

November 29, 2022

Meeting Materials

Agenda

# Agenda

- 1. Estimated Retirement Association Performance As of October 31, 2022
- 2. Performance Update As of September 30, 2022
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  - Private Markets 2022 Q2 Performance Update
- 3. Current Issues
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  - Asset Allocation Update
- 4. Appendices
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  - Economic Market Update As of October 31, 2022
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# Estimated Retirement Association Performance As of October 31, 2022



#### **Estimated Retirement Association Performance**

## Estimated Aggregate Performance<sup>1</sup>

	October <sup>2</sup>	YTD	1 YR	3 YR	5 YR	10 YR
	(%)	(%)	(%)	(%)	(%)	(%)
Total Retirement Association	2.4	-8.3	-6.5	7.9	6.2	7.5

#### **Benchmark Returns**

	October (%)	YTD (%)	1 YR (%)	3 YR (%)	5 YR (%)	10 YR (%)
Russell 3000	8.2	-18.4	-16.5	9.8	9.9	12.5
MSCI EAFE	5.4	-23.2	-23.0	-1.3	-0.1	4.1
MSCI Emerging Markets	-3.1	-29.4	-31.0	-4.4	-3.1	0.8
Bloomberg Aggregate	-1.3	-15.7	-15.7	-3.8	-0.5	0.7
Bloomberg TIPS	1.2	-12.5	-11.5	1.1	2.2	1.0
Bloomberg High Yield	2.6	-12.5	-11.8	0.3	2.0	4.1
JPM EMBI Global Diversified (Hard Currency)	0.2	-23.8	-24.2	-7.2	-2.7	1.0
S&P Global Natural Resources	10.1	3.6	6.1	12.0	7.3	4.5

#### **Estimated Total Assets**

	Estimate
Total Retirement Association	\$1,302,291,936

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<sup>&</sup>lt;sup>1</sup> The performance estimates are calculated using index returns as of October 31, 2022, for each asset class. No performance estimate was included for private equity, real estate, infrastructure, and private natural resources asset classes.

<sup>&</sup>lt;sup>2</sup> As of October 31, 2022.

# Performance Update As of September 30, 2022



## Total Retirement Association | As of September 30, 2022

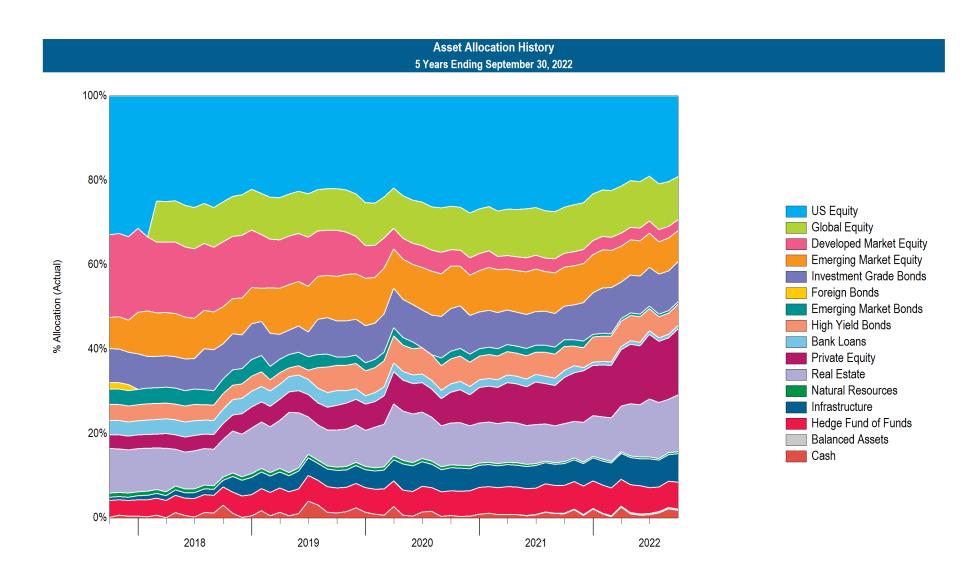
	Allocation	vs. Target			
	Current Balance	Current Allocation	Policy	Policy Range	Within IPS Range?
Domestic Equity	\$243,186,698	19%	26%	21% - 36%	No
International Developed Market Equity	\$32,663,302	3%	6%	1% - 16%	Yes
International Emerging Market Equity	\$93,664,141	7%	10%	5% - 20%	Yes
Global Equity	\$129,990,538	10%	10%	5% - 20%	Yes
Core Bonds	\$120,607,119	9%	9%	4% - 14%	Yes
Value-Added Fixed Income	\$81,967,424	6%	6%	2% - 12%	Yes
Private Equity	\$202,623,184	16%	13%	4% - 18%	Yes
Real Estate	\$172,036,437	14%	10%	5% - 15%	Yes
Real Assets	\$91,652,677	7%	6%	2% - 10%	Yes
Hedge Fund of Funds	\$80,499,191	6%	4%	2% - 8%	Yes
Cash	\$22,910,328	2%	0%	0% - 3%	Yes
Total	\$1,271,801,040	100%	100%		

	Current Balance	Current Allocation	Policy	Policy Range	Within IPS Range?
Total Equity	\$760,803,913	60%	69%	60% - 80%	No
Total Fixed Income	\$202,574,543	16%	15%	5% - 25%	Yes
Total Real Assets and Real Estate	\$285,512,256	22%	16%	7% - 25%	Yes
Cash	\$22,910,328	2%	0%	0% - 3%	Yes

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#### Total Retirement Association | As of September 30, 2022





#### Total Retirement Association | As of September 30, 2022

Asset Class Net Performance Summary													
	Market Value (\$)	% of Portfolio	1 Mo (%)	QTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date		
Total Retirement Association	1,271,801,040	100.0	-3.8	-2.1	-10.5	-6.5	7.6	5.9	7.2	7.7	Nov-89		
Policy Benchmark (Net) (1)			-6.9	-6.1	-16.7	-13.4	4.4	4.8	6.6		Nov-89		
Actual Allocation (Net)			-6.2	-6.0	-15.6	-11.7	4.6	4.4			Nov-89		
Domestic Equity Assets	243,186,698	19.1	-9.4	-3.7	-26.2	-20.9	7.8	7.9		10.1	Jan-16		
Russell 3000			-9.3	-4.5	-24.6	-17.6	7.7	8.6	11.4	10.3	Jan-16		
International Developed Market Equity Assets	32,663,302	2.6	-8.9	-8.4	-31.2	-28.0	-5.6	-4.6		-0.1	Jan-16		
MSCI EAFE			-9.4	-9.4	-27.1	-25.1	-1.8	-0.8	3.7	2.2	Jan-16		
International Emerging Market Equity Assets	93,664,141	7.4	-9.1	-8.1	-26.8	-27.0	0.1	-1.1		4.0	Jan-16		
MSCI Emerging Markets			-11.7	-11.6	-27.2	-28.1	-2.1	-1.8	1.0	3.9	Jan-16		
Global Equity Assets	129,990,538	10.2	-7.8	-5.6	-19.8	-16.6	4.0			2.8	Feb-18		
MSCI ACWI			-9.6	-6.8	-25.6	-20.7	3.7	4.4	7.3	2.3	Feb-18		
Core Fixed Income	120,607,119	9.5	-3.5	-3.1	-10.4	-10.3	-1.4	0.7		1.5	Jan-16		
75% Bbg Aggregate/25% Bbg US TIPs 1-10 year			-4.5	-4.5	-13.2	-12.8	-2.0	0.4	1.0	1.1	Jan-16		
Value Added Fixed Income	81,967,424	6.4	-3.5	-1.3	-11.8	-11.5	-0.4	1.3		3.6	Jan-16		
Custom Benchmark - Global Fixed Income (2)			-4.4	-2.7	-15.7	-15.4	-2.4	0.4	1.6	2.6	Jan-16		
Hedge Funds	80,499,191	6.3	-2.4	-1.8	-18.1	-17.8	-0.7	0.1	3.2	3.1	Feb-10		
Custom Benchmark			-0.8	-0.2	-6.7	-6.3	4.3	3.2	3.5	3.1	Feb-10		
Real Estate (3)	172,036,437	13.5	0.9	0.9	17.0	28.6	17.0	13.1		10.8	Jan-16		
Custom Benchmark (4)			0.5	0.5	13.1	22.1	12.0	9.8		8.9	Jan-16		
Private Equity (5)	202,623,184	15.9	2.3	2.3	16.0	22.8	25.9	18.0		13.9	Jan-16		
MSCI ACWI IMI (1Q Lagged) +2%			-8.5	-15.4	-14.3	-14.8	8.1	8.8	10.9	10.8	Jan-16		
Real Assets (6)	91,652,677	7.2	1.5	1.5	9.0	14.7	11.0	6.9		4.1	Jan-16		
CPI + 3%			0.5	0.9	8.7	11.2	8.0	6.8	5.5	6.4	Jan-16		
Cash and Cash Equivalent	22,910,328	1.8											

<sup>(1)</sup> The custom benchmark is comprised of 26% Russell 3000/6% MSCI EAFE/10% MSCI Emerging Markets/13% MSCI ACWI IMI (1Q Lagged) +2%/10% MSCI ACWI/4% Hedge Funds Custom Benchmark/9% (75/25 Barclays Aggregate and Barclays Tips 1-10yr)/6% Value Added FI Custom Benchmark/10% NCREIF ODCE / 6% CPI+3%

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<sup>(2)</sup> 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.

<sup>(3)</sup> The market value and performance is one quarter lagged.

<sup>(4)</sup> The custom benchmark is comprised of 80% NCREIF ODCE/ 20% Wilshire Reit up until 12/31/2019 and since is comprised of NCREIF ODCE.

<sup>(5)</sup> The market value and performance is one quarter lagged.

<sup>(6)</sup> The market value and performance is one quarter lagged.



## Total Retirement Association | As of September 30, 2022

	т	railing N	et Perfor	mance								
	Market Value (\$)	% of Portfolio	% of Sector	1 Mo (%)	QTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Total Retirement Association	1,271,801,040	100.0		-3.8	-2.1	-10.5	-6.5	7.6	5.9	7.2	7.7	Nov-89
Policy Benchmark (Net)				-6.9	-6.1	-16.7	-13.4	4.4	4.8	6.6		Nov-89
Actual Allocation (Net)				-6.2	-6.0	-15.6	-11.7	4.6	4.4			Nov-89
InvMetrics Public DB Net Median				-6.6	-4.3	-18.7	-14.9	3.6	4.6	6.4	7.7	Nov-89
InvMetrics Public DB Net Rank				4	3	4	3	2	12	22	51	Nov-89
Domestic Equity Assets	243,186,698	19.1	19.1	-9.4	-3.7	-26.2	-20.9	7.8	7.9		10.1	Jan-16
Russell 3000				-9.3	-4.5	-24.6	-17.6	7.7	8.6	11.4	10.3	Jan-16
Rhumbline Russell 1000 Value	64,871,001	5.1	26.7	-8.7	-5.6	-17.7	-11.3	4.4	5.3		8.0	Apr-13
Russell 1000 Value				-8.8	-5.6	-17.8	-11.4	4.4	5.3	9.2	8.1	Apr-13
eV US Large Cap Value Equity Net Median				-8.4	-5.6	-16.7	-10.0	5.8	6.3	9.5	8.5	Apr-13
eV US Large Cap Value Equity Net Rank				61	51	62	63	77	69		67	Apr-13
Rhumbline Russell 1000 Growth	44,544,578	3.5	18.3	-9.7	-3.6	-30.6	-22.6	10.7	12.1	13.6	14.2	Jul-09
Russell 1000 Growth				-9.7	<i>-3.6</i>	-30.7	-22.6	10.7	12.2	13.7	14.3	Jul-09
eV US Large Cap Growth Equity Net Median				-9.7	-4.3	-32.2	-25.9	7.3	9.9	11.9	12.6	Jul-09
eV US Large Cap Growth Equity Net Rank				52	33	40	37	15	14	11	5	Jul-09
Fisher Midcap Value	53,512,435	4.2	22.0	-9.9	-4.9	-27.0	-19.1	10.1	8.2	10.7	7.9	Apr-07
Russell MidCap Value				-9.7	-4.9	-20.4	-13.6	4.5	4.8	9.4	6.4	Apr-07
Russell MidCap				-9.3	-3.4	-24.3	-19.4	5.2	6.5	10.3	7.4	Apr-07
eV US Mid Cap Value Equity Net Median				-9.2	-4.7	-18.2	-10.5	5.5	5.1	9.1	6.7	Apr-07
eV US Mid Cap Value Equity Net Rank				77	53	99	98	4	4	18	10	Apr-07
Newton Small Cap Growth	42,528,161	3.3	17.5	-8.6	3.0	-29.6	-29.4	10.2	10.8	12.7	13.2	Aug-09
Russell 2000 Growth				-9.0	0.2	-29.3	-29.3	2.9	3.6	8.8	10.5	Aug-09
eV US Small Cap Growth Equity Net Median				-8.3	-1.2	-31.5	-30.2	5.6	7.6	10.5	12.3	Aug-09
eV US Small Cap Growth Equity Net Rank				59	9	37	45	17	18	16	23	Aug-09

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## Total Retirement Association | As of September 30, 2022

	Market Value	% of	% of	1 Mo	QTD	YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	Inception	Inception
	(\$)	Portfolio		(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	Date
Vulcan Partners Small Cap Value	12,516,377	1.0	5.1	-14.4	-14.7						-35.5	Apr-22
Russell 2000 Value				-10.2	-4.6	-21.1	-17.7	4.7	2.9	7.9	-19.2	Apr-22
eV US Small Cap Value Equity Net Median				-9.7	-4.9	-20.3	-14.9	5.1	3.3	8.5	-17.9	Apr-22
eV US Small Cap Value Equity Net Rank				99	99						99	Apr-22
Systematic Small Cap Free Cash Flow	25,214,146	2.0	10.4	-7.8	-3.7						-12.8	Apr-22
Russell 2000 Value				-10.2	-4.6	-21.1	-17.7	4.7	2.9	7.9	-19.2	Apr-22
eV US Small Cap Value Equity Net Median				-9.7	-4.9	-20.3	-14.9	5.1	3.3	8.5	-17.9	Apr-22
eV US Small Cap Value Equity Net Rank				11	30						10	Apr-22
International Developed Market Equity Assets	32,663,302	2.6	2.6	-8.9	-8.4	-31.2	-28.0	-5.6	-4.6		-0.1	Jan-16
MSCI EAFE				-9.4	-9.4	-27.1	-25.1	-1.8	-0.8	3.7	2.2	Jan-16
Aristotle International Equity	17,436,411	1.4	53.4	-8.7	-7.9	-30.4	-27.0				-12.8	Mar-21
MSCI EAFE				-9.4	-9.4	-27.1	-25.1	-1.8	-0.8	3.7	-13.0	Mar-21
eV EAFE Core Equity Net Median				-9.5	-9.6	-28.3	-26.6	-1.5	-1.0	4.2	-13.8	Mar-21
eV EAFE Core Equity Net Rank				19	10	68	58				35	Mar-21
Walter Scott International Equity	15,226,891	1.2	46.6	-9.1	-8.9	-32.1	-29.2				-14.6	Mar-21
MSCI EAFE				-9.4	-9.4	-27.1	-25.1	-1.8	-0.8	3.7	-13.0	Mar-21
eV EAFE Core Equity Net Median				-9.5	-9.6	-28.3	-26.6	-1.5	-1.0	4.2	-13.8	Mar-21
eV EAFE Core Equity Net Rank				38	30	79	73				60	Mar-21
International Emerging Market Equity Assets	93,664,141	7.4	7.4	-9.1	-8.1	-26.8	-27.0	0.1	-1.1		4.0	Jan-16
MSCI Emerging Markets				-11.7	-11.6	-27.2	-28.1	-2.1	-1.8	1.0	3.9	Jan-16
ABS Emerging Markets	49,205,469	3.9	52.5	-9.7	-8.5	-28.3	-28.2	1.1			3.1	Dec-18
MSCI Emerging Markets				-11.7	-11.6	-27.2	-28.1	-2.1	-1.8	1.0	-0.8	Dec-18
eV Emg Mkts Equity Net Median				-10.2	-10.1	-27.3	-28.1	-1.4	-1.6	1.6	0.3	Dec-18
eV Emg Mkts Equity Net Rank				38	36	62	53	29			22	Dec-18

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## Total Retirement Association | As of September 30, 2022

	Market Value (\$)	% of Portfolio	% of Sector	1 Mo (%)	QTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Driehaus Emerging Markets Growth	44,458,672	3.5	47.5	-8.3	-7.7	-24.9	-25.6	1.9			2.4	Mar-19
MSCI Emerging Markets				-11.7	-11.6	-27.2	-28.1	-2.1	-1.8	1.0	-2.5	Mar-19
eV Emg Mkts Equity Net Median				-10.2	-10.1	-27.3	-28.1	-1.4	-1.6	1.6	-1.3	Mar-19
eV Emg Mkts Equity Net Rank				14	30	32	33	22			19	Mar-19
Global Equity Assets	129,990,538	10.2	10.2	-7.8	-5.6	-19.8	-16.6	4.0	-		2.8	Feb-18
MSCI ACWI				-9.6	-6.8	-25.6	-20.7	3.7	4.4	7.3	2.3	Feb-18
First Eagle Global Value Fund	21,089,580	1.7	16.2	-7.7	-7.8	-17.5	-14.6	1.4			1.1	Feb-18
MSCI ACWI Value NR USD				-8.7	-7.7	-19.1	-14.0	1.3	1.7	5.4	-0.2	Feb-18
eV Global Value Equity Net Median				-9.3	-8.9	-21.7	-18.3	2.3	1.8	6.0	0.0	Feb-18
eV Global Value Equity Net Rank				17	34	17	23	63			35	Feb-18
Kopernik Global All Cap Fund	30,354,475	2.4	23.4	-7.7	-5.3	-19.1	-19.2	11.3			4.8	Feb-18
MSCI ACWI Value NR USD				<i>-8.7</i>	-7.7	-19.1	-14.0	1.3	1.7	5.4	-0.2	Feb-18
eV Global All Cap Value Eq Net Median				-9.6	-8.4	-21.7	-19.1	2.2	1.6	5.6	-0.2	Feb-18
eV Global All Cap Value Eq Net Rank				20	10	26	52	4			6	Feb-18
Lee Munder Global Multi-Cap Strategy	40,382,952	3.2	31.1	-9.2	-6.6	-24.6	-19.2	3.1			2.1	Mar-18
MSCI ACWI				-9.6	-6.8	-25.6	-20.7	<i>3.7</i>	4.4	7.3	3.3	Mar-18
eV All Global Equity Net Median				-9.3	-6.9	-26.5	-21.7	3.4	4.3	7.3	3.4	Mar-18
eV All Global Equity Net Rank				43	44	38	36	54		-	68	Mar-18
Wellington Durable Enterprises, L.P.	38,163,531	3.0	29.4	-6.3	-3.4	-16.4	-12.6	2.1			5.4	Mar-18
MSCI ACWI				-9.6	-6.8	-25.6	-20.7	3.7	4.4	7.3	3.3	Mar-18
eV All Global Equity Net Median				-9.3	-6.9	-26.5	-21.7	3.4	4.3	7.3	3.4	Mar-18
eV All Global Equity Net Rank				4	9	8	11	65			21	Mar-18

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## Total Retirement Association | As of September 30, 2022

	Market Value (\$)	% of Portfolio	% of Sector	1 Mo (%)	QTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Core Fixed Income	120,607,119	9.5	9.5	-3.5	-3.1	-10.4	-10.3	-1.4	0.7		1.5	Jan-16
75% Bbg Aggregate/25% Bbg US TIPs 1-10 year				-4.5	-4.5	-13.2	-12.8	-2.0	0.4	1.0	1.1	Jan-16
Lord Abbett Short Duration Credit Trust II	58,950,218	4.6	48.9	-1.7	-1.2	-5.7	-6.0	-0.3			0.0	Aug-19
Bloomberg US Credit 1-3 Yr TR				-1.3	-1.3	-4.6	-5.1	-0.2	1.0	1.3	0.1	Aug-19
eV US Short Duration - Credit Net Median				-1.6	-1.1	-5.3	<i>-5.7</i>	-0.3	0.9	1.5	0.0	Aug-19
eV US Short Duration - Credit Net Rank				54	68	55	54	52			50	Aug-19
Lord Abbett Core Fixed Income Trust II	39,184,190	3.1	32.5	-4.4	-4.8	-14.7					-14.6	Dec-21
Bloomberg US Aggregate TR				-4.3	-4.8	-14.6	-14.6	-3.3	-0.3	0.9	-14.8	Dec-21
eV US Core Fixed Inc Net Median				-4.3	-4.6	-14.6	-14.6	-3.0	0.0	1.1	-14.8	Dec-21
eV US Core Fixed Inc Net Rank				69	76	56					43	Dec-21
Rhumbline TIPS Trust	22,472,711	1.8	18.6	-6.6	-5.1	-13.6	-11.5				-3.6	Sep-20
Bloomberg US TIPS TR				-6.6	-5.1	-13.6	-11.6	0.8	2.0	1.0	-3.6	Sep-20
eV US TIPS / Inflation Fixed Inc Net Median				-6.5	-5.0	-13.3	-11.4	0.9	2.0	1.0	-3.4	Sep-20
eV US TIPS / Inflation Fixed Inc Net Rank				56	61	68	52				60	Sep-20
Value Added Fixed Income	81,967,424	6.4	6.4	-3.5	-1.3	-11.8	-11.5	-0.4	1.3		3.6	Jan-16
Custom Benchmark - Global Fixed Income				-4.4	-2.7	-15.7	-15.4	-2.4	0.4	1.6	2.6	Jan-16
Eaton Vance High Yield	11,165,577	0.9	13.6	-3.7	-0.5	-13.1	-12.3	-0.4	1.5	3.9	5.6	Apr-06
ICE BofA US High Yield TR				-4.0	-0.7	-14.6	-14.1	-0.7	1.4	3.9	5.8	Apr-06
eV US High Yield Fixed Inc Net Median				-3.9	-0.5	-13.5	-12.9	-0.3	1.5	3.6	5.4	Apr-06
eV US High Yield Fixed Inc Net Rank				42	48	41	38	51	51	29	32	Apr-06
First Eagle Bank Loan Select Fund	10,474,387	0.8	12.8	-1.9	0.9	-3.6	-2.7	2.3	2.7	4.1	4.5	Sep-10
Credit Suisse Leveraged Loans				-2.2	1.2	-3.3	-2.6	2.1	3.0	3.7	4.2	Sep-10
Bank Loan MStar MF Median				-2.3	1.2	-4.3	-3.9	1.1	2.1	3.0	3.5	Sep-10
Bank Loan MStar MF Rank				10	64	27	18	1	7	1	1	Sep-10

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# Total Retirement Association | As of September 30, 2022

	Market Value (\$)	% of Portfolio	% of Sector	1 Mo (%)	QTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Manulife Strategic Fixed Income	39,070,189	3.1	47.7	-3.8	-2.4	-12.4	-12.4	-1.0			-0.6	Jul-19
Bloomberg Multiverse TR				-5.1	-6.8	-19.8	-20.4	-5.6	-2.3	-0.8	-5.0	Jul-19
Mesirow High Yield	13,847,933	1.1	16.9	-3.9	-0.3	-12.2	-11.6	3.2			3.5	Aug-19
Bloomberg US Corporate High Yield TR				-4.0	-0.6	-14.7	-14.1	-0.5	1.6	3.9	-0.2	Aug-19
eV US High Yield Fixed Inc Net Median				-3.9	-0.5	-13.5	-12.9	-0.3	1.5	3.6	0.0	Aug-19
eV US High Yield Fixed Inc Net Rank				55	36	34	33	3		-	3	Aug-19
Eaton Vance EMD Opportunities Fund	7,409,337	0.6	9.0	-2.9	-1.5	-16.9	-17.5				-3.8	Aug-20
JP Morgan EMBI Global Diversified				-6.4	-4.6	-23.9	-24.3	-7.2	-2.6	1.1	-10.9	Aug-20
eV Emg Mkts Fixed Inc - Blended Currency Net Median				-5.6	-4.1	-20.6	-22.0	-5.7	-2.7	-0.1	-8.9	Aug-20
eV Emg Mkts Fixed Inc - Blended Currency Net Rank				2	7	21	16				9	Aug-20
Hedge Funds	80,499,191	6.3	6.3	-2.4	-1.8	-18.1	-17.8	-0.7	0.1	3.2	3.1	Feb-10
Custom Benchmark				-0.8	-0.2	-6.7	-6.3	4.3	3.2	3.5	3.1	Feb-10
ABS Offshore SPC - Global Segregated Portfolio	33,160,237	2.6	41.2	-3.3	-3.2	-12.6	-12.6	2.8	2.5	4.7	4.5	Aug-10
HFRI Equity Hedge (Total) Index				-4.2	-2.3	-13.8	-13.2	6.2	4.4	5.3	5.0	Aug-10
HFRI FOF: Strategic Index				-3.3	-1.5	-13.8	-13.3	<i>3.2</i>	2.1	3.3	3.1	Aug-10
Entrust Special Opportunities Fund III, Ltd.	13,085,194	1.0	16.3	0.0	0.0	-27.6	-28.8	-5.8	-3.9		1.9	Oct-16
HFRI Fund of Funds Composite Index (QTR)				-0.2	-0.2	-6.8	-6.4	4.2	3.1	3.5	3.7	Oct-16
Old Farm Partners Master Fund, L.P.	14,942,858	1.2	18.6	-5.1	-1.6	-12.3	-12.3	5.1			3.4	Oct-18
HFRI Fund of Funds Composite Index				-1.5	-0.2	-6.7	-6.3	4.2	3.1	3.5	3.1	Oct-18

Note: The data for Entrust Special Opportunities Fund III, Ltd and Entrust Permal Special Opportunities Evergreen Fund, Ltd is lagged based on June 30, 2022 values.

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Total Retirement Association | As of September 30, 2022

				i Otai i	ive til e	illelit F	133001	ation	A3 UI	i September 30, 202					
	Market Value	% of	% of	1 Mo	QTD	YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	Inception	Inception			
	(\$)	Portfolio		(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	Date			
				(1.4)	(10)	(**)	(10)	(10)	(1.4)	()	(**)				
EnTrustPermal Special Opportunities Evergreen Fund,	19,310,902	1.5	24.0	0.0	0.0	-21.8	-19.3	-3.5			2.3	Jan-19			
Ltd.	.5/5.5/552			0.0		5						• • • • • • • • • • • • • • • • • • • •			
HFRI Fund of Funds Composite Index (QTR)				-0.2	-0.2	-6.8	-6.4	4.2	3.1	3.5	4.7	Jan-19			
Real Estate	172,036,437	13.5	13.5	0.9	0.9	17.0	28.6	17.0	13.1		10.8	Jan-16			
Custom Benchmark				0.5	0.5	13.1	22.1	12.0	9.8		8.9	Jan-16			
Core Real Estate	118,606,228	9.3	68.9	-0.4	-0.5	12.1	21.3	14.0	11.6		10.5	Jan-16			
NCREIF-ODCE				0.5	0.5	13.1	22.1	12.4	10.2	10.9	9.7	Jan-16			
TA Realty Core Property Fund, L.P.	81,796,191	6.4	69.0	0.0	0.0	13.8	23.3	16.5			14.8	Apr-18			
NCREIF ODCE				0.5	0.5	13.1	22.1	12.4	10.2	10.9	10.4	Apr-18			
JPMorgan Strategic Property	36,810,038	2.9	31.0	-1.2	-1.5	9.3	17.9	10.3			9.0	Apr-19			
NCREIF-ODCE				0.5	0.5	13.1	22.1	12.4	10.2	10.9	11.2	Apr-19			
Non-Core Real Estate	53,430,209	4.2	31.1	4.1	4.1	28.0	44.4	22.8	14.8		9.7	Jan-16			
Private Equity	202,623,184	15.9	15.9	2.3	2.3	16.0	22.8	25.9	18.0		13.9	Jan-16			
MSCI ACWI IMI (1Q Lagged) +2%				-8.5	-15.4	-14.3	-14.8	8.1	8.8	10.9	10.8	Jan-16			
Private Equity	187,634,662	14.8	92.6	2.5	2.5	17.0	23.7	26.9	18.2		13.5	Jan-16			
Venture Capital	14,988,522	1.2	7.4	-0.7	-0.7	4.0	12.3	16.5	13.4		12.4	Jan-16			
Real Assets	91,652,677	7.2	7.2	1.5	1.5	9.0	14.7	11.0	6.9		4.1	Jan-16			
CPI + 3%				0.5	0.9	8.7	11.2	8.0	6.8	5.5	6.4	Jan-16			
IFM Global Infrastructure	45,308,531	3.6	49.4	0.3	0.2	4.0	7.8	10.4			10.8	Oct-18			
CPI + 3%				0.5	0.9	8.7	11.2	8.0	6.8	5.5	7.1	Oct-18			
Cash and Cash Equivalent	22,910,328	1.8	1.8												
Cash	22,910,328	1.8	100.0												

Note: The data for Real Estate, Private Equity, and Real Assets is based on June 30,2022 fair market value, adjusted for subsequent cash flows.

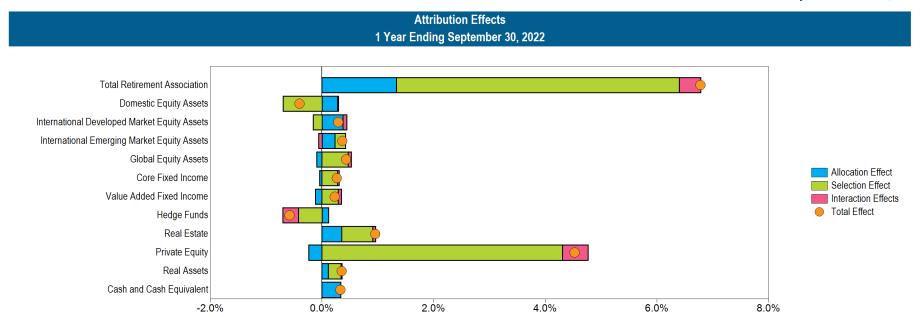
Note: The data for TA Core Property Fund is lagged as of June 30, 2022

Note: The data for JPMorgan Stratefic Property and IFM Global Infrastructure is as of September 30, 2022

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#### Total Retirement Association | As of September 30, 2022



Attribution Summary							
		1 Year Ending Se	ptember 30, 2022	2			
	Wtd. Actual Return	Wtd. Index Return	Excess Return	Selection Effect	Allocation Effect	Interaction Effects	Total Effects
Domestic Equity Assets	-20.9%	-18.2%	-2.7%	-0.7%	0.3%	0.0%	-0.4%
International Developed Market Equity Assets	-28.0%	-25.7%	-2.3%	-0.2%	0.4%	0.1%	0.3%
International Emerging Market Equity Assets	-27.0%	-28.6%	1.6%	0.2%	0.2%	-0.1%	0.4%
Global Equity Assets	-16.6%	-21.2%	4.7%	0.5%	-0.1%	0.0%	0.4%
Core Fixed Income	-10.3%	-13.5%	3.2%	0.3%	0.0%	0.0%	0.3%
Value Added Fixed Income	-11.5%	-16.2%	4.7%	0.3%	-0.1%	0.1%	0.2%
Hedge Funds	-17.8%	-7.0%	-10.7%	-0.4%	0.1%	-0.3%	-0.6%
Real Estate	28.6%	21.2%	7.4%	0.6%	0.4%	0.0%	1.0%
Private Equity	22.8%	-14.8%	37.6%	4.3%	-0.2%	0.5%	4.5%
Real Assets	14.7%	10.4%	4.3%	0.2%	0.1%	0.0%	0.4%
Cash and Cash Equivalent	0.6%	0.6%	0.0%	0.0%	0.3%	0.0%	0.3%
Total	-6.6%	-13.3%	6.8%	5.1%	1.3%	0.4%	6.8%

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## Total Retirement Association | As of September 30, 2022

Statistics Summary							
	5 Ye	ears Ending Septe	mber 30, 2022				
	Anlzd Return	Anlzd Standard Deviation	Information Ratio	Beta	Sharpe Ratio	Tracking Error	
Total Retirement Association	5.9%	10.4%	0.3	1.0	0.5	3.4%	
Policy Benchmark (Net)	4.8%	10.1%		1.0	0.4	0.0%	
Domestic Equity Assets	7.9%	21.0%	-0.2	1.1	0.3	4.4%	
Russell 3000	8.6%	18.6%		1.0	0.4	0.0%	
Rhumbline Russell 1000 Value	5.3%	18.0%	-0.3	1.0	0.2	0.1%	
Russell 1000 Value	5.3%	18.1%		1.0	0.2	0.0%	
Rhumbline Russell 1000 Growth	12.1%	20.4%	-0.4	1.0	0.5	0.1%	
Russell 1000 Growth	12.2%	20.4%		1.0	0.5	0.0%	
Fisher Midcap Value	8.2%	22.8%	0.6	1.1	0.3	5.5%	
Russell MidCap Value	4.8%	20.8%		1.0	0.2	0.0%	
Newton Small Cap Growth	10.8%	25.5%	1.0	1.0	0.4	7.6%	
Russell 2000 Growth	3.6%	23.5%		1.0	0.1	0.0%	
Vulcan Partners Small Cap Value							
Russell 2000 Value	2.9%	23.4%		1.0	0.1	0.0%	
Systematic Small Cap Free Cash Flow							
Russell 2000 Value	2.9%	23.4%		1.0	0.1	0.0%	
International Equity	-2.4%	16.7%	-0.2	0.9	-0.2	5.0%	
International Equity Custom Benchmark	-1.2%	17.1%		1.0	-0.1	0.0%	
International Developed Market Equity Assets	-4.6%	18.4%	-0.8	1.1	-0.3	4.7%	
MSCI EAFE	-0.8%	16.7%		1.0	-0.1	0.0%	
Aristotle International Equity							
MSCI EAFE	-0.8%	16.7%		1.0	-0.1	0.0%	

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## Total Retirement Association | As of September 30, 2022

	Anlzd Return	Anlzd Standard Deviation	Information Ratio	Beta	Sharpe Ratio	Tracking Error
Walter Scott International Equity						
MSCI EAFE	-0.8%	16.7%		1.0	-0.1	0.0%
International Emerging Market Equity Assets	-1.1%	17.2%	0.3	1.0	-0.1	2.8%
MSCI Emerging Markets	-1.8%	17.7%		1.0	-0.2	0.0%
ABS Emerging Markets						
MSCI Emerging Markets	-1.8%	17.7%		1.0	-0.2	0.0%
Driehaus Emerging Markets Growth						
MSCI Emerging Markets	-1.8%	17.7%		1.0	-0.2	0.0%
Global Equity Assets						
MSCI ACWI	4.4%	17.2%		1.0	0.2	0.0%
First Eagle Global Value Fund						
MSCI ACWI Value NR USD	1.7%	17.2%		1.0	0.0	0.0%
Kopernik Global All Cap Fund						
MSCI ACWI Value NR USD	1.7%	17.2%		1.0	0.0	0.0%
Lee Munder Global Multi-Cap Strategy						
MSCI ACWI	4.4%	17.2%		1.0	0.2	0.0%
Wellington Durable Enterprises, L.P.						
MSCI ACWI	4.4%	17.2%		1.0	0.2	0.0%
Fixed Income Assets	0.9%	5.3%	0.3	0.7	0.0	4.6%
Bloomberg US Aggregate TR	-0.3%	4.8%		1.0	-0.3	0.0%
Core Fixed Income	0.7%	4.2%	0.2	0.8	-0.1	1.9%
75% Bbg Aggregate/25% Bbg US TIPs 1-10 year	0.4%	4.5%		1.0	-0.2	0.0%
Lord Abbett Short Duration Credit Trust II						
Bloomberg US Credit 1-3 Yr TR	1.0%	2.0%		1.0	0.0	0.0%

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## Total Retirement Association | As of September 30, 2022

	Anlzd Return	Anlzd Standard Deviation	Information Ratio	Beta	Sharpe Ratio	Tracking Error
Lord Abbett Core Fixed Income Trust II						
Bloomberg US Aggregate TR	-0.3%	4.8%		1.0	-0.3	0.0%
Rhumbline TIPS Trust						
Bloomberg US TIPS TR	2.0%	5.7%		1.0	0.2	0.0%
Value Added Fixed Income	1.3%	7.1%	0.5	0.8	0.0	1.7%
Custom Benchmark - Global Fixed Income	0.4%	8.3%		1.0	-0.1	0.0%
Eaton Vance High Yield	1.5%	8.3%	0.1	0.9	0.1	1.1%
ICE BofA US High Yield TR	1.4%	9.1%		1.0	0.0	0.0%
First Eagle Bank Loan Select Fund	2.7%	6.8%	-0.4	0.9	0.2	0.7%
Credit Suisse Leveraged Loans	3.0%	7.1%		1.0	0.3	0.0%
Manulife Strategic Fixed Income						
Bloomberg Multiverse TR	-2.3%	6.0%		1.0	-0.6	0.0%
Mesirow High Yield						
Bloomberg US Corporate High Yield TR	1.6%	9.0%		1.0	0.1	0.0%
Eaton Vance EMD Opportunities Fund						
JP Morgan EMBI Global Diversified	-2.6%	10.6%		1.0	-0.3	0.0%
Hedge Funds	0.1%	13.5%	-0.4	2.0	-0.1	8.0%
Custom Benchmark	3.2%	6.3%		1.0	0.3	0.0%
ABS Offshore SPC - Global Segregated Portfolio	2.5%	8.7%	-0.5	0.8	0.2	3.6%
HFRI Equity Hedge (Total) Index	4.4%	10.6%		1.0	0.3	0.0%
Entrust Special Opportunities Fund III, Ltd.	-3.9%	23.9%	-0.4	2.6	-0.2	17.2%
HFRI Fund of Funds Composite Index (QTR)	3.1%	8.0%		1.0	0.3	0.0%
Old Farm Partners Master Fund, L.P.						
HFRI Fund of Funds Composite Index	3.1%	6.2%		1.0	0.3	0.0%

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## Total Retirement Association | As of September 30, 2022

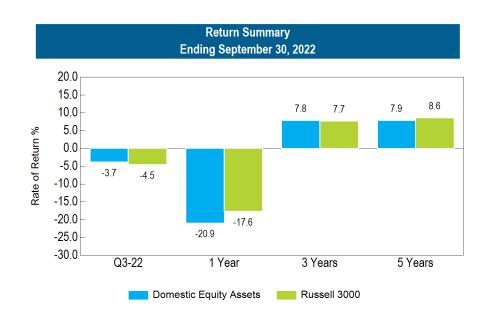
	Anlzd Return	Anlzd Standard Deviation	Information Ratio	Beta	Sharpe Ratio	Tracking Error
EnTrustPermal Special Opportunities Evergreen Fund, Ltd.		-	-			
HFRI Fund of Funds Composite Index (QTR)	3.1%	8.0%		1.0	0.3	0.0%
Real Estate	13.1%	7.6%	1.1	1.1	1.6	3.0%
Custom Benchmark	9.8%	6.4%		1.0	1.4	0.0%
Core Real Estate	11.6%	5.9%	0.5	0.8	1.8	2.9%
NCREIF-ODCE	10.2%	6.3%		1.0	1.5	0.0%
TA Realty Core Property Fund, L.P.						
NCREIF ODCE	10.2%	6.3%		1.0	1.5	0.0%
JPMorgan Strategic Property						
NCREIF-ODCE	10.2%	6.3%		1.0	1.5	0.0%
Private Equity	18.0%	11.8%	0.5	0.1	1.4	18.3%
MSCI ACWI IMI (1Q Lagged) +2%	8.8%	16.5%		1.0	0.5	0.0%
Real Assets	6.9%	5.7%	0.0	8.0	1.0	5.6%
CPI + 3%	6.8%	1.3%		1.0	4.3	0.0%
FM Global Infrastructure						
CPI + 3%	6.8%	1.3%		1.0	4.3	0.0%
SQ Global Infrastructure Fund III (USTE), L.P.						
CPI + 3%	6.0%	1.3%		1.0	3.7	0.0%

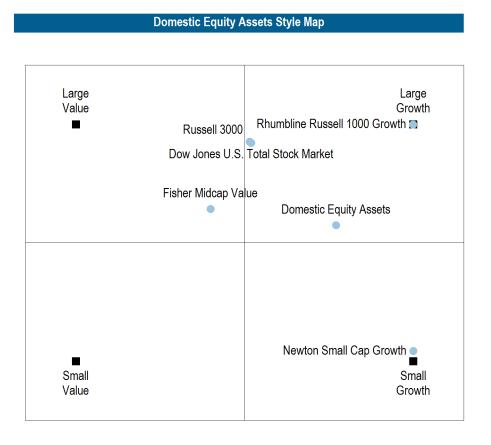
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#### Domestic Equity Assets | As of September 30, 2022

Asset Allocation on September 30, 2022						
	Actual	Actual				
Fisher Midcap Value	\$53,512,435	22.0%				
Newton Small Cap Growth	\$42,528,161	17.5%				
Rhumbline Russell 1000 Growth	\$44,544,578	18.3%				
Rhumbline Russell 1000 Value	\$64,871,001	26.7%				
Systematic Small Cap Free Cash Flow	\$25,214,146	10.4%				
Vulcan Partners Small Cap Value	\$12,516,377	5.1%				
Total	\$243,186,698	100.0%				





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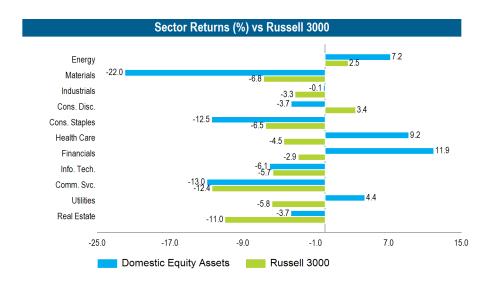


#### Domestic Equity Assets | As of September 30, 2022

Domestic Equity Assets Equity Characteristics					
	Portfolio	Index			
	Q3-22	Q3-22			
Market Value					
Market Value (\$M)	243.19				
Number Of Holdings	1211	2986			
Characteristics					
Weighted Avg. Market Cap. (\$B)	220.10	402.26			
Median Market Cap (\$B)	10.01	2.30			
P/E Ratio	15.50	17.46			
Yield	1.62	1.79			
EPS Growth - 5 Yrs.	16.88	17.63			
Price to Book	2.85	3.49			

	Sector	Allocation (%	) vs Russel	I 3000		
	E 4					
Energy	4.2					
Materials	3.1 2.8					
Industrials		9.0	12.9			
Cons. Disc.		10.0	l.			
Cons. Staples	5.7 6.3	3				
Health Care			15.1	.4		
Financials		11 11	.8 8			
Info. Tech.				18.5	25.4	
Comm. Svc.	5.1	7.5				
Utilities	2.2	_				
Real Estate	3.4					
0.	0 5.0	10.0	15.0	20.0	25.0	30.0
	Domestic Eq	uity Assets	Russell	3000		

Top 10 Holdings				
APPLE INC	3.0%			
MICROSOFT CORP	2.5%			
AMAZON.COM INC	1.4%			
ISHARES RUSSELL 2000 GROWTH ETF	1.1%			
BERKSHIRE HATHAWAY INC	1.0%			
TESLA INC	1.0%			
JOHNSON & JOHNSON	0.9%			
ALPHABET INC	0.9%			
ALPHABET INC	0.8%			
BIOHAVEN PHARMACEUTICAL HOLDING CO LTD	0.8%			
Total	13.4%			

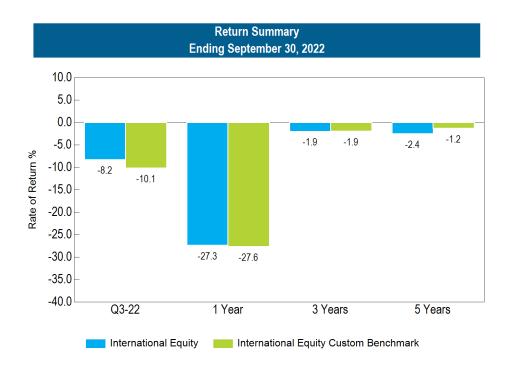


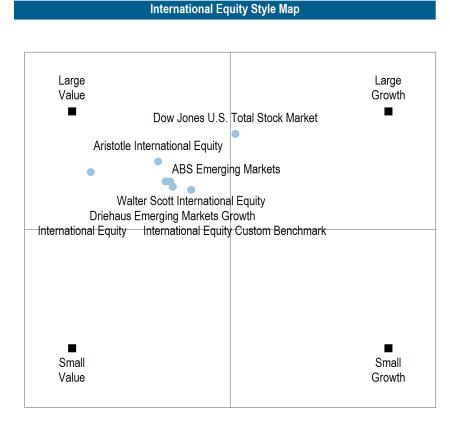
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#### International Equity | As of September 30, 2022

Asset Allocation on September 30, 2022						
	Actual	Actual				
ABS Emerging Markets	\$49,205,469	39.0%				
Aristotle International Equity	\$17,436,411	13.8%				
Driehaus Emerging Markets Growth	\$44,458,672	35.2%				
Walter Scott International Equity	\$15,226,891	12.1%				
Total	\$126,327,444	100.0%				





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# Plymouth County Retirement Association International Equity | As of September 30, 2022

International Equity Equity Characteristics					
	Portfolio	Index			
	Q3-22	Q3-22			
Market Value					
Market Value (\$M)	126.33				
Number Of Holdings	182	2270			
Characteristics					
Weighted Avg. Market Cap. (\$B)	88.44	71.12			
Median Market Cap (\$B)	24.63	7.79			
P/E Ratio	15.21	11.39			
Yield	2.77	3.69			
EPS Growth - 5 Yrs.	12.25	12.47			
Price to Book	2.35	2.35			

	Sector Allocation	ı (%) vs MS	CI ACWI ex USA	1	
Energy	6.0 6.2				
Materials	3.2	8.2			
Industrials		10.8	12.1		
Cons. Disc.		11.	13.5		
Cons. Staples	7.	9.4			
Health Care	5.1	9.8			
Financials				17.5	
Info. Tech.		10.8	12.2		
Comm. Svc.	3.7	, , , , , , , , , , , , , , , , , , , ,			
Utilities	2.5				
Real Estate	2.4		12.2		
0.0	5.0	10.0	15.0	20.0	25.0
	International Equ	ity I	MSCI ACWI ex U	SA	

Top 10 Holdings	
CAPITALAND ASCENDAS REIT	5.5%
HANG LUNG PROPERTIES LTD	5.4%
TAIWAN SEMICONDUCTOR MANUFACTURING CO LTD	3.5%
AIA GROUP LTD	3.4%
SAMSUNG ELECTRONICS CO LTD	2.8%
CAMECO CORP	1.6%
KWEICHOW MOUTAI CO LTD	1.6%
MEITUAN DIANPING USD0.00001 A B CLASS ISIN KYG596691041	1.5%
GPO FINANCE BANORTE	1.3%
RELIANCE INDUSTRIES LTD	1.3%
Total	27.9%

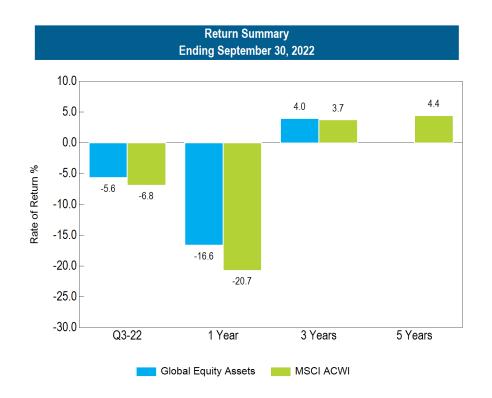


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#### Global Equity Assets | As of September 30, 2022

Asset Allocation on September 30, 2022		
	Actual	Actual
First Eagle Global Value Fund	\$21,089,580	16.2%
Kopernik Global All Cap Fund	\$30,354,475	23.4%
Lee Munder Global Multi-Cap Strategy	\$40,382,952	31.1%
Wellington Durable Enterprises, L.P.	\$38,163,531	29.4%
Total	\$129,990,538	100.0%





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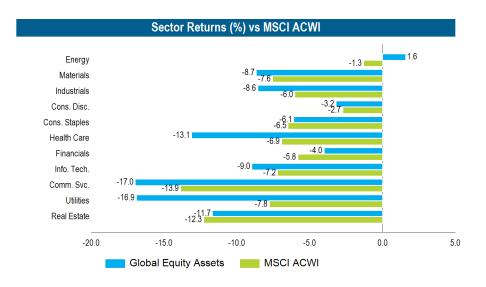


# Plymouth County Retirement Association Global Equity Assets | As of September 30, 2022

Global Equity As	sets Equity Characteristics	;
	Portfolio	Index
	Q3-22	Q3-22
Market Value		
Market Value (\$M)	129.99	
Number Of Holdings	338	2895
Characteristics		
Weighted Avg. Market Cap. (\$B)	215.64	306.81
Median Market Cap (\$B)	17.56	10.73
P/E Ratio	12.42	14.89
Yield	2.42	2.52
EPS Growth - 5 Yrs.	15.71	15.76
Price to Book	2.77	3.12

	Se	ctor Allocat	ion (%) v	s MSCI A	CWI		
Energy		7.5					
Materials		4.7	10.1				
Industrials			9.5				
Cons. Disc.		7.8		11.5			
Cons. Staples		7.7	8.7				
Health Care			9.3	13.0			
Financials			10.2		14.5		
Info. Tech.				11.6		20	17
Comm. Svc.		6.2					
Utilities	3.3 3.1	,,,,					
Real Estate	1.5						
0.0	5	i.0	10.0		15.0	20.0	25.0
	Global	Equity Asse	ts	MSCI AC	CWI		

Top 10 Holdings	
APPLE INC	2.3%
MICROSOFT CORP	2.2%
ALPHABET INC	1.9%
AMAZON.COM INC	1.9%
NEWCREST MINING LTD	1.7%
KT CORP	1.4%
ISHARES CORE MSCI EMERGING MARKETS ETF	1.3%
SPROTT PHYSICAL URANIUM TR UNIT	1.0%
UNITEDHEALTH GROUP INC	1.0%
KAZATOMPROM JSC NAC	1.0%
Total	15.6%



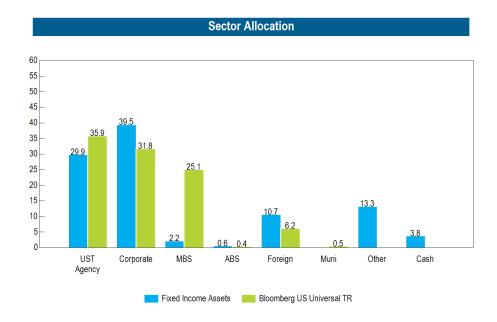
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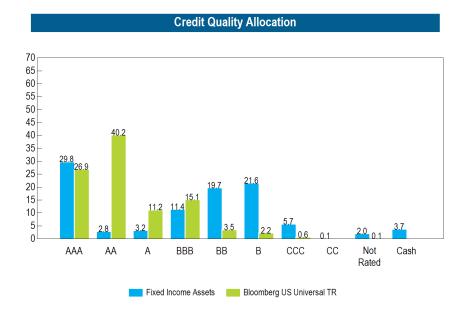


#### Fixed Income Assets | As of September 30, 2022

Asset Allocation on Septem	ber 30, 2022	
	Actual	Actual
Eaton Vance EMD Opportunities Fund	\$7,409,337	3.7%
Eaton Vance High Yield	\$11,165,577	5.5%
First Eagle Bank Loan Select Fund	\$10,474,387	5.2%
Lord Abbett Core Fixed Income Trust II	\$39,184,190	19.3%
Lord Abbett Short Duration Credit Trust II	\$58,950,218	29.1%
Manulife Strategic Fixed Income	\$39,070,189	19.3%
Mesirow High Yield	\$13,847,933	6.8%
Rhumbline TIPS Trust	\$22,472,711	11.1%
Total	\$202,574,543	100.0%

Fixed Income Assets vs. Bloomberg US		tics	
	Portfolio	Index	Portfolio
	Q3-22	Q3-22	Q2-22
Fixed Income Characteristics			
Yield to Maturity	7.8	5.1	6.4
Average Duration	4.2	6.2	4.2
Average Quality	BBB	AA	BBB
Weighted Average Maturity	6.1	12.2	6.4





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## Rhumbline Russell 1000 Value | As of September 30, 2022

	Account Information
Account Name	Rhumbline Russell 1000 Value
Account Structure	Commingled Fund
Investment Style	Passive
Inception Date	4/30/13
Account Type	US Equity
Benchmark	Russell 1000 Value
Universe	eV US Large Cap Value Equity Net

Portfo	olio Perl	formar	nce Sur	nmary			
	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception I (%)	nception Date
Rhumbline Russell 1000 Value	-5.6	-11.3	4.4	5.3		8.0	Apr-13
Russell 1000 Value	-5.6	-11.4	4.4	5.3	9.2	8.1	Apr-13
eV US Large Cap Value Equity Net Median	-5.6	-10.0	5.8	6.3	9.5	8.5	Apr-13
eV US Large Cap Value Equity Net Rank	51	63	77	69	-	67	Apr-13

Top 10 Holdings	
BERKSHIRE HATHAWAY INC	2.9%
JOHNSON & JOHNSON	2.6%
EXXON MOBIL CORP	2.2%
JPMORGAN CHASE & CO	1.8%
CHEVRON CORP	1.7%
PFIZER INC	1.5%
META PLATFORMS INC	1.5%
BANK OF AMERICA CORP	1.3%
WALMART INC	1.1%
THERMO FISHER SCIENTIFIC INC	1.0%
Total	17.6%

	-	•	•
Rhumbline Ru	ıssell 1000 Va	alue Characteris	stics
	Portfolio	Index	Portfolio
	Q3-22	Q3-22	Q2-22
Market Value			
Market Value (\$M)	64.9		53.8
Number Of Holdings	858	855	861
Characteristics			
Weighted Avg. Market Cap. (\$B)	134.3	135.4	144.2
Median Market Cap (\$B)	11.5	11.5	12.1
P/E Ratio	14.0	14.1	14.4
Yield	2.5	2.5	2.3
EPS Growth - 5 Yrs.	12.4	12.5	14.0
Price to Book	2.3	2.3	2.4
Sector Distribution			
Energy	7.8	6.9	7.2
Materials	4.2	4.2	4.3
Industrials	10.0	10.2	9.9
Consumer Discretionary	6.0	5.8	5.8
Consumer Staples	7.3	7.3	7.3
Health Care	17.3	17.5	17.2
Financials	20.0	20.2	19.6
Information Technology	8.7	8.9	9.0
Communication Services	8.0	8.1	8.8
Utilities	5.8	6.1	5.9
Real Estate	4.8	4.9	5.1

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## Rhumbline Russell 1000 Growth | As of September 30, 2022

	Account Information
Account Name	Rhumbline Russell 1000 Growth
Account Structure	Commingled Fund
Investment Style	Passive
Inception Date	7/31/09
Account Type	US Equity
Benchmark	Russell 1000 Growth
Universe	eV US Large Cap Growth Equity Net

Portfo	olio Per	formar	ice Sur	nmary			
	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Rhumbline Russell 1000 Growth	-3.6	-22.6	10.7	12.1	13.6	14.2	Jul-09
Russell 1000 Growth	<i>-3.6</i>	-22.6	10.7	12.2	13.7	14.3	Jul-09
eV US Large Cap Growth Equity Net Median	-4.3	-25.9	7.3	9.9	11.9	12.6	Jul-09
eV US Large Cap Growth Equity Net Rank	33	37	15	14	11	5	Jul-09

Top 10 Holdings	
APPLE INC	12.4%
MICROSOFT CORP	10.2%
AMAZON.COM INC	5.9%
TESLA INC	3.9%
ALPHABET INC	2.9%
ALPHABET INC	2.6%
UNITEDHEALTH GROUP INC	2.5%
VISA INC	1.7%
NVIDIA CORPORATION	1.7%
MASTERCARD INC	1.4%
Total	45.3%

Rhumbline Rus	ssell 1000 Gr	owth Character	istics
	Portfolio	Index	Portfolio
	Q3-22	Q3-22	Q2-22
Market Value			
Market Value (\$M)	44.5		46.2
Number Of Holdings	520	518	521
Characteristics			
Weighted Avg. Market Cap. (\$B)	702.9	708.7	721.9
Median Market Cap (\$B)	14.8	14.7	15.3
P/E Ratio	24.9	25.0	25.4
Yield	1.1	1.1	1.0
EPS Growth - 5 Yrs.	23.2	23.2	24.0
Price to Book	9.0	9.1	9.0
Sector Distribution			
Energy	1.5	1.3	1.4
Materials	1.3	1.4	1.4
Industrials	7.1	7.2	7.0
Consumer Discretionary	16.9	17.1	15.3
Consumer Staples	5.6	5.7	5.8
Health Care	12.1	12.2	12.2
Financials	3.0	3.0	2.9
Information Technology	42.2	42.9	42.9
Communication Services	7.4	7.6	7.9
Utilities	0.0	0.0	0.0
Real Estate	1.6	1.6	1.7

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## Fisher Midcap Value | As of September 30, 2022

Account Information				
Account Name	Fisher Midcap Value			
Account Structure	Separate Account			
Investment Style	Active			
Inception Date	4/30/07			
Account Type	US Equity			
Benchmark	Russell MidCap Value			
Universe	eV US Mid Cap Value Equity Net			

Porti	folio Per	formar	nce Sur	nmary			
	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Fisher Midcap Value	-4.9	-19.1	10.1	8.2	10.7	7.9	Apr-07
Russell MidCap Value	-4.9	-13.6	4.5	4.8	9.4	6.4	Apr-07
Russell MidCap	-3.4	-19.4	5.2	6.5	10.3	7.4	Apr-07
eV US Mid Cap Value Equity Net Median	-4.7	-10.5	5.5	5.1	9.1	6.7	Apr-07
eV US Mid Cap Value Equity Net Rank	53	98	4	4	18	10	Apr-07

Top 10 Holdings	
SYNOPSYS INC	3.9%
RAYMOND JAMES FINANCIAL INC.	3.3%
CHARLES RIVER LABORATORIES INTERNATIONAL INC	3.0%
PERKINELMER INC.	2.9%
FACTSET RESEARCH SYSTEMS INC.	2.9%
UNITED RENTALS INC.	2.9%
FREEPORT-MCMORAN INC	2.8%
SVB FINANCIAL GROUP	2.5%
MORNINGSTAR INC	2.4%
IQVIA HOLDINGS INC	2.3%
Total	28.9%

Fisher Mi	dcap Value C	haracteristics	
	Portfolio	Index	Portfolio
	Q3-22	Q3-22	Q2-22
Market Value			
Market Value (\$M)	53.5		56.2
Number Of Holdings	70	702	69
Characteristics			
Weighted Avg. Market Cap. (\$B)	19.2	17.9	20.8
Median Market Cap (\$B)	13.0	8.7	14.3
P/E Ratio	12.1	13.4	13.0
Yield	1.2	2.4	1.1
EPS Growth - 5 Yrs.	22.0	12.9	23.0
Price to Book	2.6	2.1	2.8
Sector Distribution			
Energy	6.0	5.1	6.6
Materials	9.6	7.4	10.1
Industrials	17.8	15.2	15.6
Consumer Discretionary	5.6	9.6	5.4
Consumer Staples	0.9	3.9	1.0
Health Care	17.1	7.3	18.9
Financials	18.4	18.4	17.9
Information Technology	20.3	9.2	19.7
Communication Services	0.2	3.4	0.2
Utilities	0.0	9.0	0.0
Real Estate	4.1	11.6	4.4

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## Newton Small Cap Growth | As of September 30, 2022

Account Information				
Account Name	Newton Small Cap Growth			
Account Structure	Separate Account			
Investment Style	Active			
Inception Date	8/31/09			
Account Type	US Equity			
Benchmark	Russell 2000 Growth			
Universe	eV US Small Cap Growth Equity Net			

Portfolio	Perfor	mance	Summ	ary			
	QTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	Inception I	nception
	(%)	(%)	(%)	(%)	(%)	(%)	Date
Newton Small Cap Growth	3.0	-29.4	10.2	10.8	12.7	13.2	Aug-09
Russell 2000 Growth	0.2	-29.3	2.9	3.6	8.8	10.5	Aug-09
eV US Small Cap Growth Equity Net Median	-1.2	-30.2	5.6	7.6	10.5	12.3	Aug-09
eV US Small Cap Growth Equity Net Rank	9	45	17	18	16	23	Aug-09

Top 10 Holdings	
ISHARES RUSSELL 2000 GROWTH ETF	5.4%
BIOHAVEN PHARMACEUTICAL HOLDING CO LTD	3.9%
ENERGY RECOVERY INC	3.7%
EQT CORP	3.6%
CALIX INC	3.4%
CONSTRUCTION PARTNERS INC	2.9%
GROCERY OUTLET INC	2.9%
PLANET FITNESS INC	2.8%
1LIFE HEALTHCARE INC	2.8%
CACTUS INC	2.8%
Total	34.3%

Boston Company Small Cap Growth Characteristics					
	Portfolio	Index	Portfolio		
	Q3-22	Q3-22	Q2-22		
Market Value					
Market Value (\$M)	42.5		41.2		
Number Of Holdings	75	1121	90		
Characteristics					
Weighted Avg. Market Cap. (\$B)	4.5	3.0	4.3		
Median Market Cap (\$B)	2.6	1.2	2.5		
P/E Ratio	18.7	15.4	23.0		
Yield	0.3	0.8	0.2		
EPS Growth - 5 Yrs.	20.1	20.5	18.7		
Price to Book	3.2	3.5	3.2		
Sector Distribution					
Energy	7.6	6.5	6.3		
Materials	0.9	4.3	1.2		
Industrials	14.9	17.0	16.5		
Consumer Discretionary	8.8	10.8	10.0		
Consumer Staples	6.6	4.2	7.6		
Health Care	28.2	25.2	28.3		
Financials	2.8	6.0	2.9		
Information Technology	13.2	19.5	15.0		
Communication Services	2.2	2.4	1.9		
Utilities	0.0	1.8	0.0		
Real Estate	1.7	2.2	2.2		

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## Vulcan Partners Small Cap Value | As of September 30, 2022

Account Information					
Account Name	Vulcan Partners Small Cap Value				
Account Structure	Separate Account				
Investment Style	Active				
Inception Date	4/01/22				
Account Type	US Equity				
Benchmark	Russell 2000 Value				
Universe	eV US Small Cap Value Equity Net				

Portfolio	Perfori	mance	Summ	ary			
	QTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	Inception I	nception
	(%)	(%)	(%)	(%)	(%)	(%)	Date
Vulcan Partners Small Cap Value	-14.7					-35.5	Apr-22
Russell 2000 Value	-4.6	-17.7	4.7	2.9	7.9	-19.2	Apr-22
eV US Small Cap Value Equity Net Median	-4.9	-14.9	5.1	3.3	8.5	-17.9	Apr-22
eV US Small Cap Value Equity Net Rank	99					99	Apr-22

Top 10 Holdings	
ISHARES RUSSELL 2000 GROWTH ETF	5.4%
BIOHAVEN PHARMACEUTICAL HOLDING CO LTD	3.9%
ENERGY RECOVERY INC	3.7%
EQT CORP	3.6%
CALIX INC	3.4%
CONSTRUCTION PARTNERS INC	2.9%
GROCERY OUTLET INC	2.9%
PLANET FITNESS INC	2.8%
1LIFE HEALTHCARE INC	2.8%
CACTUS INC	2.8%
Total	34.3%

vuican Partners Sm	all Cap Value Characterist	
	Portfolio	Index
	Q3-22	Q3-22
Market Value		
Market Value (\$M)	12.5	
Number Of Holdings	24	1394
Characteristics		
Weighted Avg. Market Cap. (\$B)	2.2	2.2
Median Market Cap (\$B)	1.3	0.9
P/E Ratio	12.6	9.5
Yield	1.8	2.5
EPS Growth - 5 Yrs.	11.0	12.2
Price to Book	2.2	1.5
Sector Distribution		
Energy	0.0	5.8
Materials	9.7	3.7
Industrials	24.5	12.4
Consumer Discretionary	7.0	9.4
Consumer Staples	4.5	2.7
Health Care	6.0	12.1
Financials	7.3	29.2
Information Technology	18.6	5.8
Communication Services	0.0	2.9
Utilities	0.0	5.2
Real Estate	16.3	10.8

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## Systematic Small Cap Free Cash Flow | As of September 30, 2022

Account Information			
Account Name	Systematic Small Cap Free Cash Flow		
Account Structure	Separate Account		
Investment Style	Active		
Inception Date	4/01/22		
Account Type	US Equity		
Benchmark	Russell 2000 Value		
Universe	eV US Small Cap Value Equity Net		

Portfolio	Perforr	nance	Summ	ary			
	QTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	Inception I	nception
	(%)	(%)	(%)	(%)	(%)	(%)	Date
Systematic Small Cap Free Cash Flow	-3.7					-12.8	Apr-22
Russell 2000 Value	-4.6	-17.7	4.7	2.9	7.9	-19.2	Apr-22
eV US Small Cap Value Equity Net Median	-4.9	-14.9	5.1	3.3	8.5	-17.9	Apr-22
eV US Small Cap Value Equity Net Rank	30					10	Apr-22

Top 10 Holdings	
FIRST CITIZENS BANCSHARES INC	3.6%
CROSS COUNTRY HEALTHCARE INC	2.2%
MAGNOLIA OIL & GAS CORP	2.0%
NORTHWESTERN CORP	1.6%
ICF INTERNATIONAL INC	1.6%
WEBSTER FINANCIAL CORP	1.5%
EMCOR GROUP INC.	1.5%
KBR INC	1.5%
WASHINGTON FEDERAL INC.	1.4%
REGAL REXNORD CORPORATION	1.4%
Total	18.4%

Systematic Small Cap	Free Cash Flow C	haracteristics
	Portfolio	Index
	Q3-22	Q3-22
Market Value		
Market Value (\$M)	25.2	-
Number Of Holdings	150	1394
Characteristics		
Weighted Avg. Market Cap. (\$B)	3.8	2.2
Median Market Cap (\$B)	2.0	0.9
P/E Ratio	10.5	9.5
Yield	2.1	2.5
EPS Growth - 5 Yrs.	18.2	12.2
Price to Book	1.7	1.5
Sector Distribution		
Energy	5.5	5.8
Materials	4.0	3.7
Industrials	22.3	12.4
Consumer Discretionary	11.5	9.4
Consumer Staples	1.7	2.7
Health Care	8.3	12.1
Financials	23.4	29.2
Information Technology	10.5	5.8
Communication Services	1.1	2.9
Utilities	1.9	5.2
Real Estate	5.4	10.8

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## Aristotle International Equity | As of September 30, 2022

Account Information			
Account Name	Aristotle International Equity		
Account Structure	Commingled Fund		
Investment Style	Active		
Inception Date	3/01/21		
Account Type	Non-US Stock Developed		
Benchmark	MSCI EAFE		
Universe	eV EAFE Core Equity Net		

Portf	olio Per	formar	nce Sur	nmary			
	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Aristotle International Equity	-7.9	-27.0				-12.8	Mar-21
MSCI EAFE	-9.4	-25.1	-1.8	-0.8	3.7	-13.0	Mar-21
eV EAFE Core Equity Net Median	-9.6	-26.6	-1.5	-1.0	4.2	-13.8	Mar-21
eV EAFE Core Equity Net Rank	10	58				35	Mar-21

Top 10 Holdings	
ACCENTURE PLC	5.0%
BROOKFIELD ASSET MANAGEMENT INC	4.4%
DASSAULT SYSTEMES SA	3.5%
SONY GROUP CORPORATION	3.5%
PAN PACIFIC INTERNATIONAL HOLDINGS CORP	3.5%
ASHTEAD GROUP PLC	3.3%
DBS GROUP HOLDINGS LTD	3.3%
MUENCHENER RUCK.	3.2%
LVMH MOET HENNESSY LOUIS VUITTON SE	3.1%
KDDI CORP	3.0%
Total	35.8%

Aristotle International Equity Characteristics				
	Portfolio	Index		
	Q3-22	Q3-22		
Market Value				
Market Value (\$M)	17.4			
Number Of Holdings	45	798		
Characteristics				
Weighted Avg. Market Cap. (\$B)	60.6	67.3		
Median Market Cap (\$B)	23.7	10.4		
P/E Ratio	16.0	12.2		
Yield	2.4	3.7		
EPS Growth - 5 Yrs.	11.7	11.1		
Price to Book	2.2	2.4		
Sector Distribution				
Energy	5.4	4.9		
Materials	4.2	7.5		
Industrials	17.8	15.0		
Consumer Discretionary	14.8	11.0		
Consumer Staples	7.5	11.3		
Health Care	8.8	13.9		
Financials	20.7	17.6		
Information Technology	12.6	7.9		
Communication Services	2.9	4.8		
Utilities	0.0	3.4		
Real Estate	0.0	2.8		

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## Walter Scott International Equity | As of September 30, 2022

Account Information		
Account Name	Walter Scott International Equity	
Account Structure	Commingled Fund	
Investment Style	Active	
Inception Date	3/01/21	
Account Type	Non-US Stock Developed	
Benchmark	MSCI EAFE	
Universe	eV EAFE Core Equity Net	

Portfolio Performance Summary							
	QTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	Inception	Inception
	(%)	(%)	(%)	(%)	(%)	(%)	Date
Walter Scott International Equity	-8.9	-29.2				-14.6	Mar-21
MSCI EAFE	-9.4	-25.1	-1.8	-0.8	<i>3.7</i>	-13.0	Mar-21
eV EAFE Core Equity Net Median	-9.6	-26.6	-1.5	-1.0	4.2	-13.8	Mar-21
eV EAFE Core Equity Net Rank	30	73				60	Mar-21

Top 10 Holdings	
CAPITALAND ASCENDAS REIT	26.8%
HANG LUNG PROPERTIES LTD	26.3%
AIA GROUP LTD	8.2%
CLP HOLDINGS LTD	4.8%
PRUDENTIAL PLC	3.7%
COMPASS GROUP PLC	3.1%
EXPERIAN PLC	1.9%
ALIMENTATION COUCHE-TARD INC	1.8%
DIAGEO PLC	1.5%
DASSAULT SYSTEMES SA	1.4%
Total	79.4%

W. H					
Walter Scott International Equity Characteristics					
	Portfolio	Index			
	Q3-22	Q3-22			
Market Value					
Market Value (\$M)	15.2				
Number Of Holdings	50	798			
Characteristics					
Weighted Avg. Market Cap. (\$B)	33.9	67.3			
Median Market Cap (\$B)	35.0	10.4			
P/E Ratio	16.1	12.2			
Yield	4.3	3.7			
EPS Growth - 5 Yrs.	2.0	11.1			
Price to Book	1.7	2.4			
Sector Distribution					
Energy	0.9	4.9			
Materials	2.7	7.5			
Industrials	7.7	15.0			
Consumer Discretionary	5.0	11.0			
Consumer Staples	4.0	11.3			
Health Care	5.3	13.9			
Financials	11.9	17.6			
Information Technology	4.8	7.9			
Communication Services	0.0	4.8			
Utilities	4.8	3.4			
Real Estate	53.1	2.8			

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## Driehaus Emerging Markets Growth | As of September 30, 2022

Account Information				
Account Name	Driehaus Emerging Markets Growth			
Account Structure	Commingled Fund			
Investment Style	Active			
Inception Date	3/01/19			
Account Type	Non-US Stock Emerging			
Benchmark	MSCI Emerging Markets			
Universe	eV Emg Mkts Equity Net			

Portfolio Performance Summary							
	QTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	Inception I	nception
	(%)	(%)	(%)	(%)	(%)	(%)	Date
Driehaus Emerging Markets Growth	-7.7	-25.6	1.9			2.4	Mar-19
MSCI Emerging Markets	-11.6	-28.1	-2.1	-1.8	1.0	-2.5	Mar-19
eV Emg Mkts Equity Net Median	-10.1	-28.1	-1.4	-1.6	1.6	-1.3	Mar-19
eV Emg Mkts Equity Net Rank	30	33	22			19	Mar-19

Top 10 Holdings	
TAIWAN SEMICONDUCTOR MANUFACTURING CO LTD	5.9%
SAMSUNG ELECTRONICS CO LTD	4.1%
KWEICHOW MOUTAI CO LTD	2.8%
MEITUAN DIANPING USD0.00001 A B CLASS ISIN KYG596691041	2.7%
GPO FINANCE BANORTE	2.3%
RELIANCE INDUSTRIES LTD	2.2%
ICICI BANK LTD	2.2%
AIA GROUP LTD	2.0%
SAUDI ARABIAN OIL COMPANY	1.8%
HOUSING DEVELOPMENT FINANCE CORP LTD	1.8%
Total	27.8%

Driehaus Emerging Markets Growth Characteristics						
	Portfolio	Index	Portfolio			
	Q3-22	Q3-22	Q2-22			
Market Value						
Market Value (\$M)	44.5		48.1			
Number Of Holdings	99	1384	89			
Characteristics						
Weighted Avg. Market Cap. (\$B)	120.2	86.9	153.3			
Median Market Cap (\$B)	20.0	5.5	22.0			
P/E Ratio	14.3	10.1	15.1			
Yield	2.3	3.8	2.5			
EPS Growth - 5 Yrs.	16.7	14.3	16.7			
Price to Book	2.8	2.5	3.0			
Sector Distribution						
Energy	7.9	5.3	6.9			
Materials	2.9	8.7	6.8			
Industrials	9.2	5.8	6.2			
Consumer Discretionary	16.0	14.0	4.8			
Consumer Staples	8.9	6.6	9.9			
Health Care	3.6	3.9	6.4			
Financials	18.2	22.6	21.4			
Information Technology	14.6	18.3	17.5			
Communication Services	5.2	9.7	8.7			
Utilities	2.6	3.2	2.1			
Real Estate	3.1	2.0	1.3			

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## First Eagle Global Value Fund | As of September 30, 2022

Account Information					
Account Name	First Eagle Global Value Fund				
Account Structure	Commingled Fund				
Investment Style	Active				
Inception Date	2/01/18				
Account Type	Equity				
Benchmark	MSCI ACWI Value NR USD				
Universe	eV Global Value Equity Net				

Portfolio Performance Summary							
	QTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	Inception	Inception
	(%)	(%)	(%)	(%)	(%)	(%)	Date
First Eagle Global Value Fund	-7.8	-14.6	1.4			1.1	Feb-18
MSCI ACWI Value NR USD	-7.7	-14.0	1.3	1.7	5.4	-0.2	Feb-18
eV Global Value Equity Net Median	-8.9	-18.3	2.3	1.8	6.0	0.0	Feb-18
eV Global Value Equity Net Rank	34	23	63			35	Feb-18

Top 10 Holdings				
EXXON MOBIL CORP	3.8%			
ORACLE CORP	3.4%			
WILLIS TOWERS WATSON PLC	3.0%			
C.H. ROBINSON WORLDWIDE INC.	2.1%			
SCHLUMBERGER LTD	2.1%			
BRITISH AMERICAN TOBACCO PLC	2.1%			
COMCAST CORP	1.9%			
PHILIP MORRIS INTERNATIONAL INC	1.9%			
ELEVANCE HEALTH INC	1.8%			
HCA HEALTHCARE INC	1.7%			
Total	23.9%			

First Eagle Global Value Fund Characteristics						
	Portfolio	Index	Portfolio			
	Q3-22	Q3-22	Q2-22			
Market Value						
Market Value (\$M)	21.1		22.9			
Number Of Holdings	140	2895	135			
Characteristics						
Weighted Avg. Market Cap. (\$B)	119.7	306.8	137.3			
Median Market Cap (\$B)	22.1	10.7	25.8			
P/E Ratio	14.0	14.9	14.7			
Yield	2.7	2.5	2.6			
EPS Growth - 5 Yrs.	12.5	15.8	11.0			
Price to Book	2.1	3.1	2.2			
Sector Distribution						
Energy	6.9	5.2	6.5			
Materials	5.7	4.7	5.0			
Industrials	10.6	9.5	11.4			
Consumer Discretionary	6.0	11.5	6.3			
Consumer Staples	12.7	7.7	13.4			
Health Care	5.6	13.0	6.7			
Financials	14.7	14.5	14.2			
Information Technology	9.0	20.7	10.3			
Communication Services	4.6	7.4	5.4			
Utilities	0.5	3.1	0.5			
Real Estate	3.9	2.7	4.2			

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### Kopernik Global All Cap Fund | As of September 30, 2022

Account Information					
Account Name	Kopernik Global All Cap Fund				
Account Structure	Commingled Fund				
Investment Style	Active				
Inception Date	2/01/18				
Account Type	Equity				
Benchmark	MSCI ACWI Value NR USD				
Universe	eV Global All Cap Value Eq Net				

Portfolio Performance Summary							
	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception I (%)	nception Date
Kopernik Global All Cap Fund	-5.3	-19.2	11.3			4.8	Feb-18
MSCI ACWI Value NR USD	-7.7	-14.0	1.3	1.7	5.4	-0.2	Feb-18
eV Global All Cap Value Eq Net Median	-8.4	-19.1	2.2	1.6	5.6	-0.2	Feb-18
eV Global All Cap Value Eq Net Rank	10	52	4			6	Feb-18

Top 10 Holdings	
NEWCREST MINING LTD	5.3%
KT CORP	4.5%
SPROTT PHYSICAL URANIUM TR UNIT	3.2%
KAZATOMPROM JSC NAC	3.1%
GOLDEN AGRI-RESOURCES LTD	2.8%
TURQUOISE HILL RESOURCES LTD	2.7%
CENTRAIS ELETRICAS BRASILEIRAS SA-ELETROBRAS	2.2%
SOUTHWESTERN ENERGY CO	2.2%
HYUNDAI MOTOR CO	2.2%
KOREA ELECTRIC POWER CORP	2.1%
Total	30.2%

Kopernik Gl	obal All Cap Fu	and Characteristic	cs
	Portfolio	Index	Portfolio
	Q3-22	Q3-22	Q2-22
Market Value			
Market Value (\$M)	30.4		32.1
Number Of Holdings	117	2895	105
Characteristics			
Weighted Avg. Market Cap. (\$B)	9.2	306.8	10.6
Median Market Cap (\$B)	2.1	10.7	2.0
P/E Ratio	6.9	14.9	6.8
Yield	3.1	2.5	3.6
EPS Growth - 5 Yrs.	14.0	15.8	10.8
Price to Book	2.0	3.1	1.7
Sector Distribution			
Energy	12.2	5.2	11.8
Materials	24.0	4.7	24.0
Industrials	12.5	9.5	12.3
Consumer Discretionary	3.8	11.5	3.9
Consumer Staples	6.9	7.7	7.4
Health Care	3.8	13.0	3.7
Financials	3.9	14.5	3.7
Information Technology	0.9	20.7	0.8
Communication Services	5.5	7.4	6.5
Utilities	7.7	3.1	10.3
Real Estate	0.7	2.7	1.0

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# Lee Munder Global Multi-Cap Strategy | As of September 30, 2022

Account Information				
Account Name	Lee Munder Global Multi-Cap Strategy			
Account Structure	Separate Account			
Investment Style	Active			
Inception Date	3/01/18			
Account Type	Equity			
Benchmark	MSCI ACWI			
Universe	eV All Global Equity Net			

Portfolio Performance Summary							
	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception Ir	nception Date
	(70)	(70)	(70)	(70)	(70)	(70)	Date
Lee Munder Global Multi-Cap Strategy	-6.6	-19.2	3.1			2.1	Mar-18
MSCI ACWI	-6.8	-20.7	3.7	4.4	7.3	3.3	Mar-18
eV All Global Equity Net Median	-6.9	-21.7	3.4	4.3	7.3	3.4	Mar-18
eV All Global Equity Net Rank	44	36	54			68	Mar-18

Top 10 Holdings	
APPLE INC	4.7%
MICROSOFT CORP	4.0%
AMAZON.COM INC	3.9%
ALPHABET INC	3.6%
ISHARES CORE MSCI EMERGING MARKETS ETF	2.8%
UNITEDHEALTH GROUP INC	2.0%
NORTHROP GRUMMAN CORP	1.9%
ROCHE HOLDING AG	1.6%
LOWE'S COS INC	1.6%
BRISTOL-MYERS SQUIBB CO	1.6%
Total	27.7%

Lee Munder Global Multi-Cap Strategy Characteristics						
	Portfolio	Index	Portfolio			
	Q3-22	Q3-22	Q2-22			
Market Value						
Market Value (\$M)	40.4		38.3			
Number Of Holdings	100	2895	71			
Characteristics						
Weighted Avg. Market Cap. (\$B)	384.1	306.8	453.5			
Median Market Cap (\$B)	81.0	10.7	80.0			
P/E Ratio	16.8	14.9	17.4			
Yield	1.9	2.5	1.6			
EPS Growth - 5 Yrs.	17.9	15.8	20.5			
Price to Book	3.5	3.1	3.6			
Sector Distribution						
Energy	4.2	5.2	3.1			
Materials	1.9	4.7	2.4			
Industrials	8.1	9.5	6.8			
Consumer Discretionary	11.7	11.5	9.7			
Consumer Staples	8.0	7.7	5.9			
Health Care	15.5	13.0	14.9			
Financials	12.5	14.5	11.9			
Information Technology	21.1	20.7	22.4			
Communication Services	7.7	7.4	9.5			
Utilities	1.5	3.1	1.5			
Real Estate	0.8	2.7	1.0			

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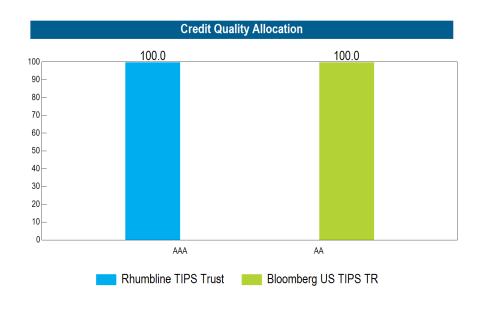


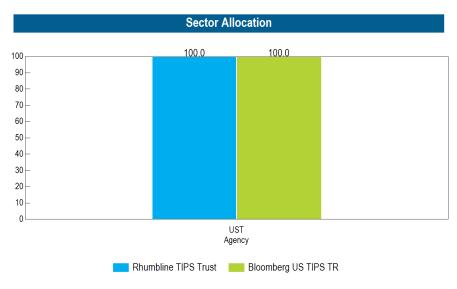
#### Rhumbline TIPS Trust | As of September 30, 2022

Account Information					
Account Name	Rhumbline TIPS Trust				
Account Structure	Commingled Fund				
Investment Style	Passive				
Inception Date	9/01/20				
Account Type	US Fixed Income Investment Grade				
Benchmark	Bloomberg US TIPS TR				
Universe	eV US TIPS / Inflation Fixed Inc Net				

Portfolio Performance Summary							
	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception I	nception Date
Rhumbline TIPS Trust	-5.1	-11.5				-3.6	Sep-20
Bloomberg US TIPS TR	-5.1	-11.6	0.8	2.0	1.0	-3.6	Sep-20
eV US TIPS / Inflation Fixed Inc Net Median	-5.0	-11.4	0.9	2.0	1.0	-3.4	Sep-20
eV US TIPS / Inflation Fixed Inc Net Rank	61	52				60	Sep-20

Rhumbline TIPS Trust Characteristics					
vs. Bloomberg US TIF	SIR				
	Portfolio	Index			
	Q3-22	Q3-22			
Fixed Income Characteristics					
Yield to Maturity	4.1	4.1			
Average Duration	6.8	6.8			
Average Quality	AAA	AA			
Weighted Average Maturity	7.3	7.3			





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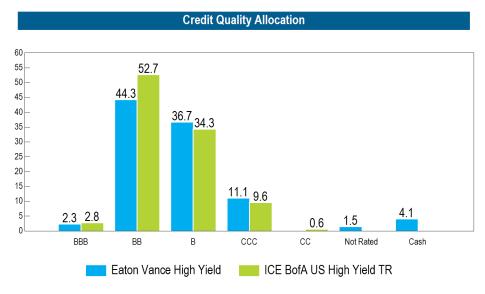


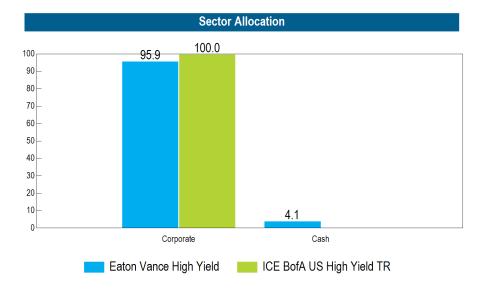
#### Eaton Vance High Yield | As of September 30, 2022

Account Information					
Eaton Vance High Yield					
Commingled Fund					
Active					
4/30/06					
US Fixed Income High Yield					
ICE BofA US High Yield TR					
V US High Yield Fixed Inc Net					

Portfolio Performance Summary										
	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception Ir (%)	nception Date			
Eaton Vance High Yield	-0.5	-12.3	-0.4	1.5	3.9	5.6	Apr-06			
ICE BofA US High Yield TR	-0.7	-14.1	-0.7	1.4	3.9	5.8	Apr-06			
eV US High Yield Fixed Inc Net Median	-0.5	-12.9	-0.3	1.5	3.6	5.4	Apr-06			
eV US High Yield Fixed Inc Net Rank	48	38	51	51	29	32	Apr-06			

Eaton Vance High Yield Characteristics vs. ICE BofA US High Yield TR									
Portfolio Index Portfo									
	Q3-22	Q3-22	Q2-22						
Fixed Income Characteristics									
Yield to Maturity	8.6	9.4	8.2						
Average Duration	4.1	4.4	4.4						
Average Quality	В	В	В						
Weighted Average Maturity 5.9 5.7 6.									





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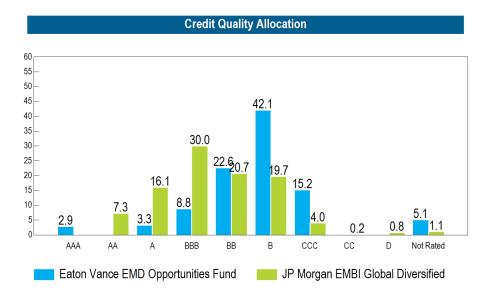


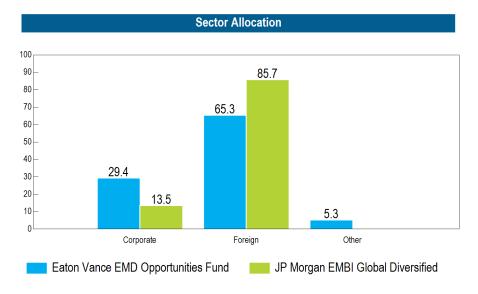
#### Eaton Vance EMD Opportunities Fund | As of September 30, 2022

Account Information						
Account Name	Eaton Vance EMD Opportunities Fund					
Account Structure	Commingled Fund					
Investment Style	Passive					
Inception Date	8/01/20					
Account Type	Non-US Fixed Income					
Benchmark	JP Morgan EMBI Global Diversified					
Universe	eV Emg Mkts Fixed Inc - Blended Currency Net					

Portfolio Performance Summary										
	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception II (%)	nception Date			
Eaton Vance EMD Opportunities Fund	-1.5	-17.5				-3.8	Aug-20			
JP Morgan EMBI Global Diversified	-4.6	-24.3	-7.2	-2.6	1.1	-10.9	Aug-20			
eV Emg Mkts Fixed Inc - Blended Currency Net Median	-4.1	-22.0	-5.7	-2.7	-0.1	-8.9	Aug-20			
eV Emg Mkts Fixed Inc - Blended Currency Net Rank	7	16				9	Aug-20			

Eaton Vance EMD Opportunities Fund Characteristics vs. JP Morgan EMBI Global Diversified									
Portfolio Index Portfo									
	Q3-22	Q3-22	Q2-22						
Fixed Income Characteristics									
Yield to Maturity	14.1	8.7	8.3						
Average Duration	3.2	6.6	3.5						
Average Quality	BB	BBB	ВВ						
Weighted Average Maturity	5.3	11.7	8.7						





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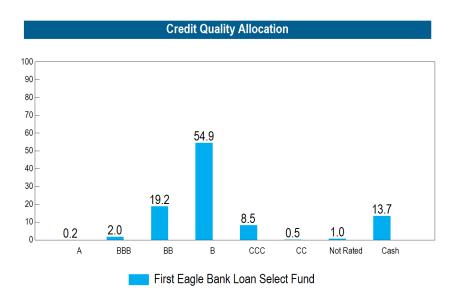


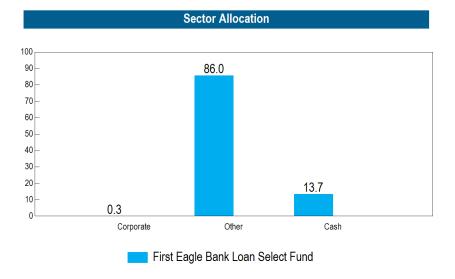
#### First Eagle Bank Loan Select Fund | As of September 30, 2022

Account Information							
Account Name	First Eagle Bank Loan Select Fund						
Account Structure	Commingled Fund						
Investment Style	Active						
Inception Date	9/30/10						
Account Type	US Fixed Income High Yield						
Benchmark	Credit Suisse Leveraged Loans						
Universe	Bank Loan MStar MF						

Portfolio Performance Summary										
	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception II (%)	nception Date			
First Eagle Bank Loan Select Fund	0.9	-2.7	2.3	2.7	4.1	4.5	Sep-10			
Credit Suisse Leveraged Loans	1.2	-2.6	2.1	3.0	3.7	4.2	Sep-10			
Bank Loan MStar MF Median	1.2	-3.9	1.1	2.1	3.0	3.5	Sep-10			
Bank Loan MStar MF Rank	64	18	1	7	1	1	Sep-10			

THL Bank Loan Select Fund Characteristics								
Portfolio Po								
	Q3-22	Q2-22						
Fixed Income Characteristics								
Yield to Maturity	11.5	10.2						
Average Duration	0.2	0.2						
Average Quality	В	В						
Weighted Average Maturity	4.5	4.7						





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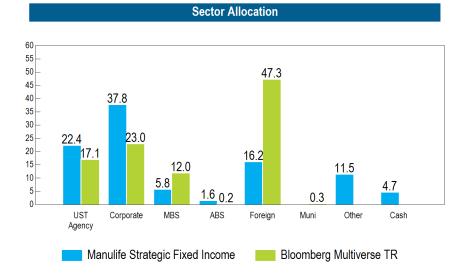
#### Manulife Strategic Fixed Income | As of September 30, 2022

Account Information							
Account Name	Manulife Strategic Fixed Income						
Account Structure	Commingled Fund						
Investment Style	Active						
Inception Date	7/17/19						
Account Type	US Fixed Income High Yield						
Benchmark	Bloomberg Multiverse TR						
Universe	Multisector Bond MStar MF						

F							
	QTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	Inception	Inception
	(%)	(%)	(%)	(%)	(%)	(%)	Date
Manulife Strategic Fixed Income  Bloomberg Multiverse TR	-2.4	-12.4	-1.0			-0.6	Jul-19
	-6.8	<i>-20.4</i>	-5.6	-2.3	-0.8	<i>-5.0</i>	<i>Jul-19</i>

	Credit Quality Allocation								
40									
35 –									
30 –		29.7	30.2	27.7					
25 –	21.521.2				24.6				
20 –	21.021.2								
15 –				14.4					
10 –		7.6	7.9						
5 –					2.8	4.7 1.3	0.3	1.8	4.2
0	AAA	AA	A	BBB	BB	В	CCC	Not Rated	Cash
	Manulife Strategic Fixed Income Bloomberg Multiverse TR								
		_	J		_		ŭ		

Manulife Strategic Fixed Income Characteristics vs. Bloomberg Multiverse TR										
Portfolio Index Portfoli										
	Q3-22	Q3-22	Q2-22							
Fixed Income Characteristics										
Yield to Maturity	6.0	3.9	5.1							
Average Duration	4.2	6.6	3.8							
Average Quality	BBB	А	BBB							
Weighted Average Maturity 6.3 10.4										



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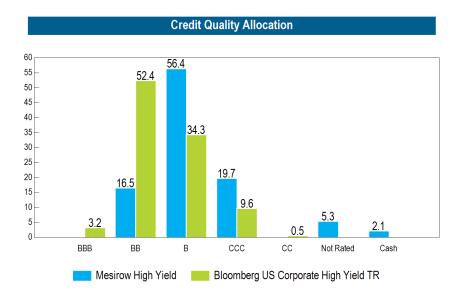


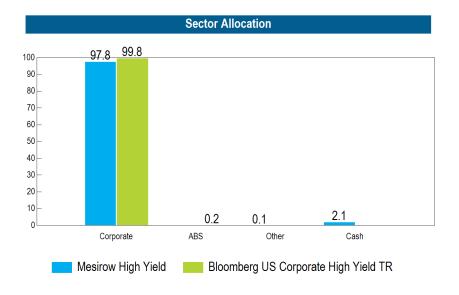
#### Mesirow High Yield | As of September 30, 2022

Account Information					
Account Name	Mesirow High Yield				
Account Structure	Commingled Fund				
Investment Style	Active				
Inception Date	8/01/19				
Account Type	US Fixed Income High Yield				
Benchmark	Bloomberg US Corporate High Yield TR				
Universe	eV US High Yield Fixed Inc Net				

Portfolio Performance Summary							
	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception I (%)	nception Date
Mesirow High Yield	-0.3	-11.6	3.2			3.5	Aug-19
Bloomberg US Corporate High Yield TR	-0.6	-14.1	-0.5	1.6	3.9	-0.2	Aug-19
eV US High Yield Fixed Inc Net Median	-0.5	-12.9	-0.3	1.5	3.6	0.0	Aug-19
eV US High Yield Fixed Inc Net Rank	36	33	3			3	Aug-19

Mesirow High Yield Characteristics						
vs. Bloomberg US Corporate High Yield TR						
Portfolio Index Portfoli						
	Q3-22	Q3-22	Q2-22			
Fixed Income Characteristics						
Yield to Maturity	11.9	9.4	10.7			
Average Duration	4.0	4.4	4.2			
Average Quality	В	В	В			
Weighted Average Maturity	5.1	5.7	5.5			





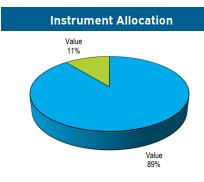
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#### EnTrustPermal Special Opportunities Evergreen Fund, Ltd. | As of September 30, 2022

Acco	ount Information
Mandate:	Hedge Fund, Fund of Funds
Market Value:	
Portfolio Manager:	Team
Location:	New York, NY
Inception Date:	1/1/2019
Account Type:	Limited Partnership
# of Investments:	29
Fee Schedule:	1.25% Management Fee, 10% Performance Fee
Liquidity	Distributions from monetized
Constraints:	investments will be recycled into the
Constraints.	Fund, unless otherwise noted by the
	investor. Investors who opt out of the
	Fund (in part or in whole) following
	expiration of the 3 year Commitment
	Period, and any applicable
	successive renewals, will receive
	their pro rata distributions of
	underlying investments in the Fund,

net of fees and expenses, as they are realized by the Investment Manager



Portfolio Performar	nce Sumi	mary			
	3 <b>Q22</b> (%)	1 YR (%)	3 YR (%)	5 YR (%)	Since 1/2019 (%)
EnTrustPermal Special Opportunities Evergreen Fund, Ltd.	NA	NA	NA	NA	NA
HFRI Fund of Funds Composite Index (QTR)	NA	NA	NA	NA	NA

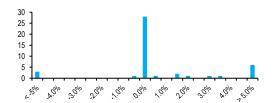
	Top 5 Funds (%)	
StubHub - Declaration	9	
SeaWorld II – Hill Path	9	
Dollar Tree – Mantle Ridge	7	
Masimo - Politan	6	
Centene – Politan	6	

Historical Strategy Allocations							
	Arbitrage □Cash	■Event Driven	■Fixed Income	■ Global Macro	■Long/Short Equity	Other	■Private
100% -							
80% -							
60% -							
40% -							
20% -							
0% <b>-</b> 40	04		Q22		2Q22		3Q2

Geographic Exposure Allocation (%)	9/30/2022	6/30/2022	3/31/2022	12/31/2021
North America	76	73	69	66
Developed Europe	20	22	28	30
Developed Asia	3	3	3	4
Emerging Markets	2	2	1	0
Exposure Peport (%)	9/30/2022	6/30/2022	3/31/2022	12/31/2021

Exposure Report (%)	9/30/2022	6/30/2022	3/31/2022	12/31/2021
Total Gross Exposure	96	94	94	92
Gross Long Exposure	95	94	93	91
Gross Short Exposure	2	0	1	1
Net Exposure	93	94	92	90

#### **Return Distribution**

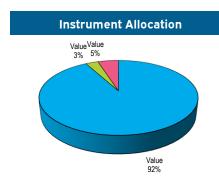


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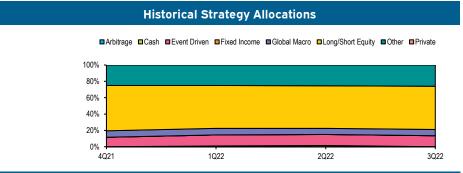
#### Old Farm Partners Master Fund, L.P. | As of September 30, 2022





Portfolio Performance Summary						
	3Q22 (%)	1 YR (%)	3 YR (%)	5 YR (%)	Since 10/2018 (%)	
Old Farm Partners Master Fund, L.P.	-1.6	-12.3	5.1	NA	3.4	
HEDI Fund of Funda Composito Indov	-0.2	-6.1	12	21	21	

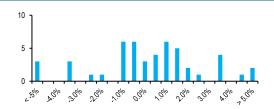
	Top 5 Funds (%)	
Divisar	8	
Crake	8	
Sio	7	
Prospect Flat Footed	5	
Flat Footed	5	



Geographic Exposure Allocation (%)	9/30/2022	6/30/2022	3/31/2022	12/31/2021
North America	75	67	66	67
Developed Europe	22	29	29	28
Emerging Markets	2	3	3	4
Developed Asia	1	1	2	1

Exposure Report (%)	9/30/2022	6/30/2022	3/31/2022	12/31/2021
Total Gross Exposure	113	107	123	125
Gross Long Exposure	74	71	82	89
Gross Short Exposure	39	36	41	36
Net Exposure	35	35	41	53

#### **Return Distribution**

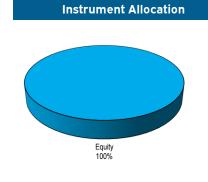


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#### ABS Emerging Markets | As of September 30, 2022

Account Information				
Mandate:	Hedge Fund, Fund of			
	Funds			
Market Value:	\$49.2 M			
Portfolio Manager:	Team			
Location:	Greenwich, CT			
Inception Date:	12/1/2018			
Account Type:	Limited Partnership			
# of Investments:	Not Provided			
Fee Schedule:	0.35% Management Fee,			
	10% Performance Fee			
Liquidity Constraints:	Quarterly with 45 days'			
	notice			



Portfolio Performance Summary					
	3Q22 (%)	1 YR (%)	3 YR (%)	5 YR (%)	Since 12/2018 (%)
ABS Emerging Markets	-8.5	-28.2	1.1	NA	3.1
MSCI Emerging Markets	-11.6	-28.1	-2.1	-1.8	-0.8

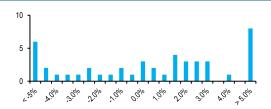
	Top 5 Funds (%)	
SinoVision Greater China SMA	14	
Houshan SMA	10	
IvyRock China SMA	9	
WhiteOak SMA	9	
Wmwal SMA	7	



Geographic Exposure Allocation (%)	9/30/2022	6/30/2022	3/31/2022	12/31/2021
Emerging Markets	98	98	97	96
North America	1	0	1	1
Developed Europe	1	1	1	1
Developed Asia	1	1	1	2

Exposure Report (%)	9/30/2022	6/30/2022	3/31/2022	12/31/2021
Total Gross Exposure	95	95	96	97
Gross Long Exposure	95	95	96	97
Gross Short Exposure	0	0	0	0
Net Exposure	95	95	96	97

#### **Return Distribution**

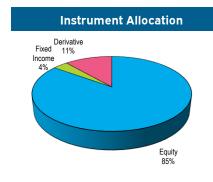


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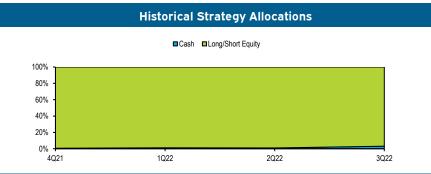
#### ABS Offshore SPC - Global Segregated Portfolio | As of September 30, 2022

Account Information					
Mandate:	Hedge Fund, Fund of				
	Funds				
Market Value:	\$33.2 M				
Portfolio Manager:	Team				
Location:	Greenwich, CT				
Inception Date:	8/31/2010				
Account Type:	Limited Partnership				
# of Investments:	Not Provided				
Fee Schedule:	1.00% Management Fee,				
	5% Performance Fee				
Liquidity Constraints:	Quarterly with 45 days'				
	notice				



Portfolio Performance Summary					
	3Q22 (%)	1 YR (%)	3 YR (%)	5 YR (%)	Since 8/2010 (%)
ABS Offshore SPC - Global Segregated Portfolio	-3.2	-12.6	2.8	2.5	4.6
HFRI Fund of Funds Composite Index	-0.2	-6.4	4.2	3.1	3.1

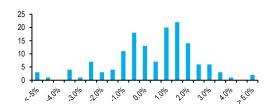
	Top 5 Funds (%)	
Energy Dynamics	6	
Toronado	5	
Azora	5	
Sagil	5	
TPG Public Equity Partners	5	



Geographic Exposure Allocation (%)	9/30/2022	6/30/2022	3/31/2022	12/31/2021
Emerging Markets	14	13	14	12
North America	71	71	70	68
Developed Europe	9	10	10	14
Developed Asia	6	6	6	7

Exposure Report (%)	9/30/2022	6/30/2022	3/31/2022	12/31/2021
Total Gross Exposure	130	135	148	149
Gross Long Exposure	84	86	95	101
Gross Short Exposure	47	49	53	48
Net Exposure	37	38	43	53

#### **Return Distribution**

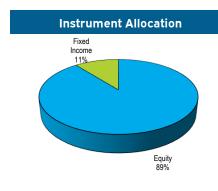


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#### EnTrust Special Opportunities Fund III, Ltd. | As of September 30, 2022

Account Information				
Mandate:	Hedge Fund, Fund of Funds			
Market Value:				
Portfolio Manager:	Team			
Location:	New York, NY			
Inception Date:	10/1/2016			
Account Type:	Limited Partnership			
# of Investments:	Not Provided			
Fee Schedule:	1.25% Management Fee;			
	10% Performance Fee; 7.5%			
	Hurdle			
Liquidity Constraints:	3 Year Lockup (4 years max) then quarterly with			



Portfolio Performance Summary						
	3Q22 (%)	1 YR (%)	3 YR (%)	5 YR (%)	Since 10/2016 (%)	
EnTrust Special Opportunities Fund III, Ltd.	NA	NA	NA	NA	NA	
HFRI Fund of Funds Composite Index (QTR)	NA	NA	NA	NA	NA	

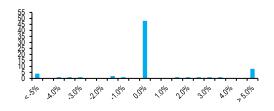
95 days' notice

	Top 5 Funds (%)	
SeaWorld II – Hill Path	18	
J.G Wentworth – Axar	9	
MGM - Corvex	8	
Bally's – Standard General	8	
Deutsche Bank - Hudson Executive	8	

Historical Strategy Allocations						
■ Arbitrage	■Cash ■Event Driven	■Fixed Income I	■ Global Macro	■Long/Short Equity	Other	■Private
100%						
80% -						
60% -						
40% -						
20% -						
0%		•		<u>.</u>		
4Q21	1	Q22		2Q22		3Q2

Geographic Exposure Allocation (%)	9/30/2022	6/30/2022	3/31/2022	12/31/2021
North America	59	56	59	59
Developed Europe	33	37	36	34
Developed Asia	1	1	1	2
Emerging Markets	7	6	5	5

Exposure Report (%)	9/30/2022	6/30/2022	3/31/2022	12/31/2021			
Total Gross Exposure		98	98	98			
Gross Long Exposure		98	98	98			
Gross Short Exposure		0	0	0			
Net Exposure		98	98	98			
Return Distribution							



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### Total Retirement Association | As of September 30, 2022

Annual Investment Expense Analysis							
As Of September 30, 2022							
Name	Fee Schedule	Market Value	Estimated Fee Value	Estimated Fee			
Domestic Equity Assets		\$243,186,698					
Rhumbline Russell 1000 Value	0.05% of First 25.0 Mil, 0.04% of Next 25.0 Mil, 0.03% Thereafter	\$64,871,001	\$26,961	0.04%			
Rhumbline Russell 1000 Growth	0.05% of First 25.0 Mil, 0.04% of Next 25.0 Mil, 0.03% Thereafter	\$44,544,578	\$20,318	0.05%			
Fisher Midcap Value	0.65% of Assets	\$53,512,435	\$347,831	0.65%			
Newton Small Cap Growth	0.45% of Assets	\$42,528,161	\$191,377	0.45%			
Vulcan Partners Small Cap Value	0.83% of Assets	\$12,516,377	\$103,886	0.83%			
Systematic Small Cap Free Cash Flow	0.76% of Assets	\$25,214,146	\$191,628	0.76%			
International Developed Market Equity Assets		\$32,663,302					
Aristotle International Equity	0.49% of Assets	\$17,436,411	\$85,438	0.49%			
Walter Scott International Equity	0.75% of Assets	\$15,226,891	\$114,202	0.75%			
International Emerging Market Equity Assets		\$93,664,141					
ABS Emerging Markets	Performance-based 0.35 and 0.10	\$49,205,469	\$172,219	0.35%			
Driehaus Emerging Markets Growth	0.55% of Assets	\$44,458,672	\$244,523	0.55%			
Global Equity Assets		\$129,990,538					
First Eagle Global Value Fund	0.75% of Assets	\$21,089,580	\$158,172	0.75%			
Kopernik Global All Cap Fund	0.80% of First 50.0 Mil, 0.75% of Next 150.0 Mil, 0.70% of Next 250.0 Mil, 0.65% of Next 350.0 Mil	\$30,354,475	\$242,836	0.80%			
Lee Munder Global Multi-Cap Strategy	0.45% of Assets	\$40,382,952	\$181,723	0.45%			

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### Total Retirement Association | As of September 30, 2022

Name	Fee Schedule	Market Value	Estimated Fee Value	Estimated Fee
Wellington Durable Enterprises, L.P.	0.60% of Assets	\$38,163,531	\$228,981	0.60%
Core Fixed Income		\$120,607,119		
Lord Abbett Short Duration Credit Trust II	0.17% of Assets	\$58,950,218	\$100,215	0.17%
Lord Abbett Core Fixed Income Trust II		\$39,184,190		
Rhumbline TIPS Trust	0.04% of First 5.0 Mil, 0.03% Thereafter	\$22,472,711	\$7,242	0.03%
Value Added Fixed Income		\$81,967,424		
Eaton Vance High Yield	0.42% of Assets	\$11,165,577	\$46,895	0.42%
First Eagle Bank Loan Select Fund	0.40% of Assets	\$10,474,387	\$41,898	0.40%
Manulife Strategic Fixed Income	0.35% of Assets	\$39,070,189	\$136,746	0.35%
Mesirow High Yield	0.40% of Assets	\$13,847,933	\$55,392	0.40%
Eaton Vance EMD Opportunities Fund	0.30% of Assets	\$7,409,337	\$22,228	0.30%

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## Total Retirement Association | As of September 30, 2022

Note: The value is based on June 30, 2022 FMV.

Private Equity	Commitment	Total Contributions	Total Distributions	Value
Ascend Ventures II, L.P.	2,500,000	2,327,488	925,962	74,024
Ascent Venture Partners IV, L.P.	2,500,000	2,502,219	424,010	(
Ascent Venture Partners V, L.P.	5,000,000	5,004,731	4,054,562	3,847,278
Audax Mezzanine Fund IV, L.P.	10,000,000	8,584,434	7,222,086	3,037,349
Charles River Partnership XI, L.P.	1,839,000	1,820,323	2,532,884	(
Charlesbank Technology Opportunities Fund, L.P.	12,000,000	6,479,019	1,071,735	11,480,559
Ironsides Co-Investment Fund VI, L.P.	13,000,000	11,537,873	182,648	13,400,23
DN Partners II, L.P.	5,000,000	2,375,841	23,571	2,426,33
Euro Choice V, L.P.	6,071,849	5,919,759	4,770,239	4,199,07
FS Equity Partners VIII, L.P.	12,000,000	7,470,187	324,324	12,150,22
Globespan Capital Partners V, L.P.	5,000,000	4,852,500	8,895,488	4,394,69
HarbourVest Partners Co-Investment Fund V, L.P.	12,000,000	9,300,000	1,440,447	14,252,42
HarbourVest Partners Co-Investment Fund VI, L.P.	13,000,000	650,000	0	593,37
Ironsides Direct Investment Fund V, L.P.	12,000,000	11,244,326	1,191,166	20,037,08
Kohlberg Investors IX	10,000,000	4,772,024	294,108	6,007,99
Landmark Equity Partners XIV, L.P.	6,000,000	5,837,967	7,319,413	547,94
Leeds Equity Partners IV, L.P.	5,000,000	5,093,100	9,709,704	13,48
Leeds Equity Partners V, L.P.	2,500,000	3,525,207	5,478,607	363,52
Lexington Capital Partners VII, L.P.	10,000,000	8,940,588	13,047,876	1,611,10
LLR Equity Partners V, L.P.	12,000,000	11,040,000	3,065,757	15,486,24
Mesirow Financial Capital Partners IX, L.P.	4,000,000	3,840,731	2,021,056	78,03
Ridgemont Equity Partners III, L.P.	12,000,000	10,213,999	4,487,116	15,547,91
Ridgemont Equity Partners IV, L.P.	13,000,000	0	0	
Rimco Production Company, Inc	2,000,000	2,000,000	7,651,066	
Searchlight Capital III, L.P.	12,000,000	7,808,981	2,280,382	10,601,04
Siguler Guff Distressed Opportunities Fund III, L.P.	6,000,000	5,820,000	9,120,927	606,03
Summit Partners Growth Equity Fund IX, L.P.	10,000,000	11,620,000	12,558,753	15,180,93
Summit Partners Venture Capital Fund V	10,000,000	3,908,550	0	3,824,06
Summit Partners Growth Equity Fund XI, L.P.	13,000,000	0	0	
TRG Growth Partnership II, L.P.	7,500,000	7,366,152	7,872,114	1,054,42

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### Total Retirement Association | As of September 30, 2022

Note: The value is based on June 30, 2022 FMV.

Private Equity	Commitment	Total Contributions	Total Distributions	Value
Trilantic Capital Partners VI (North America), L.P.	12,000,000	9,660,725	1,091,209	12,155,432
Waud Capital Partners V, L.P.	10,000,000	8,859,640	0	12,011,980
Wellspring Capital Partners VI, L.P.	12,000,000	11,494,621	2,497,169	14,969,07
Total Plymouth County - PE	280,910,849	201,870,986	121,554,377	199,951,89
Real Assets	Commitment	Total Contributions	Total Distributions	Value
Basalt Infrastructure Partners II	10,000,000	9,416,866	1,230,342	11,215,885
BlackRock Global Renewable Power Infrastructure Fund III, L.P.	10,000,000	2,567,932	142,443	2,383,388
BTG Pactual Global Timberland Resources Fund, LLC	5,043,536	5,043,536	1,869,240	1,323,589
Global Infrastructure Partners III, L.P.	10,000,000	9,922,936	2,957,596	11,403,184
Global Infrastructure Partners IV, L.P.	10,000,000	5,367,209	0	5,409,485
IFM Global Infrastructure (U.S.), L.P.	60,000,000	35,000,000	3,422,216	45,308,531
ISQ Global Infrastructure Fund III (USTE), L.P.	10,000,000	786,704	1,223	648,754
JPMorgan Global Maritime Investment	10,000,000	10,034,375	2,578,840	9,838,102
Domain Timbervest Partners III, L.P.	5,000,000	5,000,000	3,446,126	4,122,884
Total Plymouth County - RA	130,043,536	83,139,557	15,648,026	91,653,802
Real Estate	Commitment	Total Contributions	Total Distributions	Value
1921 Realty, Inc.	5,000,000	5,378,294	0	555,888
AEW Partners IX, L.P.	10,000,000	4,773,663	111	4,845,042
AEW Partners Real Estate Fund VIII, L.P.	25,000,000	23,989,589	27,792,735	7,322,850
Berkshire Value Fund V, L.P.	9,000,000	4,110,909	1,058,371	4,873,987
Carlyle Realty Partners VIII, L.P.	18,000,000	13,029,418	9,073,505	10,654,952
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	12,756,913	14,005,771
JPMorgan Strategic Property Fund	27,000,000	27,000,000	874,046	36,810,038
PCCP Equity IX, L.P.	10,000,000	3,169,943	0	3,333,181
Real Estate International Partnership Fund I, L.P.	15,000,000	12,677,141	11,372,161	890,209
Rockpoint Real Estate Fund VI, L.P.	9,000,000	6,547,623	960,265	7,478,993
TA Realty Core Property Fund, L.P.	60,000,000	60,468,715	4,816,242	77,631,253
TerraCap Partners V, L.P.	5,000,000	4,992,904	85,609	5,477,120
Total Plymouth County - RE e data for IFM Global Infrastructure and JPMorgan Strategic Property is as of September 3	<b>213,000,000</b> 0, 2022.	186,217,917	76,196,508	173,879,284

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### Total Retirement Association | As of September 30, 2022

Cash Flow Summary							
	Quarter Ending Sept	tember 30, 2022					
	Beginning Market Value	Contributions	Withdrawals	Net Cash Flow	Ending Market Value		
1921 Realty, Inc	\$550,780	\$0	\$0	\$0	\$555,888		
ABS Emerging Markets	\$53,752,392	\$0	-\$30,260	-\$30,260	\$49,205,469		
ABS Offshore SPC - Global Segregated Portfolio	\$34,266,212	\$0	-\$85,084	-\$85,084	\$33,160,237		
AEW Partners Real Estate Fund IX, L.P.	\$4,785,017	\$987,654	\$0	\$987,654	\$5,832,696		
AEW Partners Real Estate VIII	\$7,253,009	\$0	\$0	\$0	\$7,322,850		
Aristotle International Equity	\$18,930,033	\$0	-\$23,209	-\$23,209	\$17,436,411		
Ascend Ventures II	\$4,793	\$0	\$0	\$0	\$0		
Ascent Ventures IV	\$0	\$0	\$0	\$0	\$0		
Ascent Ventures V	\$4,138,630	\$0	\$0	\$0	\$3,847,278		
Audax Mezzanine Debt IV	\$2,970,955	\$0	-\$224,046	-\$224,046	\$2,813,303		
Basalt Infrastructure Partners II	\$10,960,129	\$0	-\$1,208,746	-\$1,208,746	\$10,007,139		
Berkshire Value Fund V	\$4,598,552	\$1,023,545	\$0	\$1,023,545	\$5,897,532		
BlackRock Global Renewable Power Infrastructure Fund III, L.P.	\$2,344,175	\$299,710	-\$37,072	\$262,638	\$2,646,026		
BTG Pactual Global Timberland Resources	\$1,481,339	\$0	\$0	\$0	\$1,323,589		
Carlyle Realty Partners VIII	\$10,530,767	\$0	\$0	\$0	\$10,654,952		
Cash	\$8,956,070	\$22,404,997	-\$8,440,755	\$13,964,242	\$22,910,328		
Charles River Partnership XI	\$0	\$0	\$0	\$0	\$0		
Charlesbank Technology Opportunities Fund	\$11,077,423	\$912,891	\$0	\$912,891	\$12,393,450		
DN Partners II, LP	\$2,426,338	\$0	\$0	\$0	\$2,426,338		
Driehaus Emerging Markets Growth	\$48,109,538	\$0	-\$64,759	-\$64,759	\$44,458,672		
DSF Multi-Family Real Estate Fund III	\$12,748,553	\$0	-\$9,248,822	-\$9,248,822	\$4,756,949		
Eaton Vance EMD Opportunities Fund	\$7,519,001	\$0	-\$5,608	-\$5,608	\$7,409,337		

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### Total Retirement Association | As of September 30, 2022

	Beginning Market Value	Contributions	Withdrawals	Net Cash Flow	Ending Market Value
Eaton Vance High Yield	\$11,216,330	\$0	-\$12,121	-\$12,121	\$11,165,577
Entrust Special Opportunities Fund III, Ltd.	\$13,395,560	\$0	-\$310,366	-\$310,366	\$13,085,194
EnTrustPermal Special Opportunities Evergreen Fund, Ltd.	\$19,310,902	\$0	\$0	\$0	\$19,310,902
Euro Choice V Programme	\$4,509,590	\$0	-\$821,062	-\$821,062	\$3,378,010
First Eagle Bank Loan Select Fund	\$10,377,273	\$0	-\$10,563	-\$10,563	\$10,474,387
First Eagle Global Value Fund	\$22,880,773	\$0	-\$42,275	-\$42,275	\$21,089,580
Fisher Midcap Value	\$56,188,769	\$0	-\$95,034	-\$95,034	\$53,512,435
FS Equity Partners VIII, L.P.	\$11,170,753	\$111,082	\$0	\$111,082	\$12,261,304
Global Infrastructure Partners III	\$11,085,013	\$0	-\$333,829	-\$333,829	\$11,069,355
Global Infrastructure Partners IV, L.P.	\$5,330,276	\$1,180,351	\$0	\$1,180,351	\$6,589,836
Globespan Capital V	\$4,418,039	\$0	\$0	\$0	\$4,394,697
HarbourVest Partners Co-Investment Fund VI, L.P.	\$678,637	\$1,300,000	\$0	\$1,300,000	\$1,893,372
HarbourVest Partners Co-Investment V	\$14,856,672	\$0	\$0	\$0	\$14,252,426
IFM Global Infrastructure	\$45,355,079	\$0	-\$129,048	-\$129,048	\$45,308,531
Ironsides Co-Investment Fund VI, L.P.	\$13,162,140	\$1,507,751	\$0	\$1,507,751	\$14,907,981
Ironsides Direct Investment Fund V, L.P.	\$20,055,597	\$0	-\$1,334,316	-\$1,334,316	\$18,702,764
ISQ Global Infrastructure Fund III (USTE), L.P.	\$641,510	\$298,461	\$0	\$298,461	\$947,215
JP Morgan Global Maritime Investment	\$9,192,850	\$0	\$0	\$0	\$9,838,102
JPMorgan Strategic Property	\$37,371,693	\$0	-\$180,932	-\$180,932	\$36,810,038
Kohlberg Investors IX	\$5,792,584	\$738,554	\$0	\$738,554	\$6,746,547
Kopernik Global All Cap Fund	\$32,050,147	\$0	-\$64,278	-\$64,278	\$30,354,475
Landmark Equity Partners XIV	\$550,552	\$0	-\$33,037	-\$33,037	\$514,906
Lee Munder Global Multi-Cap Strategy	\$38,341,862	\$5,045,668	-\$49,128	\$4,996,540	\$40,382,952
Leeds Equity Partners IV	\$13,505	\$0	\$0	\$0	\$13,487

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### Total Retirement Association | As of September 30, 2022

	Beginning Market Value	Contributions	Withdrawals	Net Cash Flow	Ending Market Value
Leeds Equity Partners V	\$410,213	\$0	-\$116,032	-\$116,032	\$247,496
Lexington Capital Partners VII	\$1,649,629	\$0	-\$93,456	-\$93,456	\$1,517,650
LLR Equity Partners V, LP.	\$14,585,382	\$0	-\$125,061	-\$125,061	\$15,361,187
Lord Abbett Core Fixed Income Trust II	\$41,147,325	\$0	\$0	\$0	\$39,184,190
Lord Abbett Short Duration Credit Trust II	\$49,683,078	\$10,000,000	-\$25,382	\$9,974,618	\$58,950,218
Manulife Strategic Fixed Income	\$40,016,936	\$0	-\$77,020	-\$77,020	\$39,070,189
Mesirow Financial Capital Partners IX, LP	\$78,205	\$0	\$0	\$0	\$78,038
Mesirow Financial International Real Estate Fund I	\$740,455	\$0	\$0	\$0	\$740,455
Mesirow High Yield	\$13,885,193	\$0	-\$14,183	-\$14,183	\$13,847,933
Newton Small Cap Growth	\$41,232,654	\$0	-\$50,750	-\$50,750	\$42,528,161
Old Farm Partners Master Fund, L.P.	\$10,348,927	\$5,000,000	-\$45,669	\$4,954,331	\$14,942,858
PCCP Equity IX, L.P.	\$3,254,221	\$1,200,000	\$0	\$1,200,000	\$4,533,181
Rhumbline Russell 1000 Growth	\$46,209,015	\$0	-\$5,465	-\$5,465	\$44,544,578
Rhumbline Russell 1000 Value	\$53,766,746	\$15,000,000	-\$7,106	\$14,992,894	\$64,871,001
Rhumbline TIPS Trust	\$23,683,484	\$0	-\$1,906	-\$1,906	\$22,472,711
Ridgemont Equity Partners III, L.P.	\$14,178,853	\$661,937	\$0	\$661,937	\$16,209,848
RIMCO Royalty Partners, LP	\$1	\$0	-\$23,197	-\$23,197	\$1
Rockpoint Real Estate Fund VI, L.P.	\$7,304,562	\$310,387	-\$130,794	\$179,593	\$7,658,586
Searchlight Capital III, L.P.	\$10,325,303	\$0	-\$1,171,357	-\$1,171,357	\$9,429,692
Siguler Guff Distressed Opportunities Fund III, LP	\$606,368	\$0	-\$30,959	-\$30,959	\$575,077
Summit Partners Growth Equity Fund IX	\$15,998,524	\$0	\$0	\$0	\$15,180,935
Summit Partners Growth Equity Fund XI		\$844,860	\$0	\$844,860	\$844,860
Summit Partners Venture Capital Fund V	\$4,008,435	\$196,363	\$0	\$196,363	\$4,020,426
Systematic Small Cap Free Cash Flow	\$26,190,150	\$0	\$0	\$0	\$25,214,146

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### Total Retirement Association | As of September 30, 2022

	Beginning Market Value	Contributions	Withdrawals	Net Cash Flow	Ending Market Value
TA Realty Core Property Fund, L.P.	\$77,631,253	\$5,000,000	-\$835,063	\$4,164,937	\$81,796,191
TerraCap Partners V, L.P	\$5,506,382	\$0	\$0	\$0	\$5,477,120
Timbervest Partners III, LP	\$4,052,865	\$0	-\$200,000	-\$200,000	\$3,922,884
TRG Growth Partnership II	\$1,048,262	\$0	-\$85,686	-\$85,686	\$968,735
Trilantic Capital Partners VI, L.P.	\$11,233,059	\$557,983	-\$51,096	\$506,886	\$12,662,318
Vulcan Partners Small Cap Value	\$14,674,089	\$0	\$0	\$0	\$12,516,377
Walter Scott International Equity	\$16,722,600	\$0	-\$64,524	-\$64,524	\$15,226,891
Waud Capital Partners V	\$10,953,967	\$0	\$0	\$0	\$12,011,980
Wellington Durable Enterprises, L.P.	\$39,521,721	\$0	-\$60,523	-\$60,523	\$38,163,531
Wellspring Capital Partners VI	\$14,515,107	\$0	\$0	\$0	\$14,969,077
Total	\$1,250,512,779	\$74,582,194	-\$25,999,580	\$48,582,614	\$1,271,801,040

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# Private Markets 2022 Q2 Performance Update



Introduction | As of June 30, 2022

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

As of June 30, 2022 the Retirement Association had committed \$715.1 million to 67 partnerships. The reported fair market value of the program, in aggregate, was \$466.1 million at the end of the quarter.

Private Equity Program					
No. of Funds	37				
Committed	297.1				
Contributed	219.4				
Distributed	137.0				
Fair Market Value	199.9				
TVPI	1.53x				
Since Inception IRR	9.4%				
1-Quarter IRR	2.4%				
1-Year IRR	23.0%				

Real Assets Program						
No of Funds	9					
Committed	130.0					
Contributed	83.1					
Distributed	15.6					
Fair Market Value	91.7					
TVPI	1.29x					
Since Inception IRR	6.2%					
1-Quarter IRR	2.8%					
1-Year IRR	17.8%					

Real Estate Program							
No of Funds	21						
Committed	288.0						
Contributed	259.7						
Distributed	212.5						
Fair Market Value	174.5						
TVPI	1.49x						
Since Inception IRR	7.1%						
1-Quarter IRR	4.5%						
1-Year IRR	36.1%						

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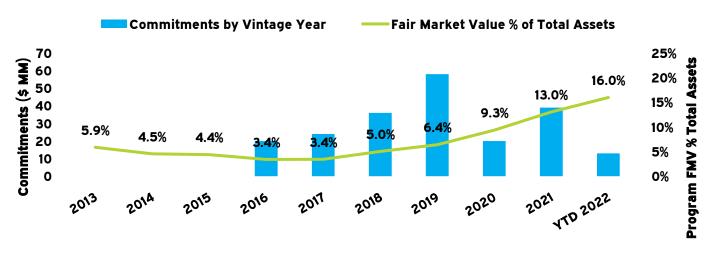
# **Private Equity Program**

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Overview | As of June 30, 2022

#### Introduction

As of June 30, 2022, the Plymouth County Retirement Association ("the Retirement Association") had committed \$297.1 million to 37 partnerships. The Retirement Association maintains a 13% allocation target to private equity. No new commitments were made during the second quarter of 2022. The fair market value of the private equity program was \$199.9 million, representing 16.0% of the Retirement Association's total assets vs the 14% Policy target.



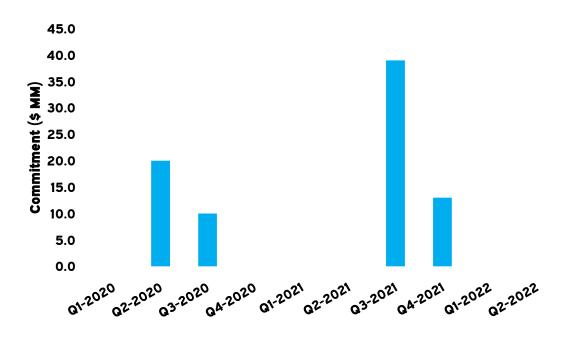
Program Status							
No. of Investments	37						
Committed (\$ MM)	297.1						
Contributed (\$ MM)	219.4						
Distributed (\$ MM)	137.0						
Fair Market Value (\$ MM)	199.9						

	Performance Since Inception
	Program
DPI	0.62x
TVPI	1.53x
IRR	9.4%



Recent Activity | As of June 30, 2022

Commitments
Recent Quarterly Commitments



#### **Commitments This Quarter**

	- · ·		
Fund	Strategy	Region	Amount (MM)

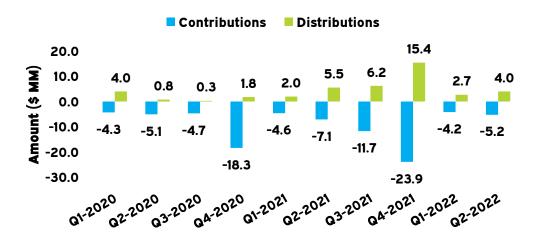
No new commitments made during the quarter.

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Recent Activity | As of June 30, 2022

Cash Flows
Recent Quarterly Cash Flows



Largest Contributions This Quarter								
Fund	Vintage	Strategy	Region	Amount (\$MM)				
Charlesbank Tech	2019	Buyout	Global: All	1.23				
Waud V	2019	Buyout	North America	1.01				
Ironsides Direct V	2018	Buyout	North America	1.00				

Largest Distributions This Quarter								
Fund	Vintage	Strategy	Region	Amount (\$MM)				
Audax Mezz IV	2016	Private Debt	North America	1.31				
Searchlight III	2019	Buyout	Global: Developed	1.19				
Trilantic VI	2018	Buyout	North America	0.84				

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Recent Activity | As of June 30, 2022

#### **Significant Events**

- → During the second quarter of 2022, the Retirement Association contributed \$5.22 million to its private equity partnerships and received \$4.03 million in distributions, representing a \$1.19 million net cash outflow.
- → Charlesbank Technology Opportunities Fund, L.P. called \$1.23 million during the second quarter, primarily to repay the credit facility used to fund investments, as well as management fees and partnership expenses.
- → Waud Capital Partners Fund V, L.P. called \$1.01 million during the quarter to fund a new investment as well as bridge financing for an existing investment that was partially funded on a line of credit.
- → Ironsides Direct Investment Fund V, L.P. called \$1.00 million during the second quarter to fund several investments as well as management fees and partnership expenses.
- → Audax Mezzanine Fund IV, L.P. distributed \$1.31 million during the second quarter. Proceeds stemmed from the sale of several existing investments as well as dividend proceeds from existing investments.
- → Searchlight Capital III, L.P. distributed \$1.19 million during the quarter as dividend proceeds from several existing investments.
- → Trilantic Capital Partners VI, L.P. distributed \$0.84 million of recallable proceeds from the monetization's of several existing investments, thereby increasing the Retirement Association's remaining commitment in the Fund.

MEKETA INVESTMENT GROUP 64 of 153



Performance Analysis | As of June 30, 2022

## By Strategy

Group	Number	Committed (\$ MM)	Contributed (\$ MM)	Unfunded (\$ MM)	Distributed (\$ MM)	Fair Market Value (\$ MM)	Exposure (\$ MM)	DPI (X)	TVPI (X)	IRR (%)
Buyout	20	188.1	130.1	68.4	42.9	161.5	229.9	0.33	1.57	11.9
Fund of Funds	3	17.6	17.3	1.9	21.9	4.8	6.7	1.27	1.55	8.7
Growth Equity	3	30.5	19.0	24.1	20.4	16.2	40.3	1.08	1.93	13.1
Private Debt	1	10.0	8.6	3.0	7.2	3.0	6.0	0.84	1.20	10.2
Secondary	2	16.0	14.8	1.3	20.4	2.2	3.5	1.38	1.52	12.5
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	24.9	7.1	19.1	12.1	19.3	0.77	1.26	2.9
Total	37	297.1	219.4	105.8	137.0	199.9	305.6	0.62	1.53	9.4

MEKETA INVESTMENT GROUP 65 of 153



Performance Analysis | As of June 30, 2022

#### By Vintage

						Fair Market				
Group	Number	Committed (\$ MM)	Contributed (\$ MM)	Unfunded (\$ MM)	Distributed (\$ MM)	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	0.4	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	-5.5
2006	1	5.0	4.9	0.1	8.9	4.4	4.5	1.83	2.74	13.9
2007	2	12.5	9.7	2.8	7.9	3.5	6.3	0.81	1.17	2.3
2008	2	12.0	11.7	0.3	16.4	1.2	1.5	1.41	1.51	10.4
2009	1	10.0	8.9	1.1	13.0	1.6	2.8	1.46	1.64	13.9
2010	1	2.5	3.5	0.0	5.5	0.4	0.4	1.55	1.66	12.4
2011	1	5.0	5.0	0.2	4.1	3.8	4.0	0.81	1.58	7.2
2012	1	6.1	5.9	1.3	4.8	4.2	5.5	0.81	1.52	8.6
2016	2	20.0	20.2	13.9	19.8	18.2	32.2	0.98	1.88	29.2
2017	2	24.0	22.5	3.9	5.6	30.5	34.3	0.25	1.60	23.1
2018	3	36.0	30.2	7.7	3.7	46.4	54.1	0.12	1.66	23.4
2019	5	58.0	40.8	21.4	8.2	61.8	83.1	0.20	1.71	47.3
2020	2	20.0	8.7	11.6	0.3	9.8	21.4	0.03	1.17	NM
2021	3	39.0	12.2	27.1	0.2	13.9	41.0	0.01	1.16	NM
2022	1	13.0	0.0	13.0	0.0	NM <sup>1</sup>	13.0	0.00	NA	NA
Total	37	297.1	219.4	105.8	137.0	199.9	305.6	0.62	1.53	9.4

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<sup>&</sup>lt;sup>1</sup> The Retirement Association's fair market value for the 2022 vintage year is marked as "NM" or "Not Meaningful" due to a negative fair market value for its investment in Ridgemont Equity Partners IV, L.P. The Fund's fair market value as of June 30, 2022 was (\$33,872) due to fees and expenses incurred by the funds, without calling any capital.



Performance Analysis | As of June 30, 2022

## Since Inception Performance Over Time

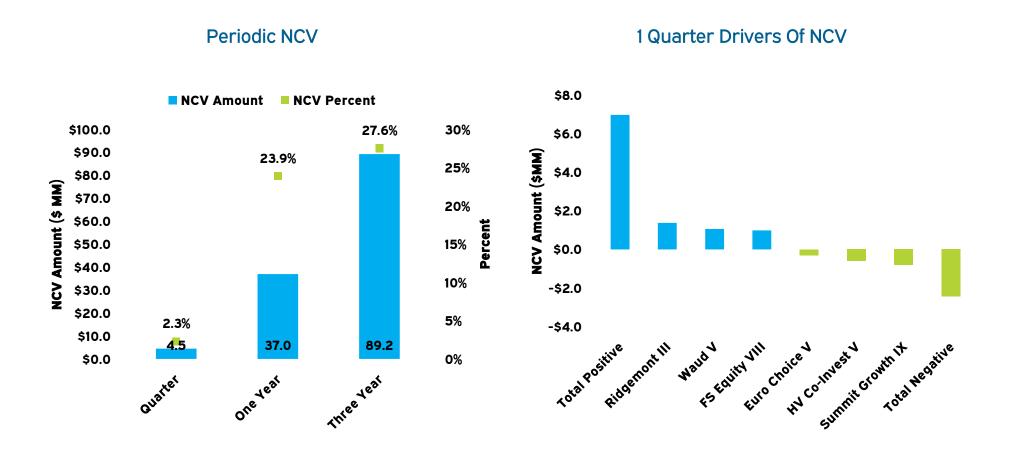


#### Horizon IRRs

	1 Year (%)	3 Year (%)	5 Year (%)	10 Year (%)	Since Inception (%)
Aggregate Portfolio	23.0	28.2	23.3	14.5	9.4
Public Market Equivalent	-23.3	0.5	4.0	8.2	6.7

MEKETA INVESTMENT GROUP 67 of 153

Performance Analysis | As of June 30, 2022





Performance Analysis | As of June 30, 2022

## Fund Performance: Sorted By Vintage And Strategy

By Investment	Vintage	Strategy	Committed (\$ MM)	Contribute d (\$ MM)	Unfunded (\$ MM)	Distributed (\$ MM)	Fair Market Value (\$ MM)	TVPI (X)	Peer TVPI (X)	IRR (%)	Peer IRR (%)
Senior Tour Players	1998	Buyout	2.6	2.7	0.0	0.1	0.0	0.04	1.38	-25.5	8.0
Charles River X	1999	Venture Capital	5.0	4.4	0.6	2.2	0.0	0.49	1.29	-14.9	7.1
Chales River XI	2000	Venture Capital	1.8	1.8	0.0	2.5	0.0	1.39	1.40	5.5	8.3
Rimco	2001	Buyout	2.0	2.0	0.0	7.7	0.0	3.83	1.64	29.1	13.0
Leeds IV	2004	Buyout	5.0	5.1	0.1	9.7	0.0	1.91	1.60	8.0	10.9
Euro Choice II	2004	Fund of Funds	5.5	5.5	0.3	8.0	0.0	1.46	1.60	7.0	10.9
Ascent Venture IV	2004	Venture Capital	2.5	2.5	0.0	0.4	0.0	0.17	1.60	-27.2	10.9
Mesirow IX	2005	Buyout	4.0	3.8	0.2	2.0	0.1	0.55	1.47	-7.0	8.1
Levine Leichtman DV	2005	Special Situations	3.0	4.9	0.0	5.1	0.0	1.04	1.47	1.3	8.1
Ascend Ventures II	2005	Venture Capital	2.5	2.3	0.2	1.0	0.1	0.46	1.47	-9.7	8.1
Globespan V	2006	Venture Capital	5.0	4.9	0.1	8.9	4.4	2.74	1.50	13.9	8.2
DN Partners II	2007	Buyout	5.0	2.4	2.6	0.0	2.4 <sup>1</sup>	1.03	1.67	0.3	11.7
TRG II	2007	Growth Equity	7.5	7.4	0.2	7.9	1.1	1.21	1.67	3.6	11.7
Siguler Guff III	2008	Fund of Funds	6.0	5.8	0.2	9.1	0.6	1.67	1.70	10.7	12.6

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<sup>&</sup>lt;sup>1</sup> The fair market value of DN Partners II, L.P. is a cash adjusted estimate due to the timing of the report.



Performance Analysis | As of June 30, 2022

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

							Fair Market				
Ву	Matana	Charles and	Committed	Contributed	Unfunded	Distributed	Value	TVPI	Peer TVPI	IRR	Peer IRR
Investment	Vintage	Strategy	(\$ MM)	(\$ MM)	(\$ MM)	(\$ MM)	(\$ MM)	(x)	(X)	(%)	(%)
Landmark XIV	2008	Secondary	6.0	5.8	0.2	7.3	0.5	1.35	1.70	9.8	12.6
Lexington VII	2009	Secondary	10.0	8.9	1.1	13.0	1.6	1.64	1.82	13.9	15.0
Leeds V	2010	Buyout	2.5	3.5	0.0	5.5	0.4	1.66	2.02	12.4	19.2
Ascent Venture V	2011	Venture Capital	5.0	5.0	0.2	4.1	3.8	1.58	1.95	7.2	16.6
Euro Choice V	2012	Fund of Funds	6.1	5.9	1.3	4.8	4.2	1.52	1.92	8.6	16.3
Summit Growth IX	2016	Growth Equity	10.0	11.6	10.9	12.6	15.2	2.39	1.96	37.3	23.0
Audax Mezz IV	2016	Private Debt	10.0	8.6	3.0	7.2	3.0	1.20	1.96	10.2	23.0
LLR V	2017	Buyout	12.0	11.0	2.5	3.1	15.5	1.68	1.76	22.0	25.2
Wellspring VI	2017	Buyout	12.0	11.5	1.4	2.5	15.0	1.52	1.76	24.7	25.2
HV Co-Invest V	2018	Buyout	12.0	9.3	2.7	1.4	14.3	1.69	1.65	30.1	25.8
Ironsides Direct V	2018	Buyout	12.0	11.2	1.6	1.2	20.0	1.89	1.65	22.4	25.8
Trilantic VI	2018	Buyout	12.0	9.7	3.4	1.1	12.2	1.37	1.65	19.1	25.8
Charlesbank Tech	2019	Buyout	12.0	6.5	6.2	1.1	11.5	1.94	1.38	80.6	24.5
FS Equity VIII	2019	Buyout	12.0	7.5	4.5	0.3	12.2	1.67	1.38	34.4	24.5
Ridgemont III	2019	Buyout	12.0	10.2	3.9	4.5	15.5	1.96	1.38	54.9	24.5
Searchlight III	2019	Buyout	12.0	7.8	5.5	2.3	10.6	1.65	1.38	45.2	24.5

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Performance Analysis | As of June 30, 2022

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

							Fair Market				
By Investment	Vintage	Strategy	Committed (\$ MM)	Contributed (\$ MM)	Unfunded (\$ MM)	Distributed (\$ MM)	Value (\$ MM)	TVPI (X)	Peer TVPI (X)	IRR (%)	Peer IRR (%)
Waud V	2019	Buyout	10.0	8.9	1.1	0.0	12.0	1.36	1.38	30.5	24.5
Kohlberg IX	2020	Buyout	10.0	4.8	5.5	0.3	6.0	1.32	1.25	NM	NM
Summit Venture V	2020	Venture Capital	10.0	3.9	6.1	0.0	3.8	0.98	1.25	NM	NM
HV Co-Invest VI	2021	Buyout	13.0	0.7	12.4	0.0	0.6	0.91	1.06	NM	NM
Ironsides Co-Inv VI	2021	Buyout	13.0	11.5	1.7	0.2	13.4	1.18	1.06	NM	NM
Summit Growth XI	2021	Growth Equity	13.0	0.0	13.0	0.0	NM¹	NM	1.06	NM	NM
Ridgemont IV	2022	Buyout	13.0	0.0	13.0	0.0	$NM^2$	NM	NM	NM	NM
Total			297.1	219.4	105.8	137.0	199.9	1.53		9.4	

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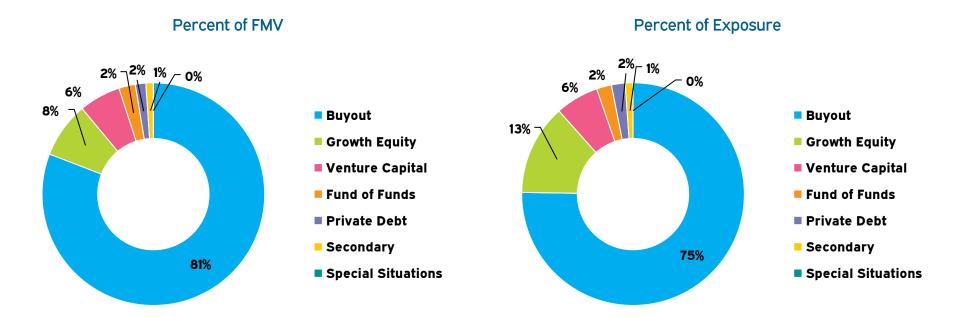
<sup>&</sup>lt;sup>1</sup> The fair market value of the Retirement Association's investment in Summit Partners Growth Equity Fund XI, L.P. is marked as "NM" or "Not Meaningful" as of June 30, 2022, due to a negative fair market value. The Fund's fair market value as of June 30, 2022, was (\$65,457) due to fees and expenses incurred by the funds, without calling any capital.

<sup>&</sup>lt;sup>2</sup> The fair market value of the Retirement Association's investment in Ridgemont Equity Partners Fund IV, L.P. is marked as "NM" or "Not Meaningful" as of June 30, 2022, due to a negative fair market value. The Fund's fair market value as of June 30, 2022, was (\$33,872) due to fees and expenses incurred by the funds, without calling any capital.



Fund Diversification | As of June 30, 2022

#### By Strategy



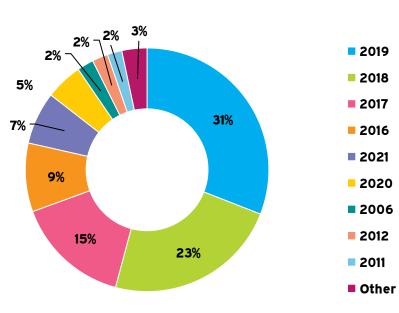


### Plymouth County Retirement Association Private Equity Program

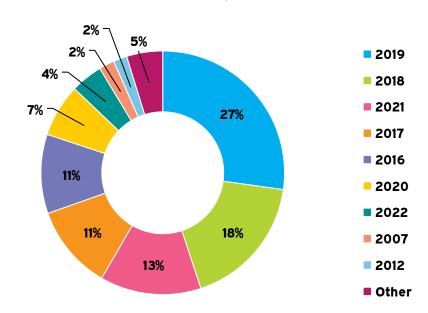
Fund Diversification | As of June 30, 2022

### By Vintage





#### Percent of Exposure



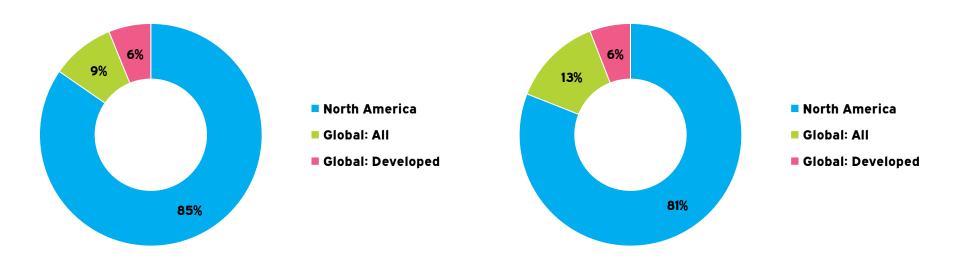


# Plymouth County Retirement Association Private Equity Program

Fund Diversification | As of June 30, 2022

### By Geographic Focus







**Real Assets Program** 

MEKETA INVESTMENT GROUP 75 of 153

Overview | As of June 30, 2022

#### Introduction

As of June 30, 2022, the Plymouth County Retirement Association ("the Retirement Association") had committed \$130.0 million to nine partnerships. No new commitments were made during the second quarter of 2022. The fair market value of the Retirement Association's Real Assets program was \$91.7 million, representing 7.3% of total assets, exceeding the program's 6.0% target.



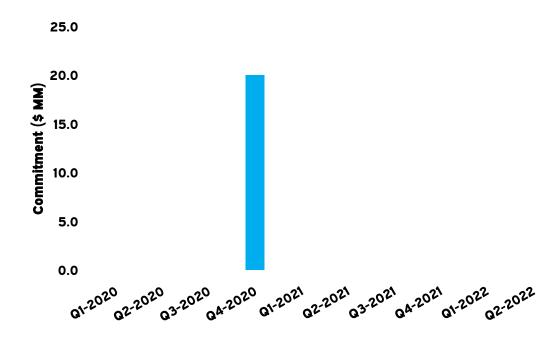
	Program Status
No. of Investments	9
Committed (\$M)	130.0
Contributed (\$M)	83.1
Distributed (\$M)	15.6
Fair Market Value (\$M)	91.7

	Performance Since Inception
	Program
DPI	0.19x
TVPI	1.29x
IRR	6.2%



Recent Activity | As of June 30, 2022

# Commitments Recent Quarterly Commitments



#### **Commitments This Quarter**

Fund	Strategy	Region	Amount (MM)
------	----------	--------	-------------

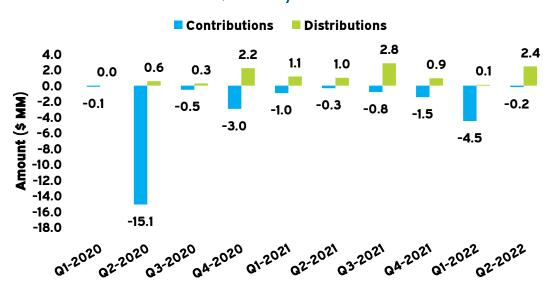
No new commitments made during the Quarter.

MEKETA INVESTMENT GROUP 77 of 153



Recent Activity | As of June 30, 2022

Cash Flows
Recent Quarterly Cash Flows



Largest Contributions This Quarter							
Fund	Vintage	Strategy	Region	Amount (\$MM)			
BlackRock GRPIF III	2020	Value- Added	Global: All	0.55			
Global IS III	2016	Value- Added	Global: Developed	0.04			
ISQ IS III	2021	Value- Added	Global: Developed	<\$0.01			

Largest Distributions This Quarter							
Fund	Vintage	Strategy	Region	Amount (\$MM)			
JPMorgan Maritime	2010	Opportuni stic	Global: Developed	0.77			
Basalt IS II	2017	Core	Global: Developed	0.74			
Global IS III	2016	Value- Added	Global: Developed	0.43			



Recent Activity | As of June 30, 2022

#### **Significant Events**

- → During the second quarter of 2022, the Retirement Association contributed \$0.18 million to its private real assets partnerships and received \$2.42 million in distributions, representing a \$2.24 million net cash inflow.
- → BlackRock Global Renewable Power Infrastructure Fund III, L.P. called the most amount of capital during the quarter (\$0.55 million) to fund the acquisition of a new project, as well as other fund investments and management fees.
- → Global Infrastructure Partners III, L.P. called \$0.04 million during the second quarter to fund an existing investment, as well as management fees and partnership expenses. The Fund distributed \$0.43 million as dividend proceeds from its existing investments.
- → Global Infrastructure Partners IV, L.P. returned \$0.42 million in excess contributions during the second quarter that were previously called to fund investments. This is reflected as a negative contribution, thereby increasing the Retirement Association's unfunded commitment.
- → JPMorgan Global Maritime Investment Fund distributed \$0.77 million during the second quarter. Proceeds stemmed from distributable cash from vessel investments as well as net sale proceeds received from the sale of one vessel.
- → Basalt Infrastructure Partners II, L.P. distributed \$0.74 million of recallable proceeds during the quarter, thereby increasing the Retirement Association's unfunded commitment.

MEKETA INVESTMENT GROUP 79 of 153



Performance Analysis | As of June 30, 2022

# 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	44.4	26.8	4.5	56.6	83.4	0.10	1.38	11.0
Natural Resources	2	10.0	10.0	0.0	5.3	5.4	5.4	0.53	1.07	0.8
Opportunistic	1	10.0	10.0	0.3	2.6	9.8	10.1	0.26	1.24	3.1
Value-Added	4	40.0	18.6	23.2	3.2	19.8	43.1	0.17	1.23	9.3
Total	9	130.0	83.1	50.3	15.6	91.7	142.0	0.19	1.29	6.2

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Performance Analysis | As of June 30, 2022

# By Vintage

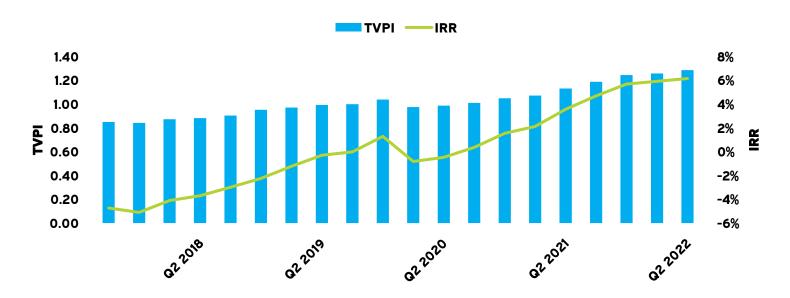
Group	Number	Committed (\$ MM)	Contributed (\$ MM)	Unfunded (\$ MM)	Distributed (\$ MM)	Fair Market Value (\$ MM)	Exposure (\$ MM)	DPI (X)	TVPI (X)	IRR (%)
Open-end	1	60.0	35.0	25.0	3.3	45.3	70.3	0.09	1.39	11.4
2010	2	15.0	15.0	0.3	6.0	14.0	14.2	0.40	1.33	3.9
2011	1	5.0	5.0	0.0	1.9	1.3	1.3	0.37	0.63	-5.5
2016	1	10.0	9.9	1.3	3.0	11.4	12.7	0.30	1.45	11.0
2017	1	10.0	9.4	1.8	1.2	11.2	13.0	0.13	1.32	9.6
2019	1	10.0	5.4	5.2	0.0	5.4	10.6	0.00	1.01	1.0
2020	1	10.0	2.6	7.6	0.1	2.4	10.0	0.06	0.98	NM
2021	1	10.0	0.8	9.2	0.0	0.6	9.9	0.00	0.83	NM
Total	9	130.0	83.1	50.3	15.6	91.7	142.0	0.19	1.29	6.2

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Performance Analysis | As of June 30, 2022

# Since Inception Performance Over Time

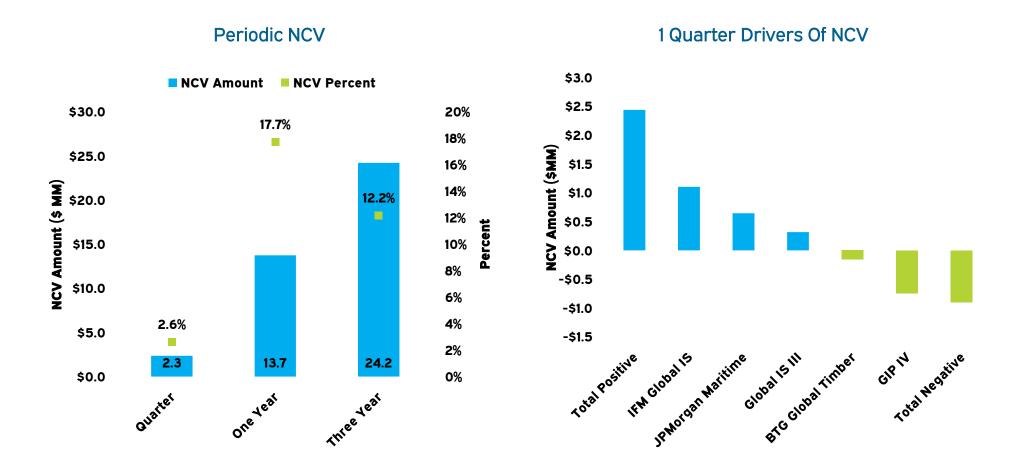


#### Horizon IRRs

	1 Year (%)	3 Year (%)	5 Year (%)	10 Year (%)	Since Inception (%)
Aggregate Portfolio	17.8	11.5	9.6	6.7	6.2
Public Market Equivalent	2.1	9.7	9.1	7.9	7.9

MEKETA INVESTMENT GROUP 82 of 153

Performance Analysis | As of June 30, 2022





#### Performance Analysis | As of June 30, 2022

	2 <b>Q</b> 22 (%)	1 YR (%)	3 YR (%)	5 YR (%)	10 YR (%)	Since Inception (%)	Inception Date
IFM Global Infrastructure	2.5	12.7	10.5	NA	NA	11.0	10/01/2018
CPI+3%	3.7	12.1	8.0	NA	NA	7.4	

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Performance Analysis | As of June 30, 2022

# 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	35.0	25.0	3.3	45.3	1.39	NA	11.4	NA
Timbervest III	2010	Natural Resourc es	5.0	5.0	0.0	3.4	4.1	1.51	1.40	5.0	11.7
JPMorgan Maritime	2010	Opportu nistic	10.0	10.0	0.3	2.6	9.8	1.24	1.40	3.1	11.7
BTG Global Timber	2011	Natural Resourc es	5.0	5.0	0.0	1.9	1.3	0.63	1.36	-5.5	7.0
Global IS III	2016	Value- Added	10.0	9.9	1.3	3.0	11.4	1.45	1.32	11.0	10.3
Basalt IS II	2017	Core	10.0	9.4	1.8	1.2	11.2	1.32	1.26	9.6	12.6
GIP IV	2019	Value- Added	10.0	5.4	5.2	0.0	5.4	1.01	1.15	1.0	13.1
BlackRock GRPIF III	2020	Value- Added	10.0	2.6	7.6	0.1	2.4	0.98	1.09	NM	NM
ISQ IS III	2021	Value- Added	10.0	0.8	9.2	0.0	0.6	0.83	1.02	NM	NM
Total			130.0	83.1	50.3	15.6	91.7	1.29		6.2	

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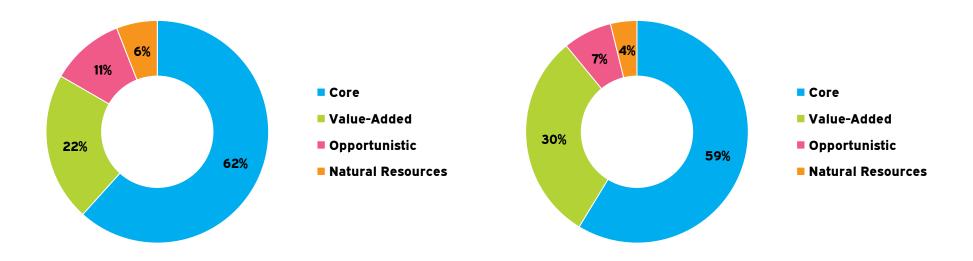


Fund Diversification | As of June 30, 2022

### By Strategy



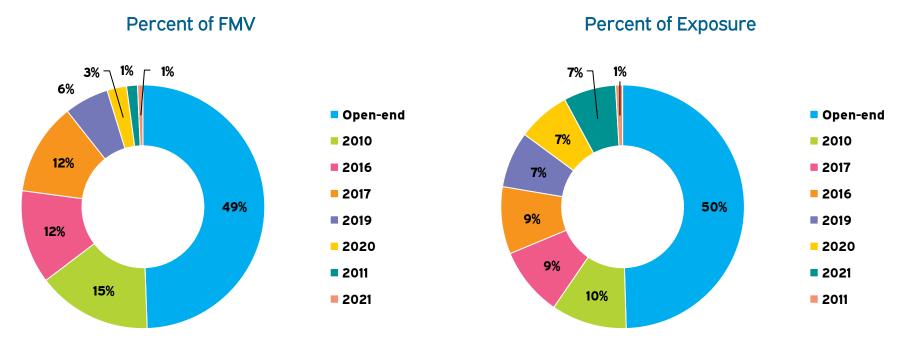
### Percent of Exposure





Fund Diversification | As of June 30, 2022

### By Vintage



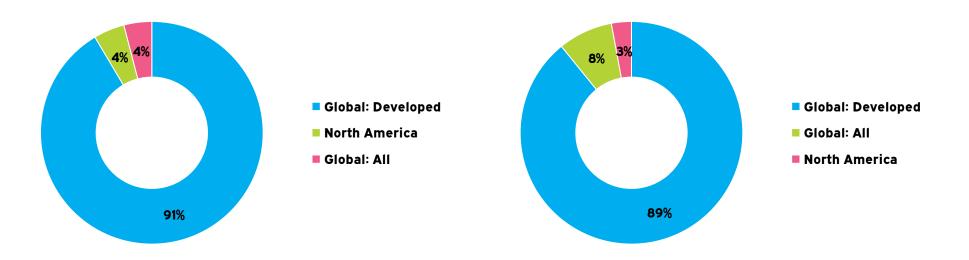


Fund Diversification | As of June 30, 2022

### By Geographic Focus

#### Percent of FMV

### Percent of Exposure





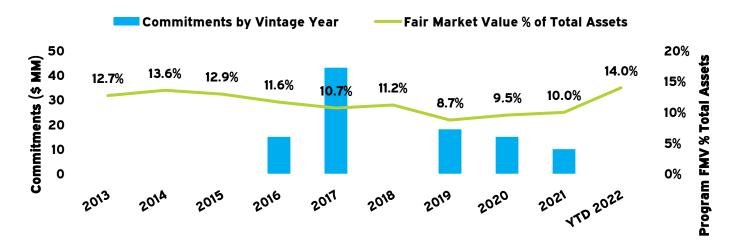
# **Real Estate Program**

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Overview | As of June 30, 2022

#### Introduction

As of June 30, 2022, the Retirement Association had committed \$288.0 million to 21 partnerships. As of quarter end, the fair market value of the real estate portfolio, in aggregate, was \$174.5 million. The net asset value of The Retirement Association's Real Estate Program represents 14.0% of total assets. Current Policy targets a 10% allocation to Real Estate.



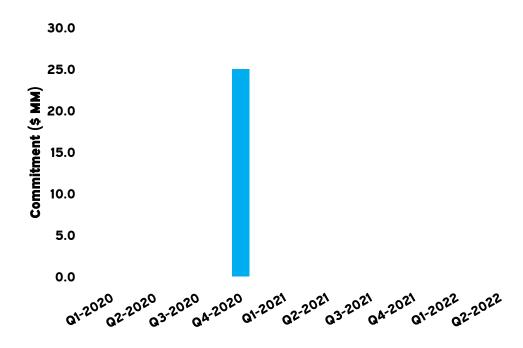
	Program Status
No. of Investments	21
Committed (\$ MM)	288.0
Contributed (\$ MM)	259.7
Distributed (\$ MM)	212.5
Fair Market Value (\$ MM)	174.5

Performance Since Inception						
	Program					
DPI	0.82x					
TVPI	1.49x					
IRR	7.1%					



Recent Activity | As of June 30, 2022

Commitments
Recent Quarterly Commitments



#### **Commitments This Quarter**

Fund	Strategy	Region	Amount (MM)

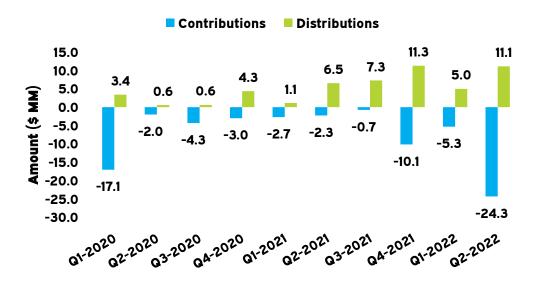
No new commitments made during the quarter

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Recent Activity | As of June 30, 2022

Cash Flows
Recent Quarterly Cash Flows



Largest Contributions This Quarter											
Fund	Vintage	Strategy	Region	Amount (\$MM)							
TA Realty Core	2018	Core	North America	20.10							
Carlyle Realty VIII	2017	Opportunistic	North America	1.72							
PCCP Equity IX	2021	Opportunistic	North America	1.67							

Largest Distributions This Quarter											
Fund	Vintage	Strategy	Region	Amount (\$MM)							
DSF III	2016	Value-Added	North America	8.02							
Carlyle Realty VIII	2017	Opportunistic	North America	1.28							
TA Realty Core	2018	Core	North America	0.88							



Recent Activity | As of June 30, 2022

#### **Significant Events**

- → During the second quarter of 2022, the Retirement Association contributed \$24.33 million to its private real estate partnerships and received \$11.12 million in distributions, representing a \$13.21 million net cash outflow.
- → TA Realty Core Property Fund, L.P. called \$20.1 million during the second quarter, primarily to fund investments as well as management fees. The Fund distributed \$0.88 million as proceeds from its existing investments.
- → Carlyle Realty Partners VIII, L.P. called \$1.72 million during the second quarter to fund new and existing investments, as well as management fees and partnership expenses. The Fund distributed \$1.28 million as proceeds from its existing investments, resulting in a \$0.44 million net cash outflow for the quarter.
- → PCCP Equity IX, L.P. called \$1.67 million during the second quarter to partially repay the Fund's credit facility utilized for deal acquisitions and follow-on investments.
- → DSF Multi-Family Real Estate Fund III, L.P. distributed \$8.02 million during the second quarter. Proceeds stemmed from the sale of an investment as well as operating cash flow proceeds from existing investments.

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Performance Analysis | As of June 30, 2022

# 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	128.6	4.9	100.2	115.0	119.9	0.78	1.67	7.7
Fund of Funds	1	15.0	12.7	2.3	11.4	1.0	3.3	0.90	0.97	-0.4
Opportunistic	6	77.0	56.9	31.8	37.8	34.2	66.0	0.66	1.27	7.8
Value-Added	9	67.0	61.6	9.4	63.1	24.4	33.7	1.02	1.42	6.8
Total	21	288.0	259.7	48.4	212.5	174.5	222.9	0.82	1.49	7.1

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Performance Analysis | As of June 30, 2022

# By Vinatge

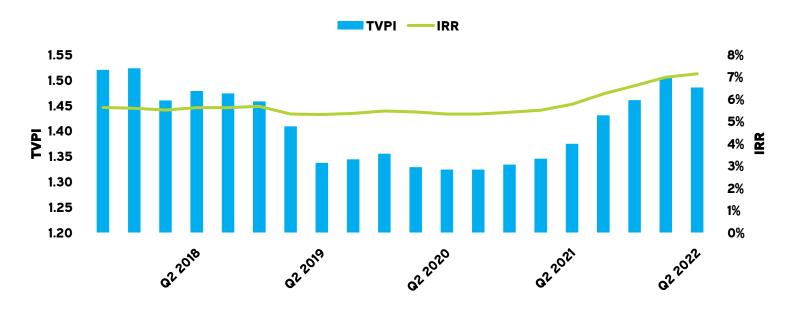
Group	Number	Committed (\$ MM)	Contributed (\$ MM)	Unfunded (\$ MM)	Distributed (\$ MM)	Fair Market Value (\$ MM)	Exposure (\$ MM)	DPI (X)	TVPI (X)	IRR (%)
Open-end	5	129.0	128.6	4.9	100.2	115.0	119.9	0.78	1.67	7.7
2001	1	4.0	4.6	0.0	5.7	0.0	0.0	1.23	1.23	2.4
2003	1	10.0	9.0	1.9	11.7	0.0	1.9	1.31	1.31	5.1
2004	ſ	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	1.0	5.3	1.24	1.27	4.9
2008	1	5.0	5.4	0.0	0.0	0.6	0.6	0.00	0.10	-15.0
2011	1	5.0	5.0	0.0	7.4	0.0	0.0	1.48	1.48	11.6
2016	ſ	15.0	15.1	0.0	12.8	14.0	14.0	0.85	1.77	15.5
2017	2	43.0	37.0	16.9	36.9	18.0	34.9	1.00	1.48	23.9
2019	2	18.0	10.7	8.3	2.0	12.4	20.7	0.19	1.35	25.0
2020	2	15.0	9.8	5.2	0.1	10.3	15.5	0.01	1.07	NM
2021	1	10.0	3.2	6.8	0.0	3.3	10.2	0.00	1.05	NM
Total	21	288.0	259.7	48.4	212.5	174.5	222.9	0.82	1.49	7.1

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Performance Analysis | As of June 30, 2022

# Since Inception Performance Over Time

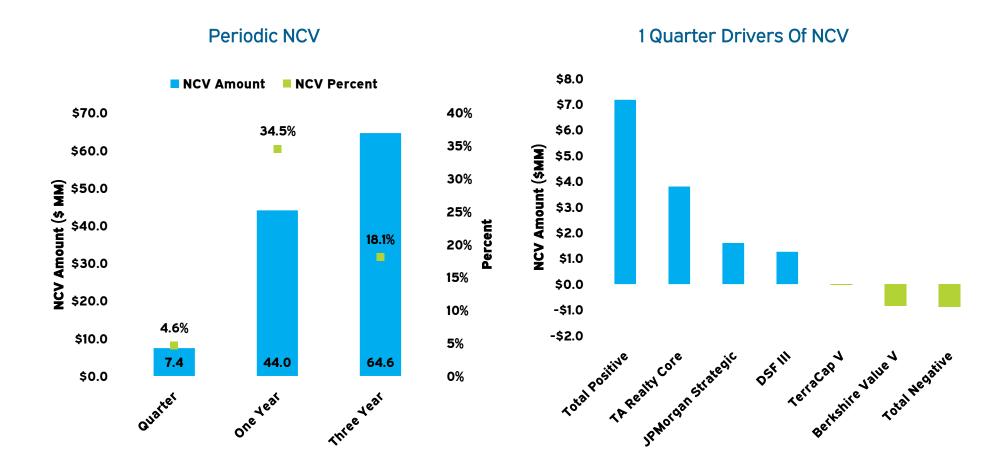


#### **Horizon IRRs**

	1 Year (%)	3 Year (%)	5 Year (%)	10 Year (%)	Since Inception (%)
Aggregate Portfolio	36.1	18.0	11.5	9.3	7.1
Public Market Equivalent	-15.6	-2.1	0.2	2.5	3.7



Performance Analysis | As of June 30, 2022





# Time Weighted Performance | As of June 30, 2022

						Since	
	2 <b>Q22</b> (%)	1 YR (%)	3 YR (%)	5 YR (%)	10 YR (%)	Inception (%)	Inception Date
JPMorgan Strategic Property	4.5	27.8	11.1	NA	NA	10.6	4/01/2019
NCREIF ODCE Equal Weighted (Net)	4.4	28.9	12.3	NA	NA	11.7	
TA Realty Core Property Fund, L.P.	5.1	36.9	17.5	NA	NA	16.1	3/21/2018
NCREIF ODCE Equal Weighted (Net)	4.4	28.9	12.3	NA	NA	10.8	

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Performance Analysis | As of June 30, 2022

### 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	0.1	37.4	1.39	NA	10.6	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	55.5	4.9	4.0	77.6	1.47	NA	16.6	NA
Intercontinenta I III	2001	Value- Added	4.0	4.6	0.0	5.7	0.0	1.23	1.60	2.4	19.1
Hunt Redevelopmen t	2003	Value- Added	10.0	9.0	1.9	11.7	0.0	1.31	1.61	5.1	17.5
Intercontinenta I IV	2004	Value- Added	4.0	4.6	0.0	2.4	0.0	0.54	1.26	-8.0	9.5
Mesirow RE Intl	2007	Fund of Funds	15.0	12.7	2.3	11.4	1.01	0.97	1.26	-0.4	6.3

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<sup>&</sup>lt;sup>1</sup> The fair market value of Mesirow Real Estate International Partnership Fund I, L.P. is a cash adjusted estimate due to the timing of the report.



Performance Analysis | As of June 30, 2022

# 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 (%)
Berkshire Multi II	2007	Value- Added	10.0	11.3	0.0	17.9	0.0	1.59	1.26	11.0	6.3
New Boston VII	2007	Value- Added	5.0	3.0	2.0	4.0	0.0	1.33	1.26	5.6	6.3
1921 Realty	2008	Opportu nistic	5.0	5.4	0.0	0.0	0.6	0.10	1.37	-15.0	9.8
DSF IV	2011	Value- Added	5.0	5.0	0.0	7.4	0.0	1.48	1.66	11.6	19.0
DSF III	2016	Value- Added	15.0	15.1	0.0	12.8	14.0	1.77	1.43	15.5	12.0
AEW Partners VIII	2017	Opportu nistic	25.0	24.0	4.5	27.8	7.3	1.46	1.48	21.3	13.4
Carlyle Realty VIII	2017	Opportu nistic	18.0	13.0	12.5	9.1	10.7	1.51	1.48	31.2	13.4

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Fund Diversification | As of June 30, 2022

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

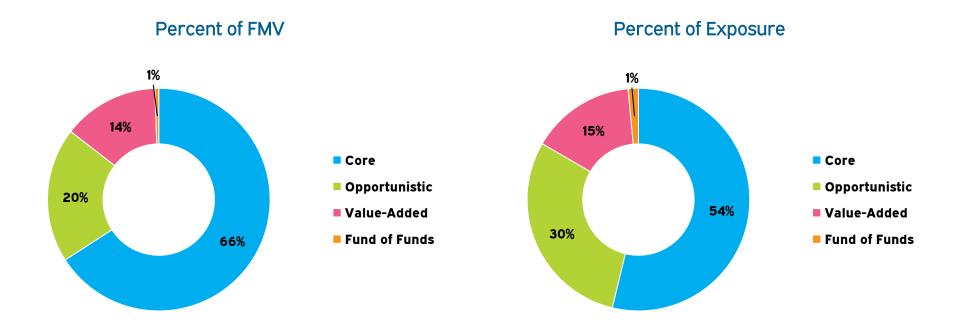
By Investment	Vintage	Strategy	Committed (\$ MM)	Contributed (\$ MM)	Unfunded (\$ MM)	Distributed (\$ MM)	Fair Market Value (\$ MM)	TVPI (X)	Peer TVPI (X)	IRR (%)	Peer IRR (%)
Carlyle Realty VIII	2017	Opportu nistic	18.0	13.0	12.5	9.1	10.7	1.51	1.48	31.2	13.4
Rockpoint VI	2019	Opportu nistic	9.0	6.5	2.8	1.0	7.5	1.29	1.28	28.3	18.7
Berkshire Value V	2019	Value- Added	9.0	4.1	5.5	1.1	4.9	1.44	1.28	22.5	18.7
AEW Partners IX	2020	Opportu nistic	10.0	4.8	5.2	0.0	4.8	1.01	1.10	NM	NM
TerraCap V	2020	Value- Added	5.0	5.0	0.0	0.1	5.5	1.11	1.10	NM	NM
PCCP Equity IX	2021	Opportu nistic	10.0	3.2	6.8	0.0	3.3	1.05	1.15	NM	NM
Total			288.0	259.7	48.4	212.5	174.5	1.49		7.1	

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Fund Diversification | As of June 30, 2022

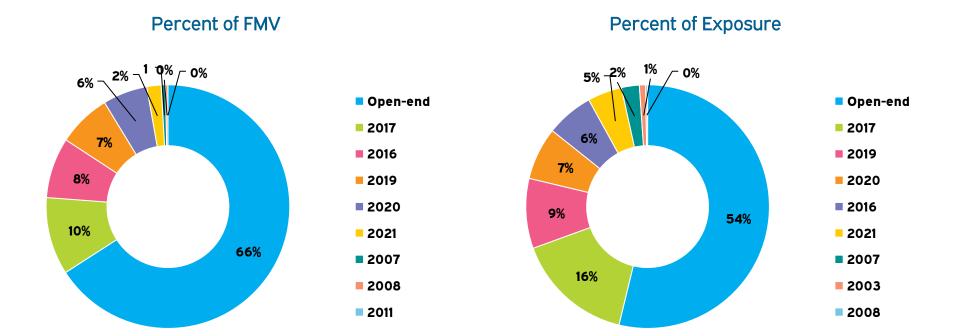
### By Strategy





Fund Diversification | As of June 30, 2022

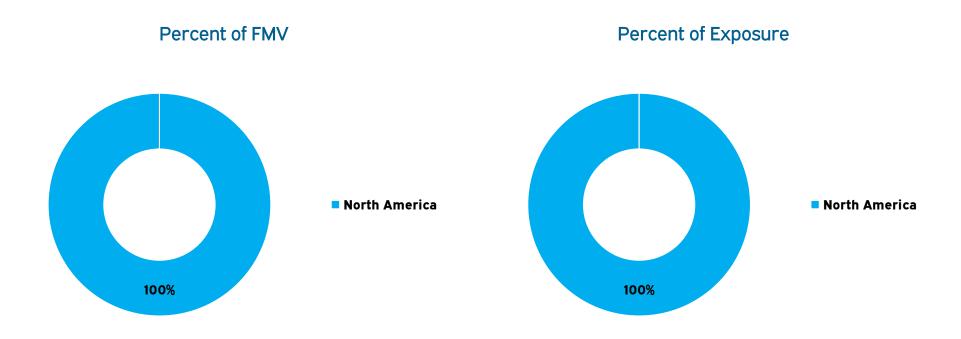
### By Vintage





Fund Diversification | As of June 30, 2022

### By Geographic Focus



# **Current Issues**



# **Core Real Estate Update**

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**Core Real Estate Update** 

#### Background

As of September 30, 2022, the Retirement Association had approximately 14% of total assets (~\$172.0 million) invested within the Real Estate asset class; compared to a Policy target of 10%.

- → The Association has roughly \$81.8 million invested in the TA Realty Core Property Fund, L.P. TA has managed these assets, on behalf of PCRA, since April of 2018. TA Realty has outperformed the NCREIF ODCE benchmark over the YTD, 1 YR, 3 YR, and Since Inception time periods.
- → Additionally, PCRA has roughly \$36.8 million invested in the JPMorgan Strategic Property Fund. JPM has managed these assets, on behalf of the association since April of 2019. JPM has trailed the NCREIF ODCE benchmark over the YTD, 1 YR, 3 YR, and Since Inception time periods.

#### Real Estate: Performance Overview

	YTD (%)	1 Yr (%)	3 Yr (%)	SI (%)
Total Real Estate	17.0	28.6	17.0	10.8
Total Core Real Estate	12.1	21.3	14.0	10.5
TA Realty Core Property Fund, L.P.	13.8	23.3	16.5	14.8
+/- Vs NCREIF ODCE	+0.7	+1.2	+4.1	+4.4
JPMorgan Strategic Property	9.3	17.9	10.3	9.0
+/- Vs NCREIF ODCE	-3.8	-4.2	-2.1	-1.4

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#### **Plymouth County Retirement Association**

**Core Real Estate Update** 

#### **Proposed Discussion**

Meketa would like to engage the Board in a discussion around initiating the liquidation process for the Association's investment with JPM Strategic Property Fund. We believe that submitting a full liquidation request now will provide the Board with enhanced flexibility and control over the next few quarters.

Real Estate has had strong absolute performance of late which, when paired with the challenges in global equities and fixed income, has led to the asset class now being overweight vs the Policy target (14% current allocation vs 10% Policy target).

We have included a few bullet points below, to help frame this discussion:

- → The Strategic Property Fund has quarterly liquidity, however JPM ultimately has discretion over how much of investor funds they redeem in a given quarter. Therefore, the liquidation process can take a long time.
- → Submitting a liquidation request does not obligate PCRA to withdraw all funds once they become available.
  - Getting in the liquidation queue now will provide enhanced flexibility when funds ultimately become available for withdrawal. The Association and rescind the remaining redemption request if and when conditions change.
- → For the upcoming Q1-2023 liquidity window, we are estimating managers being able to liquidate approximately 20% of requested redemptions.
  - The JPM Strategic Property Fund has struggled over all measured performance periods, while the Association's other Core Real Estate manager has outperformed.



# **Asset Allocation Update**



#### **Asset Allocation Policies**

#### Asset Allocation Policies<sup>1</sup>

	PCRA Policy (%)	PCRA Current (%)	PRIT <sup>2</sup> (%)	2022 - Large Public DB³ (%)	2022 – All Public DB (%)
Growth/Equity	69	61	62	61	61
US Equity	26	19	21	27	32
Developed Market Equity (non-US)	6	3	11	12	8
Emerging Market Equity	10	7	4	7	5
Global Equity	10	10	0	0	0
Hedge Funds	3	6	8	4	5
Private Equity	14	16	18	11	11
Credit	6	7	6	6	9
High Yield / Bank Ioans / Distressed/ Private Debt	4	6	5	6	5
Emerging Market Bonds (major / local)	2	1	1	0	4
Rate Sensitive	9	12	16	19	17
Investment Grade Bonds	7	10	9	15	14
Long-term Government Bonds /Strips	0	0	3	3	2
TIPS	2	2	4	1	1
Real Assets	16	20	15	12	13
Real Estate	10	13	11	9	8
Natural Resources / Timber	2	0	3	2	3
Infrastructure (Core & Non-Core)	4	7	1	1	2
Portfolio Completion/Other	0	0	0	1	0
Expected Return (20 years)	8.76	8.53	8.25	8.19	8.11
Standard Deviation	15.8	14.4	13.3	13.5	13.5
Probability of Achieving 7.0% over 20 Years	68.9	68.0	66.0	65.1	64.0

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<sup>1</sup> Expected return and standard deviation are based upon Meketa Investment Group's 2022 Annual Asset Study. Throughout this document, returns for periods longer than one year are annualized. Numbers may not sum due to rounding.

<sup>2</sup> Δs of June 30, 2022

<sup>&</sup>lt;sup>3</sup> Composite of top 50 public defined benefits plans in US.



**Asset Allocation Policies** 

#### Comparison to Peers - Tracking Error

- → The Association's target and current asset allocation policies are different from PRIT and the Peer Median.
  - The Peer Median represents a composite of the top 50 US Public Funds with greater than \$1 billion.
- → The Association can expect long-term tracking error (i.e., over a 20-year period) for each policy as follows:

	PRIT Tracking Error Per Annum (%)	Peer Median Tracking Error Per Annum (%)
PCRA Policy	3.2	2.9

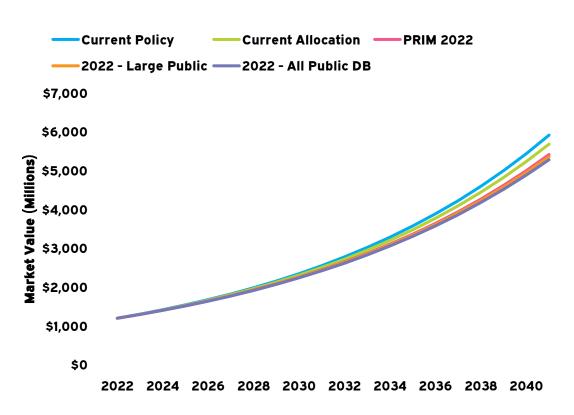
- → For context, in 2-out-of-3 years the Association's return will be within +/- 3.2% of PRIT and +/- 2.9% Peer Median's return.
- → Therfore, in 1-out-of-3 years, PCRA's return will be outside of those respective bands for PRIT and the Peer Median's return.
  - In 1-out-of-6 years the Association will outperform PRIT and Peer Median's return by more than 3.2% & 2.9% respectively.
  - In 1-out-of-6 years the Association will underperform PRIT and Peer Median's return by more than 3.2% & 2.9% respectively.

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#### **Asset Allocation Policies**

#### Growth of Assets<sup>1</sup>



→ Even apparently small differences in expected returns can result in dramatic differences over long time periods. The difference between the Current and the Peer Median at the end of twenty years is \$324 million.

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<sup>1</sup> Assumes each policy option produces its expected return in each calendar year and net cash flow projections as provided by Sherman Actuarial Services.



# **Diversification and Risk Analysis**

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### **Diversification and Risk Analysis**

## MVO-Based Risk Analysis

	PCRA Policy	PCRA Current	PRIT 2022	2022 – Large Public	2022 - All Public DB
Scenario	(%)	(%)	(%)	(%)	(%)
Worst Case Returns (1)					
One Year	-22.1	-20.1	-18.5	-18.8	-19.0
Three Years (annualized)	-10.3	-9.1	-8.1	-8.4	-8.5
Five Years (annualized)	-6.3	-5.4	-4.7	-4.9	-5.0
Ten Years (annualized)	-2.2	-1.5	-1.1	-1.2	-1.3
Twenty Years (annualized)	0.9	1.3	1.6	1.4	1.3
Probability of Experiencing Negative Returns					
One Year	28.0	26.8	25.9	26.3	26.5
Three Years	15.6	14.2	13.1	13.6	13.9
Five Years	9.6	8.3	7.4	7.8	8.0
Ten Years	3.3	2.5	2.0	2.2	2.4
Twenty Years	0.5	0.3	0.2	0.2	0.3
Probability of Achieving at least a 7.0% Return					
One Year	54.4	54.2	53.7	53.5	53.2
Three Years	57.6	57.2	56.4	56.0	55.5
Five Years	59.7	59.2	58.2	57.7	57.1
Ten Years	63.6	63.0	61.5	60.8	60.0
Twenty Years	68.9	68.0	66.0	65.1	64.0

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#### **Diversification and Risk Analysis**

#### Value at Risk<sup>1</sup>

Scenario	PCRA Policy (%)	PCRA Current (%)	PRIT 2022 (%)	2022 – Large Public (%)	2022 - All Public DB (%)
VaR (%):					
1 month	-9.8	-9.0	-8.3	-8.4	-8.4
3 months	-16.0	-14.5	-13.4	-13.6	-13.6
6 months	-21.2	-19.2	-17.6	-17.8	-17.9

#### Conditional Value at Risk<sup>1</sup>

Scenario	PCRA Policy (%)	PCRA Current (%)	PRIT 2022 (%)	2022 – Large Public (%)	2022 – All Public DB (%)
CVaR (%):					
1 month	-11.3	-10.3	-9.5	-9.6	-9.7
3 months	-18.6	-16.9	-15.5	-15.7	-15.8
6 months	-24.9	-22.5	-20.6	-20.9	-21.1

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<sup>&</sup>lt;sup>1</sup> Calculated with a 99% confidence level and based upon Meketa Investment Group's Annual Asset Study. cVaR represents the average loss past the 99th percentile.



#### **Diversification and Risk Analysis**

# Historical Negative Scenario Analysis¹ (Cumulative Return)

Scenario	PCRA Policy (%)	PCRA Current (%)	PRIT 2022 (%)	2022 – Large Public (%)	2022 - All Public DB (%)
COVID-19 Market Shock (Feb 2020-Mar 2020)	-21.7	-16.8	-15.5	-17.8	-18.5
Taper Tantrum (May - Aug 2013)	0.7	0.9	0.1	-0.2	0.0
Global Financial Crisis (Oct 2007 - Mar 2009)	-32.6	-27.1	-24.7	-28.9	-28.8
Popping of the TMT Bubble (Apr 2000 - Sep 2002)	-19.1	-14.5	-13.2	-15.1	-15.4
LTCM (Jul - Aug 1998)	-11.5	-7.6	-7.0	-8.5	-9.4
Asian Financial Crisis (Aug 97 - Jan 98)	1.0	3.4	4.5	2.6	3.1
Rate spike (1994 Calendar Year)	2.5	2.7	4.0	2.8	2.3
Early 1990s Recession (Jun - Oct 1990)	-8.5	-4.6	-4.6	-5.6	-5.6
Crash of 1987 (Sep - Nov 1987)	-14.3	-10.1	-9.2	-11.8	-12.7
Strong dollar (Jan 1981 - Sep 1982)	1.3	3.5	3.9	3.6	2.8
Volcker Recession (Jan - Mar 1980)	-4.6	-2.7	-4.0	-4.3	-4.1

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<sup>&</sup>lt;sup>1</sup> See the Appendix for our scenario inputs. In periods where the ideal benchmark was not yet available we used the next closest benchmark(s) as a proxy.



#### **Diversification and Risk Analysis**

# Historical Positive Scenario Analysis¹ (Cumulative Return)

Scenario	PCRA Policy (%)	PCRA Current (%)	PRIT 2022 (%)	2022 – Large Public (%)	2022 - All Public DB (%)
Global Financial Crisis Recovery (Mar 2009 - Nov 2009)	39.0	30.1	29.6	35.3	34.9
Best of Great Moderation (Apr 2003 - Feb 2004)	36.3	27.2	27.5	30.5	29.3
Peak of the TMT Bubble (Oct 1998 - Mar 2000)	54.6	50.9	45.4	43.0	43.4
Plummeting Dollar (Jan 1986 - Aug 1987)	55.6	46.3	47.4	53.7	50.7
Volcker Recovery (Aug 1982 - Apr 1983)	36.2	28.1	28.9	33.0	33.8
Bretton Wood Recovery (Oct 1974 - Jun 1975)	32.7	26.5	26.2	29.3	29.9

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<sup>&</sup>lt;sup>1</sup> See the Appendix for our scenario inputs. In periods where the ideal benchmark was not yet available we used the next closest benchmark(s) as a proxy.



#### **Diversification and Risk Analysis**

# Stress Testing: Impact of Market Movements (Expected Return under Stressed Conditions)<sup>1</sup>

Scenario	PCRA Policy (%)	PCRA Current (%)	PRIT 2022 (%)	2022 - Large Public (%)	2022 - All Public DB (%)
10-year Treasury Bond rates rise 100 bps	5.7	4.5	3.9	4.3	4.5
10-year Treasury Bond rates rise 200 bps	0.0	-0.8	-1.0	-0.7	-0.7
10-year Treasury Bond rates rise 300 bps	-0.4	-1.8	-4.0	-3.2	-2.6
Baa Spreads widen by 50 bps, High Yield by 200 bps	-0.6	0.0	0.7	0.5	0.2
Baa Spreads widen by 300 bps, High Yield by 1000 bps	-25.0	-21.8	-19.9	-22.2	-22.3
Trade Weighted Dollar gains 10%	-4.7	-3.9	-3.2	-3.6	-3.2
Trade Weighted Dollar gains 20%	-2.7	-2.0	-0.5	-1.3	-1.5
US Equities decline 10%	-7.5	-6.7	-6.0	-6.1	-6.3
US Equities decline 25%	-21.0	-18.3	-16.7	-17.8	-18.2
US Equities decline 40%	-32.1	-27.1	-25.0	-27.7	-28.3
Inflation slightly higher than expected	-0.5	-0.3	-0.5	-0.6	-0.6
Inflation meaningfully higher than expected	-6.2	-4.4	-5.0	-6.1	-6.0
Low Growth and Low Inflation	-8.2	-5.9	-6.0	-6.8	-6.7
Low Growth and High Inflation	-12.5	-8.9	-9.4	-10.9	-10.5
Brief, moderate inflation spike	-3.8	-2.8	-3.0	-2.9	-2.6
Extended, moderate inflation spike	-7.0	-5.5	-5.8	-5.6	-5.5
Brief, extreme inflation spike	-8.9	-7.1	-7.5	-7.3	-7.2
Extended, extreme inflation spike	-12.0	-9.7	-10.1	-9.9	-10.0

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<sup>&</sup>lt;sup>1</sup> Assumes that assets not directly exposed to the factor are affected nonetheless. See the Appendix for further details.



#### **Diversification and Risk Analysis**

## Stress Testing: Impact of Positive Market Movements

(Expected Return under Stressed Conditions)<sup>1</sup>

Scenario	PCRA Policy (%)	PCRA Current (%)	PRIT 2022 (%)	2022 - Large Public (%)	2022 - All Public DB (%)
10-year Treasury Bond rates drop 100 bps	1.6	1.9	2.8	2.4	2.5
10-year Treasury Bond rates drop 200 bps	10.4	8.8	10.4	11.1	10.7
Baa Spreads narrow by 30bps, High Yield by 100 bps	8.4	7.6	7.6	7.7	7.9
Baa Spreads narrow by 100bps, High Yield by 300 bps	15.3	12.0	11.4	13.2	13.4
Trade Weighted Dollar drops 10%	8.1	7.0	7.0	7.6	7.5
Trade Weighted Dollar drops 20%	23.4	19.6	20.6	22.1	20.8
US Equities rise 10%	7.8	7.1	7.2	7.1	7.3
US Equities rise 30%	19.3	16.0	15.6	17.2	17.9
High Growth and Low Inflation	12.2	9.8	9.0	10.1	10.2
High Growth and Moderate Inflation	9.4	8.0	6.9	7.7	8.1
High Growth and High Inflation	6.2	5.7	4.5	4.8	5.4

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<sup>&</sup>lt;sup>1</sup> Assumes that assets not directly exposed to the factor are affected nonetheless.

# **Appendices**



## **Investment Manager Status Report**

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**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.



**Investment Manager Status Report** 

#### 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.



**Investment Manager Status Report** 

#### 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.

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#### **Investment Manager Status Report**

#### 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

- $\rightarrow$  1, 3 and 5-year performance net of fees below benchmark
- $\rightarrow$  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



#### **Investment Manager Status Report**

## Active Manager Roster<sup>1</sup>

Investment Manager	Recommendation As of 9/30/22
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

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<sup>&</sup>lt;sup>1</sup> Excluding illiquid asset classes of private equity and non-core real estate.



#### **Investment Manager Status Report**

## Active Manager Roster¹ (con't)

Investment Manager	Recommendation as of 9/30/22
Lord Abbett Short Duration	In-Compliance
Lord Abbett Core Fixed Income	In-Compliance
Rhumbline 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
ABS Offshore SPC - Global Segregated	In-Compliance
Entrust Special Opportunities Fund III, Ltd	Watch List
Old Farm Partners Master Fund	In-Compliance
EnTrustPermal Special Opportunities Evergreen Fund	In-Compliance
TA Realty Core Property Fund	In-Compliance
JPMorgan Strategic Property	In-Compliance
IFM Global Infrastructure	In-Compliance

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<sup>&</sup>lt;sup>1</sup> Excluding illiquid asset classes of private equity and non-core real estate.



## **Economic and Market Update**

Data as of October 31, 2022

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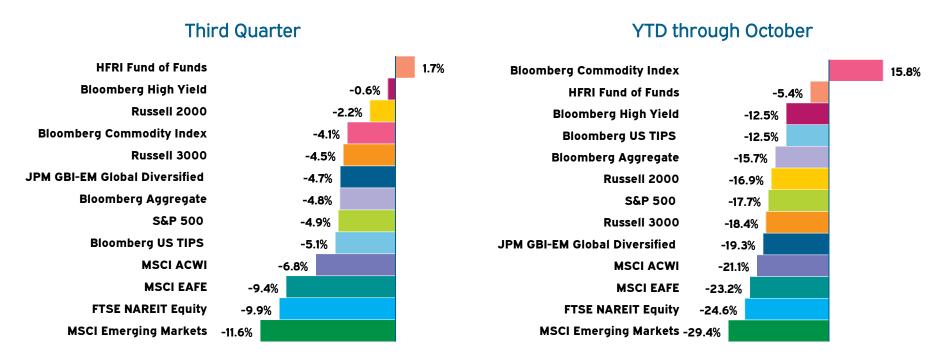
#### Commentary

- → Investor sentiment improved in October as markets repriced for continued easing of inflation risks, a potential slowing in monetary policy tightening efforts, and hopes for a soft-landing in 2023.
  - After month-end, the Federal Reserve continued its aggressive tightening campaign with its fourth consecutive 75 basis point rate hike. Future hikes are expected into next year as US inflation remains high and labor markets tight.
  - In Europe, inflation hit a multi-decade high on energy prices, but manufacturing and service data in some countries surprised to the upside, lifting investor sentiment.
  - In the UK, the appointment of Rishi Sunak as the new prime minister calmed investors nerves to some extent.
  - US and developed equity markets rallied for the month, while emerging markets declined on significant China weakness (-16.8%) driven in part by political developments and continued strict COVID-19 policies.
  - Interest rates further increased across the US yield curve during October, and the curve remained inverted (ten- year yield minus the two-year yield) by 43 basis points. This year has witnessed by far the worst start to a calendar year for bond investors.
- → Persistently high inflation and tightening of monetary policy, the war in Ukraine, lingering COVID-19 issues, and lockdowns in China and recent political developments will all continue to have considerable consequences for the global economy.

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#### Index Returns<sup>1</sup>



- → After broad declines in Q3 driven by expectations for further policy tightening, October produced mixed results with developed market equities posting notable gains.
- → Outside of commodities, all other public market asset classes remain significantly negative year-to-date.

<sup>&</sup>lt;sup>1</sup> Source: Bloomberg and FactSet. Data is as of October 31, 2022.



#### Domestic Equity Returns<sup>1</sup>

	October	Q3	YTD	1 YR	3 YR	5 YR	10 YR
Domestic Equity	(%)	(%)	(%)	(%)	(%)	(%)	(%)
S&P 500	8.1	-4.9	-17.7	-14.6	10.2	10.4	12.8
Russell 3000	8.2	-4.5	-18.4	-16.5	9.8	9.9	12.5
Russell 1000	8.0	-4.6	-18.5	-16.4	10.0	10.2	12.7
Russell 1000 Growth	5.8	-3.6	-26.6	-24.6	11.7	12.6	14.7
Russell 1000 Value	10.3	-5.6	-9.3	-7.0	7.3	7.2	10.3
Russell MidCap	8.9	-3.4	-17.5	-17.2	7.8	7.9	11.3
Russell MidCap Growth	7.9	-0.7	-26.1	-28.9	6.3	8.7	11.9
Russell MidCap Value	9.4	-4.9	-12.8	-10.2	7.5	6.5	10.4
Russell 2000	11.0	-2.2	-16.9	-18.5	7.0	5.6	9.9
Russell 2000 Growth	9.5	0.2	-22.6	-26.0	5.1	5.2	10.1
Russell 2000 Value	12.6	-4.6	-11.2	-10.7	8.1	5.3	9.4

#### US Equities: Russell 3000 Index rose 8.2% for October.

- → US stocks rallied, posting strong monthly returns across all indices, rebounding from a sharp drop in September. Investors demonstrated optimism across the style and market capitalization spectrum as earnings remained resilient despite economic pressures.
- → Most sectors rose in October, but there was wide dispersion. Energy's 24.8% gain led all sectors, driven by strong earnings, while consumer discretionary experienced a slightly positive gain (0.2%) given the impact of inflationary pressures on consumers.
- → Value stocks continued to outperform growth stocks across the market capitalization spectrum. The rally in energy stocks and the relative underperformance of technology and consumer discretionary stocks has driven this dynamic.

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<sup>&</sup>lt;sup>1</sup> Source: Bloomberg. Data is as of October 31, 2022.



#### Foreign Equity Returns<sup>1</sup>

Foreign Equity	October (%)	<b>Q3</b> (%)	YTD (%)	1 YR (%)	3 YR (%)	5 YR (%)	10 YR (%)
MSCI ACWI ex. US	3.0	-9.9	-24.3	-24.7	-1.7	-0.6	3.3
MSCI EAFE	5.4	-9.4	-23.2	-23.0	-1.3	-0.1	4.1
MSCI EAFE (Local Currency)	5.3	-3.6	-9.9	-8.4	3.7	3.3	7.9
MSCI EAFE Small Cap	4.2	-9.8	-29.2	-30.3	-2.3	-1.3	5.6
MSCI Emerging Markets	-3.1	-11.6	-29.4	-31.0	-4.4	-3.1	0.8
MSCI Emerging Markets (Local Currency)	-2.6	-8.2	-22.8	-24.2	-0.8	-0.2	4.2
MSCI China	-16.8	-22.5	-42.8	-47.9	-13.8	-9.7	-0.1

Developed International equities (MSCI EAFE) rose 5.4%, while emerging markets (MSCI EM) returned -3.1% in October, driven largely by declines in China.

- → Developed markets outside of the US had a strong month in October, posting gains in Europe, the UK, and Japan. Energy and industrials led broad-sectoral gains in the Eurozone, while the UK markets reacted positively to the appointment of the new prime minister, Rishi Sunak. The Bank of Japan's continued dovish policy stance and early signs of resilient Q3 earnings supported Japanese equities.
- → China dominated headlines this month across the non-US landscape. Rising geopolitical tensions, particularly after events from the 20<sup>th</sup> Communist Party Congress, on top of the continuation of the zero COVID-19 policies, drove sharp declines for the month.

<sup>&</sup>lt;sup>1</sup> Source: Bloomberg. Data is as of October 31, 2022.



#### Fixed Income Returns<sup>1</sup>

							Current		
Fixed Income	October (%)	<b>Q3</b> (%)	YTD (%)	1 YR (%)	3 YR (%)	5 YR (%)	10 YR (%)	Yield (%)	Duration (Years)
Bloomberg Universal	-1.1	-4.5	-15.8	-15.8	-3.6	-0.4	1.0	5.5	6.1
Bloomberg Aggregate	-1.3	-4.8	-15.7	-15.7	-3.8	-0.5	0.7	5.0	6.3
Bloomberg US TIPS	1.2	-5.1	-12.5	-11.5	1.1	2.2	1.0	4.6	6.9
Bloomberg High Yield	2.6	-0.6	-12.5	-11.8	0.3	2.0	4.1	9.1	4.5
JPM GBI-EM Global Diversified (USD)	-0.9	-5.8	-19.3	-20.3	-8.2	-3.5	-2.6	7.7	4.8

#### Fixed Income: The Bloomberg Universal declined 1.1% in October.

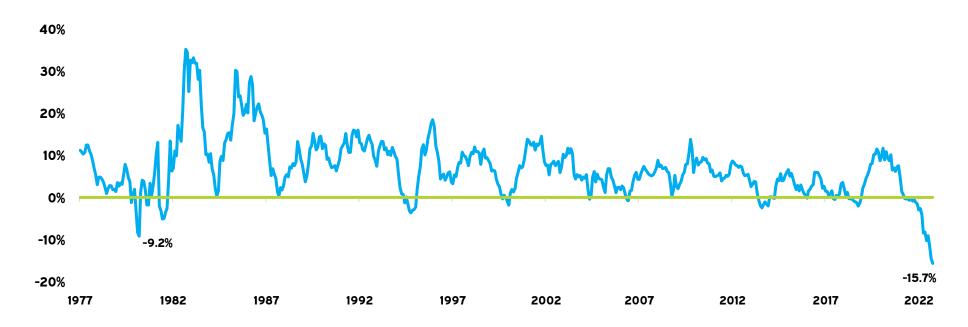
- → A continued rise in bond yields in the US driven by the Fed reinforcing its commitment to fight inflation weighed on fixed income markets for the month. Year-to-date, the US bond market (Bloomberg Aggregate) performance is the worst on record.
- → TIPS appreciated for the month but remain down double-digits for the year as real rates have experienced a steep increase too. The inflation adjustment has led to a 320 basis points smaller decline than the broad US bond market though.
- → Riskier US bonds, as represented by the high yield index, produced the best fixed income results for the month (+2.6%) in the risk-on environment. Emerging market bonds finished down 0.9% in October adding to the significant declines year-to-date.

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<sup>&</sup>lt;sup>1</sup> Source: Bloomberg. JPM GBI-EM is from InvestorForce. Data is as of October 31, 2022.



### Bloomberg US Aggregate Rolling One-year Returns<sup>1</sup>

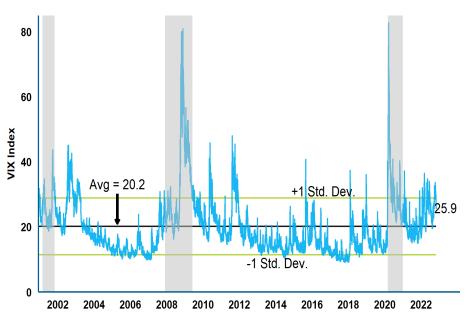


- → This has been the worst rolling one-year return period for the US bond market given the historic inflation levels and the corresponding rapid rise in interest rates.
- → Through October the trailing year return was -15.7% well ahead of the number two spot (-9.2%) from the early 1980s.

<sup>&</sup>lt;sup>1</sup> Source: Bloomberg. Data is as of 10/31/2022.



#### Equity and Fixed Income Volatility<sup>1</sup>





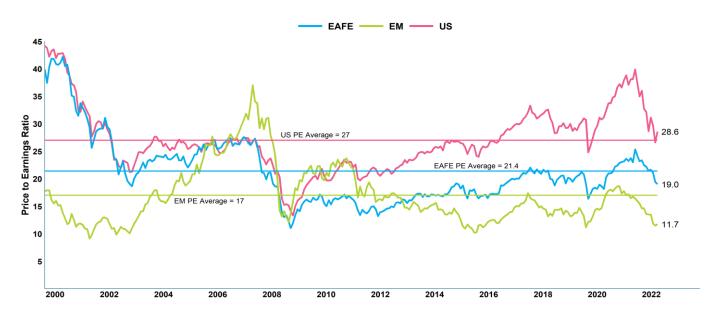
- $\rightarrow$  Volatility in equities (VIX) and fixed income (MOVE) remained above their long-run averages in October.
- → Fixed income volatility was particularly high due to the uncertain path of US interest rates as the Federal Reserve continued its hawkish stance on inflation.

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<sup>&</sup>lt;sup>1</sup> Equity and 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 October 2022. The average line indicated is the average of the VIX and MOVE values between January 2000 and the recent month-end respectively.



#### Equity Cyclically Adjusted P/E Ratios¹



- → October's US equity rally brought the market's price-to-earnings ratio to slightly above the long-term (21st century) average.
- → International developed market valuations remain below the US and are below their own long-term average, with those for emerging markets the lowest and well under the long-term average.
- → Price declines have been the main driver of recent multiple compression as earnings have remained resilient.

  Concerns remain over whether earnings strength will continue in the face of slowing growth.

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<sup>1</sup> 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: MSCI and Bloomberg. Earnings figures represent the average of monthly "as reported" earnings over the previous ten years. Data is as of October 2022. The average line is the long-term average of the US, EM, and EAFE PE values from December 1999 to the recent month-end respectively.



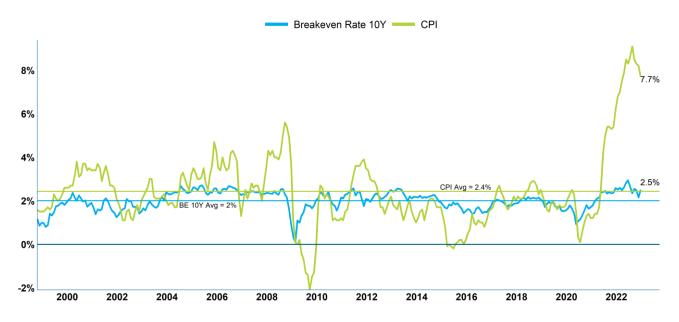


- → Rates across the yield curve remain far higher than at the start of the year.
- → In October, interest rates continued to increase across the yield curve, particularly at the front-end where there is more sensitivity to policy changes. Two-year Treasury yields rose from 4.3% to 4.5% for the month, while ten- year Treasury yields climbed from 3.8% to 4.1%.
- → The Fed remains strongly committed to fighting inflation, as it increased rates another 75 basis points to a range of 3.75% to 4.0% at its November meeting. This was the sixth increase this year and the fourth consecutive increase of this amount.
- → The yield spread between two-year and ten-year Treasuries remained negative, finishing September at -0.41%. The more closely watched measure by the Fed of three-month and ten-year Treasuries also inverted. Historically, inversions in the yield curve have often preceded recessions.

<sup>&</sup>lt;sup>1</sup> Source: Bloomberg. Data is as of October 31, 2022.



#### Ten-Year Breakeven Inflation and CPI<sup>1</sup>



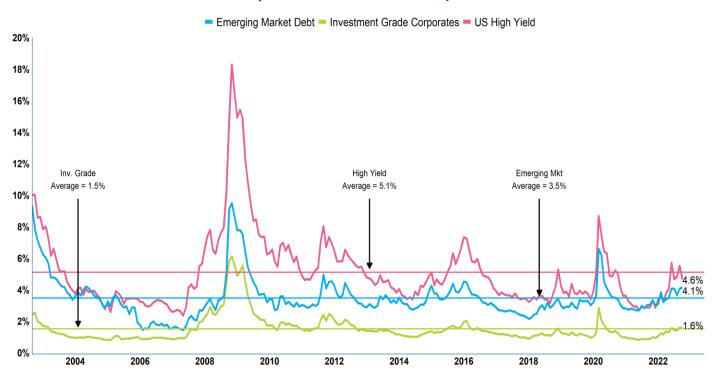
- → Inflation expectations (breakevens) rose slightly in October, remaining above the long-run average.
- → Trailing twelve-month CPI declined in October (7.7% versus 8.2%) coming in below expectations of 7.9%. Core inflation (excluding food and energy prices) declined from its recent 40-year peak of 6.6% to 6.3% over the same period.
- → Over the last year, rising prices for energy (particularly oil), food, housing, and for new and used cars remain key drivers of inflation.

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<sup>&</sup>lt;sup>1</sup> Source: Bloomberg. Data is as of October 31, 2022. The CPI and 10 Year Breakeven average lines denote the average values from August 1998 to the present month-end respectively. Breakeven values represent month-end values for comparative purposes.



#### Credit Spreads vs. US Treasury Bonds<sup>1</sup>



- → High yield spreads (the added yield above a comparable maturity Treasury) fell in October to below their longrun average as below investment grade credit largely outperformed Treasuries in the risk-on environment.
- → Investment grade spreads stayed the same in the US (1.6%), near the long-run average, while emerging market spreads increased slightly (4.1% versus 4.0%) staying above their average.

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<sup>1</sup> Sources: Bloomberg. Data is as of October 31, 2022. Average lines denote the average of the investment grade, high yield, and emerging market spread values from August 2000 to the recent month-end respectively



#### Global Economic Outlook

In their October update, the IMF maintained lowered global growth forecasts, driven by the economic impacts of persistent inflation and corresponding tighter policy, as well as issues related to the war in Ukraine and the lingering pandemic.

- → The IMF forecasts global GDP growth to come in at 3.2% in 2022 (like the July estimate) and 2.7% in 2023 (0.2% below the prior estimate).
- → In advanced economies, GDP is projected to grow 2.4% in 2022 and 1.1% in 2023. The US saw another downgrade in the 2022 (1.6% versus 2.3%) forecast largely due to accelerated policy tightening, given persistently high inflation. The euro area saw an upgrade in expected growth (3.1% versus 2.6%) on substantial fiscal stimulus in 2022 but a downgrade in 2023 (0.5% versus 1.2%) as rising energy prices weigh on the region that is a net importer of energy. The Japanese economy is expected to grow 1.7% this year and 1.6% in 2023.
- → Growth projections for emerging markets are higher than developed markets, at 3.7% in 2022 and 2023. China's growth was downgraded for 2022 (3.2% versus 3.3%) and 2023 (4.4% versus 4.6%) given tight COVID-19 restrictions and continued property sector problems.
- $\rightarrow$  The global inflation forecast was significantly increased for 2022 (8.8% versus 7.4%).

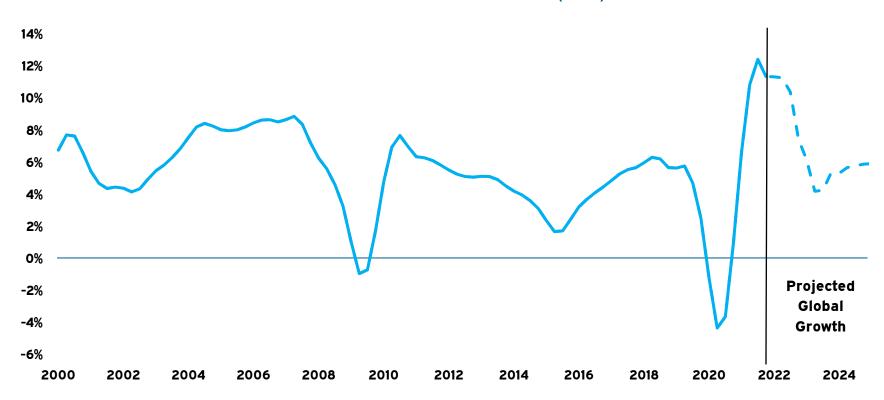
	Real GDP (%)1			Inflation (%)¹			
	IMF 2022 Forecast	IMF 2023 Forecast	Actual 10 Year Average	IMF 2022 Forecast	IMF 2023 Forecast	Actual 10 Year Average	
World	3.2	2.7	3.2	8.8	6.5	3.6	
Advanced Economies	2.4	1.1	1.6	7.2	4.3	1.6	
US	1.6	1.0	2.1	8.1	3.5	2.0	
Euro Area	3.1	0.5	1.0	8.3	5.7	1.3	
Japan	1.7	1.6	0.8	2.0	1.4	0.4	
Emerging Economies	3.7	3.7	4.4	9.9	8.1	5.3	
China	3.2	4.4	7.3	2.2	2.2	2.4	

<sup>1</sup> Source: IMF World Economic Outlook. Real GDP and Inflation forecasts from October 2022 Update. "Actual 10 Year Average" represents data from 2012 to 2021.

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#### Global Nominal Gross Domestic Product (GDP) Growth<sup>1</sup>



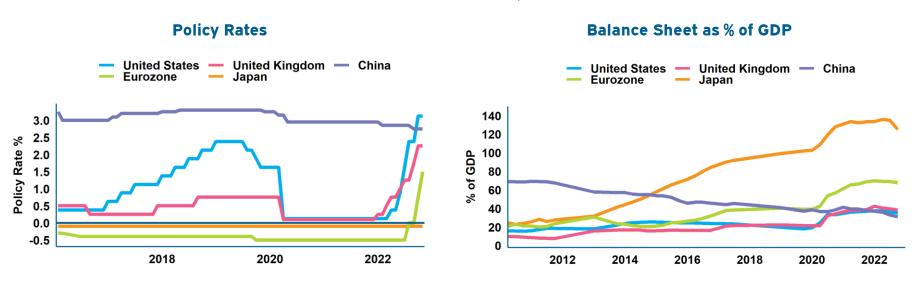
- → Global economies are expected to slow in 2022 compared to 2021, with risks of recession increasing given persistently high inflation and related tighter monetary policy.
- → The delicate balancing act of central banks trying to reduce inflation without dramatically impacting growth will remain key.

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<sup>1</sup> Source: Oxford Economics (World GDP, US\$ prices & PPP exchange rate, nominal, % change YoY). Updated October 2022. Nominal expectations for GDP remain much higher than real GDP expectations given the elevated inflation levels.



#### Central Bank Response<sup>1</sup>



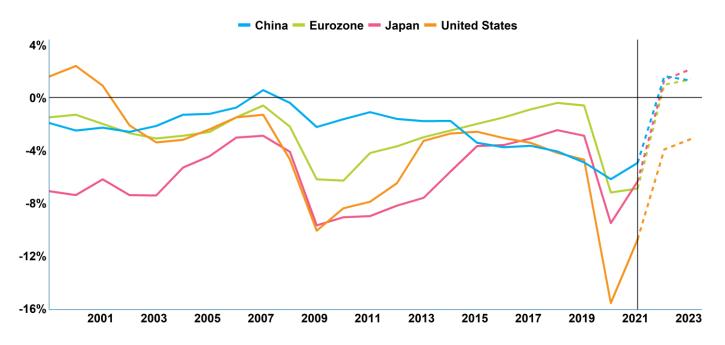
- → After global central banks took extraordinary action to support economies during the pandemic, including policy rate cuts and emergency stimulus through quantitative easing (QE), many are now aggressively reducing support in the face of high inflation.
- → The pace of withdrawing support varies across central banks with the US taking a more aggressive approach.
- → The one notable central bank outlier is China, where the central bank has lowered rates and reserve requirements in response to slowing growth.
- → The risk remains for a policy error, particularly overtightening, as record inflation, the war in Ukraine, and a tough COVID-19 policy in China could suppress global growth.

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<sup>1</sup> Source: Bloomberg. Policy rate data is as of October 31, 2022. China policy rate is defined as the medium-term lending facility 1 year interest rate. Balance sheet as % of GDP is based on quarterly data and is as of September 30, 2022.



#### Budget Surplus / Deficit as a Percentage of GDP1



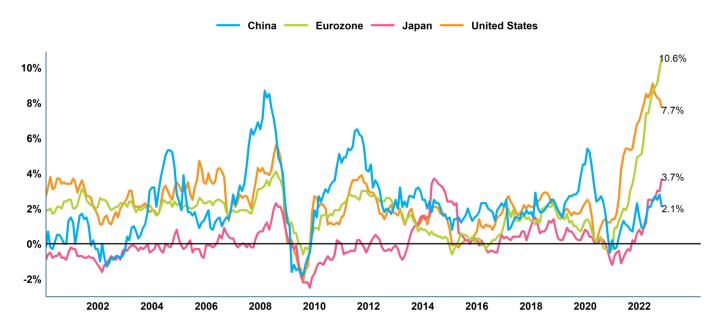
- → Budget deficits as a percentage of GDP drastically increased for major world economies, particularly the US, due to massive fiscal support and the severe economic contraction's effect on tax revenue in 2020 and 2021.
- → As fiscal stimulus programs end, and economic recoveries continue, deficits should improve.
- → Questions remain about how some countries will respond fiscally as inflation, particularly energy prices, weigh on consumers. Policies that undermine central banks' efforts to fight inflation could lead to additional market volatility like was seen recently in the UK.

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Source: Bloomberg. Data is as of October 31, 2022. Projections via IMF Forecasts from October 2022 Report. Dotted lines represent 2022 and 2023 forecasts.



### Inflation (CPI Trailing Twelve Months)<sup>1</sup>

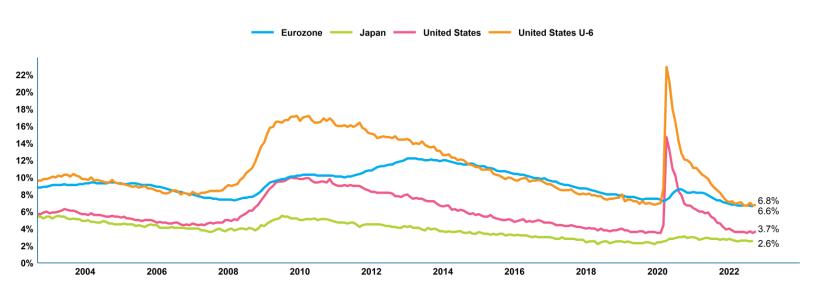


- → Inflation increased dramatically from the lows of the pandemic, particularly in the US and Eurozone where it has reached levels not seen in many decades.
- → Inflation pressures continue to grow in Europe, reaching historic levels due to skyrocketing energy prices and a weak euro.
- → Supply issues related to the pandemic, record monetary and fiscal stimulus, strict COVID-19 restrictions in China, and higher commodity prices driven by the war in Ukraine have been key global drivers of inflation.

<sup>&</sup>lt;sup>1</sup> Source: Bloomberg. Data is as of October 2022.





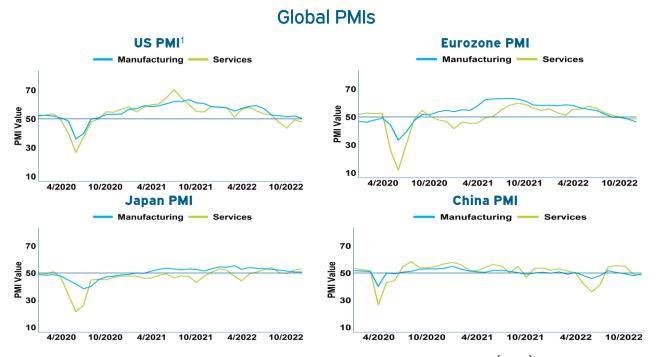


- → As economies have largely reopened, helped by vaccines for the virus, improvements have been seen in the labor market.
- → Despite slowing growth and high inflation the US labor market remains a bright spot. Unemployment in the US, which experienced the steepest rise from the pandemic, has remained in a tight 3.5%-3.7% range for most of the year. The broader measure (U-6) that includes discouraged and underemployed workers remains much higher at 6.8%.
- → The strong labor market and higher wages, although beneficial for workers, motivates the Fed's efforts to fight inflation, likely leading to eventually higher unemployment.

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<sup>1</sup> Source: Bloomberg. Data is as October 2022, for the US. The most recent data for Eurozone and Japanese unemployment is as of September 30, 2022.



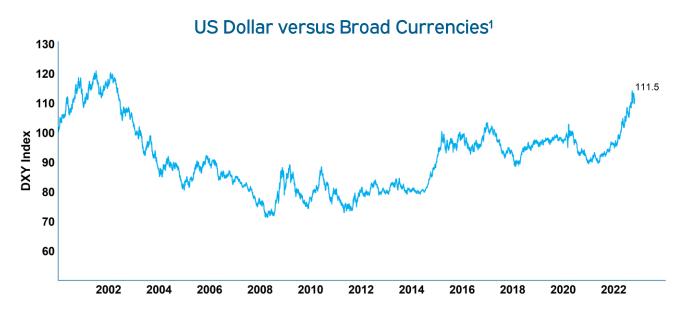


- → After improvements from the lows of the pandemic, Purchasing Managers Indices (PMI), based on surveys of private sector companies, have largely experienced downward pressure recently.
- → Service sector PMIs, except Japan (lifting COVID-19 restrictions and travel incentives have been helpful here), are all in contraction territory. The US service sector declined, remaining in negative territory, due to weak demand both domestically and abroad and softening employment.
- → Manufacturing PMIs are also slowing across China and developed markets given declines in demand and inflationary pressures with the Eurozone, and China in contraction territory.

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<sup>&</sup>lt;sup>1</sup> Source: Bloomberg. US Markit Services and Manufacturing PMI, Caixin Services and Manufacturing PMI, Eurozone Markit Services and Manufacturing PMI, Jibun Bank Services and Manufacturing PMI. Data is as of October 2022. Readings below 50 represent economic contractions.





- → Overall, the US dollar remained elevated in October but showed some signs of weakening. After month-end, the dollar weakened further.
- → The increased pace of policy tightening, stronger relative growth, and safe-haven flows all contributed to the dollar's strength this year.
- → The euro, yen, pound, and yuan have all experienced significant declines versus the dollar this year, adding to inflationary pressures in those countries.

<sup>&</sup>lt;sup>1</sup> Source: Bloomberg. Data as of October 31, 2022.



#### Summary

#### Key Trends in 2022:

- → The impacts of record high inflation will remain key, with market volatility likely to stay high.
- → The pace of monetary tightening globally will be faster than previously expected, with the risk of overtightening.
- → Expect growth to slow globally for the rest of 2022 and into 2023 to the long-term trend or below. Inflation, monetary policy, and the war will all be key.
- → In the US the end of many fiscal programs is expected to put the burden of continued growth on consumers. Higher energy and food prices will depress consumers' spending in other areas.
- → Valuations have significantly declined in the US to below long-term averages, largely driven by prices declines. The key going forward will be whether earnings can remain resilient if growth continues to slow.
- → Outside the US, equity valuations remain lower in both emerging and developed markets, but major risks remain, including continued strength in the US dollar, higher inflation particularly weighing on Europe, and China maintaining its restrictive COVID-19 policies.

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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. Portfolio Return- [Risk Free Rate+Beta\*(market return-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.

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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 is 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.

SI: Since Inception

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.

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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%.

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.

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