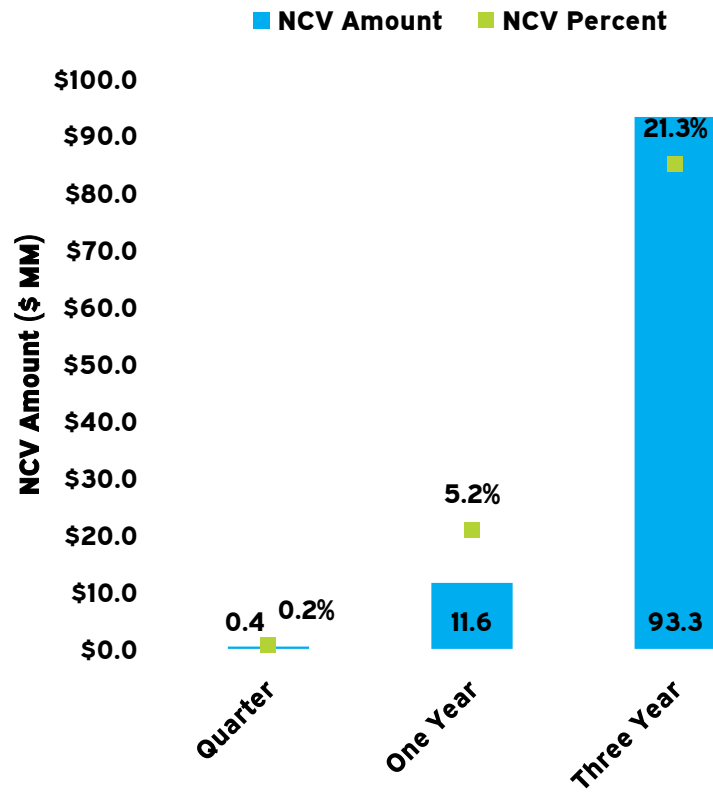
Since Inception Performance Over Time



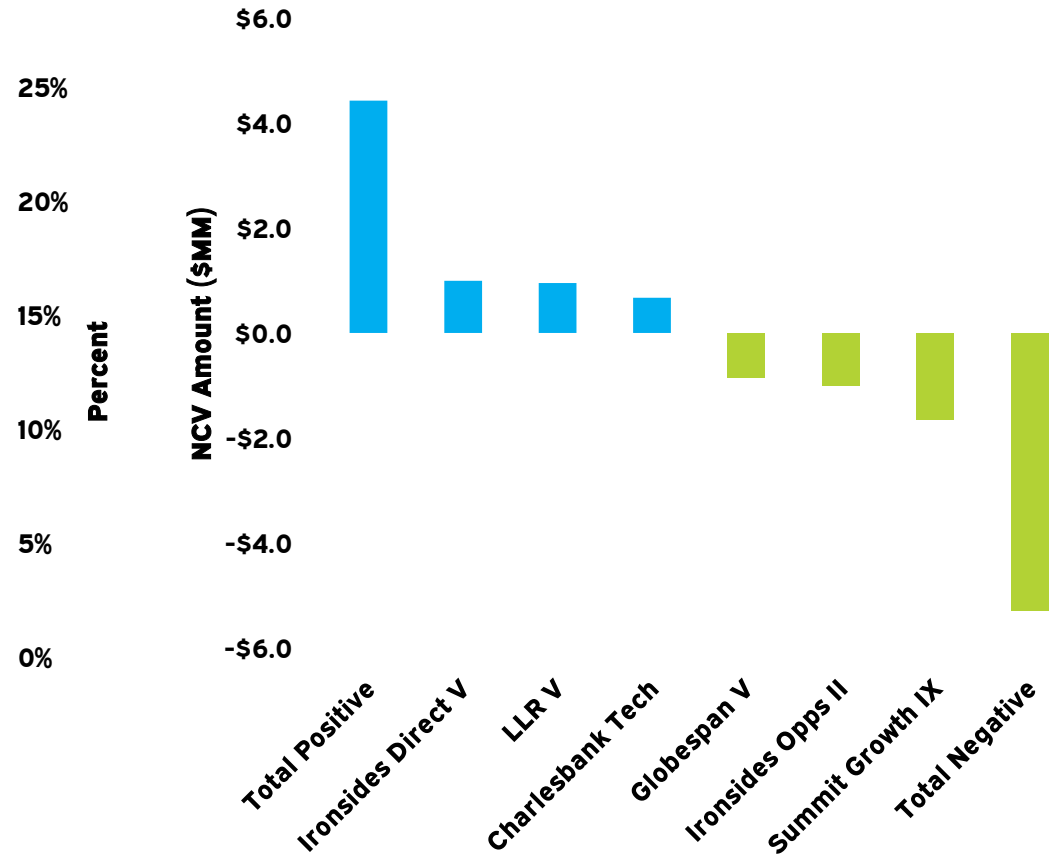
Horizon IRRs

	1 Year (%)	3 Year (%)	5 Year (%)	10 Year (%)	Since Inception (%)
Aggregate Portfolio	5.2	21.3	19.2	14.2	9.1
Public Market Equivalent	20.2	3.7	4.8	6.3	6.2

Periodic NCV



1 Quarter Drivers Of NCV



Fund Performance: Sorted By Vintage And Strategy

By Investment	Vintage	Strategy	Committed (\$ MM)	Contributed (\$ MM)	Unfunded (\$ MM)	Distributed (\$ MM)	Fair Market Value (\$ MM)	TVPI (X)	Peer TVPI (X) ¹	IRR (%)	Peer IRR (%) ¹
Senior Tour Players	1998	Buyout	2.6	2.7	0.0	0.1	0.0	0.04	1.34	-25.5	5.2
Charles River X	1999	Venture Capital	5.0	4.4	0.6	2.2	0.0	0.49	1.39	-14.9	5.7
Chales River XI	2000	Venture Capital	1.8	1.8	0.0	2.5	0.0	1.39	1.35	5.5	7.4
Rimco	2001	Buyout	2.0	2.0	0.0	7.7	0.0	3.83	1.8	29.1	12.6
Leeds IV	2004	Buyout	5.0	5.1	0.1	9.7	0.0	1.91	1.51	8.0	5.7
Euro Choice II	2004	Fund of Funds	5.5	5.5	0.3	8.0	0.0	1.46	1.51	7.0	5.7
Ascent Venture IV	2004	Venture Capital	2.5	2.5	0.0	0.4	0.0	0.17	1.51	-27.2	5.7
Mesirow IX	2005	Buyout	4.0	3.8	0.2	2.0	0.1	0.55	1.38	-6.9	5.0
Levine Leichtman DV	2005	Special Situations	3.0	4.9	0.0	5.1	0.0	1.04	1.38	1.3	5.0
Ascend Ventures II	2005	Venture Capital	2.5	2.3	0.2	1.0	0.1	0.46	1.38	-8.5	5.0
Globespan V	2006	Venture Capital	5.0	4.9	0.1	10.0	1.2	2.31	1.43	12.3	6.6
DN Partners II	2007	Buyout	5.0	2.4	2.6	0.1	2.6	1.11	1.58	0.8	8.5
TRG II	2007	Growth Equity	7.5	7.4	0.2	9.1	0.5	1.30	1.58	4.5	8.5
Siguler Guff III	2008	Fund of Funds	6.0	5.8	0.2	9.2	0.4	1.65	1.74	10.5	12.5

¹ Preqin, Private Equity – All, Net Median as of September 30, 2023 (unless otherwise noted)

Fund Performance: Sorted By Vintage And Strategy (con't)

By Investment	Vintage	Strategy	Committed (\$ MM)	Contributed (\$ MM)	Unfunded (\$ MM)	Distributed (\$ MM)	Fair Market Value (\$ MM)	TVPI (X)	Peer TVPI (X)	IRR (%)	Peer IRR (%)
Landmark XIV	2008	Secondary	6.0	5.8	0.2	7.5	0.4	1.35	1.74	9.6	12.5
Lexington VII	2009	Secondary	10.0	9.0	1.1	13.4	1.1	1.62	1.75	13.6	17.6
Leeds V	2010	Buyout	2.5	3.5	0.0	5.6	0.3	1.66	2.01	12.3	11.6
Ascent Venture V	2011	Venture Capital	5.0	5.0	0.2	4.5	3.2	1.55	1.60	6.5	14.9
Euro Choice V	2012	Fund of Funds	6.1	5.9	1.4	6.0	3.0	1.53	1.63	8.1	13.5
Summit Growth IX	2016	Growth Equity	10.0	11.8	3.2	12.9	13.5	2.24	2.02	28.9	18.8
Audax Mezz IV	2016	Private Debt	10.0	9.1	2.5	7.8	3.3	1.23	2.02 ¹	10.3	18.8 ¹
LLR V	2017	Buyout	12.0	11.6	2.1	4.7	17.2	1.88	1.66	19.8	15.6
Wellspring VI	2017	Buyout	12.0	11.8	1.2	2.6	16.1	1.58	1.66	17.4	15.6
HV Co-Invest V	2018	Buyout	12.0	9.3	2.7	2.4	14.1	1.77	1.58	20.5	19.0
Ironsides Direct V	2018	Buyout	12.0	13.1	1.0	3.2	20.9	1.84	1.58	17.5	19.0
Trilantic VI	2018	Buyout	12.0	12.2	0.9	1.2	15.3	1.35	1.58	13.0	19.0
Charlesbank Tech	2019	Buyout	12.0	11.2	2.5	2.0	20.8	2.05	1.40	55.2	18.0
FS Equity VIII	2019	Buyout	12.0	9.8	2.2	0.3	15.2	1.58	1.40	20.4	18.0
Ridgemont III	2019	Buyout	12.0	12.9	2.1	7.1	16.0	1.79	1.40	32.7	18.0
Searchlight III	2019	Buyout	12.0	10.3	3.8	4.3	12.3	1.62	1.40	29.9	18.0
Waud V	2019	Buyout	10.0	10.0	0.0	0.1	15.1	1.51	1.40	20.4	18.0
Kohlberg IX	2020	Buyout	10.0	8.4	1.9	0.3	11.8	1.45	1.33	27.0	18.0
Summit Venture V	2020	Venture Capital	10.0	5.6	4.8	0.4	5.2	1.01	1.33	0.7	18.0
HV Co-Invest VI	2021	Buyout	13.0	7.2	5.9	0.0	7.5	1.05	1.21	NM	NM
Ironsides Co-Inv VI	2021	Buyout	13.0	12.2	1.1	0.4	14.0	1.18	1.21	NM	NM
Summit Growth XI	2021	Growth Equity	13.0	3.3	9.7	0.0	3.6	1.08	1.21	NM	NM

¹ Preqin, Private Debt – All, Net Median as of September 30, 2023

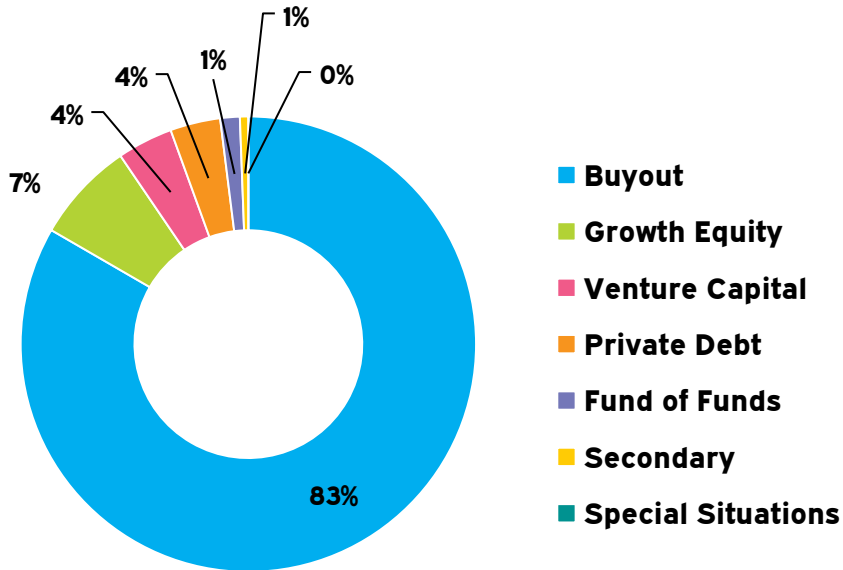
Fund Performance: Sorted By Vintage And Strategy (con't)

By Investment	Vintage	Strategy	Committed (\$ MM)	Contributed (\$ MM)	Unfunded (\$ MM)	Distributed (\$ MM)	Fair Market Value (\$ MM)	TVPI (X)	Peer TVPI (X)	IRR (%)	Peer IRR (%)
Ridgemont IV	2022	Buyout	13.0	3.9	9.1	0.0	3.9	1.00	1.04	NM	NM
Ironsides Opps II	2022	Private Debt	20.0	5.6	15.0	0.7	5.5	1.10	1.04 ¹	NM	NM ¹
Kohlberg X	2023	Buyout	10.0	0.0	10.0	0.0	NM	NM	0.88	NM	NM
Trilantic VII	2023	Buyout	10.0	0.0	10.0	0.0	0.0	NM	0.88	NM	NM
Waud VI	2023	Buyout	10.0	1.2	8.8	0.0	1.2	0.96	0.88	NM	NM
Total			347.1	265.3	107.7	154.7	245.1	1.50		9.1	

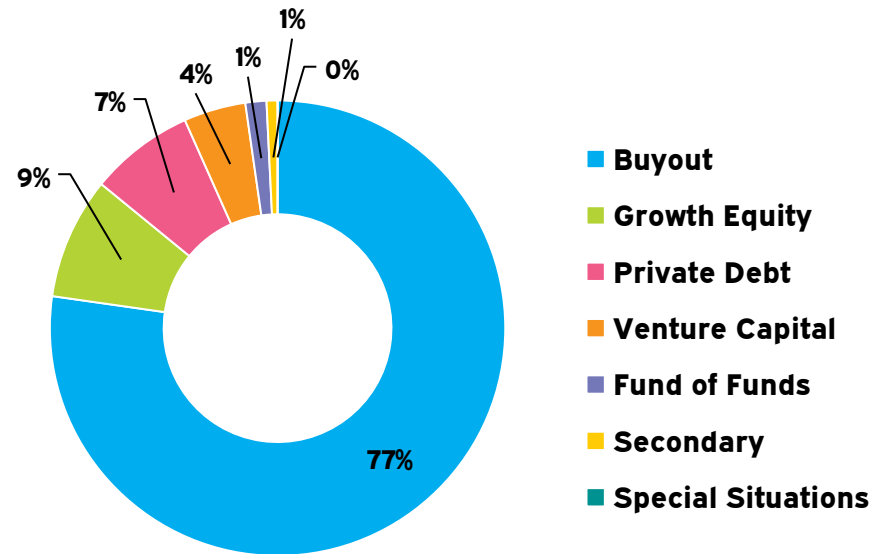
¹ Preqin, Private Debt – All, Net Median as of September 30, 2023

By Strategy

Percent of FMV

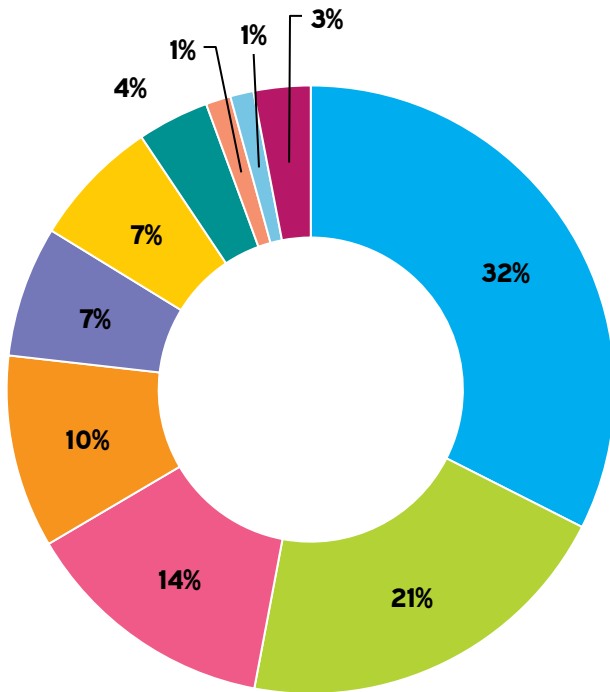


Percent of Exposure

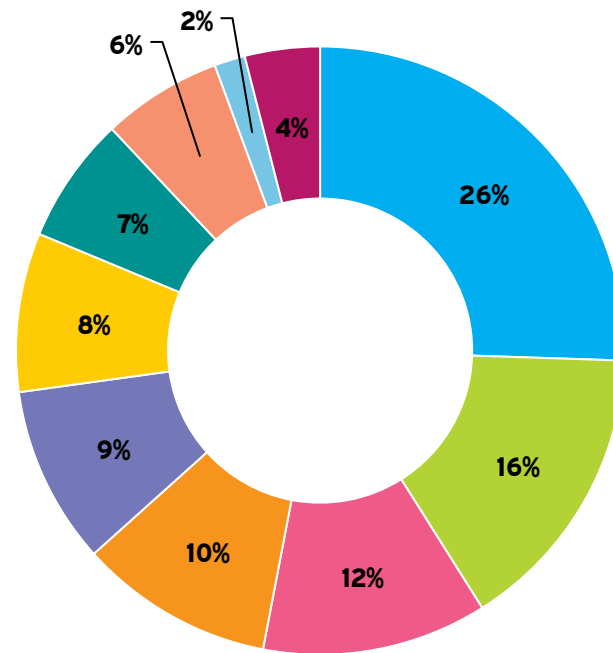


By Vintage

Percent of FMV

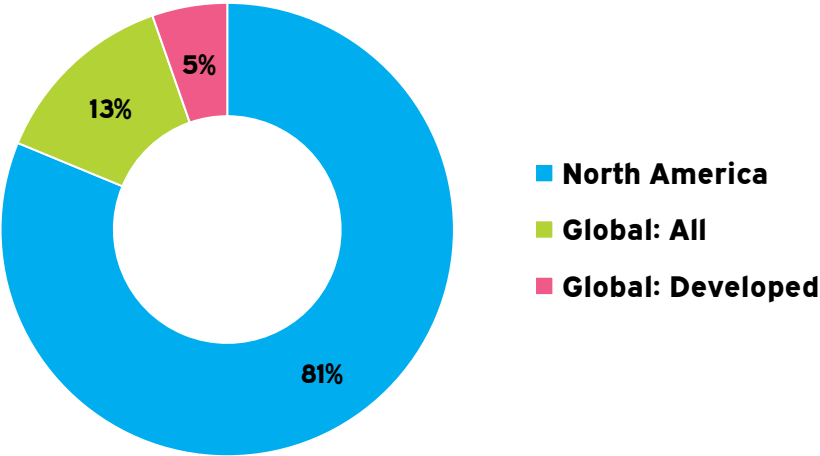


Percent of Exposure

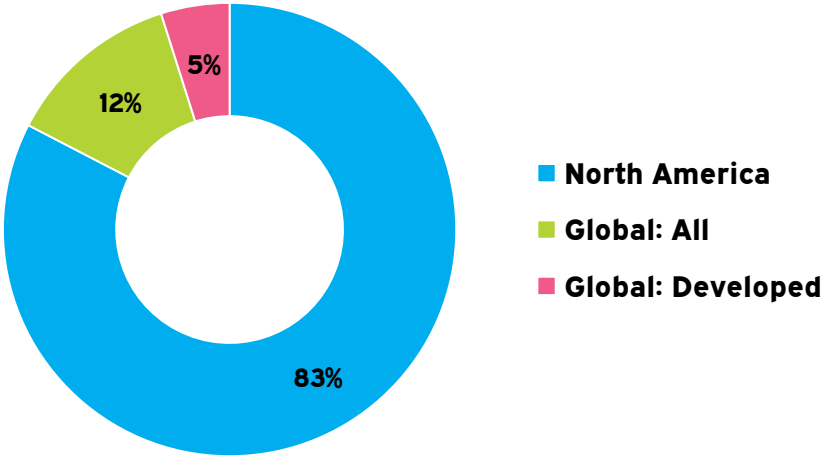


By Geographic Focus

Percent of FMV



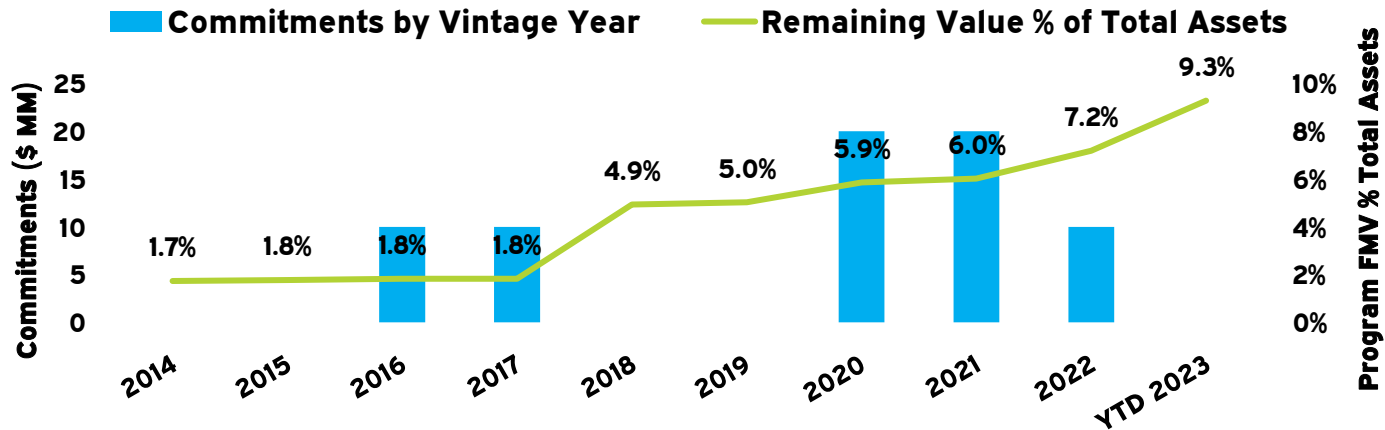
Percent of Exposure



Real Assets Program

Introduction

As of September 30, 2023, the Plymouth County Retirement Association (“PCRA,” or the “Retirement Association”) had committed \$150.0 million to 11 partnerships. No new commitments closed during the third quarter of 2023. The fair market value of PCRA’s Real Assets program was \$127.7 million (approximately 64.5% of fair market value in open-end core funds), representing 9.3% of total assets, exceeding the program’s 6.0% target.



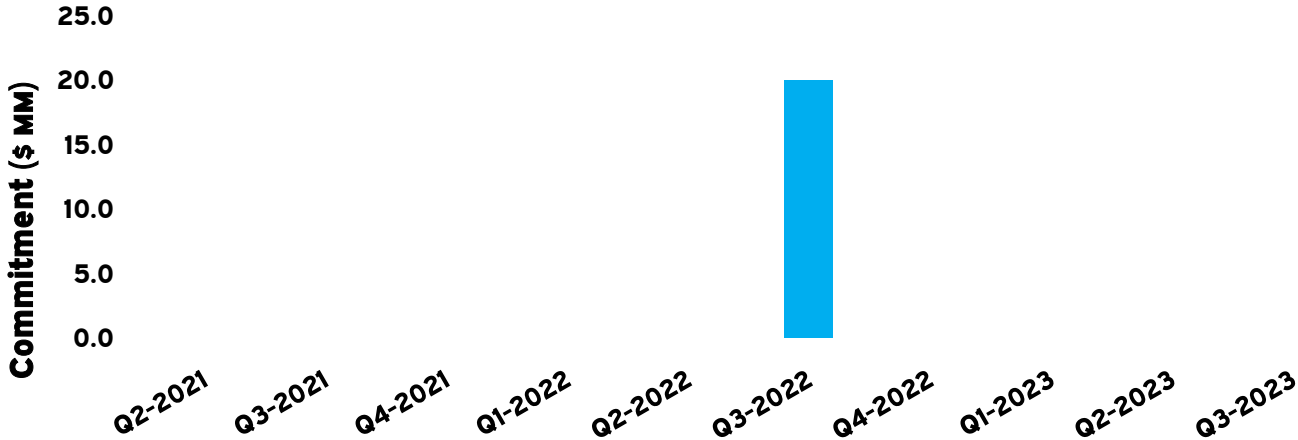
Program Status

No. of Investments	11
Committed (\$ MM)	150.0
Contributed (\$ MM)	125.5
Distributed (\$ MM)	28.3
Fair Market Value (\$ MM)	127.7

Performance Since Inception

Program	
DPI	0.23x
TVPI	1.24x
IRR	5.9%

Commitments
Recent Quarterly Commitments

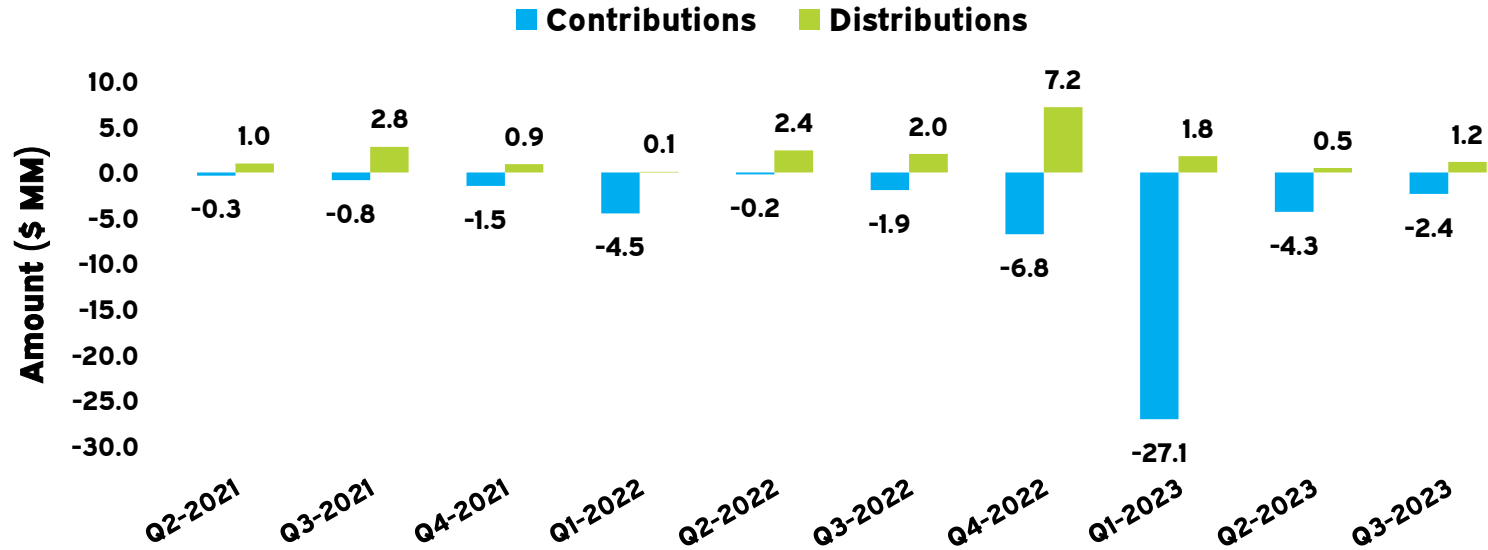


Commitments This Quarter

Fund	Strategy	Region	Amount (MM)
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None to report.

Cash Flows Recent Quarterly Cash Flows



Largest Contributions This Quarter

Fund	Vintage	Strategy	Region	Amount (\$MM)
Blackrock Infra IV	2022	Value-Added	Global: All	1.08
GIP IV	2020	Value-Added	Global: Developed	0.76
BlackRock GRPIF III	2020	Value-Added	Global: All	0.46

Largest Distributions This Quarter

Fund	Vintage	Strategy	Region	Amount (\$MM)
IFM Global IS	2009	Core	Global: Developed	0.66
Basalt IS II	2017	Core	Global: Developed	0.23
GIP III	2016	Value-Added	Global: Developed	0.18

Significant Events

- During the third quarter of 2023, the Retirement Association contributed \$2.35 million to its private real assets partnerships and received \$1.18 million in distributions, representing a \$1.17 million net cash outflow.
- PCRA contributed \$1.08 million to Blackrock Global Infrastructure Partners IV during the third quarter to fund investments and partnership expenses.
- In the quarter, the Retirement Association contributed \$0.76 million to Global Infrastructure Partners IV. The called capital primarily funded investments as well as partnership expenses and management fees.
- Blackrock Global Renewable Power Infrastructure Fund III called \$0.46 million primarily to fund existing investments.
- IFM Global Infrastructure distributed \$0.66 million during the third quarter, all of which being classified as a return of capital.
- Basalt Infrastructure Partners II distributed \$0.23 million during the quarter; all of it was a return of capital.
- Global Infrastructure Partners III distributed \$0.18 million, stemming from dividend proceeds, and returned capital. These distributions were offset by a \$0.04 million capital call for management fees and partnership expenses, resulting in a \$0.14 million net cash inflow from the fund during the third quarter. .

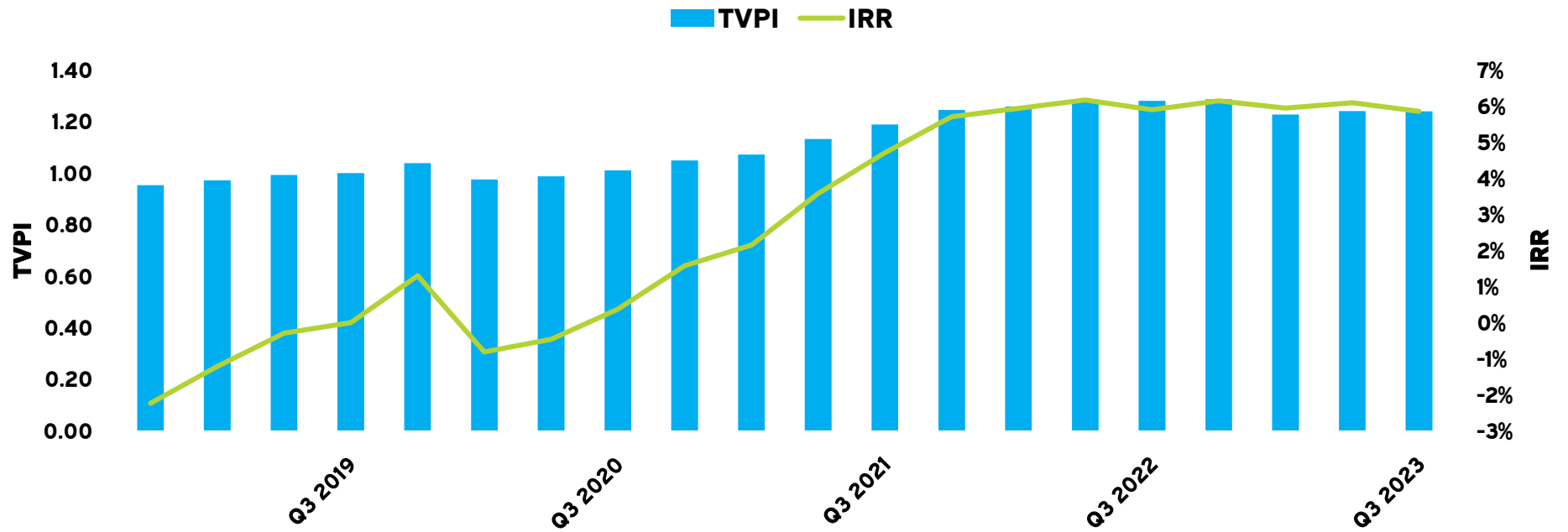
By Strategy

Group	Number	Committed (\$ MM)	Contributed (\$ MM)	Unfunded (\$ MM)	Distributed (\$ MM)	Fair Market Value (\$ MM)	Exposure (\$ MM)	DPI (X)	TVPI (X)	IRR (%)
Core	2	70.0	69.4	3.1	10.6	82.3	85.4	0.15	1.34	10.1
Natural Resources	2	10.0	10.0	0.0	6.1	4.9	4.9	0.61	1.10	1.1
Opportunistic	1	10.0	10.0	0.3	5.5	3.2	3.4	0.54	0.86	-2.0
Value-Added	6	60.0	36.0	27.1	6.1	37.3	64.4	0.17	1.21	9.3
Total	11	150.0	125.5	30.5	28.3	127.7	158.2	0.23	1.24	5.9

By Vintage

Group	Number	Committed (\$ MM)	Contributed (\$ MM)	Unfunded (\$ MM)	Distributed (\$ MM)	Fair Market		DPI (X)	TVPI (X)	IRR (%)
						Value (\$ MM)	Exposure (\$ MM)			
Open-end Fund	1	60.0	60.0	0.0	4.5	75.0	75.0	0.07	1.33	10.2
2010	2	15.0	15.0	0.3	9.7	6.7	6.9	0.65	1.09	1.1
2011	1	5.0	5.0	0.0	1.9	1.4	1.4	0.37	0.65	-4.9
2016	1	10.0	10.3	1.1	5.1	10.3	11.3	0.49	1.48	9.7
2017	1	10.0	9.4	3.1	6.1	7.3	10.4	0.65	1.42	9.6
2020	2	20.0	15.0	6.1	0.5	16.0	22.1	0.03	1.10	6.8
2021	2	20.0	7.7	12.9	0.6	8.2	21.1	0.08	1.14	NM
2022	1	10.0	2.9	7.1	0.0	2.8	9.9	0.00	0.96	NM
Total	11	150.0	125.5	30.5	28.3	127.7	158.2	0.23	1.24	5.9

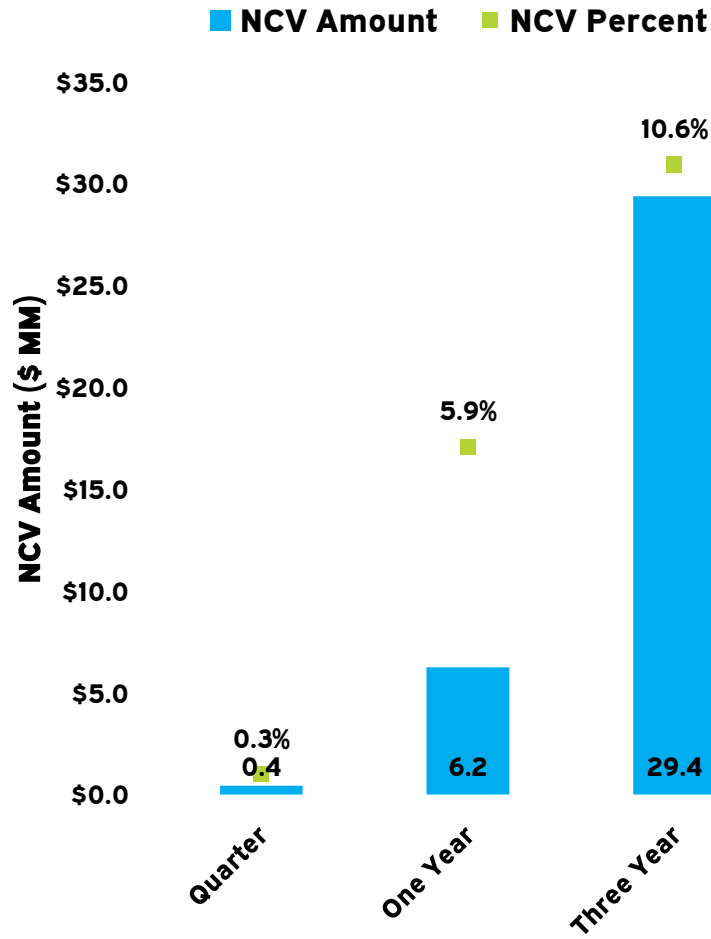
Since Inception Performance Over Time



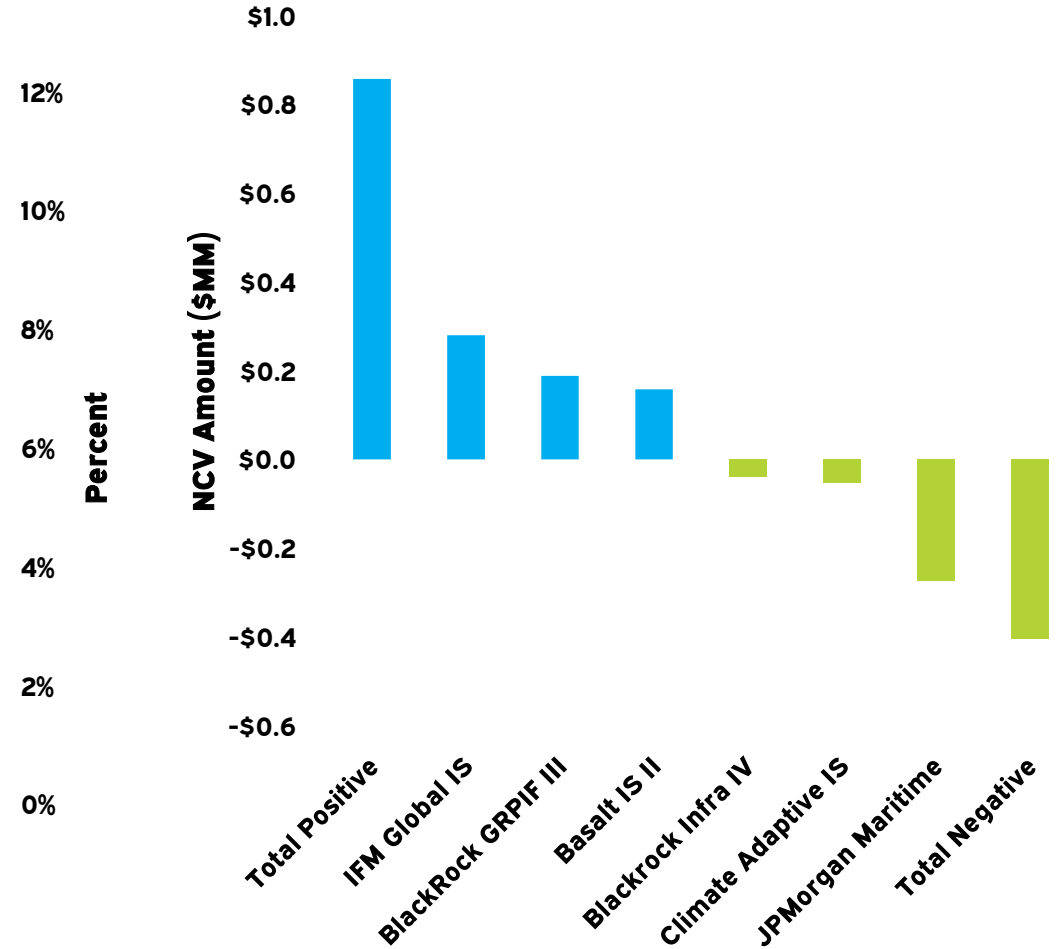
Horizon IRRs

	1 Year (%)	3 Year (%)	5 Year (%)	10 Year (%)	Since Inception (%)
Aggregate Portfolio	5.7	11.8	8.9	5.9	5.9
Public Market Equivalent	6.9	8.7	5.5	5.6	5.7

Periodic NCV



1 Quarter Drivers Of NCV



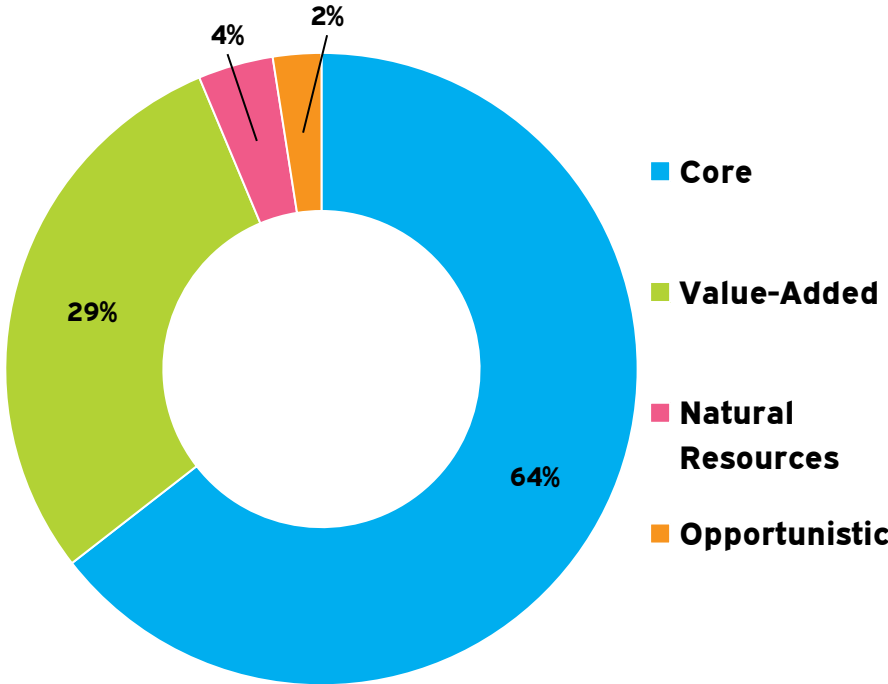
	1Q22 (%)	1 YR (%)	3 YR (%)	5 YR (%)	10 YR (%)	Since Inception (%)	Inception Date
IFM Global Infrastructure	0.4	9.8	11.7	10.2	NA	10.2	10/01/2018
<i>CPI + 3%</i>	1.6	6.8	8.9	7.2	NA	7.2	

Fund Performance: Sorted By Vintage And Strategy

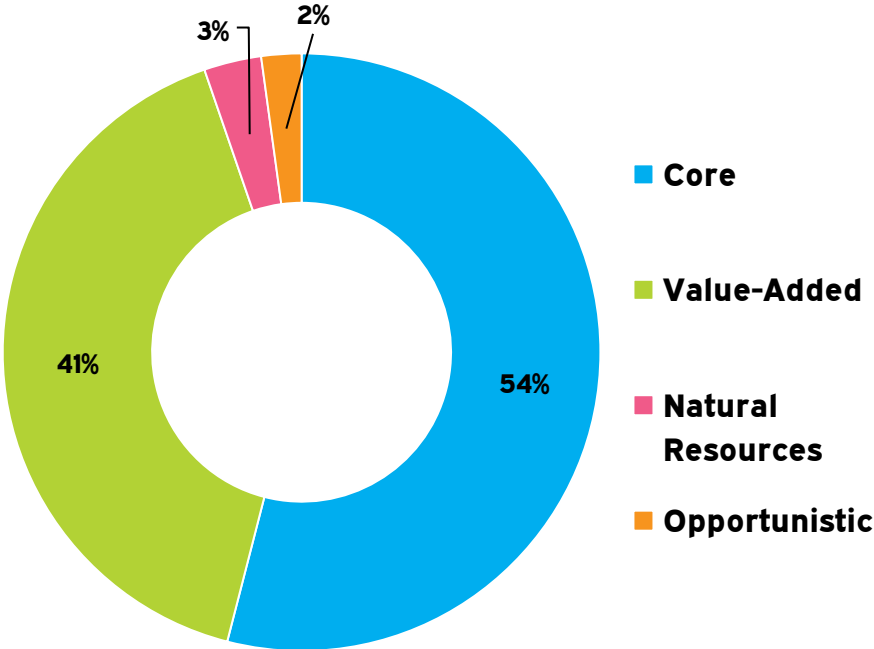
By Investment	Vintage	Strategy	Committed (\$ MM)	Contributed (\$ MM)	Unfunded (\$ MM)	Distributed (\$ MM)	Fair Market Value (\$ MM)	TVPI (X)	Peer TVPI (X)	IRR (%)	Peer IRR (%)
IFM Global IS	Open-end	Core	60.0	60.0	0.0	4.5	75.0	1.33	NA	10.2	NA
Timbervest III	2010	Natural Resources	5.0	5.0	0.0	4.3	3.5	1.55	1.35	4.9	12.2
JPMorgan Maritime	2010	Opportunistic	10.0	10.0	0.3	5.5	3.2	0.86	1.35	-2.0	12.2
BTG Global Timber	2011	Natural Resources	5.0	5.0	0.0	1.9	1.4	0.65	1.37	-4.9	8.5
GIP III	2016	Value-Added	10.0	10.3	1.1	5.1	10.3	1.48	1.42	9.7	9.4
Basalt IS II	2017	Core	10.0	9.4	3.1	6.1	7.3	1.42	1.49	9.6	13.5
BlackRock GRPIF III	2020	Value-Added	10.0	6.3	3.9	0.3	7.0	1.15	1.16	11.8	13.6
GIP IV	2020	Value-Added	10.0	8.7	2.2	0.2	9.0	1.06	1.16	3.9	13.6
Climate Adaptive IS	2021	Value-Added	10.0	4.9	5.7	0.6	5.2	1.18	1.13	NM	NM
ISQ IS III	2021	Value-Added	10.0	2.8	7.2	0.0	3.0	1.07	1.13	NM	NM
Blackrock Infra IV	2022	Value-Added	10.0	2.9	7.1	0.0	2.8	0.96	1.04	NM	NM
Total			150.0	125.5	30.5	28.3	127.7	1.24	NM	5.9	NM

By Strategy

Percent of FMV

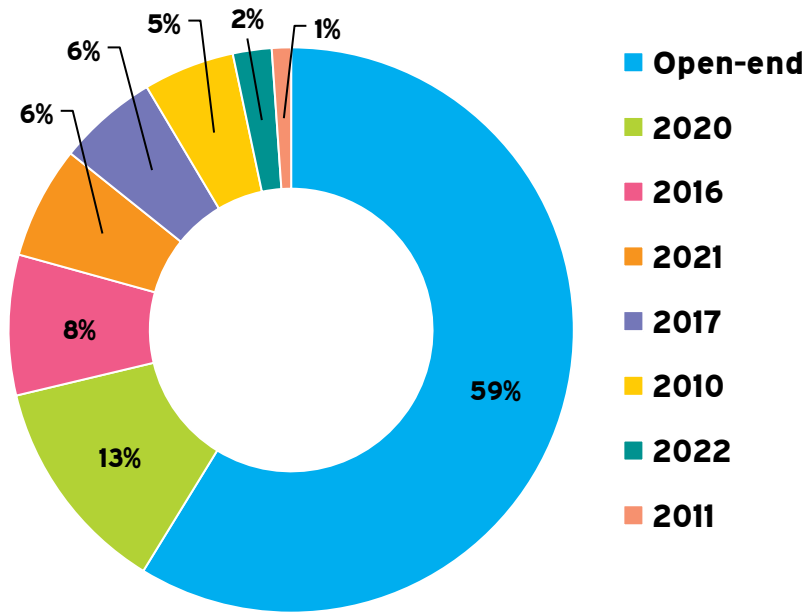


Percent of Exposure

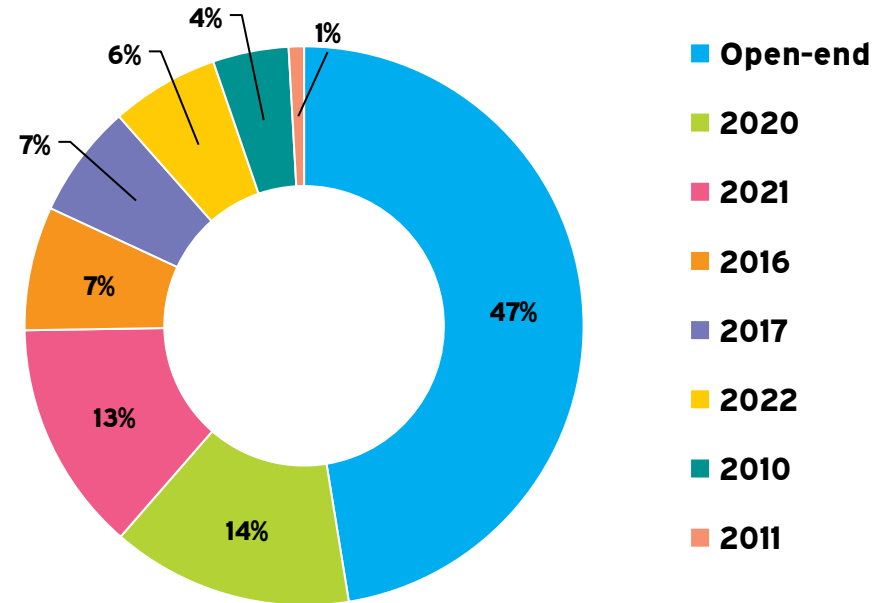


By Vintage

Percent of FMV

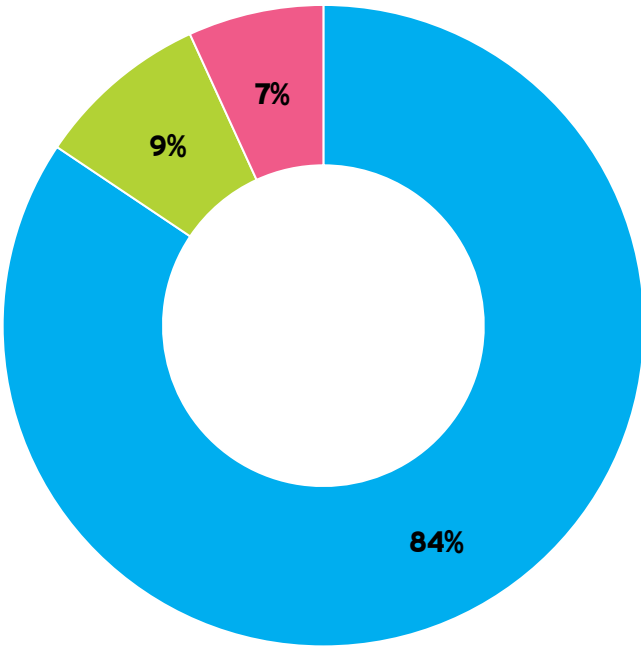


Percent of Exposure

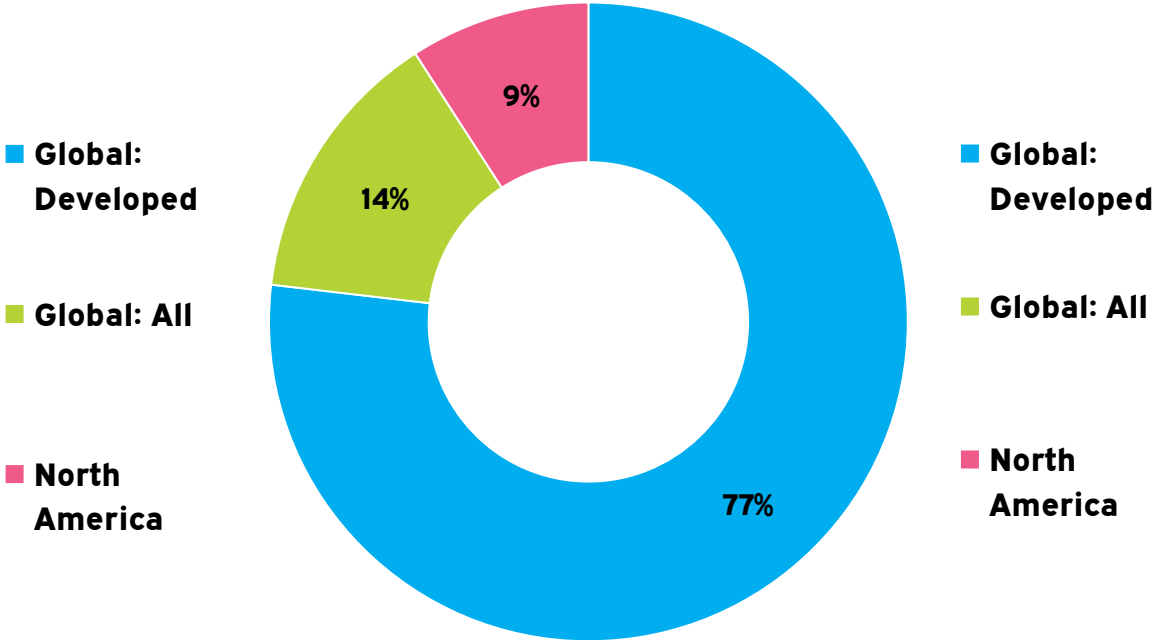


By Geographic Focus

Percent of FMV



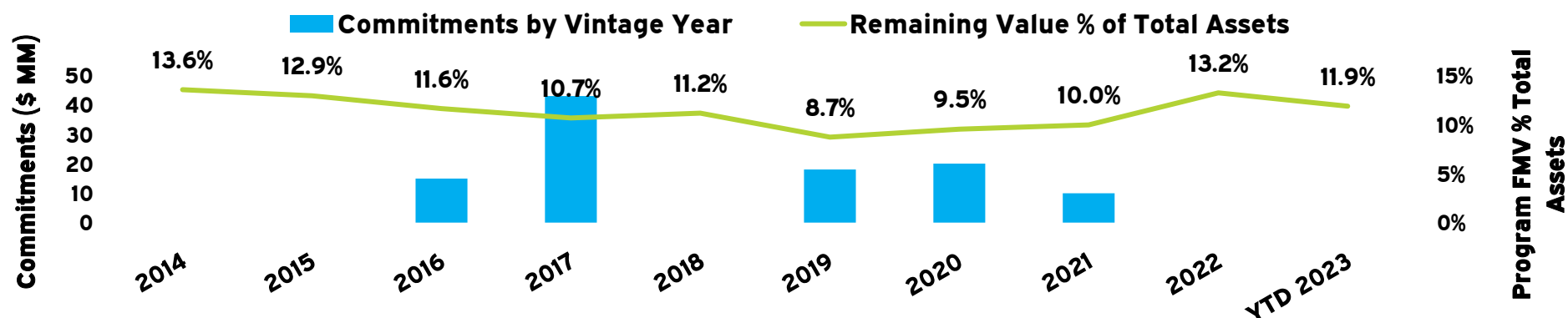
Percent of Exposure



Real Estate Program

Introduction

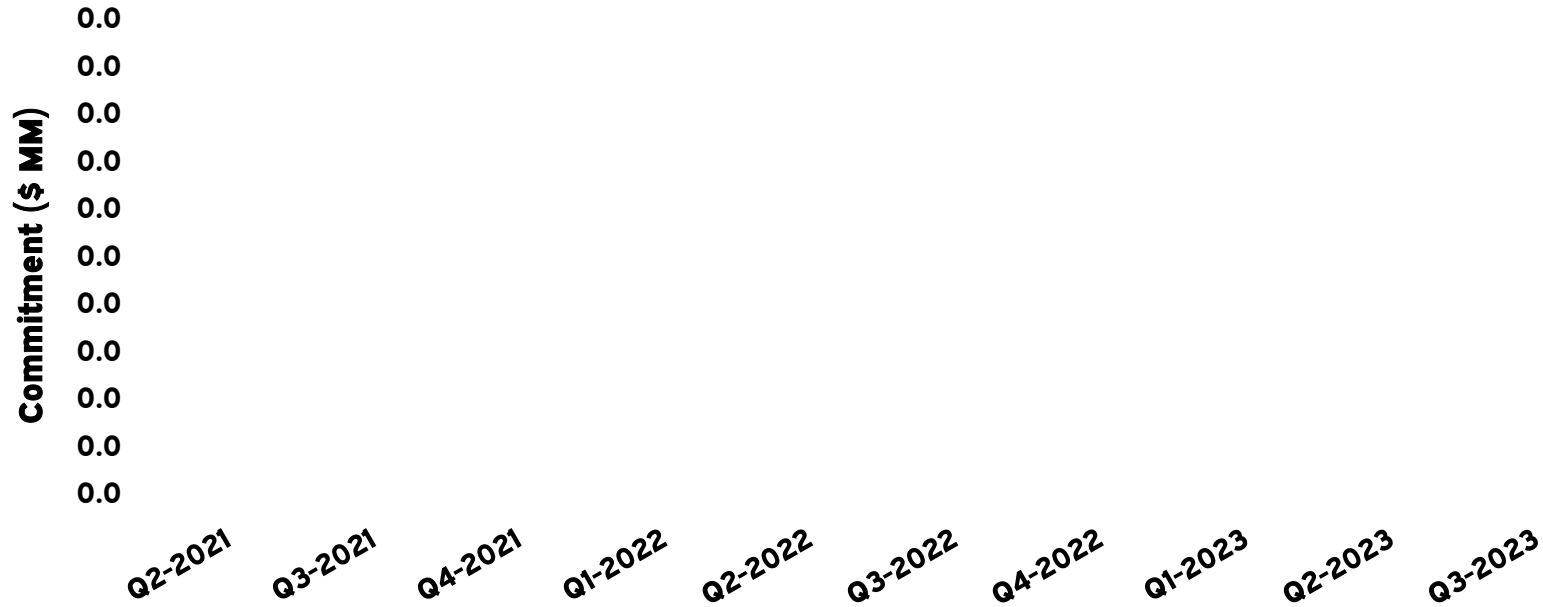
As of September 30, 2023, the Plymouth County Retirement Association (“PCRA,” or the “Retirement Association”) had committed \$293.0 million to 21 partnerships. As of the end of the third quarter, the fair market value of PCRA’s private real estate partnerships, in aggregate, was \$163.5 million (approximately 63.3% of the fair market value of the program in open-end core funds). The fair market value of PCRA’s real estate program represents 11.9% of total assets, exceeding the program’s 10% long-term target.



Program Status	
No. of Investments	21
Committed (\$ MM)	293.0
Contributed (\$ MM)	283.1
Distributed (\$ MM)	233.9
Fair Market Value (\$ MM)	163.5

Performance Since Inception	
	Program
DPI	0.83x
TVPI	1.40x
IRR	6.2%

Commitments Recent Quarterly Commitments

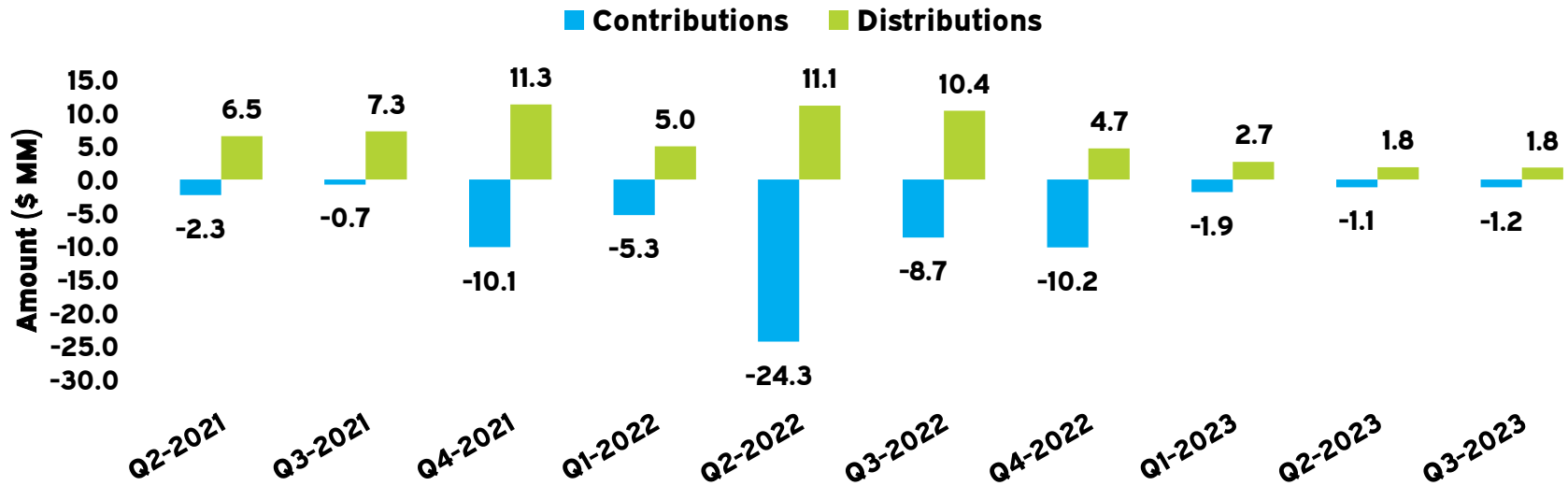


Commitments This Quarter

Fund	Strategy	Region	Amount (MM)
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None to report

Cash Flows Recent Quarterly Cash Flows



Largest Contributions This Quarter

Fund	Vintage	Strategy	Region	Amount (\$MM)
PCCP Equity IX	2021	Opportunistic	North America	0.50
Rockpoint VI	2019	Opportunistic	North America	0.43
TA Realty Core	2018	Core	North America	0.13

Largest Distributions This Quarter

Fund	Vintage	Strategy	Region	Amount (\$MM)
TA Realty Core	2018	Core	North America	0.88
Carlyle Realty VIII	2017	Opportunistic	North America	0.47
JPMorgan Strategic	1998	Core	North America	0.37

Significant Events

- During the third quarter of 2023, the Retirement Association contributed \$1.16 million to its private real estate partnerships and received \$1.81 million in distributions, representing a \$0.65 million net cash inflow.
- PCCP Equity IX, L.P. called \$0.50 million in the third quarter, primarily to fund investments as well as partnership expenses.
- Rockpoint Real Estate Fund VI, L.P. called \$0.43 million during the third quarter to fund investments and management fees.
- TA Realty Core Property Fund, L.P. distributed \$0.88 million as a result of dividend proceeds and a return of capital. The distribution was offset by a \$0.13 million capital call to fund management fees, resulting in a \$0.75 million net distribution.
- Carlyle Realty Partners VIII, L.P. distributed \$0.47 million during the third quarter as proceeds from existing investments.
- JPMorgan Strategic Property Fund distributed \$0.37 million during the third quarter, stemming from a redemption request.

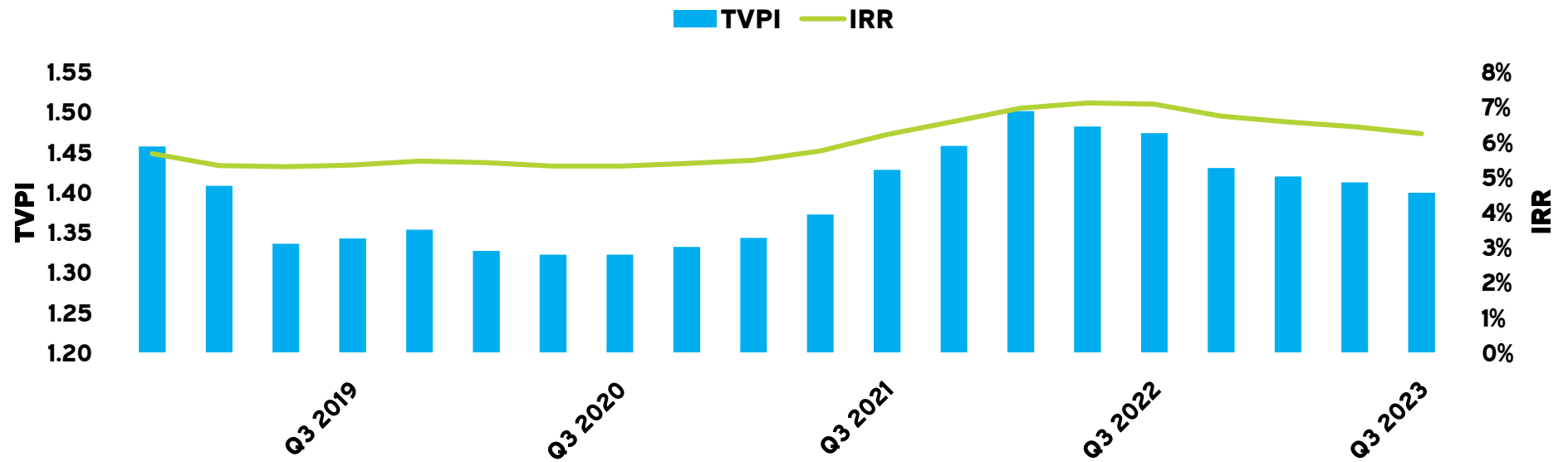
By Strategy

Group	Number	Committed (\$ MM)	Contributed (\$ MM)	Unfunded (\$ MM)	Distributed (\$ MM)	Fair Market Value (\$ MM)	Exposure (\$ MM)	DPI (X)	TVPI (X)	IRR (%)
Core	5	129.0	134.3	0.0	105.6	103.4	103.4	0.79	1.56	6.7
Fund of Funds	1	15.0	12.7	2.3	11.4	0.6	2.9	0.90	0.94	-1.0
Opportunistic	6	77.0	67.0	23.4	42.6	39.2	62.5	0.64	1.22	6.5
Value-Added	9	72.0	69.1	7.2	74.3	20.3	27.5	1.07	1.37	6.5
Total	21	293.0	283.1	32.9	233.9	163.5	196.4	0.83	1.40	6.2

By Vinatge

Group	Number	Committed (\$ MM)	Contributed (\$ MM)	Unfunded (\$ MM)	Distributed (\$ MM)	Fair Market		DPI (X)	TVPI (X)	IRR (%)
						Value (\$ MM)	Exposure (\$ MM)			
Open-end Fund	5	129.0	134.3	0.0	105.6	103.4	103.4	0.79	1.56	6.7
2001	1	4.0	4.6	0.0	5.7	0.0	0.0	1.23	1.23	2.4
2003	1	10.0	9.0	1.9	11.7	0.0	1.9	1.31	1.31	5.1
2004	1	4.0	4.6	0.0	2.4	0.0	0.0	0.54	0.54	-8.0
2007	3	30.0	26.9	4.3	33.3	0.6	4.9	1.24	1.26	4.7
2008	1	5.0	5.4	0.0	0.0	0.5	0.5	0.00	0.10	-13.9
2011	1	5.0	5.0	0.0	7.4	0.0	0.0	1.48	1.48	11.6
2016	1	15.0	15.1	0.0	23.0	4.5	4.5	1.53	1.82	15.2
2017	2	43.0	39.5	16.0	41.3	15.7	31.7	1.05	1.44	19.8
2019	2	18.0	14.0	5.1	2.1	13.4	18.6	0.15	1.11	5.6
2020	2	20.0	17.6	2.8	1.3	18.0	20.8	0.07	1.10	6.2
2021	1	10.0	7.2	2.8	0.0	7.3	10.1	0.00	1.01	NM
Total	21	293.0	283.1	32.9	233.9	163.5	196.4	0.83	1.40	6.2

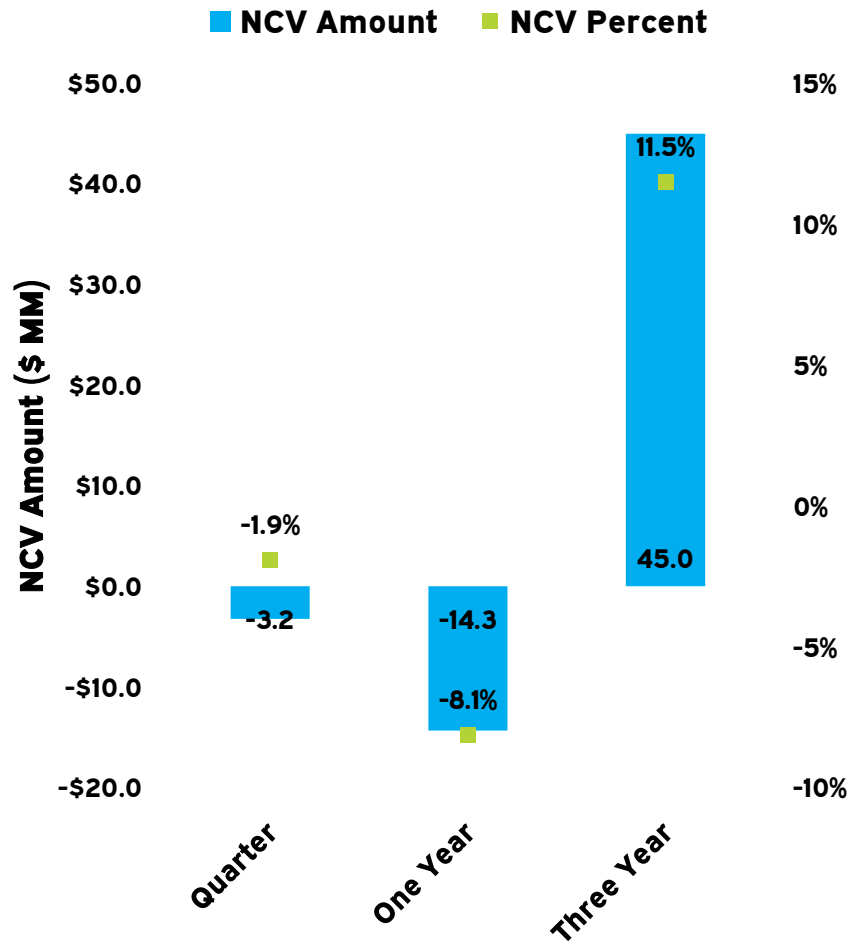
Since Inception Performance Over Time



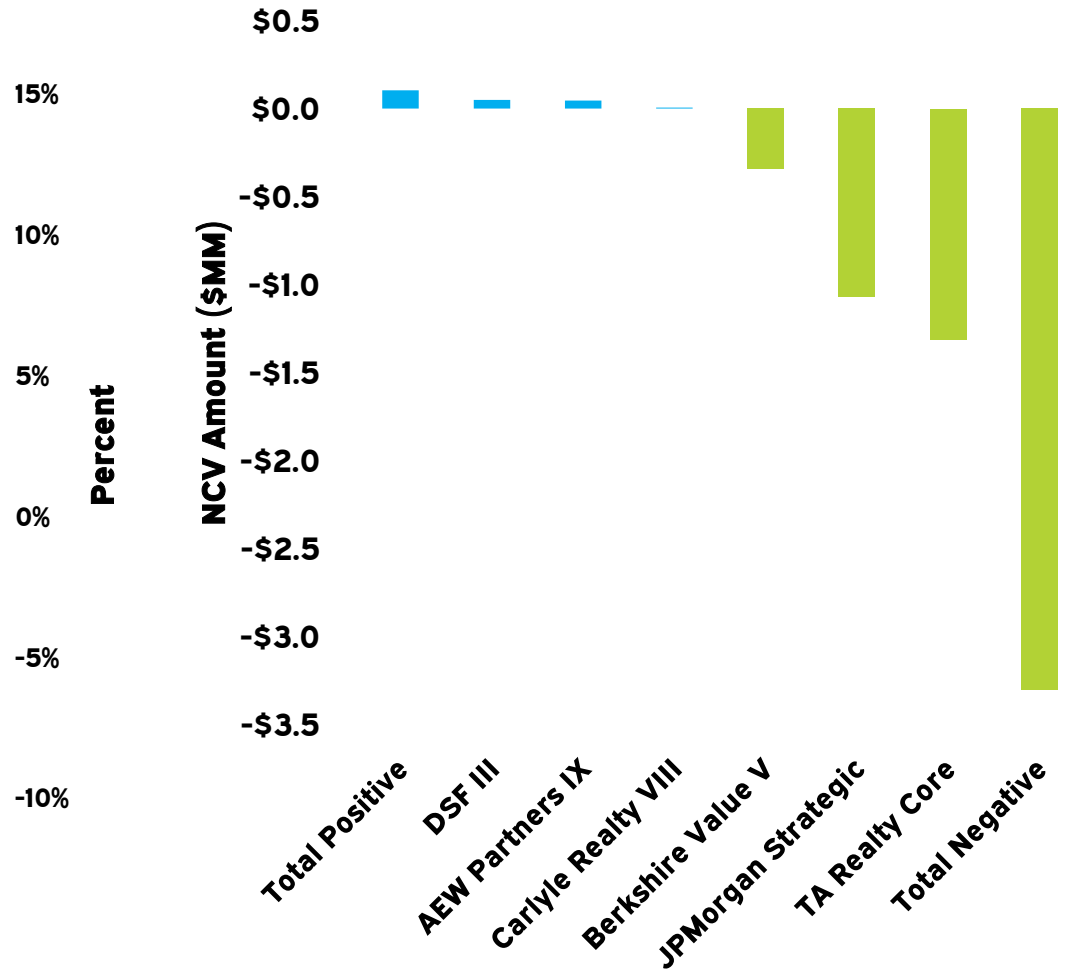
Horizon IRRs

	1 Year (%)	3 Year (%)	5 Year (%)	10 Year (%)	Since Inception (%)
Aggregate Portfolio	-8.0	11.7	8.2	7.7	6.2
Public Market Equivalent	-0.8	-1.2	-3.6	0.3	3.2

Periodic NCV



1 Quarter Drivers Of NCV



	3Q23 (%)	1 YR (%)	3 YR (%)	5 YR (%)	10 YR (%)	Since Inception (%)	Inception Date
JPMorgan Strategic Property	-3.3	-14.0	4.7	NA	NA	3.7	4/01/2019
NCREIF Fund Index-Open End Diversified Core Equity (EW) (Net)	-2.1	-13.1	6.7	NA	NA	5.2	
TA Realty Core Property Fund, L.P.	-1.8	-9.0	12.1	9.8	NA	10.9	4/01/2018
NCREIF Fund Index-Open End Diversified Core Equity (EW) (Net)	-2.1	-13.1	6.7	5.2	NA	5.4	

Fund Performance: Sorted By Vintage And Strategy

By Investment	Vintage	Strategy	Committed (\$ MM)	Contributed (\$ MM)	Unfunded (\$ MM)	Distributed (\$ MM)	Fair Market Value (\$ MM)	TVPI (X)	Peer TVPI (X)	IRR (%)	Peer IRR (%)
Invesco RE	Open-end	Core	22.0	23.9	0.0	44.8	0.0	1.87	NA	8.3	NA
JPMorgan Strategic	Open-end	Core	27.0	27.0	0.0	0.9	30.9	1.18	NA	3.7	NA
MEPT	Open-end	Core	5.0	5.0	0.0	15.9	0.0	3.18	NA	6.5	NA
PRISA I	Open-end	Core	15.0	17.2	0.0	35.5	0.0	2.06	NA	5.3	NA
TA Realty Core	Open-end	Core	60.0	61.1	0.0	8.6	72.5	1.33	NA	8.8	NA
Intercontinental III	2001	Value Added	4.0	4.6	0.0	5.7	0.0	1.23	1.60	2.4	19.2
Hunt Redevelopment	2003	Value Added	10.0	9.0	1.9	11.7	0.0	1.31	1.60	5.1	16.7
Intercontinental IV	2004	Value Added	4.0	4.6	0.0	2.4	0.0	0.54	1.25	-8.0	8.4
Mesirow RE Intl	2007	Fund of Funds	15.0	12.7	2.3	11.4	0.6	0.94	1.32	-1.0	6.8
Berkshire Multi II	2007	Value Added	10.0	11.3	0.0	17.9	0.0	1.59	1.32	11.0	6.8

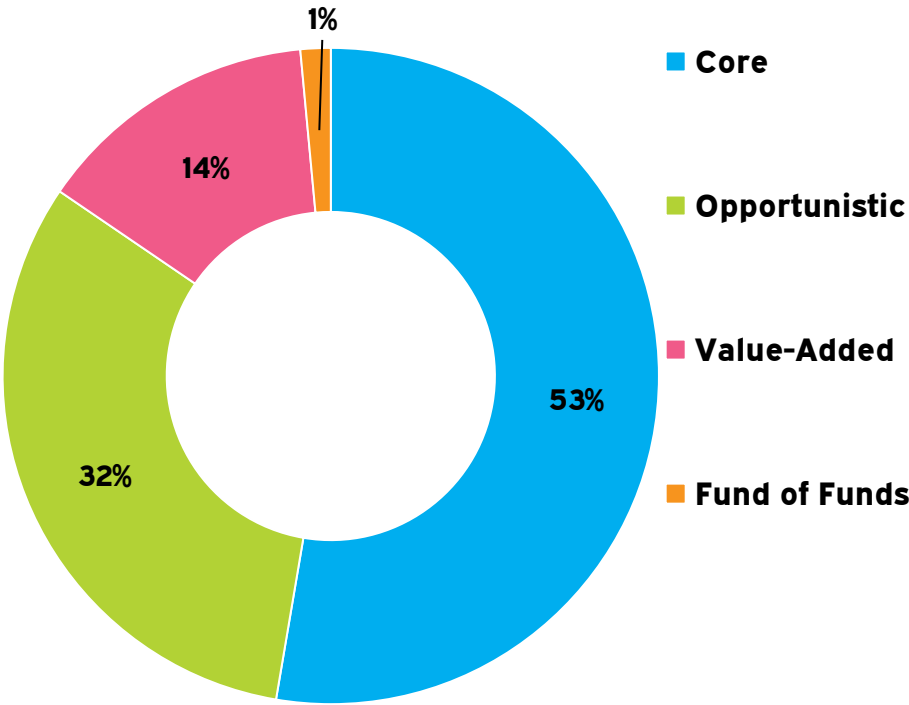
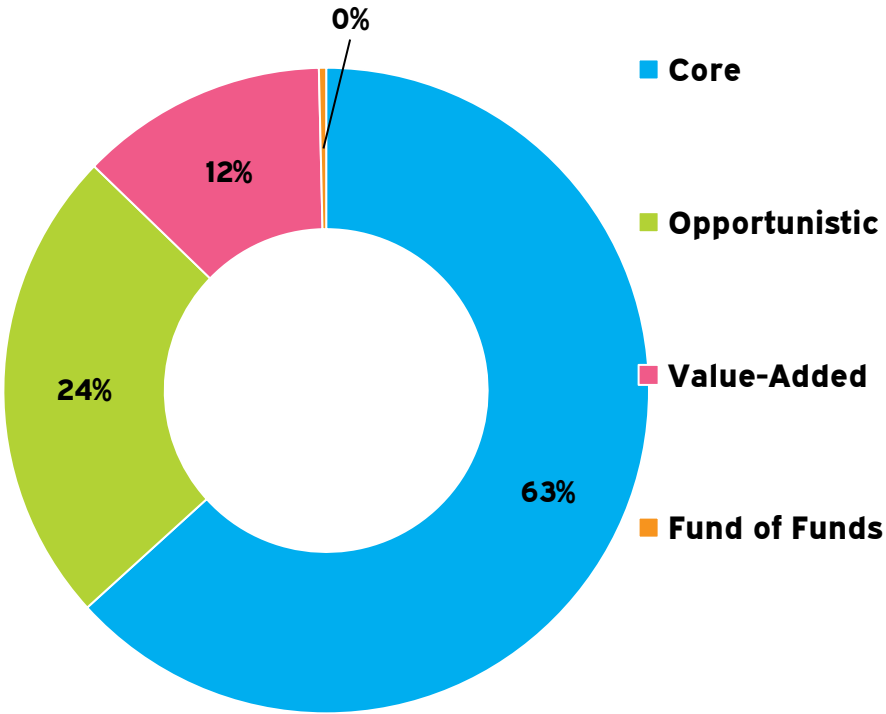
Fund Performance: Sorted By Vintage And Strategy (con't)

By Investment	Vintage	Strategy	Committed (\$ MM)	Contributed (\$ MM)	Unfunded (\$ MM)	Distributed (\$ MM)	Fair Market Value (\$ MM)	TVPI (X)	Peer TVPI (X)	IRR (%)	Peer IRR (%)
New Boston VII	2007	Value-Added	5.0	3.0	2.0	4.0	0.0	1.33	1.32	5.6	6.8
1921 Realty	2008	Opportunistic	5.0	5.4	0.0	0.0	0.5	0.10	1.38	-13.9	9.4
DSF IV	2011	Value-Added	5.0	5.0	0.0	7.4	0.0	1.48	1.66	11.6	17.7
DSF III	2016	Value-Added	15.0	15.1	0.0	23.0	4.5	1.82	1.40	15.2	10.0
AEW Partners VIII	2017	Opportunistic	25.0	24.0	4.5	29.4	6.2	1.48	1.30	19.9	10.1
Carlyle Realty VIII	2017	Opportunistic	18.0	15.5	11.5	11.9	9.6	1.39	1.30	19.5	10.1
Rockpoint VI	2019	Opportunistic	9.0	7.7	1.8	1.1	8.0	1.18	1.20	9.2	10.4
Berkshire Value V	2019	Value-Added	9.0	6.3	3.4	1.1	5.4	1.03	1.20	1.6	10.4
AEW Partners IX	2020	Opportunistic	10.0	7.2	2.8	0.2	7.6	1.09	1.12	6.1	9.1
TerraCap V	2020	Value-Added	10.0	10.4	0.0	1.0	10.4	1.10	1.12	6.2	9.1
PCCP Equity IX	2021	Opportunistic	10.0	7.2	2.8	0.0	7.3	1.01	1.07	NM	NM
Total			293.0	283.1	32.9	233.9	163.5	1.40		6.2	

By Strategy

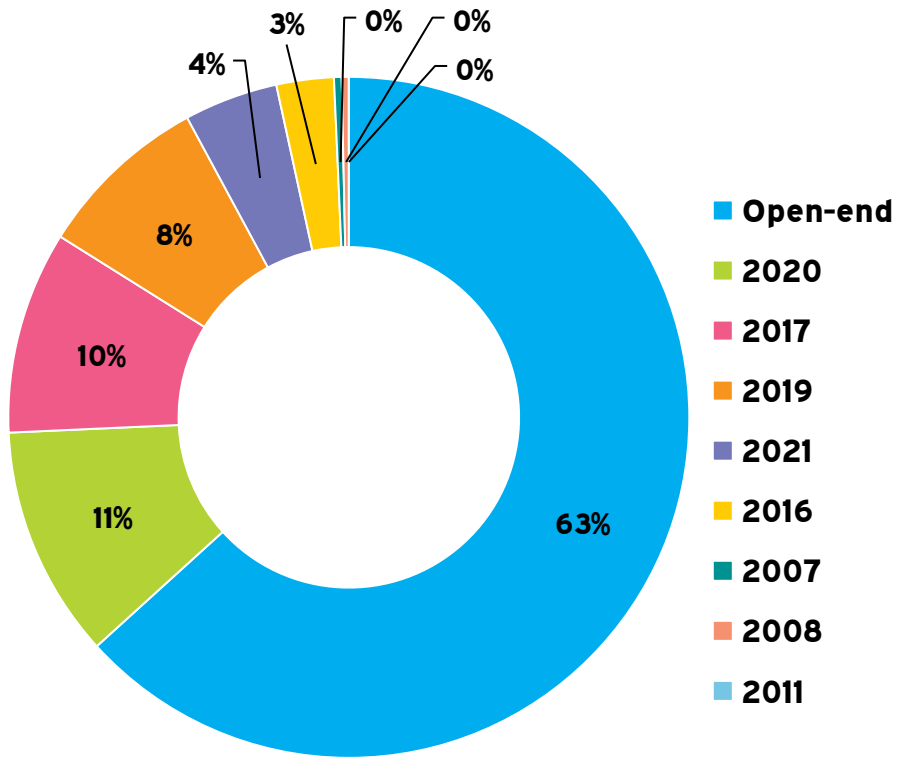
Percent of FMV

Percent of Exposure

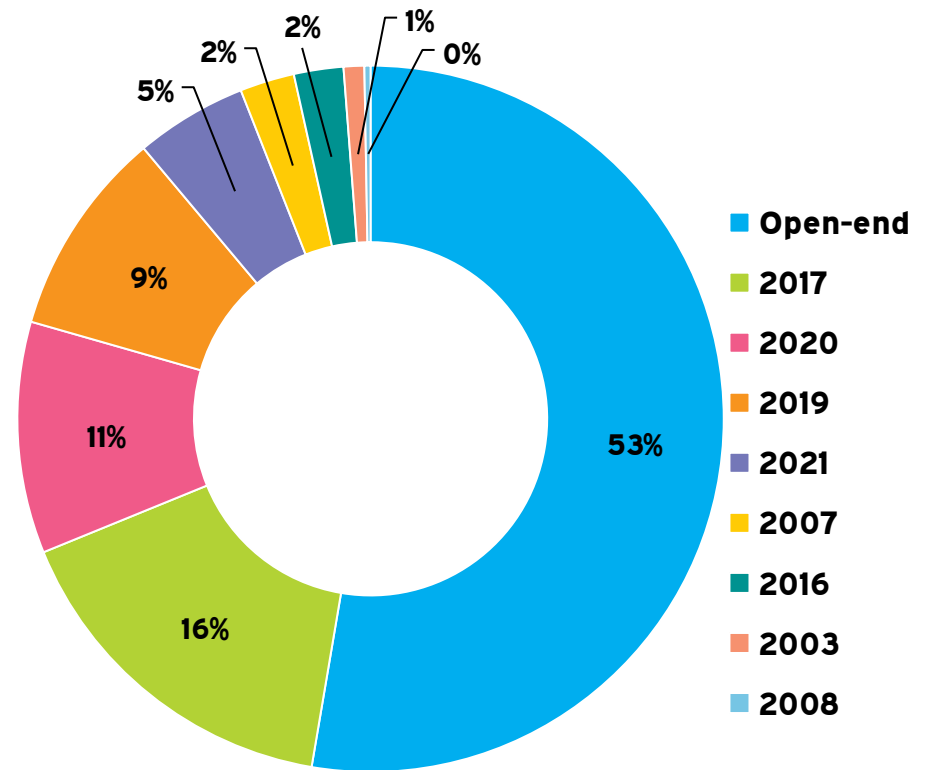


By Vintage

Percent of FMV

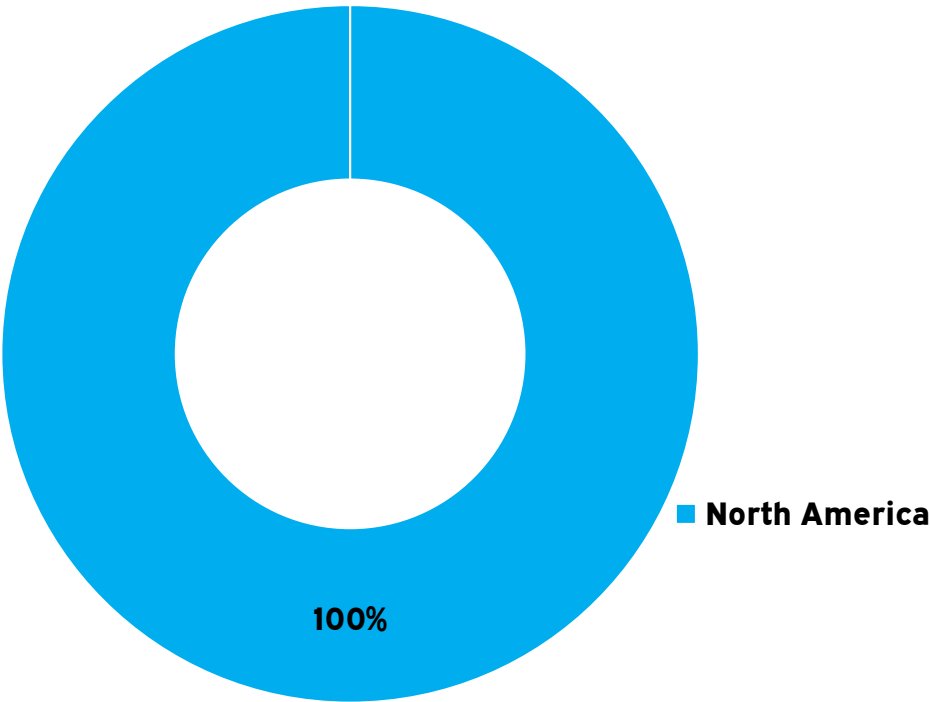


Percent of Exposure

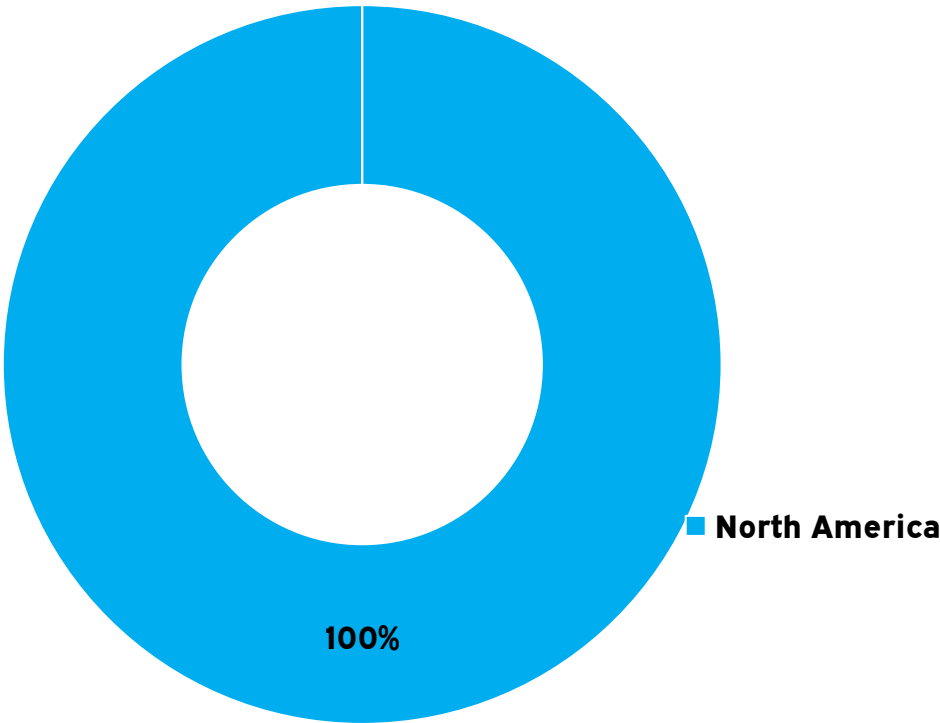


By Geographic Focus

Percent of FMV



Percent of Exposure



2023 Year in Review

Market Summary

- 2023 proved to be a year of relief for most global markets. Both bonds and stocks rallied during the year, fueled by a resilient economy, better-than-expected corporate earnings, easing inflation data, and an outlook for the Federal Reserve to start cutting rates.
- The S&P 500 ended the year up just over 26%, the MSCI EAFE gained 18.2%, and the MSCI Emerging Markets climbed 9.8%.
- Calendar year results were clearly driven by large cap technology stocks. Within the S&P 500 index, the “Magnificent 7” stocks generated more than 50% of the total gains.
- Given the strong technology-driven rally last year, valuations rebounded in the US and finished the year well above the long-term average.
- Outside the US, equity valuations moved higher in both emerging and developed markets, but still remain below the US and either at or below their respective long-term averages.
- The broad Fixed Income market, represented by the Bloomberg US Universal and the Bloomberg Aggregate, both finished the year in positive territory, gaining 6.2% and 5.5% respectively on weakening economic data and an accelerated expectations for Fed policy easing.
- Long-duration government bonds capped a volatile year with an 8.6% gain in December, pushing them into positive territory for the year. While High Yield was a particular bright spot returning 13.4% for the year while TIPs improved a more modest 3.9%.
- Despite some volatility during the year rates for longer maturities finished close to where they started. The policy sensitive front-end of the yield curve saw a bigger move (higher).
- The US labor market remains relatively strong, ending the year at 3.7% - an increase of 0.2% vs the beginning of 2023 - supported by cooling inflation and stable unemployment. The Fed policy rate seems to have reached a peak at 5.25% - 5.50%, with many market participants expecting rate cuts to commence in 2024.

World Markets in 2023¹

	4Q23 (%)	1 YR (%)	3 YR (%)	5 YR (%)	10 YR (%)
Domestic Equity					
S&P 500	11.7	26.3	10.0	15.7	12.0
Russell 3000	12.1	26.0	8.5	15.2	11.5
Russell 1000	12.0	26.5	9.0	15.5	11.8
Russell 1000 Growth	14.2	42.7	8.9	19.5	14.9
Russell 1000 Value	9.5	11.5	8.9	10.9	8.4
Russell MidCap	12.8	17.2	5.9	12.7	9.4
Russell MidCap Growth	14.6	25.9	1.3	13.8	10.6
Russell MidCap Value	12.1	12.7	8.4	11.2	8.3
Russell 2000	14.0	16.9	2.2	10.0	7.2
Russell 2000 Growth	12.8	18.7	-3.5	9.2	7.2
Russell 2000 Value	15.3	14.7	7.9	10.0	6.8
Foreign Equity					
MSCI ACWI	11.0	22.2	5.8	11.7	7.9
MSCI ACWI (ex. US)	9.8	15.6	1.6	7.1	3.8
MSCI EAFE	10.4	18.2	4.0	8.2	4.3
MSCI EAFE (Local Currency)	5.0	16.2	8.6	9.5	6.6
MSCI EAFE Small Cap	11.1	13.2	-0.7	6.6	4.8
MSCI Emerging Markets	7.9	9.8	-5.1	3.7	2.7
MSCI Emerging Markets (Local Currency)	5.6	9.9	-2.5	5.4	5.2
Fixed Income					
Bloomberg Barclays Universal	6.8	6.2	-3.0	1.4	2.1
Bloomberg Barclays Aggregate	6.8	5.5	-3.3	1.1	1.8
Bloomberg Barclays US TIPS	4.7	3.9	-1.0	3.2	2.4
Bloomberg Barclays High Yield	7.2	13.4	2.0	5.4	4.6
JPM GBI-EM Global Diversified	8.1	12.7	-3.2	1.1	0.1
Other					
FTSE NAREIT Equity	16.2	13.7	7.2	7.4	7.7
Bloomberg Commodity Index	-4.6	-7.9	10.8	7.2	-1.1

¹ Source Investor Force

2023 Performance Review vs PRIT

	PCRA Allocation ¹ (%)	PRIT Allocation (%)	Index Performance ² (%)	PCRA Allocation Effect	PCRA Performance (%)	PRIT Performance (%)	Manager Effect
Total Aggregate Performance³				NM	8.6	10.9⁴	--
US Equity	18	24	26.0	-	20.7	25.0	--
International Equity	3	11	18.2	-	17.9	17.7	NM
Emerging Markets Equity	8	4	9.8	+	12.5	18.2	--
Global Equity	11	-	22.2	+	15.6	N/A	N/A
Core Fixed Income	8	14	5.3	+	5.5	4.9	+
Value-Added Fixed Income	7	7	10.9	NM	10.8	12.2	-
Private Equity	17	17	22.5	NM	5.1	6.8	-
Real Estate	12	10	-12.0	-	-8.4	-5.8	-
Timber/Real Assets	8	3	6.4	-	8.9	7.9	+
Portfolio Completion ⁵	6	9	6.1	+	1.9	8.7	-
Overlay / Cash	2	< 1		NM	N/A	21.5	NM

- The Association lagged PRIT in 2023, returning 8.6% net of fees vs. an estimated 10.9% net of fees for PRIT.
- Overall, the allocation positioning and manager performance had concentrated areas of strength (e.g., core fixed income, real assets) and weakness (e.g., domestic & emerging equity).

¹ Represent Average allocations during 2023, may not sum to 100 due to rounding
² Indexes used in descending order: Russell 3000, MSCI EAFE, MSCI EM, MSCI ACWI, 75% Bbg Aggregate / 25% Bbg US TIPs 1-10 year, 25% BBgBarc/ US High Yield, 25% / Credit Suisse Leveraged Loans / 25% JP Morgan EMBI Global diversified / and 25% BBgBarc Multiverse TR, MSCI ACWI IMI (1Q Lagged) +2%, NCREIF ODCE, CPI + 3%, Custom Hedge Fund Benchmark, and Barclays 3 Month T-Bill.
³ PCRA returns are Net of Fees, PRIT returns are Gross of Fees. Categories as follows: Core fixed income: TIPS + Investment Grade Bonds; Value added bonds: High yield bonds + emerging market bonds; Timber/Real assets: Infrastructure
⁴ PRIT Reported a Gross return of 11.4%. We've adjusted that down by 0.50% to estimate the impact of fees. The resulting 10.9% return is an estimated Net PRIT return.
⁵ Custom Hedge Fund Benchmark used - 26% Russell 3k, 6% MSCI EAFE, 10% MSCI EM, 13% MSCI ACWI IMI, 10% MSCI ACWI World, 4% of a Custom BM, 9% 75% Barclays Agg & 25% Barclays US TUPS 1-10 yr, 6% Custom Benchmark, 10% PCRA RE, 6% CPI +3%

Appendices

Investment Manager Status Report

Overview of Watch List Policies

- The Board is responsible for selecting and monitoring investment managers on the Association's roster and recognizes the importance of diligent manager oversight.
- The Board must be informed of changes in strategy, personnel, and organizational structure, to effectively evaluate the Association's managers.
- However, overly aggressive "management" of managers (i.e., rapid hiring and firing of managers) can be counterproductive.
 - Achieving superior returns requires patience. Frequent changes in managers usually results in poor performance, since each change can incur substantial transaction costs, as an entire portfolio of securities is restructured.
- Watch List Policies represent an intermediate state of heightened oversight, triggered by any change that could jeopardize an Investment Manager's ability to successfully fulfill their role for the Association.
- This document presents an overview of the Association's current Watch List Policy and our recommendations.

Watch List and Probation Policy

In-Compliance

→ The investment manager is acting in accordance with its investment guidelines.

Watch List

→ An elevated state of review. There is a problem with performance, an unusual change in characteristics, an alternation in management style or key investment personnel, and/or any irregularities that diminish the Board's confidence in the manager.

Probation

→ An elevated state of Watch List status. Based on continued concern with one or more of the alert issues, failure for a manager to improve upon stated issues within a time period justifies termination.

Termination

→ The Board has voted to terminate the manager.

PCRA Investment Policy Statement Language: Portfolio Monitoring Procedures

- The Trustees will meet with the Consultant no less frequently than quarterly to review portfolio performance, review portfolio weights relative to target weights and managers' performance. Further, the Board will endeavor to meet with each of its investment managers in accordance with PERAC requirements.
- The investment managers managing separate accounts on behalf of the System will be issued investment manager guidelines and they will be monitored at two levels of contract review: Watchlist and Probation, the latter being a more heightened level of review.
- The Consultant will recommend to the Board when a manager should be placed on or removed from Watchlist or Probation. When an investment manager is placed on the Watchlist/Probation, it is effective immediately. There is no minimum time requirement on the Watchlist/Probation before a termination may be made. An investment manager's contract may be terminated for any reason at any time, whether on Watchlist/Probation or not.
- A representative listing of potential reasons an investment manager may be added to Watchlist/Probation is detailed on the next page. During an investment manager's tenure on the Watchlist/Probation, the investment consultant will provide the Board with regular reports, including background information and support, about the progress the investment manager is or is not making. An investment manager may be removed from heightened alert if the Board believes the issues that placed the firm on the Watchlist/Probation are resolved.
- Should the manager's performance not improve over a reasonable time period, the Consultant will recommend further action and possible termination after a careful review of the manager's performance, portfolio structure and the market environment. Before a manager is officially dismissed, the Consultant will recommend to the Board a plan of action for managing (internally, externally, or in combination) or liquidating the assets.
- Circumstances may warrant that the Trustees take immediate action to terminate a manager. Therefore, the Trustees reserve the right to bypass the course outlined above and remove a manager immediately if deemed prudent and in the best interests of the Association participants.

PCRA Investment Policy Statement Language: Watch List and Probation Policy**Organizational Issues**

- Change in ownership or control of the company
- Significant change in team composition or responsibilities
- Material change in the business organization of the investment manager
- Departure of significant personnel

Performance

- 1, 3 and 5-year performance net of fees below benchmark
- 1, 3 and 5-year performance net of fees below peers (below median of relevant peer universe)
- Performance inconsistent with the investment manager's style and risk controls

Investment Process

- Deviation from investment style
- Deviation from risk controls

Other

- Material guideline violation not brought to our attention by the investment manager
- Material guideline violation not sufficiently explained by the investment manager
- Failure to comply with terms of contract
- Any extraordinary regulatory action or other proceeding affecting the investment
- Failure to abide by Massachusetts law and investment restrictions
- Unsatisfactory client service

Active Manager Roster¹

Investment Manager	Recommendation as of 12/31/23
Fisher Midcap Value	In-Compliance
Newton Small Cap Growth (formerly Mellon)	In-Compliance
Vulcan Partners Small Cap Value	In-Compliance
Systematic Small Cap FCF	In-Compliance
Aristotle International Equity	In-Compliance
Walter Scott International Equity	In-Compliance
ABS Emerging Markets	In-Compliance
Driehaus Emerging Markets Growth	In-Compliance
First Eagle Global Value	In-Compliance
Kopernik Global All Cap	In-Compliance
Lee Munder Global Multi-cap	In-Compliance
Wellington Durable Enterprises	In-Compliance

¹ Excluding illiquid asset classes of private equity and non-core real estate.

Active Manager Roster¹ (con't)

Investment Manager	Recommendation As of 12/31/23
Lord Abbett Short Duration	In-Compliance
Lord Abbett Core Fixed Income	In-Compliance
Rhumblin Tips	In-Compliance
Eaton Vance High Yield	In-Compliance
First Eagle Bank Loan Select (Formerly THL Bank Loan Select)	In-Compliance
Manulife Strategic Fixed Income	In-Compliance
Mesirow High Yield	In-Compliance
Eaton Vance Emerging Market Debt	In-Compliance
Schroder All ILS Fund LTD	In-Compliance
ABS Offshore SPC - Global Segregated	Watch List (performance)
Entrust Special Opportunities Fund III, Ltd	Watch List (performance)
Old Farm Partners Master Fund	In-Compliance
EnTrustPermal Special Opportunities Evergreen Fund	Watch List (performance)
TA Realty Core Property Fund	In-Compliance
JPMorgan Strategic Property	In-Compliance
IFM Global Infrastructure	In-Compliance

¹ Excluding illiquid asset classes of private equity and non-core real estate.

Economic and Market Update
Data As of January 31, 2024

Commentary

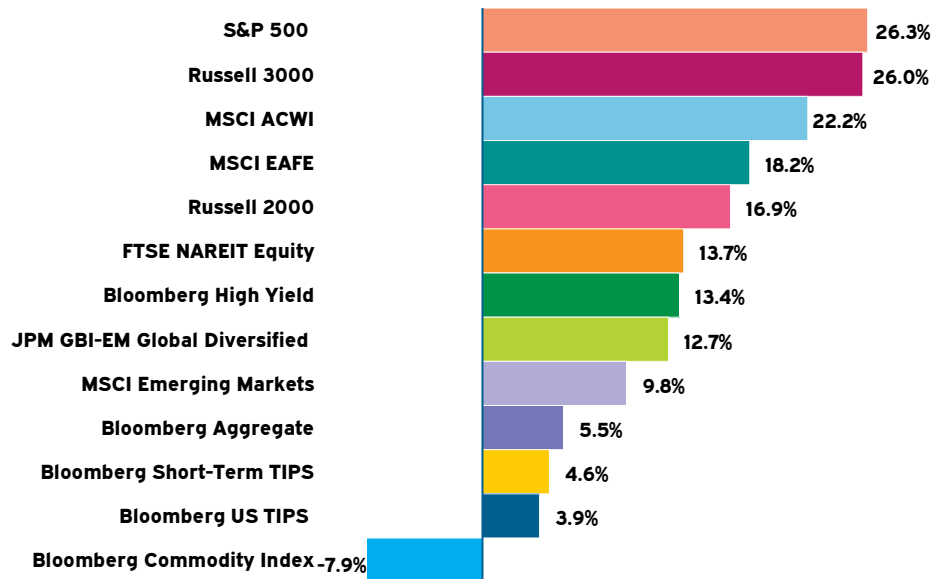
→ Markets were mixed in January after posting strong returns in 2023.

- 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.

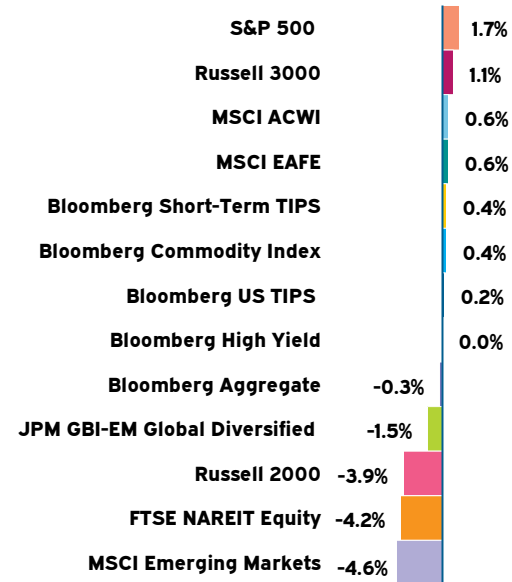
→ Looking to the rest of this year, the paths of inflation and monetary policy, China's economic disorder and slowing economic growth, the many looming elections, and the wars in Ukraine and Israel, will be key.

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

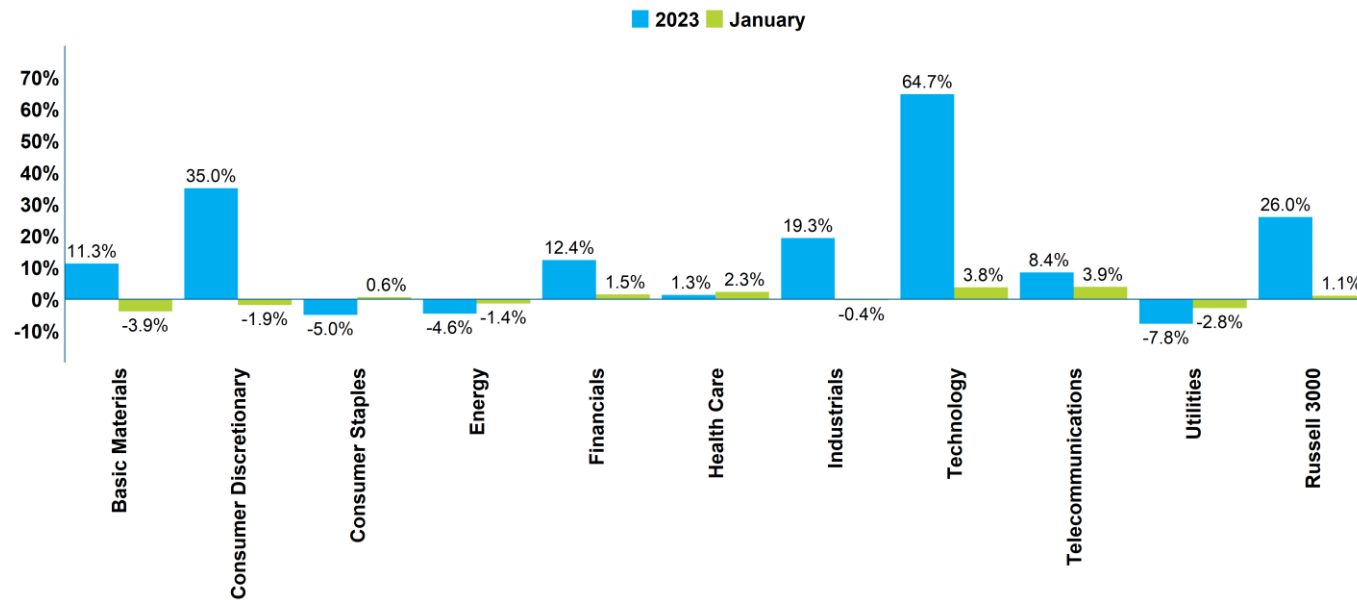
Domestic Equity	January (%)	Q4 2023 (%)	1 YR (%)	3 YR (%)	5 YR (%)	10 YR (%)
S&P 500	1.7	11.7	20.8	11.0	14.3	12.6
Russell 3000	1.1	12.1	19.1	9.1	13.5	12.0
Russell 1000	1.4	12.0	20.2	9.8	14.0	12.3
Russell 1000 Growth	2.5	14.2	35.0	10.0	18.0	15.5
Russell 1000 Value	0.1	9.5	6.1	9.2	9.3	8.8
Russell MidCap	-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

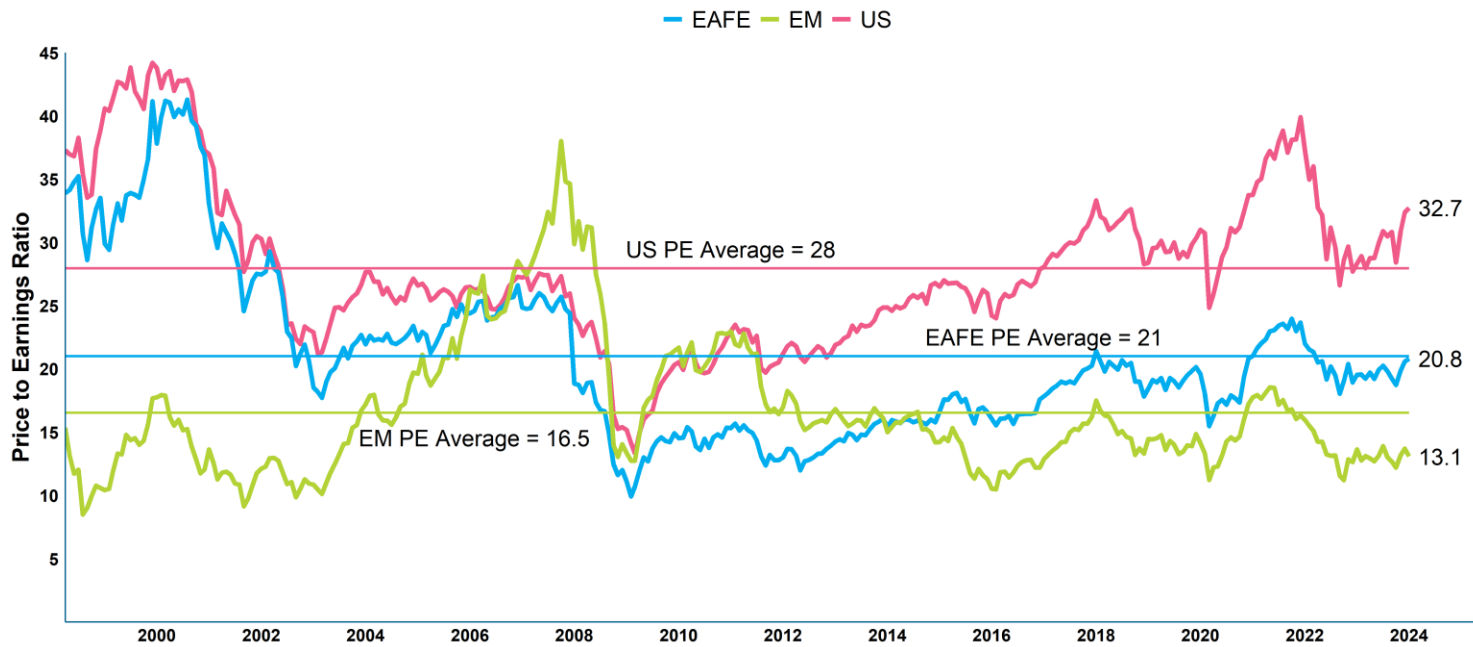
Foreign Equity	January (%)	Q4 2023 (%)	1 YR (%)	3 YR (%)	5 YR (%)	10 YR (%)
MSCI ACWI ex. US	-1.0	9.8	5.9	1.1	5.3	4.2
MSCI EAFE	0.6	10.4	10.0	4.6	6.9	4.8
MSCI EAFE (Local Currency)	2.6	5.0	12.1	9.7	8.9	7.2
MSCI EAFE Small Cap	-1.6	11.1	3.6	-1.1	4.6	4.8
MSCI Emerging Markets	-4.6	7.9	-2.9	-7.5	1.0	2.9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

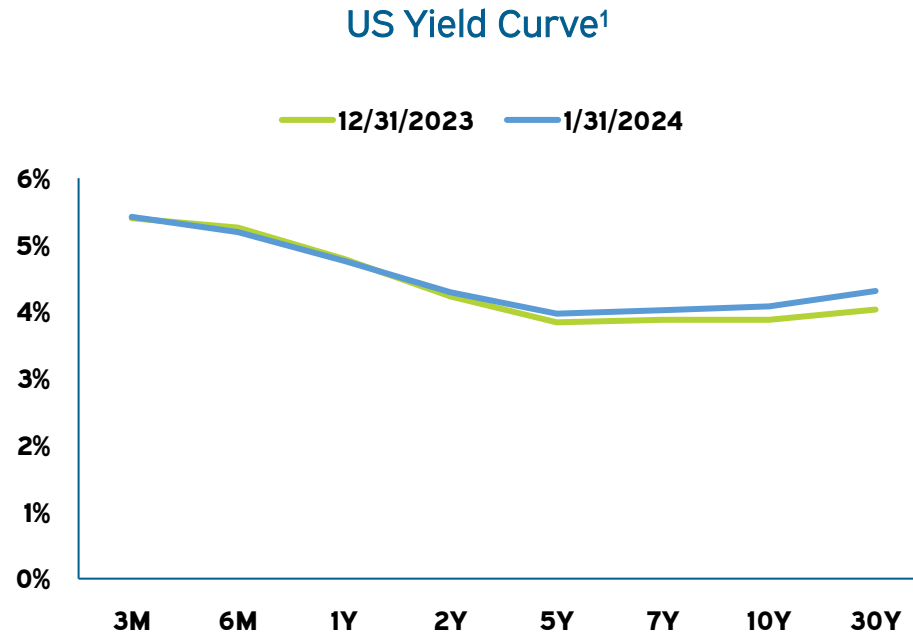
Fixed Income Returns¹

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.

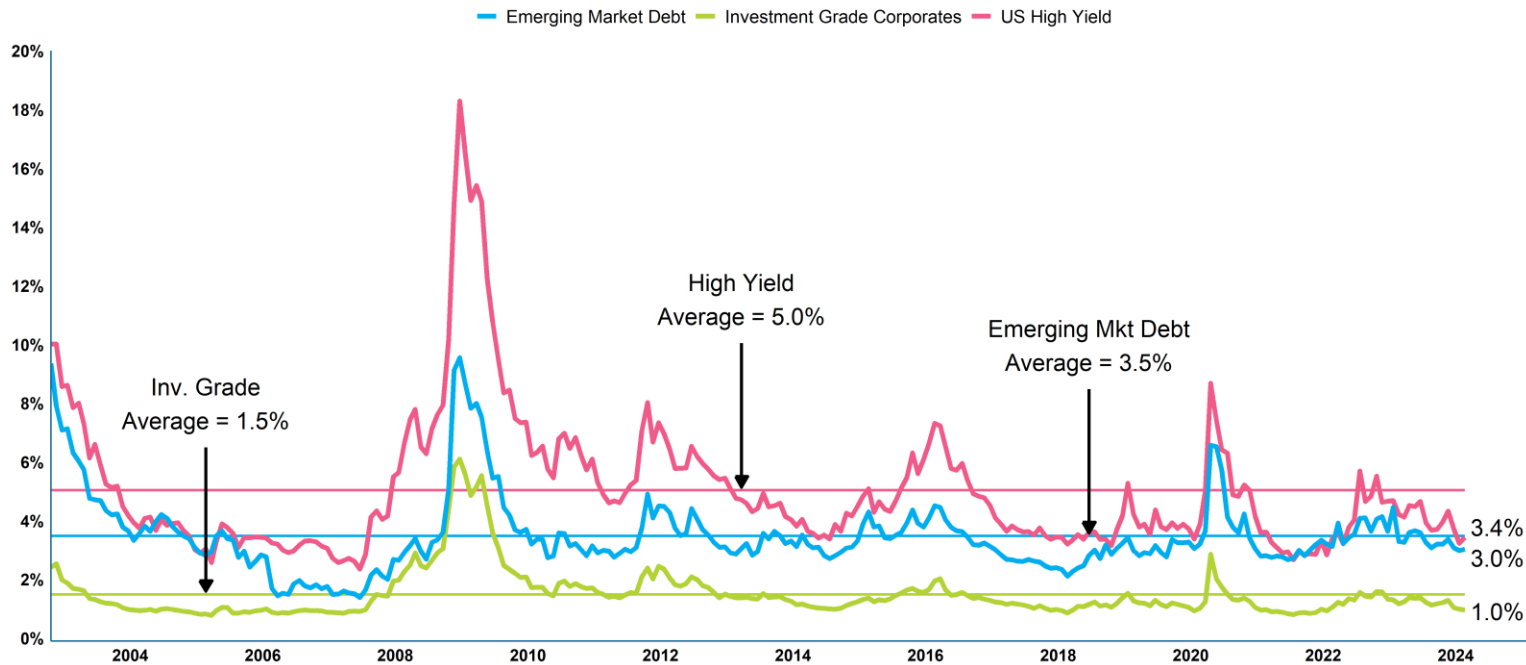
¹ Source: Bloomberg. JPM GBI-EM data is from InvestorForce. Data is as of January 31, 2024. The yield and duration data from Bloomberg is defined as the index's yield to worst and modified duration respectively.



- 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.

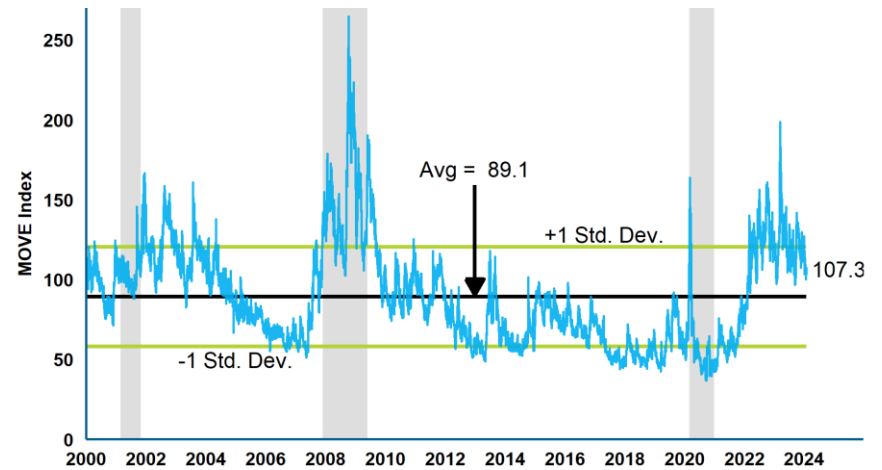
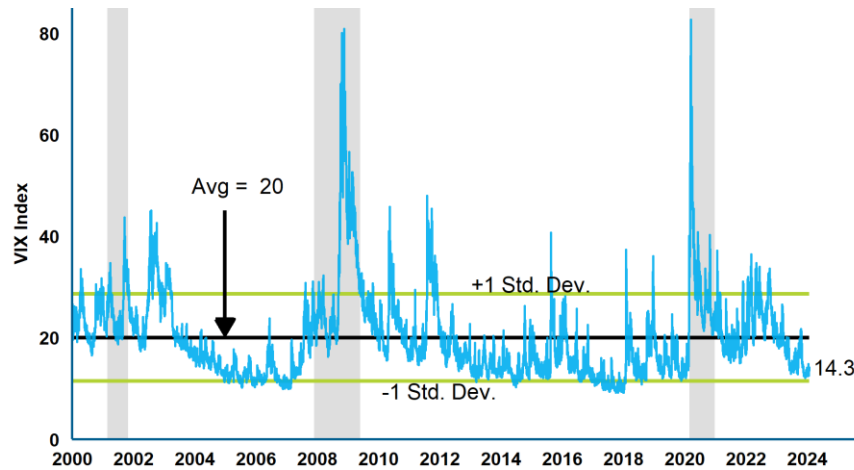
Credit Spreads vs. US Treasury Bonds¹



- 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 has 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.

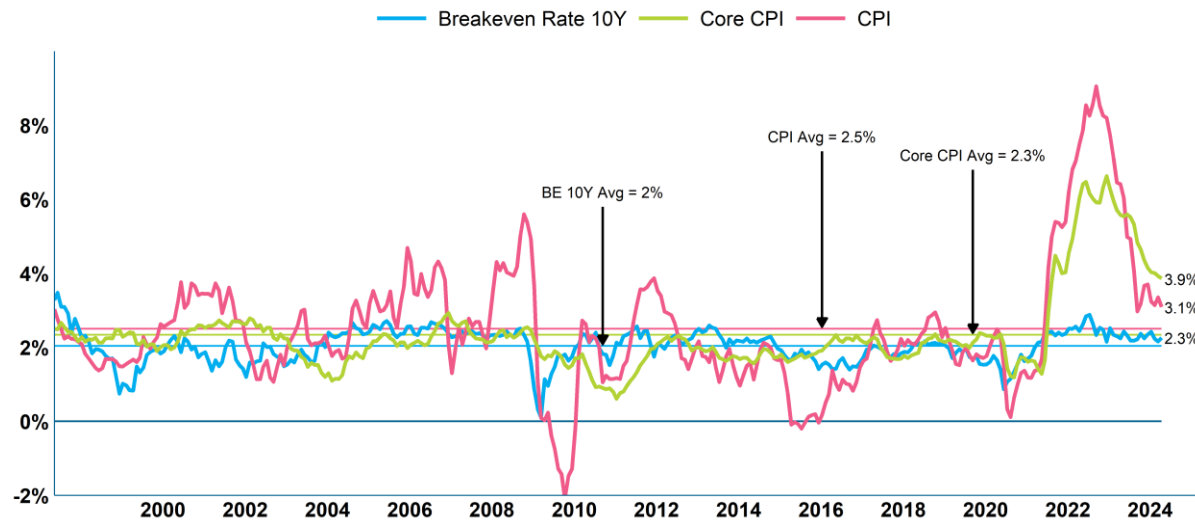
Equity and Fixed Income Volatility¹



- 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.

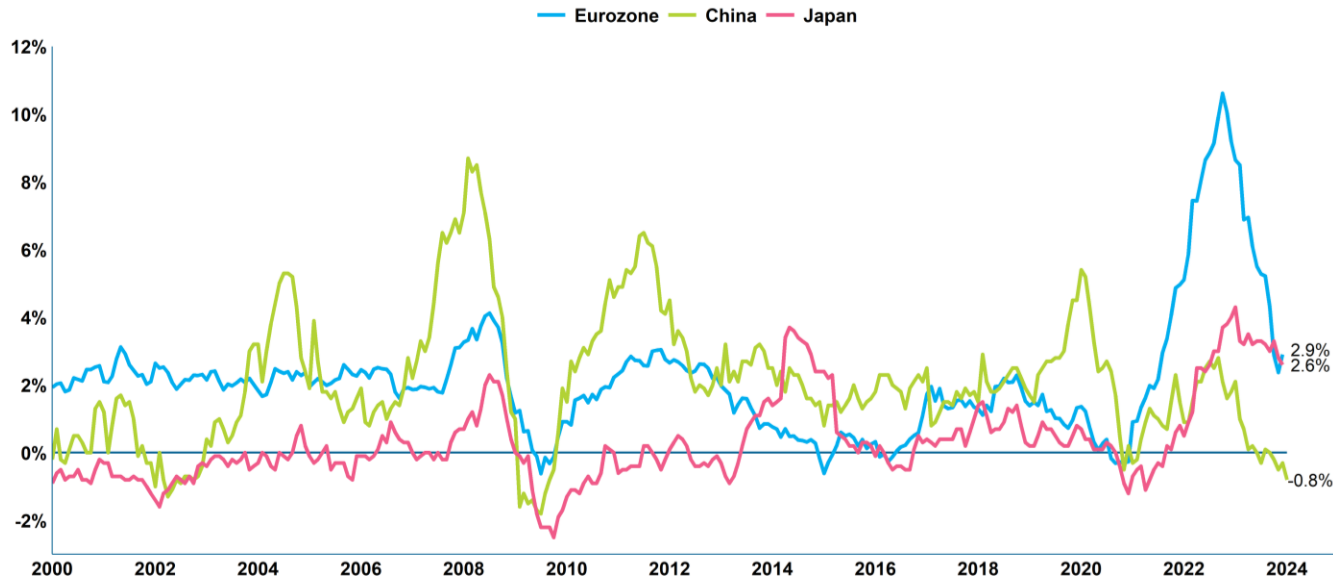
US Ten-Year Breakeven Inflation and CPI¹



- 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.

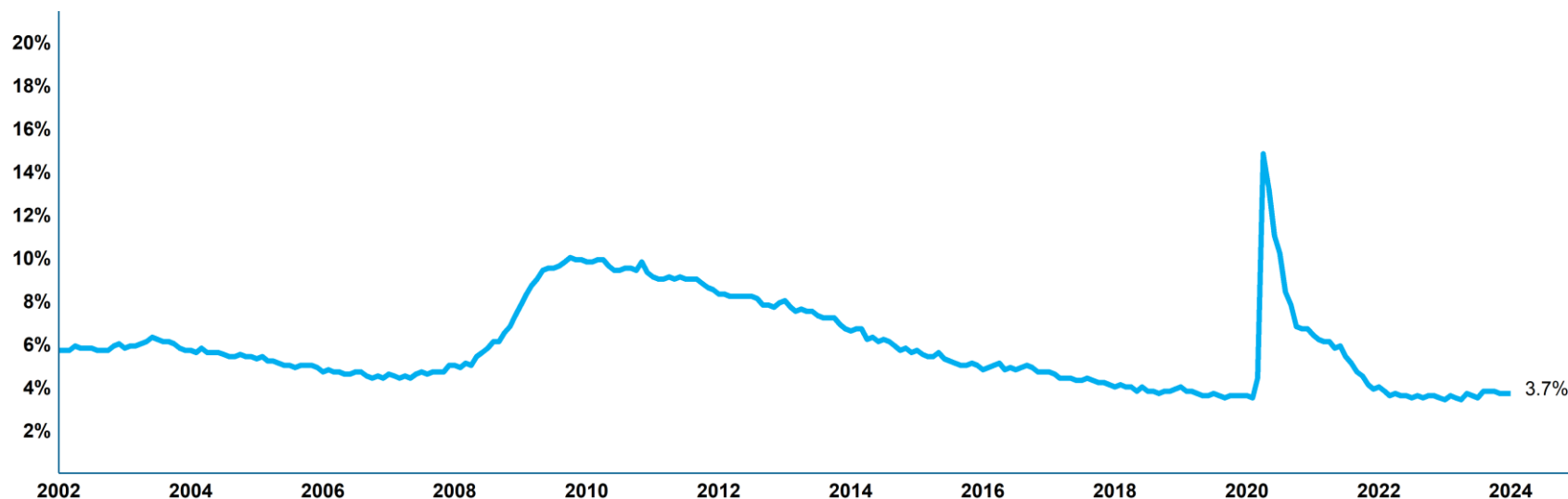
Global Inflation (CPI Trailing Twelve Months)¹



- 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

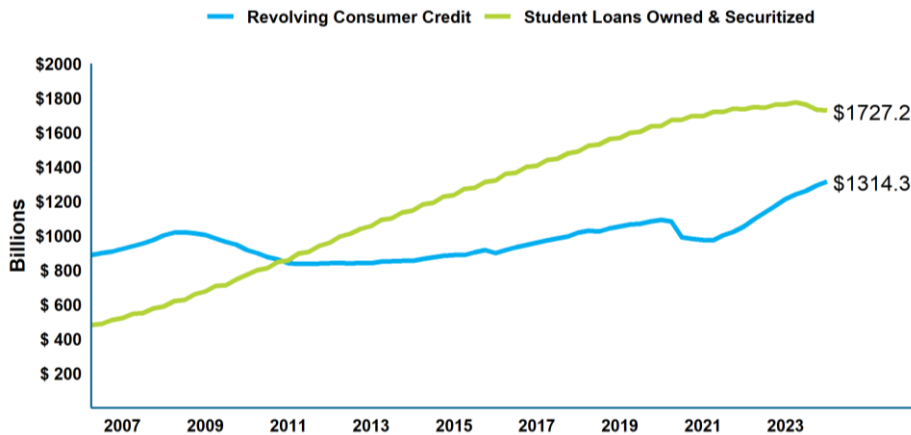


- Overall, the US labor market remains healthy with the unemployment rate relatively low, wage growth now positive in real terms, and initial claims for unemployment staying subdued.
- In January, the number of jobs added in the US were stronger than expected (353,000 versus 185,000) with the unemployment 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%.

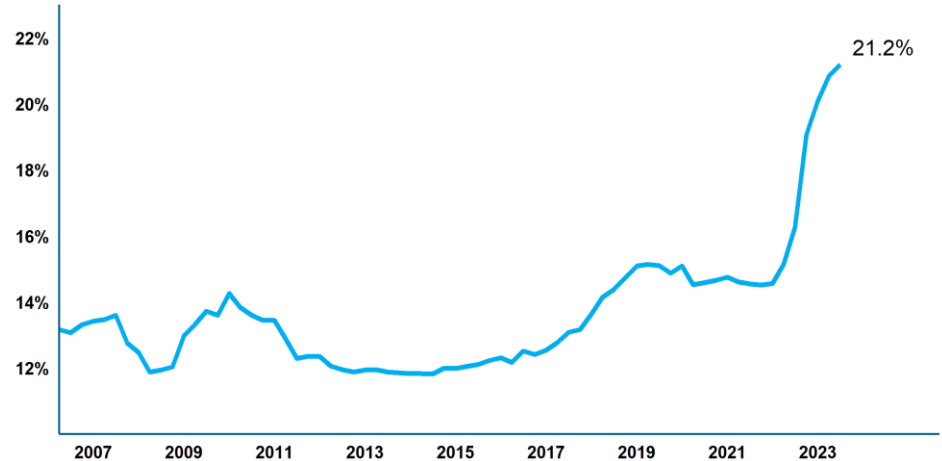
¹ Source: FRED. Data is as January 31, 2024.

US Consumer Under Stress?¹

Revolving Consumer Credit & Student Loans (\$B)



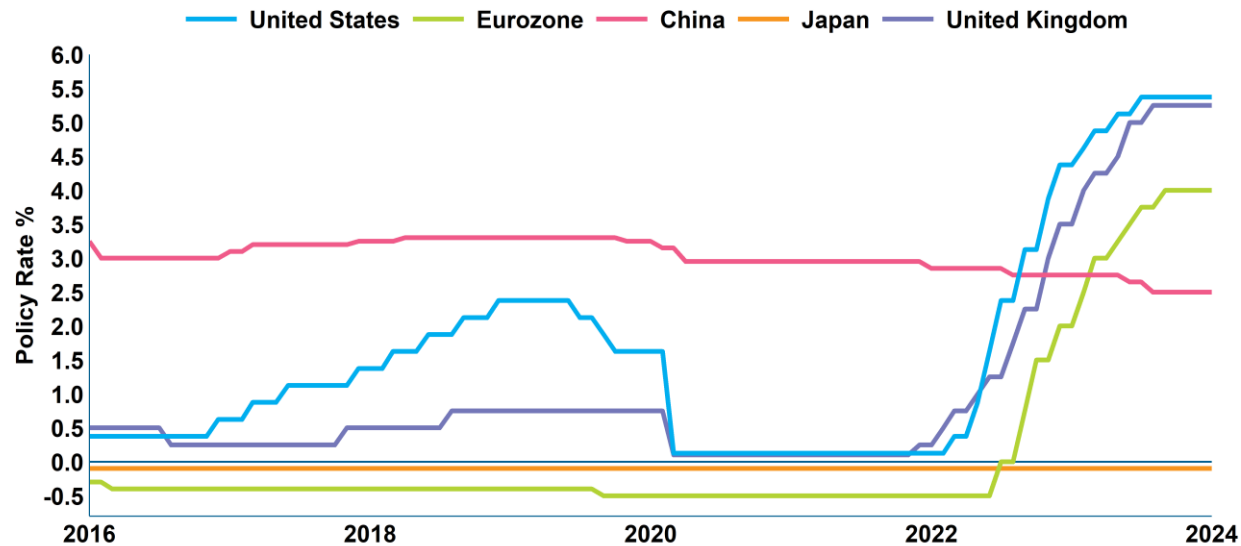
Consumer Credit Card Interest Rates (%)



- 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.

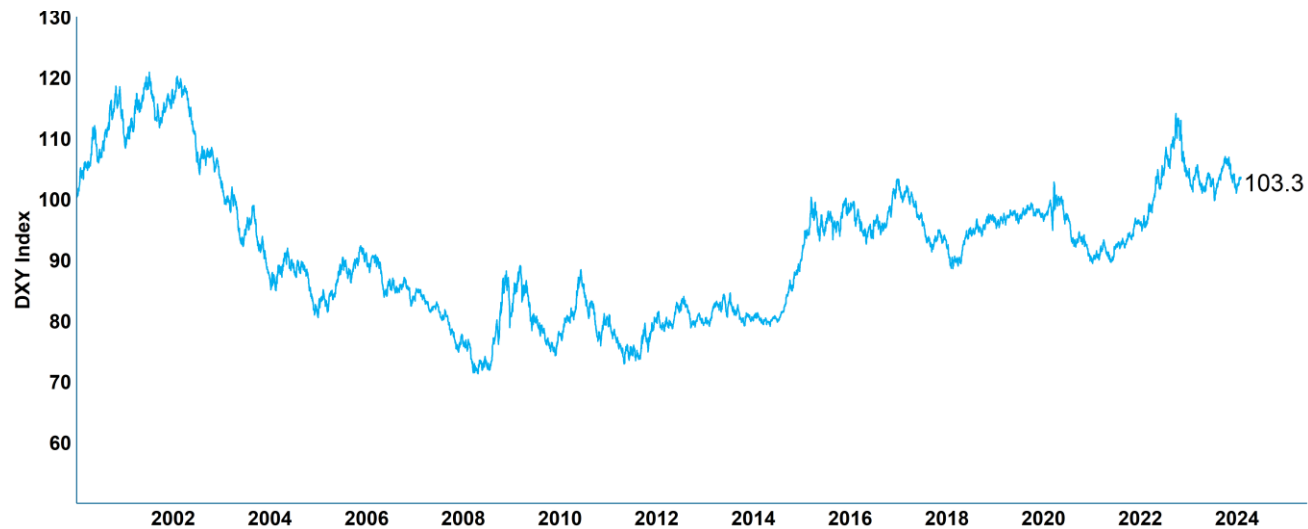
Policy Rates¹



- 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.

**Investment Policy Statement
Updated December 2023**

Plymouth County Retirement Association

Investment Policy Statement

Updated December 12, 2023

I. Overview & Purpose

This Investment Policy Statement has been developed to provide a framework around which to manage and monitor the assets of the Plymouth County Retirement Association (the "System"). The purpose of the Investment Policy Statement is to define policies to guide the implementation of the System's investment goals and objectives in addition to establishing delegations of authority and responsibility, with the end result being effective management and control of the investment process.

The Investment Policy Statement shall:

- Document the System's objectives and set forth appropriate and prudent policies and guidelines to assist in the achievement of those objectives.
- Provide an investment framework for the System that sets parameters to ensure prudence and care in the execution of the investment program.
- Establish criteria to evaluate the System's investment performance.
- Communicate investment policies, objectives, guidelines, and performance criteria to the Board, staff, external investment managers, advisors, consultants, custodians and all other interested parties.
- Serve as a document to guide ongoing oversight of the System's investments.
- Comply with regulations established by the Public Employee Retirement Administration Committee ("PERAC").
- Document the fulfillment of the overall fiduciary responsibilities of the Board.

This Investment Policy Statement may, from time to time and in writing, be modified as appropriate.

II. Fiduciaries & Standard of Prudence

The Board members are Trustees of the System and are, therefore, fiduciaries. In addition, Consultants, the Board's Executive Director and staff are also fiduciaries of the System. All fiduciaries shall:

1. Discharge all of his/her duties solely in the interest of members and their beneficiaries for the exclusive purpose of providing benefits to members and their beneficiaries.
2. Act with the care, skill, prudence and diligence under the circumstances then prevailing that a prudent person acting in a like capacity and familiar with such matters would use in the conduct of an enterprise of like character and with like aims.
3. Diversify the investments of the System so as to minimize the risk of large losses, unless it is clearly prudent to do so.
4. Adhere to the Massachusetts General Laws and the rules and regulations promulgated by PERAC.

These standards of prudence also apply to other fiduciaries, which include the employees of the System who exercise discretionary authority or control over the management or administration of the System or its assets as well as persons designated by the Board to carry out fiduciary responsibilities including the external investment managers, the general investment consultant, specialized investment consultants, and the custodian.

III. Investment Objectives

The investment objective of the System is to fully fund the plan by generating sufficient long-term inflation adjusted capital appreciation while providing sufficient liquidity to meet short-term withdrawal requirements. The Board desires to balance the goal of higher long-term returns with the goal of minimizing contribution volatility, recognizing that these are often competing goals. This balance requires taking both assets and liabilities into account when setting investment strategy. Therefore, the investment objectives over extended periods of time are to achieve an annualized investment return that:

1. In nominal terms, equals or exceeds the actuarial investment return assumption of the System adopted by the Board. The Board acknowledges the investment portfolio may achieve higher returns in some years and lower returns in other years.
2. Meets or exceeds the System's total fund policy index benchmark, which equals the weighted average of the benchmarks for each asset class and the target weightings for each asset class. The policy benchmark enables comparison of the System's actual performance to a passively managed proxy, and it measures the contribution of active investment management and policy implementation.

The Board members of the System recognize the long-term return requirements of the System and, therefore, short-term fluctuations in value are secondary to the long-term objective.

IV. Investment Restrictions

The System is a Massachusetts Contributory Retirement System and is, therefore, governed by Chapter 32 of the Massachusetts General Laws. Investment procedures and restrictions stipulated under these regulations must be followed.

The Board intends that the assets of the System at all times are invested in accordance with the provisions of Massachusetts State law and investment regulations. The Board will retain legal counsel when appropriate to review contracts and provide advice with respect to applicable statutes and regulations.

V. Asset Allocation

The Fiduciaries of the System believe that the return objective can be best achieved by constructing a fully diversified portfolio and maintaining target asset class weights over long holding periods and through all market environments. It is expected that over long holding periods, a diversified strategy will play a critical role in balancing the risks of different markets in which the System will invest and help generate superior risk adjusted returns.

Asset allocation studies will be conducted using an optimization process when there is a change in the investment policy that will not be satisfied by the current allocation. Such a change may be, but not limited to a change in liquidity needs, a fully funded status or the introduction of an asset class in which the System does not currently invest. While the Board acknowledges the limitations and assumptions inherent in conducting an asset allocation study, they will be performed in order to illustrate how changes to the existing allocation will affect the long-term risk and return profile of the Plan.

On an annual basis, the Board reviews its asset allocation policy. At this time, the Board determines whether there have been significant changes with regard to (1) the economic environment, (2) the Board's objectives, and/or (3) other considerations affecting the asset allocation policy, including liquidity needs. If deemed appropriate, the Board will commission an asset allocation study to reassess and possibly change its asset allocation policy. Adoption of the asset allocation recommendation requires a vote of the majority of the Board.

The System's portfolio target weights at the broad asset class level are as detailed in Appendix C.

The portfolio will be allowed to fluctuate at the broad asset class level within the policy ranges noted in Appendix C. In an effort to minimize the J-curve effect associated with real estate / real assets and private equity limited partnership investments, the System will over commit to these investments by an amount consistent with the System's annual private market pacing study.

VI. Rebalancing Policy

In general, cash flows to and from the Association or its investments will be allocated in such a manner as to keep each asset class within its target range.

The Board recognizes that, periodically, market forces may move the PCRA's allocations outside the target ranges. The Board also recognizes that failing to rebalance the allocations would unintentionally change the PCRA's structure and risk posture. Consequently, the Board has established a process to rebalance the allocations periodically.

On at least an annual basis, if any strategic allocation is outside the specified target range, assets will be shifted to return the strategy to the target range. The specific plan for rebalancing will identify those assets that can be shifted at the lowest possible risk and cost, if the rebalancing cannot be accomplished solely by allocating contributions and withdrawals.

The Board also recognizes that the asset allocation represents long-term target ranges and not short-term imperatives. As such, the Board authorizes the Executive Director and Investment Officer to work with the consultant to make transfers among asset classes and managers as long as such transfers do not move asset classes outside target ranges.

VII. Revenue Enhancing Programs

If deemed appropriate, The Trustees will engage in two revenue enhancing programs to increase the annual cash flows to the System: commission recapture and securities lending.

→ Commission Recapture

- The Trustees acknowledge that brokerage commissions are an asset of the System. Further, Trustees recognize that commissions costs are only one component of execution costs and that managers should follow a best execution strategy; trading style, transaction order flow, broker selection decisions and research requirements of the managers should not be adversely affected by the commission recapture program.
- Eligible investment managers are encouraged to participate in the commission recapture program, should there be one in place, and provided commission are competitive. Investment managers are not precluded from using brokerage firms with whom they have a “soft dollar” arrangement, provided said firms offer competitive execution services.

→ Securities Lending

The securities lending program actively lends securities through a single securities lending program to qualified borrowers in order to provide incremental income to the System. Borrowers in return provide liquid collateral in exchange for the right to borrow securities. Securities shall be fully collateralized at all times. Cash collateral shall be invested in a pool vehicle selected by the Trustees on which interest is paid. A negotiated portion of this interest shall be paid to the borrower while the balance shall be kept by the lending agent and the System.

VIII. Performance Benchmarks

To facilitate the periodic reporting and to provide a relative measure to gauge success, performance benchmarks will be utilized at the broad asset class level and at the manager level. Customized benchmarks will be utilized at the broad asset class level and will be computed as a weighted average of the underlying asset classes in the portfolio. A summary of approved benchmarks is provided below:

Broad Asset Class	Benchmark
Total Portfolio	Customized* and 60% MSCI ACWI / 40% Barclays Global Aggregate
Domestic Equity	Russell 3000
International Developed Equity	MSCI EAFE
International Emerging Market Equity	MSCI Emerging Markets
Global Equity	MSCI ACWI
Core Fixed Income	75%Bloomberg Barclays U.S. Aggregate / 25% Bloomberg Barclays U.S. TIPS
Value-Added Fixed Income	25% BBgBarc US High Yield, 25% Credit Suisse Leveraged Loans, 25% JP Morgan EMBI Global diversified, and 25% BBgBarc Multiverse TR
Hedge Funds	HFRI Fund of Funds Composite
Real Estate	NCREIF ODCE
Private Equity / Venture Capital	MSCI ACWI IMI (1-Quarter Lagged) +2%
Real Assets	CPI + 3%
Cash	Three Month T-Bill

* This index is a weighted average of the underlying asset classes comprising the broad asset class.

In addition to benchmarks for asset classes, the System employs benchmarks for each one of its investment managers. The individual investment manager benchmarks are approved by the Board.

IX. Investment Manager Selection

The selection and hiring of investment managers, commission recapture brokers and securities lending managers shall be subject to a competitive process that satisfies the Boards' fiduciary duty and meets the requirements of M.G.L. c. 32 and 840 CMR.

X. Portfolio Monitoring Procedures

The Trustees will meet with the Consultant no less frequently than quarterly to review portfolio performance, review portfolio weights relative to target weights and managers' performance. Further, the Board will endeavor to meet with each of its investment managers in accordance with PERAC requirements.

The investment managers managing separate accounts on behalf of the System will be issued investment manager guidelines and they will be monitored at two levels of contract review: Watchlist and Probation, the latter being a more heightened level of review.

The Consultant will recommend to the Board when a manager should be placed on or removed from Watchlist or Probation. When an investment manager is placed on the Watchlist/Probation, it is effective immediately. There is no minimum time requirement on the Watchlist/Probation before a termination may be made. An investment manager's contract may be terminated for any reason at any time, whether on Watchlist/Probation or not.

A representative listing of potential reasons an investment manager may be added to Watchlist/Probation is detailed in Appendix D. During an investment manager's tenure on the Watchlist/Probation, the investment consultant will provide the Board with regular reports, including background information and support, about the progress the investment manager is or is not making. An investment manager may be removed from heightened alert if the Board believes the issues that placed the firm on the Watchlist/Probation are resolved.

Should the manager's performance not improve over a reasonable time period, the Consultant will recommend further action and possible termination after a careful review of the manager's performance, portfolio structure and the market environment. Before a manager is officially dismissed, the Consultant will recommend to the Board a plan of action for managing (internally, externally, or in combination) or liquidating the assets.

Circumstances may warrant that the Trustees take immediate action to terminate a manager. Therefore, the Trustees reserve the right to bypass the course outlined above and remove a manager immediately if deemed prudent and in the best interests of the Plan participants.

XI. Investment Costs

The Board intends to monitor and control investment costs at every level of the System and seek the highest net-of-fee returns.

- Professional fees will be negotiated whenever possible.
- Where appropriate, passive portfolios will be used to minimize management fees and portfolio turnover.
- Where appropriate, assets will be transferred in-kind during manager transitions and System restructurings to eliminate unnecessary turnover expenses.
- Managers will be instructed to minimize brokerage and execution costs.

XII. Proxy Voting Policy & Corporate Governance

The Board recognizes that the voting of proxies is important to the overall performance of the System. The Board has delegated the responsibility of voting all proxies on behalf of the System to the investment managers. The Board expects that managers will execute all proxies in a timely fashion. Also, the Board expects the managers to provide a full accounting of all proxy votes, and upon request, a written explanation of individual voting decisions.

APPENDIX A
PERMISSIBLE ASSET CLASSES

Asset Class	Purpose
Public Domestic Equity	Total Return Potential
Public Foreign Equity	Total Return Potential Diversification
Private Equity	Total Return Potential
Real Estate	Total Return Potential Diversification Income
Investment Grade Bonds	Return Stability Income
High Yield Bonds	Total Return Potential Diversification Income
Non-US Bonds	Total Return Potential Diversification Income
Private Debt	Total Return Potential Diversification Income
Real Assets	Total Return Potential Diversification Income
Hedge Funds	Total Return Potential Diversification

APPENDIX B
TWENTY-YEAR, SINGLE ASSET CLASS AND SUB-ASSET CLASS FORECAST¹

Asset Class	20-year Expected Return (%)	Standard Deviation (%)
Cash Equivalents	2.5	1.0
Investment Grade Bonds	4.8	4.0
Long-term Government Bonds	5.0	12.0
TIPS	4.7	7.0
High Yield Bonds	6.8	11.0
Bank Loans	6.6	10.0
Emerging Market Debt (local)	6.2	12.0
Private Debt	9.2	15.0
US Equity	8.5	17.0
Developed Non-US Equity	8.9	18.0
Emerging Non-US Equity	8.9	22.0
Global Equity	8.7	17.0
Private Equity	11.2	25.0
Real Estate	8.0	16.0
Infrastructure	9.0	18.0
Commodities	5.3	17.0
Hedge Funds	5.8	7.0
Inflation	2.8	3.0

¹ Based on Meketa Investment Group 2024 Asset Study.

APPENDIX B (CON'T)
EXPECTED CORRELATIONS AMONG ASSET CLASSES AND SUB-ASSET CLASSES¹

	Inv. Grade Bonds	Long-term Gov't Bonds	TIPS	High Yield Bonds	US Equity	Dev. Non-US Equity	Em. Market Equity	Private Equity	Real Estate	Commod.	Infra.	Hedge Funds
Investment Grade Bonds	1.00											
Long-term Government Bonds	0.86	1.00										
TIPS	0.77	0.61	1.00									
High Yield Bonds	0.35	-0.04	0.46	1.00								
US Equity	0.22	-0.10	0.30	0.76	1.00							
Developed Non-US Equity	0.26	-0.09	0.33	0.76	0.88	1.00						
Emerging Market Equity	0.27	-0.05	0.36	0.72	0.74	0.86	1.00					
Private Equity	0.00	-0.10	0.03	0.66	0.90	0.83	0.79	1.00				
Real Estate	0.26	0.06	0.17	0.56	0.53	0.49	0.43	0.49	1.00			
Commodities	0.00	-0.23	0.28	0.47	0.46	0.55	0.58	0.23	0.15	1.00		
Infrastructure	0.31	0.14	0.32	0.65	0.64	0.68	0.60	0.51	0.61	0.41	1.00	
Hedge Funds	0.12	-0.20	0.30	0.78	0.80	0.83	0.81	0.53	0.47	0.64	0.61	1.00

¹ Based on Meketa Investment Group 2024 Asset Stud

APPENDIX C
ASSET ALLOCATION TARGETS

Asset Class	Portfolio Target Weight (%)	Policy Range (%)
Domestic Equity	23	13 - 33
Developed Intl. Equity	6	1 - 16
Emerging Intl. Equity	10	5 - 20
Global Equity	10	5 - 20
Core Bonds ¹	9	4 - 14
Value Added Fixed Income ²	6	2 - 12
Hedge Fund of Funds	4	2 - 8
Real Estate	10	5 - 15
Private Equity	13	3 - 23
Real Assets ³	6	2 - 10
Portfolio Completion ⁴	1	0 - 1
Cash	2	0 - 4

Based upon the expected asset returns, risks, and correlations cited in Appendix B, this target allocation exhibits an expected annual return of 8.9% and an expected annual standard deviation of 14.5%.

¹ Core Bonds includes Investment Grade Bonds and TIPS.

² Value Added Fixed Income includes high yield bonds, bank loans, emerging markets debt, and multi-sector bonds.

³ Real Assets includes natural resources, timber, and infrastructure.

⁴ Portfolio completion assets will replicate domestic equity exposure.

APPENDIX D WATCHLIST AND PROBATION POLICY

A. Organizational Issues

- Change in ownership or control of the company,
- Significant change in team composition or responsibilities,
- Material change in the business organization of the investment manager,
- Departure of significant personnel

B. Performance

- 1, 3 and 5-year performance net of fees below benchmark,
- 1, 3 and 5-year performance net of fees below peers (below median of relevant peer universe),
- Performance inconsistent with the investment manager's style and risk controls

C. Investment Process

- Deviation from investment style
- Deviation from risk controls

D. Other

- Material guideline violation not brought to our attention by the investment manager
- Material guideline violation not sufficiently explained by the investment manager
- Failure to comply with terms of contract
- Any extraordinary regulatory action or other proceeding affecting the investment
- Failure to abide by Massachusetts law and investment restrictions
- Unsatisfactory client service

Corporate Update



7
Offices



235+
Employees



245+
Clients



\$1.8T
Assets Under Advisement



\$200B
Assets in Alternative Investments



98%
Client Retention Rate



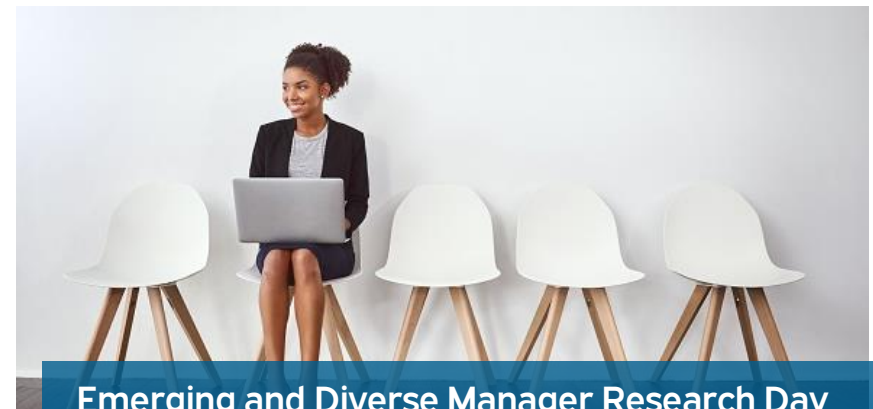
5:1
Client | Consultant Ratio

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



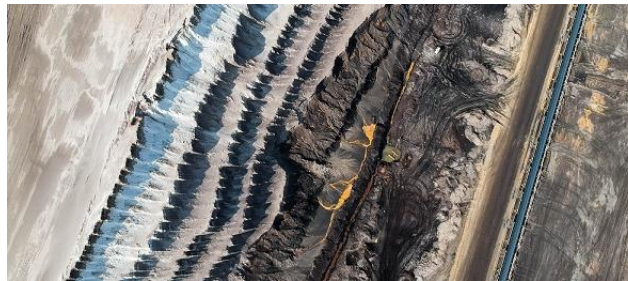
Read our December Connectives “Navigating US China Tensions with Dynamic Portfolio Levers”

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.’”

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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. $\text{Portfolio Return} - [\text{Risk Free Rate} + \text{Beta} * (\text{market return} - \text{Risk Free Rate})]$.

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.