

Massachusetts Housing Finance Agency Retirement System

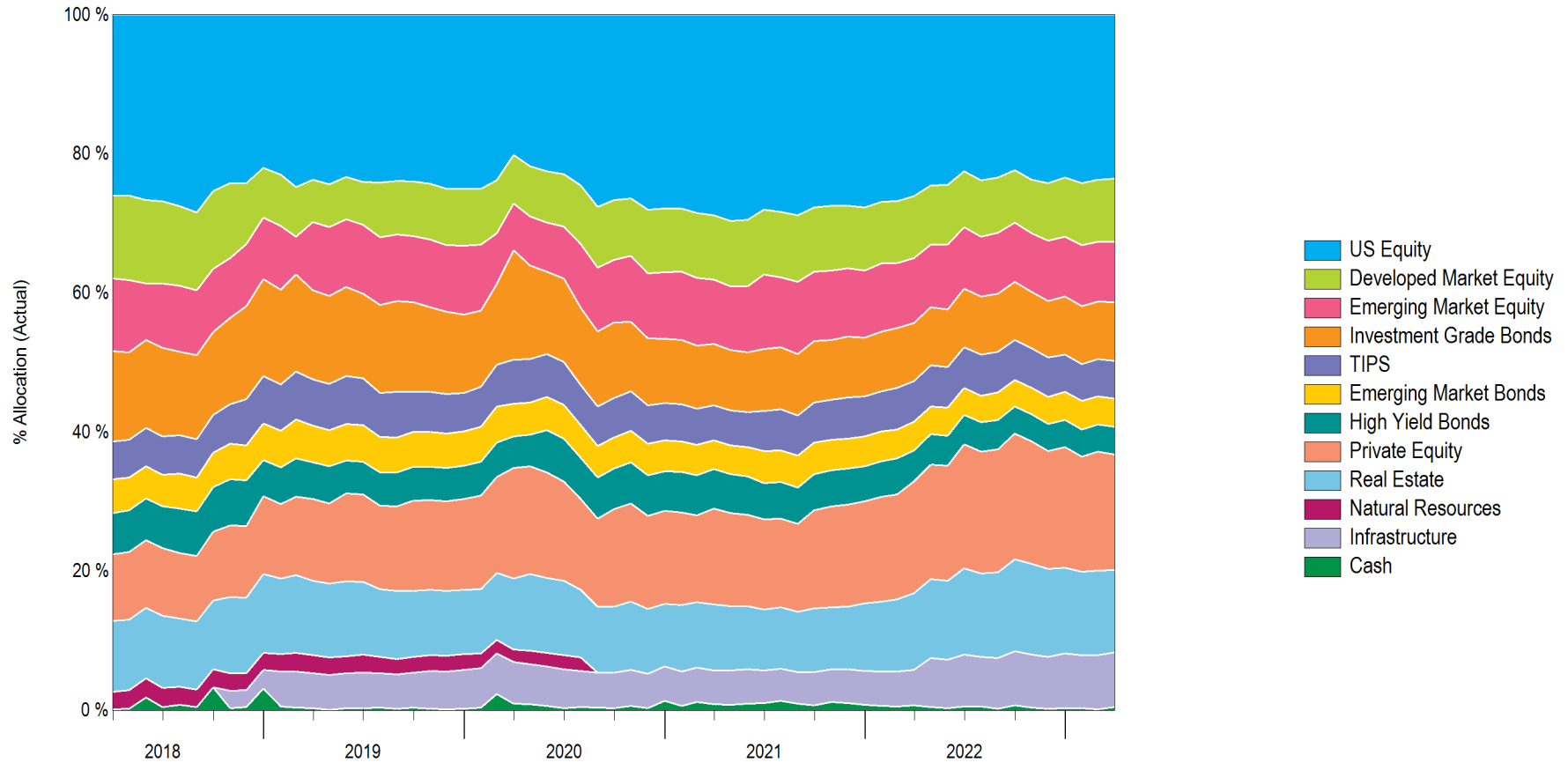
Quarterly Review
March 31, 2023

Fund Evaluation Report

First Quarter 2023 Performance Review

	Allocation vs. Targets and Policy				
	Current Balance	Current Allocation	Policy	Policy Range	Within IPS Range?
US Equity	\$52,886,784	24%	27%	22% - 32%	Yes
Developed Market Equity	\$20,206,654	9%	10%	6% - 14%	Yes
Emerging Market Equity	\$19,483,841	9%	11%	7% - 15%	Yes
Investment Grade Bonds	\$18,897,493	8%	9%	5% - 13%	Yes
TIPS	\$12,210,855	5%	6%	3% - 9%	Yes
Emerging Market Bonds	\$9,078,047	4%	5%	2% - 8%	Yes
High Yield Bonds	\$8,910,212	4%	5%	1% - 9%	Yes
Private Equity	\$37,223,542	17%	12%	4% - 20%	Yes
Real Estate	\$26,554,769	12%	8%	2% - 14%	Yes
Infrastructure	\$17,618,868	8%	7%	4% - 10%	Yes
Cash	\$1,054,112	0%	0%	0% - 5%	Yes
Total	\$224,125,177	100%	100%		

Asset Allocation History
5 Years Ending March 31, 2023



Asset Class Performance Summary									
	Market Value (\$)	% of Portfolio	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Total Retirement System	224,125,177	100.0	2.8	-3.6	11.6	7.4	6.8	6.0	Jul-01
60% MSCI ACWI / 40% Barclays Global Aggregate			5.6	-7.5	7.7	3.8	5.0	5.5	Jul-01
InvMetrics Public DB \$50mm-\$250mm Net Median			4.4	-5.0	11.1	6.2	7.0	6.0	Jul-01
InvMetrics Public DB \$50mm-\$250mm Net Rank			96	19	35	8	59	48	Jul-01
Domestic Equity Assets	52,886,784	23.6	6.4	-8.3	18.7	10.5	11.8	7.8	Jul-01
Russell 3000			7.2	-8.6	18.5	10.4	11.7	7.9	Jul-01
eV US Large Cap Equity Gross Median			5.1	-6.2	18.4	10.4	11.7	8.5	Jul-01
eV US Large Cap Equity Gross Rank			42	70	45	49	50	80	Jul-01
Total International Developed Market Equity	20,206,654	9.0	7.4	-3.7	13.1	3.0	5.4	5.8	Jul-01
MSCI EAFE			8.5	-1.4	13.0	3.5	5.0	5.0	Jul-01
eV EAFE Core Equity Gross Median			7.8	-2.8	13.8	3.7	6.2	6.7	Jul-01
eV EAFE Core Equity Gross Rank			58	59	61	67	78	87	Jul-01
International Emerging Market Equity Assets	19,483,841	8.7	3.6	-10.9	9.3	-0.6	1.0	1.1	Jul-07
MSCI Emerging Markets			4.0	-10.7	7.8	-0.9	2.0	2.0	Jul-07
eV Emg Mkts Equity Gross Median			5.1	-8.6	10.6	0.7	3.4	3.3	Jul-07
eV Emg Mkts Equity Gross Rank			81	77	63	73	99	99	Jul-07
Investment Grade Bond Assets	18,897,493	8.4	3.3	-4.6	-1.4	1.5	1.7	3.9	Jul-01
Bloomberg US Aggregate TR			3.0	-4.8	-2.8	0.9	1.4	3.7	Jul-01
eV US Core Fixed Inc Gross Median			3.1	-4.5	-1.7	1.4	1.8	4.2	Jul-01
eV US Core Fixed Inc Gross Rank			31	58	36	36	75	85	Jul-01
High Yield Bond Assets	8,910,212	4.0	3.1	-4.6	7.2	3.6	4.2	5.6	Feb-05
CSFB High Yield Index			3.9	-3.0	6.3	3.0	4.0	5.9	Feb-05
eV US High Yield Fixed Inc Gross Median			3.4	-2.4	6.1	3.5	4.3	6.2	Feb-05
eV US High Yield Fixed Inc Gross Rank			65	90	23	44	57	89	Feb-05

Retirement System Summary | As of March 31, 2023

	Market Value (\$)	% of Portfolio	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
TIPS Assets	12,210,855	5.4	3.5	-6.1	1.7	2.9	1.5	3.7	Jul-07
Bloomberg US TIPS TR			3.3	-6.1	1.8	2.9	1.5	3.7	Jul-07
eV US TIPS / Inflation Fixed Inc Gross Median			3.3	-5.8	2.4	3.2	1.6	3.9	Jul-07
eV US TIPS / Inflation Fixed Inc Gross Rank			23	73	87	89	92	76	Jul-07
Emerging Market Debt Assets	9,078,047	4.1	1.6	-6.6	1.5	-1.1	-2.2	-2.2	Mar-13
50% JPM EMBI GD / 50% JPM GBI-EM			3.5	-3.8	0.5	-1.4	0.3	0.2	Mar-13
Real Estate Assets	26,554,769	11.8	-2.7	-1.0	8.3	7.7	9.2	6.4	Apr-05
NCREIF ODCE (net)			-3.3	-3.9	7.5	6.6	8.5	6.7	Apr-05
Private Equity Assets	37,223,542	16.6	-0.8	3.4	23.4	20.8	14.4	9.1	Oct-03
Preqin Private Equity 1Q Lagged			0.0	-3.9	18.6	16.3	15.3	13.6	Oct-03
Infrastructure Assets	17,618,868	7.9	2.6	9.6	11.8	--	--	10.8	Oct-18
CPI + 3%			2.4	8.1	8.5	7.0	5.7	7.2	Oct-18
Cash	1,054,112	0.5							

Trailing Gross Performance										
	Market Value (\$)	% of Portfolio	% of Sector	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Total Retirement System	224,125,177	100.0	--	2.8	-3.6	11.6	7.4	6.8	6.0	Jul-01
60% MSCI ACWI / 40% Barclays Global Aggregate				5.6	-7.5	7.7	3.8	5.0	5.5	Jul-01
InvMetrics Public DB \$50mm-\$250mm Net Median				4.4	-5.0	11.1	6.2	7.0	6.0	Jul-01
InvMetrics Public DB \$50mm-\$250mm Net Rank				96	19	35	8	59	48	Jul-01
Domestic Equity Assets	52,886,784	23.6	23.6	6.4	-8.3	18.7	10.5	11.8	7.8	Jul-01
Russell 3000				7.2	-8.6	18.5	10.4	11.7	7.9	Jul-01
eV US Large Cap Equity Gross Median				5.1	-6.2	18.4	10.4	11.7	8.5	Jul-01
eV US Large Cap Equity Gross Rank				42	70	45	49	50	80	Jul-01
SSgA Russell 1000 Value Index-NL	25,863,529	11.5	48.9	1.0	-5.9	17.9	7.5	9.2	7.3	Jan-05
Russell 1000 Value				1.0	-5.9	17.9	7.5	9.1	7.3	Jan-05
eV US Large Cap Value Equity Gross Median				0.7	-4.4	19.6	9.0	10.2	8.4	Jan-05
eV US Large Cap Value Equity Gross Rank				45	75	73	78	84	89	Jan-05
SSgA Russell 1000 Growth-NL	22,693,024	10.1	42.9	14.3	-10.9	18.6	13.6	14.6	11.0	Jul-07
Russell 1000 Growth				14.4	-10.9	18.6	13.7	14.6	11.0	Jul-07
eV US Large Cap Growth Equity Gross Median				12.6	-11.0	16.4	11.9	13.6	10.5	Jul-07
eV US Large Cap Growth Equity Gross Rank				31	49	25	19	23	25	Jul-07
SSgA Russell 2000 Index-NL	4,330,231	1.9	8.2	2.8	-11.5	17.6	4.8	8.1	9.9	Aug-10
Russell 2000				2.7	-11.6	17.5	4.7	8.0	9.8	Aug-10
eV US Small Cap Core Equity Gross Median				3.9	-7.0	22.0	7.8	10.3	12.2	Aug-10
eV US Small Cap Core Equity Gross Rank				73	85	89	91	95	95	Aug-10

Retirement System Summary | As of March 31, 2023

	Market Value (\$)	% of Portfolio	% of Sector	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Total International Developed Market Equity	20,206,654	9.0	9.0	7.4	-3.7	13.1	3.0	5.4	5.8	Jul-01
MSCI EAFE				8.5	-1.4	13.0	3.5	5.0	5.0	Jul-01
eV EAFE Core Equity Gross Median				7.8	-2.8	13.8	3.7	6.2	6.7	Jul-01
eV EAFE Core Equity Gross Rank				58	59	61	67	78	87	Jul-01
SSgA MSCI EAFE Index-NL	14,087,877	6.3	69.7	8.5	-1.0	13.3	3.9	5.4	6.0	Aug-10
MSCI EAFE				8.5	-1.4	13.0	3.5	5.0	5.6	Aug-10
eV EAFE Core Equity Gross Median				7.8	-2.8	13.8	3.7	6.2	7.1	Aug-10
eV EAFE Core Equity Gross Rank				36	30	57	46	80	88	Aug-10
SSgA MSCI EAFE Small Cap Index-NL	6,118,777	2.7	30.3	5.0	-9.4	12.2	1.1	6.1	7.2	Aug-10
MSCI EAFE Small Cap				4.9	-9.8	12.1	0.9	5.9	6.9	Aug-10
eV EAFE Small Cap Core Gross Median				6.2	-6.9	13.7	2.1	7.3	8.7	Aug-10
eV EAFE Small Cap Core Gross Rank				84	82	74	74	92	97	Aug-10
International Emerging Market Equity Assets	19,483,841	8.7	8.7	3.6	-10.9	9.3	-0.6	1.0	1.1	Jul-07
MSCI Emerging Markets				4.0	-10.7	7.8	-0.9	2.0	2.0	Jul-07
eV Emg Mkts Equity Gross Median				5.1	-8.6	10.6	0.7	3.4	3.3	Jul-07
eV Emg Mkts Equity Gross Rank				81	77	63	73	99	99	Jul-07
GQG Partners Emerging Markets	19,483,841	8.7	100.0	3.6	-10.9	10.9	--	--	4.9	Mar-19
MSCI Emerging Markets				4.0	-10.7	7.8	-0.9	2.0	0.8	Mar-19
eV Emg Mkts Equity Gross Median				5.1	-8.6	10.6	0.7	3.4	2.8	Mar-19
eV Emg Mkts Equity Gross Rank				81	77	48	--	--	25	Mar-19

Retirement System Summary | As of March 31, 2023

	Market Value (\$)	% of Portfolio	% of Sector	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Investment Grade Bond Assets	18,897,493	8.4	8.4	3.3	-4.6	-1.4	1.5	1.7	3.9	Jul-01
Bloomberg US Aggregate TR				3.0	-4.8	-2.8	0.9	1.4	3.7	Jul-01
eV US Core Fixed Inc Gross Median				3.1	-4.5	-1.7	1.4	1.8	4.2	Jul-01
eV US Core Fixed Inc Gross Rank				31	58	36	36	75	85	Jul-01
Longfellow Investment Grade Bond	18,897,493	8.4	100.0	3.3	-4.6	-1.4	1.5	--	1.1	Sep-17
Bloomberg US Aggregate TR				3.0	-4.8	-2.8	0.9	1.4	0.5	Sep-17
eV US Core Fixed Inc Gross Median				3.1	-4.5	-1.7	1.4	1.8	1.1	Sep-17
eV US Core Fixed Inc Gross Rank				31	58	36	36	--	37	Sep-17
High Yield Bond Assets	8,910,212	4.0	4.0	3.1	-4.6	7.2	3.6	4.2	5.6	Feb-05
CSFB High Yield Index				3.9	-3.0	6.3	3.0	4.0	5.9	Feb-05
eV US High Yield Fixed Inc Gross Median				3.4	-2.4	6.1	3.5	4.3	6.2	Feb-05
eV US High Yield Fixed Inc Gross Rank				65	90	23	44	57	89	Feb-05
Lord Abbett High Yield Core	8,910,212	4.0	100.0	3.1	-4.7	7.2	--	--	2.3	Jul-19
Bloomberg US High Yield TR				3.6	-3.3	5.9	3.2	4.1	2.0	Jul-19
eV US High Yield Fixed Inc Gross Median				3.4	-2.4	6.1	3.5	4.3	2.6	Jul-19
eV US High Yield Fixed Inc Gross Rank				65	90	22	--	--	66	Jul-19
TIPS Assets	12,210,855	5.4	5.4	3.5	-6.1	1.7	2.9	1.5	3.7	Jul-07
Bloomberg US TIPS TR				3.3	-6.1	1.8	2.9	1.5	3.7	Jul-07
eV US TIPS / Inflation Fixed Inc Gross Median				3.3	-5.8	2.4	3.2	1.6	3.9	Jul-07
eV US TIPS / Inflation Fixed Inc Gross Rank				23	73	87	89	92	76	Jul-07
SSgA TIPS-NL	12,210,855	5.4	100.0	3.5	-6.1	1.7	2.9	1.5	3.7	Jul-07
Bloomberg US TIPS TR				3.3	-6.1	1.8	2.9	1.5	3.7	Jul-07
eV US TIPS / Inflation Fixed Inc Gross Median				3.3	-5.8	2.4	3.2	1.6	3.9	Jul-07
eV US TIPS / Inflation Fixed Inc Gross Rank				23	76	88	89	92	76	Jul-07

Retirement System Summary | As of March 31, 2023

	Market Value (\$)	% of Portfolio	% of Sector	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Emerging Market Debt Assets	9,078,047	4.1	4.1	1.6	-6.6	1.5	-1.1	-2.2	-2.2	Mar-13
50% JPM EMBI GD / 50% JPM GBI-EM				3.5	-3.8	0.5	-1.4	0.3	0.2	Mar-13
Metlife Emerging Markets Debt (Net)	3,886,032	1.7	42.8	2.8	-5.1	2.8	-0.6	--	1.3	Nov-16
MetLife Custom Benchmark				3.1	-2.8	1.3	-0.1	1.3	1.0	Nov-16
Aberdeen Emerging Markets Bond Fund	5,192,015	2.3	57.2	0.7	-7.7	0.6	-1.4	--	0.7	Dec-16
JP Morgan EMBI Global Diversified				1.9	-6.9	0.0	-0.6	2.0	1.0	Dec-16
JP Morgan GBI EM Global Diversified TR USD				5.2	-0.7	0.9	-2.4	-1.5	1.3	Dec-16
Real Estate Assets	26,554,769	11.8	11.8	-2.7	-1.0	8.3	7.7	9.2	6.4	Apr-05
NCREIF ODCE (net)				-3.3	-3.9	7.5	6.6	8.5	6.7	Apr-05
TA Associates Realty Fund X	3,334	0.0	0.0	-4.8	37.8	7.6	14.0	12.6	12.6	Apr-13
NCREIF ODCE (net)				-3.3	-3.9	7.5	6.6	8.5	8.5	Apr-13
NCREIF Property Index				-1.8	-1.6	7.2	6.7	8.3	8.3	Apr-13
Intercontinental U.S. REIF (Net)	11,341,081	5.1	42.7	-3.8	-2.1	7.8	7.6	--	8.8	Oct-14
NCREIF ODCE (net)				-3.3	-3.9	7.5	6.6	8.5	7.8	Oct-14
AEW Core Property Trust (Net)	11,489,973	5.1	43.3	-3.7	-4.1	8.3	6.8	--	7.7	Oct-14
NCREIF ODCE (net)				-3.3	-3.9	7.5	6.6	8.5	7.8	Oct-14
AEW Partners IX, L.P.	3,720,381	1.7	14.0	4.2	11.2	--	--	--	-9.2	Mar-21
NCREIF ODCE (net)				-3.3	-3.9	7.5	6.6	8.5	11.2	Mar-21

TA Associates Realty Fund X and AEW Partners IX are based on December 31, 2022 fair market values, adjusted for subsequent cash flows.

Metlife Custom Benchmark consists of 35% JP Morgan EMBI Global Diversified, 35% JP Morgan CEMBI Broad Diversified, and 30% JP Morgan GBI EM Global Diversified.

	Market Value (\$)	% of Portfolio	% of Sector	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Private Equity Assets	37,223,542	16.6	16.6	-0.8	3.4	23.4	20.8	14.4	9.1	Oct-03
<i>Preqin Private Equity 1Q Lagged</i>				0.0	-3.9	18.6	16.3	15.3	13.6	Oct-03
Ascent Venture Partners - Fund V	631,135	0.3	1.7							
Ascent Venture Partners - Fund VI	1,628,879	0.7	4.4							
Constitution Capital Partners Ironsides III	5,472,950	2.4	14.7							
Constitution Capital Partners Ironsides IV	3,127,777	1.4	8.4							
Constitution Capital Partners Ironsides V	2,471,361	1.1	6.6							
Constitution Capital Direct IV	2,030,413	0.9	5.5							
Constitution Capital Direct V	3,845,428	1.7	10.3							
Constitution Capital Co-Investment Fund VI, L.P.	4,354,398	1.9	11.7							
Goldman Sachs PEP 2005	166,150	0.1	0.4							
HarbourVest Partners VIII	193,355	0.1	0.5							
HarbourVest Partners IX	2,976,644	1.3	8.0							
HarbourVest X Buyout Fund	5,292,282	2.4	14.2							
HarbourVest Partners XI	4,561,501	2.0	12.3							
HarbourVest Fund XII	471,267	0.2	1.3							

Preqin Private Equity is not available as of December 31, 2022.

Goldman Sachs PEP 2005's fair market value is based on a preliminary June 30, 2022 capital account statement.

Constitution Capital Partners III, IV, V, and HarbourVest assets are based on September 30, 2022 fair market value, adjusted for subsequent cash flows. All other Private Equity Assets are based on December 31, 2022 fair market value, adjusted for subsequent cash flows.

	Market Value (\$)	% of Portfolio	% of Sector	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Infrastructure Assets	17,618,868	7.9	7.9	2.6	9.6	11.8	--	--	10.8	Oct-18
<i>CPI + 3%</i>				<i>2.4</i>	<i>8.1</i>	<i>8.5</i>	<i>7.0</i>	<i>5.7</i>	<i>7.2</i>	<i>Oct-18</i>
IFM Global Infrastructure (U.S.), L.P.	17,618,868	7.9	100.0	2.6	9.6	11.8	--	--	10.8	Oct-18
<i>CPI + 3%</i>				<i>2.4</i>	<i>8.1</i>	<i>8.5</i>	<i>7.0</i>	<i>5.7</i>	<i>7.2</i>	<i>Oct-18</i>
Cash	1,054,112	0.5	0.5							
Cash STIF	1,054,112	0.5	100.0							

	Calendar Year Performance									
	2022 (%)	2021 (%)	2020 (%)	2019 (%)	2018 (%)	2017 (%)	2016 (%)	2015 (%)	2014 (%)	2013 (%)
Total Retirement System	-8.5	16.4	14.2	17.5	-3.0	14.4	9.6	-2.7	4.3	10.9
60% MSCI ACWI / 40% Barclays Global Aggregate	-17.3	8.8	14.0	18.6	-6.0	17.1	5.7	-2.5	2.8	12.1
Domestic Equity Assets	-18.2	25.3	21.6	30.9	-5.5	21.0	13.1	0.4	12.4	33.5
Russell 3000	-19.2	25.7	20.9	31.0	-5.2	21.1	12.7	0.5	12.6	33.6
SSgA Russell 1000 Value Index-NL	-7.6	25.2	2.8	26.5	-8.3	13.8	17.3	-3.7	13.4	32.5
Russell 1000 Value	-7.5	25.2	2.8	26.5	-8.3	13.7	17.3	-3.8	13.5	32.5
SSgA Russell 1000 Growth-NL	-29.1	27.6	38.5	36.4	-1.7	30.2	7.2	5.6	13.1	33.5
Russell 1000 Growth	-29.1	27.6	38.5	36.4	-1.5	30.2	7.1	5.7	13.0	33.5
SSgA Russell 2000 Index-NL	-20.3	14.9	20.0	25.6	-11.0	14.7	21.5	-4.4	5.0	38.9
Russell 2000	-20.4	14.8	20.0	25.5	-11.0	14.6	21.3	-4.4	4.9	38.8
Total International Developed Market Equity	-16.3	11.1	9.3	23.3	-14.7	27.5	1.6	2.0	-4.7	24.4
MSCI EAFE	-14.5	11.3	7.8	22.0	-13.8	25.0	1.0	-0.8	-4.9	22.8
SSgA MSCI EAFE Index-NL	-14.1	11.5	8.3	22.5	-13.5	25.5	1.4	-0.5	-4.6	23.1
MSCI EAFE	-14.5	11.3	7.8	22.0	-13.8	25.0	1.0	-0.8	-4.9	22.8
SSgA MSCI EAFE Small Cap Index-NL	-20.9	10.1	12.4	25.0	-17.6	33.3	2.4	9.7	-4.7	29.5
MSCI EAFE Small Cap	-21.4	10.1	12.3	25.0	-17.9	33.0	2.2	9.6	-4.9	29.3
International Emerging Market Equity Assets	-20.7	-0.9	25.4	16.6	-17.3	32.5	11.7	-18.1	-4.4	-3.8
MSCI Emerging Markets	-20.1	-2.5	18.3	18.4	-14.6	37.3	11.2	-14.9	-2.2	-2.6
GQG Partners Emerging Markets	-20.7	-0.9	34.8	--	--	--	--	--	--	--
MSCI Emerging Markets	-20.1	-2.5	18.3	18.4	-14.6	37.3	11.2	-14.9	-2.2	-2.6

Retirement System Summary | As of March 31, 2023

	2022 (%)	2021 (%)	2020 (%)	2019 (%)	2018 (%)	2017 (%)	2016 (%)	2015 (%)	2014 (%)	2013 (%)
Investment Grade Bond Assets	-13.1	-0.2	9.2	8.9	-0.1	3.5	2.7	0.8	6.1	-3.1
<i>Bloomberg US Aggregate TR</i>	<i>-13.0</i>	<i>-1.5</i>	<i>7.5</i>	<i>8.7</i>	<i>0.0</i>	<i>3.5</i>	<i>2.6</i>	<i>0.5</i>	<i>6.0</i>	<i>-2.0</i>
Longfellow Investment Grade Bond	-13.1	-0.2	9.2	8.9	-0.1	--	--	--	--	--
<i>Bloomberg US Aggregate TR</i>	<i>-13.0</i>	<i>-1.5</i>	<i>7.5</i>	<i>8.7</i>	<i>0.0</i>	<i>3.5</i>	<i>2.6</i>	<i>0.5</i>	<i>6.0</i>	<i>-2.0</i>
High Yield Bond Assets	-12.6	6.3	9.1	15.9	-3.2	7.2	11.5	-0.2	4.1	6.0
<i>CSFB High Yield Index</i>	<i>-10.6</i>	<i>5.5</i>	<i>5.5</i>	<i>14.0</i>	<i>-2.4</i>	<i>7.0</i>	<i>18.3</i>	<i>-4.9</i>	<i>1.9</i>	<i>7.5</i>
Lord Abbett High Yield Core	-12.5	6.3	9.1	--	--	--	--	--	--	--
<i>Bloomberg US High Yield TR</i>	<i>-11.2</i>	<i>5.3</i>	<i>7.1</i>	<i>14.3</i>	<i>-2.1</i>	<i>7.5</i>	<i>17.1</i>	<i>-4.5</i>	<i>2.5</i>	<i>7.4</i>
TIPS Assets	-12.0	5.9	11.0	8.4	-1.3	3.0	4.5	-1.4	3.6	-8.6
<i>Bloomberg US TIPS TR</i>	<i>-11.8</i>	<i>6.0</i>	<i>11.0</i>	<i>8.4</i>	<i>-1.3</i>	<i>3.0</i>	<i>4.7</i>	<i>-1.4</i>	<i>3.6</i>	<i>-8.6</i>
SSgA TIPS-NL	-12.0	5.9	11.0	8.4	-1.3	3.0	4.5	-1.4	3.6	-8.6
<i>Bloomberg US TIPS TR</i>	<i>-11.8</i>	<i>6.0</i>	<i>11.0</i>	<i>8.4</i>	<i>-1.3</i>	<i>3.0</i>	<i>4.7</i>	<i>-1.4</i>	<i>3.6</i>	<i>-8.6</i>
Emerging Market Debt Assets	-15.0	-3.7	5.8	15.1	-6.9	13.3	10.0	-15.2	-8.5	--
<i>50% JPM EMBI GD / 50% JPM GBI-EM</i>	<i>-14.8</i>	<i>-5.3</i>	<i>4.0</i>	<i>14.3</i>	<i>-5.2</i>	<i>12.7</i>	<i>10.2</i>	<i>-7.1</i>	<i>0.7</i>	<i>-7.1</i>
Metlife Emerging Markets Debt (Net)	-13.3	-3.7	6.1	14.5	-6.6	13.4	--	--	--	--
<i>MetLife Custom Benchmark</i>	<i>-13.5</i>	<i>-2.9</i>	<i>5.4</i>	<i>13.7</i>	<i>-4.0</i>	<i>10.6</i>	<i>10.0</i>	<i>-3.8</i>	<i>1.9</i>	<i>-5.2</i>
Aberdeen Emerging Markets Bond Fund	-16.2	-3.6	5.5	15.7	-7.1	13.3	--	--	--	--
<i>JP Morgan EMBI Global Diversified</i>	<i>-17.8</i>	<i>-1.8</i>	<i>5.3</i>	<i>15.0</i>	<i>-4.3</i>	<i>10.3</i>	<i>10.2</i>	<i>1.2</i>	<i>7.4</i>	<i>-5.3</i>
<i>JP Morgan GBI EM Global Diversified TR USD</i>	<i>-11.7</i>	<i>-8.7</i>	<i>2.7</i>	<i>13.5</i>	<i>-6.2</i>	<i>15.2</i>	<i>9.9</i>	<i>-14.9</i>	<i>-5.7</i>	<i>-9.0</i>

Metlife Custom Benchmark consists of 35% JP Morgan EMBI Global Diversified, 35% JP Morgan CEMBI Broad Diversified, and 30% JP Morgan GBI EM Global Diversified.

Retirement System Summary | As of March 31, 2023

	2022 (%)	2021 (%)	2020 (%)	2019 (%)	2018 (%)	2017 (%)	2016 (%)	2015 (%)	2014 (%)	2013 (%)
Real Estate Assets	8.2	19.5	0.5	8.0	8.4	8.5	9.0	13.8	12.8	10.1
<i>NCREIF ODCE (net)</i>	6.5	21.0	0.3	4.4	7.4	6.7	7.8	14.0	11.5	12.9
TA Associates Realty Fund X	38.9	3.5	-6.4	37.5	12.9	13.1	12.2	14.8	12.3	--
<i>NCREIF ODCE (net)</i>	6.5	21.0	0.3	4.4	7.4	6.7	7.8	14.0	11.5	12.9
<i>NCREIF Property Index</i>	5.5	17.7	1.6	6.4	6.7	7.0	8.0	13.3	11.8	11.0
Intercontinental U.S. REIF (Net)	7.4	20.0	1.0	8.2	9.3	7.5	10.9	12.7	--	--
<i>NCREIF ODCE (net)</i>	6.5	21.0	0.3	4.4	7.4	6.7	7.8	14.0	11.5	12.9
AEW Core Property Trust (Net)	7.8	20.8	0.3	5.1	6.6	6.6	7.6	12.8	--	--
<i>NCREIF ODCE (net)</i>	6.5	21.0	0.3	4.4	7.4	6.7	7.8	14.0	11.5	12.9
AEW Partners IX, L.P.	5.6	--	--	--	--	--	--	--	--	--
<i>NCREIF ODCE (net)</i>	6.5	21.0	0.3	4.4	7.4	6.7	7.8	14.0	11.5	12.9
Private Equity Assets	11.1	46.1	25.3	15.7	13.7	11.8	6.3	0.8	13.5	9.5
<i>Preqin Private Equity 1Q Lagged</i>	2.9	44.7	17.0	10.2	15.7	18.0	10.2	10.9	16.4	15.1
Ascent Venture Partners - Fund V										
Ascent Venture Partners - Fund VI										
Constitution Capital Partners Ironsides III										
Constitution Capital Partners Ironsides IV										
Constitution Capital Partners Ironsides V										
Constitution Capital Direct IV										
Constitution Capital Direct V										
Constitution Capital Co-Investment Fund VI, L.P.										

Retirement System Summary | As of March 31, 2023

	2022 (%)	2021 (%)	2020 (%)	2019 (%)	2018 (%)	2017 (%)	2016 (%)	2015 (%)	2014 (%)	2013 (%)
Goldman Sachs PEP 2005										
HarbourVest Partners VIII										
HarbourVest Partners IX										
HarbourVest X Buyout Fund										
HarbourVest Partners XI										
HarbourVest Fund XII										
Infrastructure Assets	8.2	17.4	3.1	14.6	--	--	--	--	--	--
<i>CPI + 3%</i>	<i>9.6</i>	<i>10.2</i>	<i>4.4</i>	<i>5.3</i>	<i>5.0</i>	<i>5.2</i>	<i>5.1</i>	<i>3.7</i>	<i>3.8</i>	<i>4.5</i>
IFM Global Infrastructure (U.S.), L.P.	8.2	17.4	3.1	14.6	--	--	--	--	--	--
<i>CPI + 3%</i>	<i>9.6</i>	<i>10.2</i>	<i>4.4</i>	<i>5.3</i>	<i>5.0</i>	<i>5.2</i>	<i>5.1</i>	<i>3.7</i>	<i>3.8</i>	<i>4.5</i>
Cash										
Cash STIF										

Statistics Summary						
5 Years Ending March 31, 2023						
	Anlzd Return	Anlzd Standard Deviation	Information Ratio	Beta	Sharpe Ratio	Tracking Error
Total Retirement System	7.2%	8.8%	0.7	0.7	0.7	4.9%
60% MSCI ACWI / 40% Barclays Global Aggregate	3.8%	12.4%	--	1.0	0.2	0.0%
Total Equity	6.3%	17.6%	-1.1	0.9	0.3	3.9%
Russell 3000	10.4%	19.2%	--	1.0	0.5	0.0%
Domestic Equity Assets	10.5%	19.1%	0.0	1.0	0.5	0.5%
Russell 3000	10.4%	19.2%	--	1.0	0.5	0.0%
SSgA Russell 1000 Value Index-NL	7.4%	18.8%	-1.2	1.0	0.3	0.1%
Russell 1000 Value	7.5%	18.8%	--	1.0	0.3	0.0%
SSgA Russell 1000 Growth-NL	13.5%	21.0%	-2.2	1.0	0.6	0.1%
Russell 1000 Growth	13.7%	21.0%	--	1.0	0.6	0.0%
SSgA Russell 2000 Index-NL	4.7%	23.9%	0.0	1.0	0.1	0.1%
Russell 2000	4.7%	23.9%	--	1.0	0.1	0.0%
International Equity Assets	0.8%	16.5%	-0.5	0.9	0.0	3.9%
MSCI ACWI ex USA IMI Gross	2.8%	17.6%	--	1.0	0.1	0.0%
Total International Developed Market Equity	2.9%	18.2%	-0.4	1.0	0.1	1.7%
MSCI EAFE	3.5%	17.6%	--	1.0	0.1	0.0%
SSgA MSCI EAFE Index-NL	3.8%	17.6%	1.9	1.0	0.1	0.1%
MSCI EAFE	3.5%	17.6%	--	1.0	0.1	0.0%

	Anlzd Return	Anlzd Standard Deviation	Information Ratio	Beta	Sharpe Ratio	Tracking Error
SSgA MSCI EAFE Small Cap Index-NL	0.9%	19.5%	0.0	1.0	0.0	0.2%
MSCI EAFE Small Cap	0.9%	19.7%	--	1.0	0.0	0.0%
International Emerging Market Equity Assets	-1.3%	16.9%	-0.1	0.8	-0.2	7.5%
MSCI Emerging Markets	-0.9%	18.9%	--	1.0	-0.1	0.0%
GQG Partners Emerging Markets	--	--	--	--	--	--
MSCI Emerging Markets	-0.9%	18.9%	--	1.0	-0.1	0.0%
Fixed Income Assets	1.8%	6.6%	0.3	1.1	0.1	3.1%
Bloomberg US Universal TR	1.0%	5.4%	--	1.0	-0.1	0.0%
Investment Grade Bond Assets	1.5%	5.3%	0.7	1.0	0.0	0.9%
Bloomberg US Aggregate TR	0.9%	5.5%	--	1.0	-0.1	0.0%
Longfellow Investment Grade Bond	1.5%	5.3%	0.7	1.0	0.0	0.9%
Bloomberg US Aggregate TR	0.9%	5.5%	--	1.0	-0.1	0.0%
High Yield Bond Assets	3.2%	10.6%	0.1	1.1	0.2	1.8%
CSFB High Yield Index	3.0%	9.4%	--	1.0	0.2	0.0%
Lord Abbett High Yield Core	--	--	--	--	--	--
Bloomberg US High Yield TR	3.2%	9.3%	--	1.0	0.2	0.0%
TIPS Assets	2.9%	6.0%	-0.4	1.0	0.3	0.1%
Bloomberg US TIPS TR	2.9%	6.0%	--	1.0	0.3	0.0%
SSgA TIPS-NL	2.9%	6.0%	-0.5	1.0	0.3	0.1%
Bloomberg US TIPS TR	2.9%	6.0%	--	1.0	0.3	0.0%

	Anlzd Return	Anlzd Standard Deviation	Information Ratio	Beta	Sharpe Ratio	Tracking Error
Emerging Market Debt Assets	-1.4%	12.5%	0.0	1.1	-0.2	2.8%
50% JPM EMBI GD / 50% JPM GBI-EM	-1.4%	11.2%	--	1.0	-0.2	0.0%
Metlife Emerging Markets Debt	-0.6%	12.6%	-0.1	1.3	-0.2	3.5%
MetLife Custom Benchmark	-0.1%	9.7%	--	1.0	-0.2	0.0%
Aberdeen Emerging Markets Bond Fund	-1.9%	12.5%	-0.5	1.1	-0.3	2.6%
JP Morgan EMBI Global Diversified	-0.6%	11.2%	--	1.0	-0.2	0.0%
Real Estate Assets	7.6%	6.4%	0.6	0.9	1.0	1.6%
NCREIF ODCE (net)	6.6%	6.8%	--	1.0	0.8	0.0%
TA Associates Realty Fund X	14.0%	16.7%	0.4	0.1	0.8	17.8%
NCREIF ODCE (net)	6.6%	6.8%	--	1.0	0.8	0.0%
Intercontinental U.S. REIF	7.6%	7.0%	0.5	1.0	0.9	2.1%
NCREIF ODCE (net)	6.6%	6.8%	--	1.0	0.8	0.0%
AEW Core Property Trust	6.8%	7.0%	0.1	1.0	0.8	1.9%
NCREIF ODCE (net)	6.6%	6.8%	--	1.0	0.8	0.0%
AEW Partners IX, L.P.	--	--	--	--	--	--
NCREIF ODCE (net)	6.6%	6.8%	--	1.0	0.8	0.0%
Private Equity Assets	20.8%	12.7%	1.3	1.0	1.5	3.5%
Preqin Private Equity 1Q Lagged	16.3%	12.1%	--	1.0	1.2	0.0%
Ascent Venture Partners - Fund V	-3.8%	12.6%	-1.6	0.5	-0.4	12.6%
Preqin Private Equity 1Q Lagged	16.3%	12.1%	--	1.0	1.2	0.0%

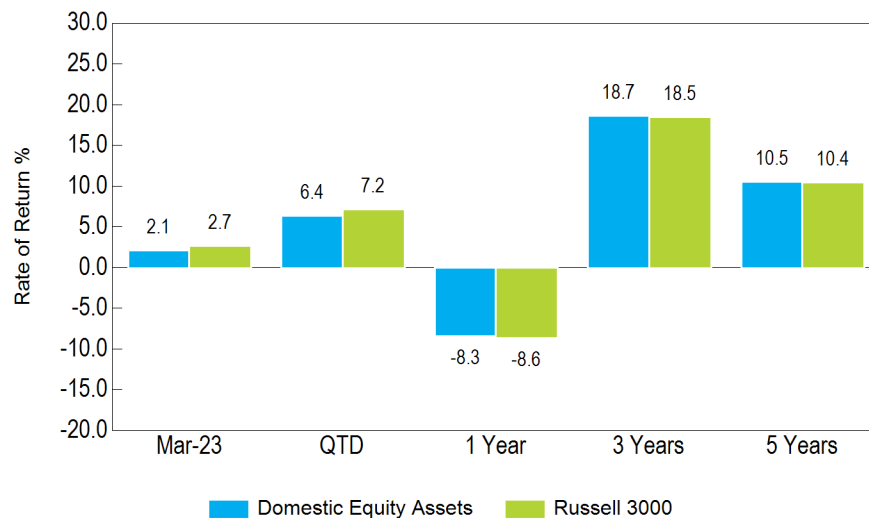
	Anlzd Return	Anlzd Standard Deviation	Information Ratio	Beta	Sharpe Ratio	Tracking Error
Ascent Venture Partners - Fund VI	1.2%	7.8%	-1.3	0.2	0.0	11.7%
Preqin Private Equity 1Q Lagged	16.3%	12.1%	--	1.0	1.2	0.0%
Constitution Capital Partners Ironsides III	31.8%	17.1%	1.3	1.0	1.8	11.7%
Preqin Private Equity 1Q Lagged	16.3%	12.1%	--	1.0	1.2	0.0%
Constitution Capital Partners Ironsides IV	30.7%	16.9%	1.3	1.1	1.7	11.1%
Preqin Private Equity 1Q Lagged	16.3%	12.1%	--	1.0	1.2	0.0%
Constitution Capital Partners Ironsides V	--	--	--	--	--	--
Preqin Private Equity 1Q Lagged	16.3%	12.1%	--	1.0	1.2	0.0%
Constitution Capital Direct IV	18.8%	18.7%	0.2	1.0	0.9	14.2%
Preqin Private Equity 1Q Lagged	16.3%	12.1%	--	1.0	1.2	0.0%
Constitution Capital Direct V	--	--	--	--	--	--
Preqin Private Equity 1Q Lagged	16.3%	12.1%	--	1.0	1.2	0.0%
Constitution Capital Co-Investment Fund VI, L.P.	--	--	--	--	--	--
Preqin Private Equity 1Q Lagged	16.3%	12.1%	--	1.0	1.2	0.0%
Goldman Sachs PEP 2005	5.4%	19.3%	-0.7	0.9	0.2	16.0%
Preqin Private Equity 1Q Lagged	16.3%	12.1%	--	1.0	1.2	0.0%
HarbourVest Partners VIII	14.5%	14.3%	-0.3	1.0	0.9	6.9%
Preqin Private Equity 1Q Lagged	16.3%	12.1%	--	1.0	1.2	0.0%
HarbourVest Partners IX	19.0%	14.6%	0.6	1.2	1.2	4.8%
Preqin Private Equity 1Q Lagged	16.3%	12.1%	--	1.0	1.2	0.0%

	Anlzd Return	Anlzd Standard Deviation	Information Ratio	Beta	Sharpe Ratio	Tracking Error
HarbourVest X Buyout Fund	21.2%	15.1%	0.7	1.1	1.3	6.9%
Preqin Private Equity 1Q Lagged	16.3%	12.1%	--	1.0	1.2	0.0%
HarbourVest Partners XI	--	--	--	--	--	--
Preqin Private Equity 1Q Lagged	16.3%	12.1%	--	1.0	1.2	0.0%
HarbourVest Fund XII	--	--	--	--	--	--
Preqin Private Equity 1Q Lagged	16.3%	12.1%	--	1.0	1.2	0.0%
Infrastructure Assets	--	--	--	--	--	--
CPI + 3%	7.0%	1.4%	--	1.0	4.1	0.0%
IFM Global Infrastructure (U.S.), L.P.	--	--	--	--	--	--
CPI + 3%	7.0%	1.4%	--	1.0	4.1	0.0%

Asset Allocation on March 31, 2023

	Actual	Actual
SSgA Russell 1000 Growth-NL	\$22,693,024	42.9%
SSgA Russell 1000 Value Index-NL	\$25,863,529	48.9%
SSgA Russell 2000 Index-NL	\$4,330,231	8.2%
Total	\$52,886,784	100.0%

Return Summary Ending March 31, 2023



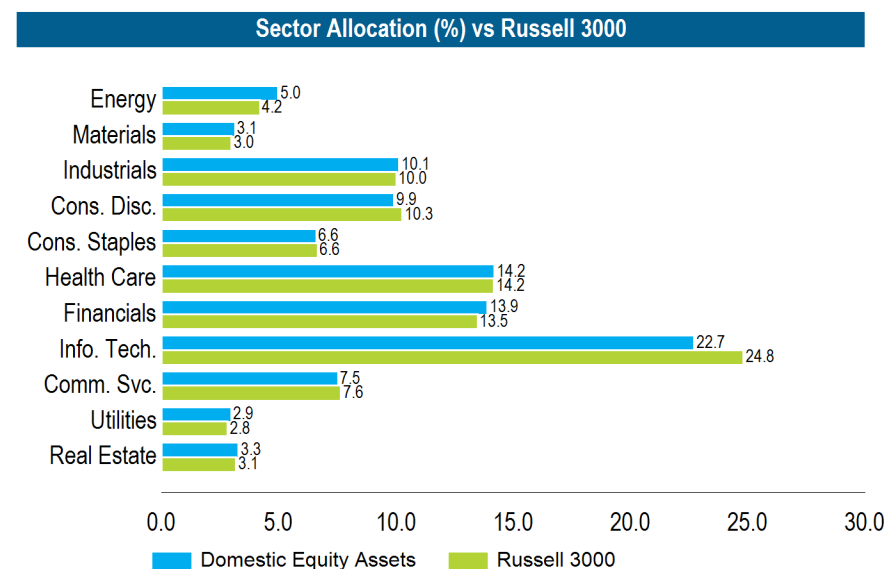
Domestic Equity Assets Style Map 3 Years Ending March 31, 2023



Domestic Equity Assets | As of March 31, 2023

Domestic Equity Assets Characteristics			
	Portfolio Q1-23	Index Q1-23	Portfolio Q4-22
Market Value			
Market Value (\$M)	52.9	--	51.5
Number Of Holdings	2928	2923	2955
Characteristics			
Weighted Avg. Market Cap. (\$B)	433.2	470.5	326.2
Median Market Cap (\$B)	3.2	2.5	3.1
P/E Ratio	19.4	20.2	17.7
Yield	1.7	1.6	1.8
EPS Growth - 5 Yrs.	17.6	18.0	16.7
Price to Book	3.7	3.9	3.4

Top 10 Holdings	
APPLE INC	5.4%
MICROSOFT CORP	4.7%
AMAZON.COM INC	2.0%
BERKSHIRE HATHAWAY INC	1.5%
NVIDIA CORPORATION	1.4%
ALPHABET INC	1.4%
ALPHABET INC	1.2%
META PLATFORMS INC	1.2%
EXXON MOBIL CORP	1.2%
TESLA INC	1.2%
Total	21.4%

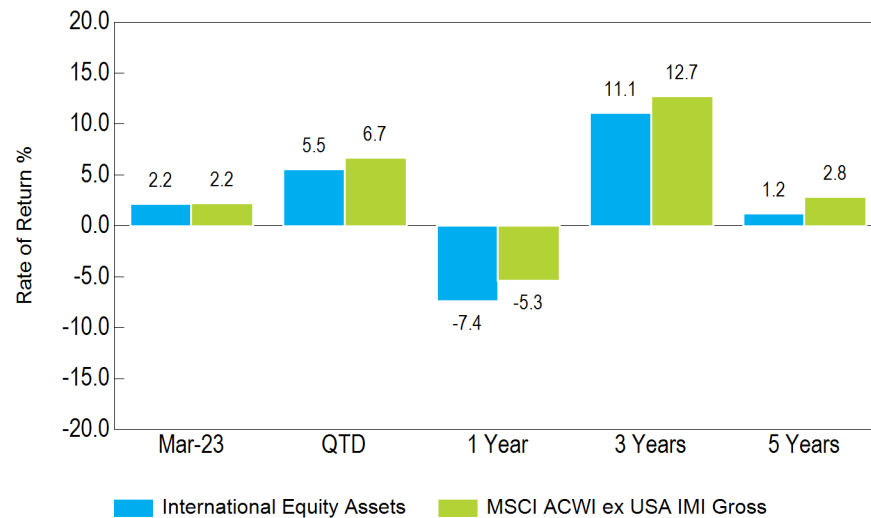


	Portfolio Q1-23	Index Q1-23
Sector Performance		
Energy	-4.72	-4.02
Materials	5.16	4.99
Industrials	5.16	4.73
Consumer Discretionary	14.77	15.18
Consumer Staples	1.18	1.22
Health Care	-3.36	-3.67
Financials	-5.13	-5.14
Information Technology	20.93	20.88
Communication Services	20.64	20.07
Utilities	-2.65	-2.83
Real Estate	2.27	1.84

Asset Allocation on March 31, 2023

	Actual	Actual
GQG Partners Emerging Markets	\$19,483,841	49.1%
SSgA MSCI EAFE Index-NL	\$14,087,877	35.5%
SSgA MSCI EAFE Small Cap Index-NL	\$6,118,777	15.4%
Total	\$39,690,495	100.0%

Return Summary Ending March 31, 2023

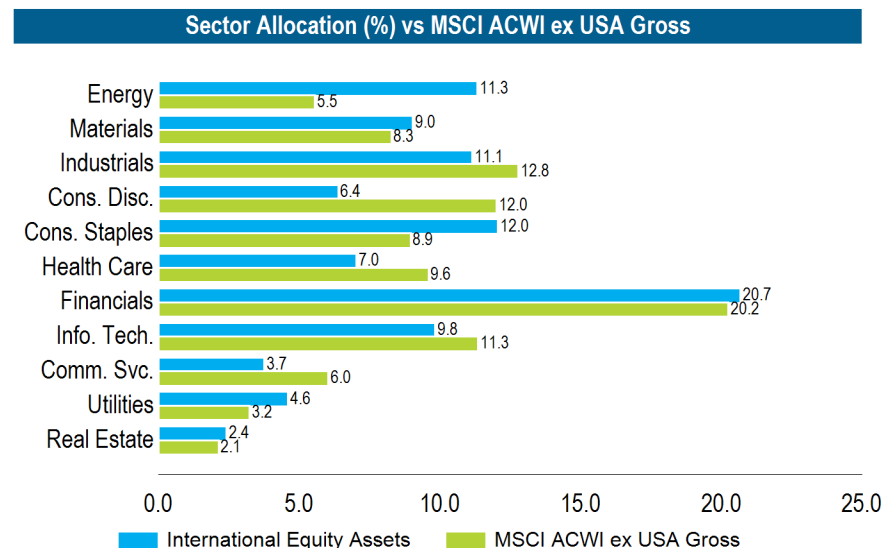


International Equity Assets Style Map 3 Years Ending March 31, 2023



Total International Equity Characteristics			
	Portfolio Q1-23	Index Q1-23	Portfolio Q4-22
Market Value			
Market Value (\$M)	39.7	--	37.6
Number Of Holdings	3253	2258	3263
Characteristics			
Weighted Avg. Market Cap. (\$B)	83.0	89.8	71.1
Median Market Cap (\$B)	1.9	9.2	1.8
P/E Ratio	12.1	13.5	11.6
Yield	5.4	3.3	5.8
EPS Growth - 5 Yrs.	12.5	10.0	14.6
Price to Book	2.7	2.5	2.3

Top 10 Holdings	
ITC LTD	3.7%
VALE SA	2.8%
HOUSING DEVELOPMENT FINANCE CORP LTD	2.5%
TOTALENERGIES SE	2.1%
PETROLEO BRASILEIRO S.A.- PETROBRAS	2.0%
ASML HOLDING NV	1.9%
TAIWAN SEMICONDUCTOR MANUFACTURING CO LTD	1.6%
ITAU UNIBANCO HOLDING PN	1.5%
ICICI BANK	1.4%
PT BANK CENTRAL ASIA TBK	1.3%
Total	20.7%



	Portfolio Q1-23	Index Q1-23
Sector Performance		
Energy	1.89	-0.02
Materials	7.40	6.06
Industrials	10.78	10.06
Consumer Discretionary	15.14	11.21
Consumer Staples	9.61	6.55
Health Care	5.86	4.44
Financials	-4.10	1.43
Information Technology	21.44	17.04
Communication Services	9.42	11.74
Utilities	6.23	3.42
Real Estate	-3.13	-1.64

Total International Equity Region Allocation			
vs MSCI ACWI ex USA Gross			
Region	% of Total	% of Bench	% Diff
North America ex U.S.	0.0%	7.5%	-7.5%
United States	3.5%	0.0%	3.5%
Europe Ex U.K.	29.1%	33.2%	-4.1%
United Kingdom	6.4%	9.6%	-3.2%
Pacific Basin Ex Japan	5.9%	7.7%	-1.9%
Japan	12.5%	13.9%	-1.4%
Emerging Markets	41.5%	27.4%	14.1%
Other	1.0%	0.7%	0.3%
Total	100.0%	100.0%	0.0%

Total International Equity Country Allocation

vs MSCI ACWI ex USA Gross

Country	% of Total	% of Bench	% Diff
ARGENTINA	0.0%	0.0%	0.0%
AUSTRALIA	3.6%	4.8%	-1.2%
AUSTRIA	0.2%	0.1%	0.1%
BAHRAIN	0.0%	0.0%	0.0%
BANGLADESH	0.0%	0.0%	0.0%
BELGIUM	0.6%	0.7%	-0.1%
BRAZIL	9.3%	1.4%	8.0%
CANADA	0.0%	7.5%	-7.5%
CHILE	0.0%	0.2%	-0.2%
CHINA	5.8%	9.1%	-3.2%
COLOMBIA	0.0%	0.0%	0.0%
CROATIA	0.0%	0.0%	0.0%
CZECH REPUBLIC	0.0%	0.0%	0.0%
DENMARK	1.4%	2.0%	-0.6%
EGYPT	0.0%	0.0%	0.0%
ESTONIA	0.0%	0.0%	0.0%
FINLAND	0.6%	0.6%	0.0%
FRANCE	6.5%	8.1%	-1.6%
GERMANY	3.7%	5.6%	-1.9%
GREECE	0.0%	0.1%	-0.1%

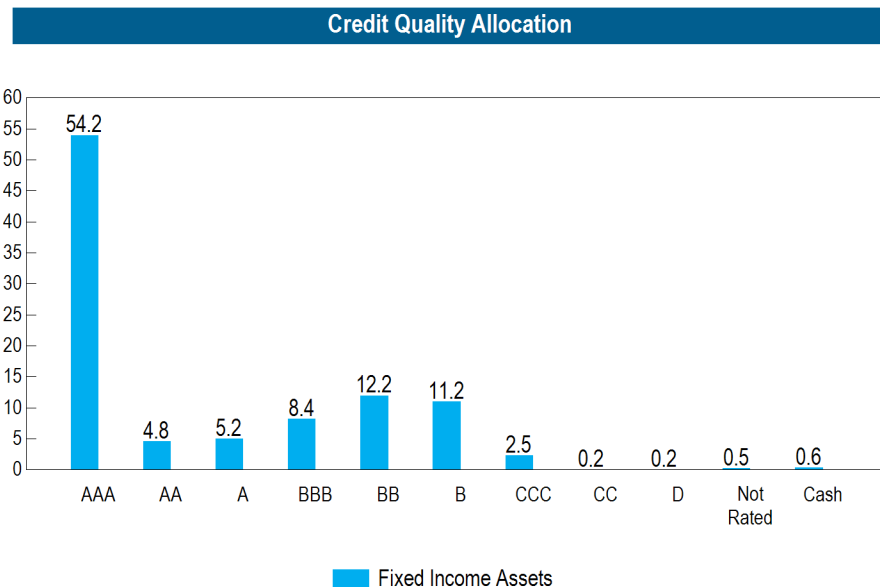
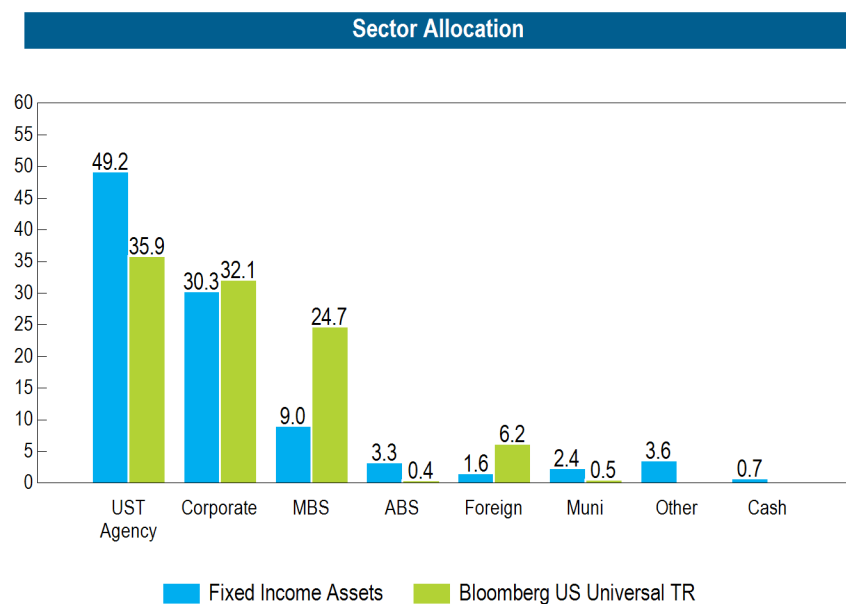
Country	% of Total	% of Bench	% Diff
HONG KONG	1.2%	1.8%	-0.6%
HUNGARY	0.0%	0.1%	-0.1%
INDIA	16.1%	3.6%	12.5%
INDONESIA	2.4%	0.5%	1.9%
IRELAND	0.5%	0.5%	0.0%
ISRAEL	0.6%	0.4%	0.2%
ITALY	2.0%	1.6%	0.4%
JAPAN	12.5%	13.9%	-1.4%
JORDAN	0.0%	0.0%	0.0%
KAZAKHSTAN	0.0%	0.0%	0.0%
KENYA	0.0%	0.0%	0.0%
KOREA	1.5%	3.3%	-1.8%
KUWAIT	0.0%	0.2%	-0.2%
LEBANON	0.0%	0.0%	0.0%
LITHUANIA	0.0%	0.0%	0.0%
LUXEMBOURG	0.2%	0.0%	0.2%
MALAYSIA	0.0%	0.4%	-0.4%
MAURITIUS	0.0%	0.0%	0.0%
MEXICO	2.8%	0.7%	2.1%
MOROCCO	0.0%	0.0%	0.0%
NETHERLANDS	5.3%	3.0%	2.4%
NEW ZEALAND	0.3%	0.1%	0.1%
NIGERIA	0.0%	0.0%	0.0%

Country	% of Total	% of Bench	% Diff
NORWAY	0.5%	0.4%	0.1%
OMAN	0.0%	0.0%	0.0%
OTHER	0.4%	0.0%	0.4%
PAKISTAN	0.0%	0.0%	0.0%
PERU	0.0%	0.1%	-0.1%
PHILIPPINES	0.0%	0.2%	-0.2%
POLAND	0.0%	0.2%	-0.2%
PORTUGAL	0.1%	0.1%	0.0%
QATAR	0.0%	0.3%	-0.3%
ROMANIA	0.0%	0.0%	0.0%
RUSSIA	0.0%	0.0%	0.0%
SAUDI ARABIA	0.0%	1.1%	-1.1%
SERBIA	0.0%	0.0%	0.0%
SINGAPORE	0.8%	1.0%	-0.2%
SLOVENIA	0.0%	0.0%	0.0%
SOUTH AFRICA	0.0%	1.0%	-0.9%
SPAIN	1.2%	1.7%	-0.5%
SRI LANKA	0.0%	0.0%	0.0%
SWEDEN	2.0%	2.2%	-0.2%
SWITZERLAND	4.3%	6.5%	-2.2%
TAIWAN	2.5%	4.2%	-1.7%
THAILAND	0.3%	0.6%	-0.3%
TUNISIA	0.0%	0.0%	0.0%

Country	% of Total	% of Bench	% Diff
TURKEY	0.6%	0.2%	0.5%
UNITED ARAB EMIRATES	0.0%	0.3%	-0.3%
UNITED KINGDOM	6.4%	9.6%	-3.2%
UNITED STATES	3.5%	0.0%	3.5%
VIETNAM	0.0%	0.0%	0.0%
Total	100.0%	100.0%	0.0%

Asset Allocation on March 31, 2023		
	Actual	Actual
Aberdeen Emerging Markets Bond Fund	\$5,192,015	10.6%
Longfellow Investment Grade Bond	\$18,897,493	38.5%
Lord Abbett High Yield Core	\$8,910,212	18.1%
Metlife Emerging Markets Debt	\$3,886,032	7.9%
SSgA TIPS-NL	\$12,210,855	24.9%
Total	\$49,096,608	100.0%

Total Fixed Income Fixed Income Characteristics vs. Bloomberg US Universal TR			
	Portfolio Q1-23	Index Q1-23	Portfolio Q4-22
Fixed Income Characteristics			
Yield to Maturity	5.94	5.10	6.20
Average Duration	5.64	6.25	5.55
Average Quality	A	AA	A
Weighted Average Maturity	8.34	12.25	7.93



SSgA Russell 1000 Value Index-NL | As of March 31, 2023

Account Information

Account Name	SSgA Russell 1000 Value Index-NL
Account Structure	Commingled Fund
Investment Style	Passive
Inception Date	1/01/05
Account Type	Equity
Benchmark	Russell 1000 Value
Universe	eV US Large Cap Value Equity Gross

Portfolio Performance Summary

	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	Inception (%)	Inception Date
SSgA Russell 1000 Value Index-NL	1.0	-5.9	17.9	7.5	7.3	Jan-05
<i>Russell 1000 Value</i>	1.0	-5.9	17.9	7.5	7.3	Jan-05
<i>eV US Large Cap Value Equity Gross Median</i>	0.7	-4.4	19.6	9.0	8.4	Jan-05
<i>eV US Large Cap Value Equity Gross Rank</i>	45	75	73	78	89	Jan-05

Top 10 Holdings

BERKSHIRE HATHAWAY INC	3.0%
EXXON MOBIL CORP	2.5%
JOHNSON & JOHNSON	2.2%
JPMORGAN CHASE & CO	2.1%
META PLATFORMS INC	2.0%
CHEVRON CORP	1.7%
PFIZER INC	1.3%
CISCO SYSTEMS INC	1.2%
WALMART INC	1.1%
PROCTER & GAMBLE CO (THE)	1.1%
Total	18.2%

SSgA Russell 1000 Value Index-NL Characteristics

	Portfolio Q1-23	Index Q1-23	Portfolio Q4-22
Market Value			
Market Value (\$M)	25.9	--	27.4
Number Of Holdings	843	849	854
Characteristics			
Weighted Avg. Market Cap. (\$B)	154.8	154.6	152.0
Median Market Cap (\$B)	12.2	12.1	11.9
P/E Ratio	16.3	16.5	15.3
Yield	2.3	2.3	2.3
EPS Growth - 5 Yrs.	12.5	12.3	12.6
Price to Book	2.5	2.5	2.5
Sector Distribution			
Energy	7.9	7.2	8.4
Materials	4.5	4.5	4.3
Industrials	10.9	11.0	10.4
Consumer Discretionary	5.9	5.7	5.9
Consumer Staples	7.6	7.6	7.3
Health Care	16.3	16.5	17.2
Financials	20.1	20.3	19.9
Information Technology	8.0	8.1	8.2
Communication Services	8.6	8.7	7.2
Utilities	5.5	5.7	5.6
Real Estate	4.4	4.5	4.4

SSgA Russell 1000 Growth-NL | As of March 31, 2023

Account Information

Account Name	SSgA Russell 1000 Growth-NL
Account Structure	Commingled Fund
Investment Style	Passive
Inception Date	7/01/07
Account Type	Equity
Benchmark	Russell 1000 Growth
Universe	eV US Large Cap Growth Equity Gross

Portfolio Performance Summary

	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	Inception (%)	Inception Date
SSgA Russell 1000 Growth-NL	14.3	-10.9	18.6	13.6	11.0	Jul-07
<i>Russell 1000 Growth</i>	14.4	-10.9	18.6	13.7	11.0	Jul-07
<i>eV US Large Cap Growth Equity Gross Median</i>	12.6	-11.0	16.4	11.9	10.5	Jul-07
<i>eV US Large Cap Growth Equity Gross Rank</i>	31	49	25	19	25	Jul-07

Top 10 Holdings

APPLE INC	12.7%
MICROSOFT CORP	11.1%
AMAZON.COM INC	4.7%
NVIDIA CORPORATION	3.4%
ALPHABET INC	2.8%
TESLA INC	2.8%
ALPHABET INC	2.4%
UNITEDHEALTH GROUP INC	2.1%
VISA INC	1.9%
MASTERCARD INC	1.6%
Total	45.5%

SSgA Russell 1000 Growth-NL Characteristics

	Portfolio Q1-23	Index Q1-23	Portfolio Q4-22
Market Value			
Market Value (\$M)	22.7	--	19.8
Number Of Holdings	505	509	500
Characteristics			
Weighted Avg. Market Cap. (\$B)	823.7	818.2	627.0
Median Market Cap (\$B)	17.1	17.0	16.1
P/E Ratio	27.8	28.0	24.6
Yield	1.0	1.0	1.1
EPS Growth - 5 Yrs.	23.2	23.2	22.2
Price to Book	9.4	9.5	8.6
Sector Distribution			
Energy	1.4	1.1	1.7
Materials	1.3	1.3	1.4
Industrials	8.1	8.2	7.9
Consumer Discretionary	14.3	14.4	14.0
Consumer Staples	6.0	6.0	6.1
Health Care	11.7	11.7	13.3
Financials	6.7	6.8	3.2
Information Technology	41.8	41.9	42.7
Communication Services	7.2	7.2	6.7
Utilities	0.0	0.0	0.1
Real Estate	1.5	1.5	1.6

Account Information

Account Name	SSgA Russell 2000 Index-NL
Account Structure	Commingled Fund
Investment Style	Passive
Inception Date	8/01/10
Account Type	Equity
Benchmark	Russell 2000
Universe	eV US Small Cap Core Equity Gross

Portfolio Performance Summary

	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	Inception (%)	Inception Date
SSgA Russell 2000 Index-NL	2.8	-11.5	17.6	4.8	9.9	Aug-10
Russell 2000	2.7	-11.6	17.5	4.7	9.8	Aug-10
eV US Small Cap Core Equity Gross Median	3.9	-7.0	22.0	7.8	12.2	Aug-10
eV US Small Cap Core Equity Gross Rank	73	85	89	91	95	Aug-10

Top 10 Holdings

MISCELLANEOUS SECURITIES	3.8%
CASH - USD	3.7%
IRIDIUM COMMUNICATIONS INC	0.3%
EMCOR GROUP INC.	0.3%
SHOCKWAVE MEDICAL INC	0.3%
CROCS INC	0.3%
SAIA INC	0.3%
TEXAS ROADHOUSE INC	0.3%
INSPIRE MEDICAL SYSTEMS INC	0.3%
RBC BEARINGS INC	0.3%
Total	9.9%

SSgA Russell 2000 Index-NL Characteristics

	Portfolio Q1-23	Index Q1-23	Portfolio Q4-22
Market Value			
Market Value (\$M)	4.3	--	4.2
Number Of Holdings	1917	1916	1944
Characteristics			
Weighted Avg. Market Cap. (\$B)	2.9	2.9	2.8
Median Market Cap (\$B)	1.1	1.1	1.1
P/E Ratio	12.7	12.8	12.1
Yield	1.7	1.7	1.6
EPS Growth - 5 Yrs.	16.5	16.5	17.1
Price to Book	2.4	2.4	2.2
Sector Distribution			
Energy	5.8	6.5	6.1
Materials	4.2	4.6	4.0
Industrials	15.6	16.9	14.4
Consumer Discretionary	10.4	11.3	9.5
Consumer Staples	3.4	3.8	3.3
Health Care	14.4	16.1	15.2
Financials	14.4	16.0	15.7
Information Technology	11.2	12.5	11.4
Communication Services	2.5	2.7	2.4
Utilities	3.1	3.3	3.2
Real Estate	5.7	6.3	5.8

Account Information

Account Name	SSgA MSCI EAFE Index-NL
Account Structure	Commingled Fund
Investment Style	Passive
Inception Date	8/01/10
Account Type	Equity
Benchmark	MSCI EAFE
Universe	eV EAFE Core Equity Gross

Portfolio Performance Summary

	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	Inception (%)	Inception Date
SSgA MSCI EAFE Index-NL	8.5	-1.0	13.3	3.9	6.0	Aug-10
MSCI EAFE	8.5	-1.4	13.0	3.5	5.6	Aug-10
eV EAFE Core Equity Gross Median	7.8	-2.8	13.8	3.7	7.1	Aug-10
eV EAFE Core Equity Gross Rank	36	30	57	46	88	Aug-10

Top 10 Holdings

NESTLE SA, CHAM UND VEVEY	2.1%
ASML HOLDING NV	1.8%
NOVO NORDISK 'B'	1.7%
LVMH MOET HENNESSY LOUIS VUITTON SE	1.7%
ASTRAZENECA PLC	1.4%
SHELL PLC	1.3%
ROCHE HOLDING AG	1.3%
NOVARTIS AG	1.3%
BHP GROUP LTD	1.1%
TOYOTA MOTOR CORP	1.0%
Total	14.6%

SSgA MSCI EAFE Index-NL Characteristics

	Portfolio Q1-23	Index Q1-23	Portfolio Q4-22
Market Value			
Market Value (\$M)	14.1	--	13.0
Number Of Holdings	795	795	794
Characteristics			
Weighted Avg. Market Cap. (\$B)	85.3	85.5	77.7
Median Market Cap (\$B)	12.5	12.5	11.8
P/E Ratio	14.9	14.6	14.0
Yield	3.2	3.3	3.3
EPS Growth - 5 Yrs.	7.9	8.2	9.6
Price to Book	2.6	2.6	2.5
Sector Distribution			
Energy	4.5	4.5	5.0
Materials	6.7	7.7	6.7
Industrials	15.7	15.7	15.0
Consumer Discretionary	12.2	12.2	11.0
Consumer Staples	10.2	10.4	10.3
Health Care	13.1	13.2	13.5
Financials	18.2	18.1	18.7
Information Technology	7.9	7.9	7.9
Communication Services	4.5	4.5	4.5
Utilities	3.4	3.4	3.5
Real Estate	2.3	2.4	2.5

Account Information

Account Name	SSgA MSCI EAFE Small Cap Index-NL
Account Structure	Commingled Fund
Investment Style	Passive
Inception Date	8/01/10
Account Type	Equity
Benchmark	MSCI EAFE Small Cap
Universe	eV EAFE Small Cap Core Gross

Portfolio Performance Summary

	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	Inception (%)	Inception Date
SSgA MSCI EAFE Small Cap Index-NL	5.0	-9.4	12.2	1.1	7.2	Aug-10
MSCI EAFE Small Cap	4.9	-9.8	12.1	0.9	6.9	Aug-10
eV EAFE Small Cap Core Gross Median	6.2	-6.9	13.7	2.1	8.7	Aug-10
eV EAFE Small Cap Core Gross Rank	84	82	74	74	97	Aug-10

Top 10 Holdings

CENTRICA PLC	0.3%
TRELLEBORG AB	0.3%
BE SEMICONDUCTOR INDUSTRIES NV	0.3%
GEORG FISCHER AG SCHAFFHAUSEN	0.3%
OZ MINERALS LIMITED	0.2%
ATLAS ARTERIA LIMITED	0.2%
ASR NEDERLAND NV	0.2%
BANCO DE SABADELL SA	0.2%
WEIR GROUP PLC	0.2%
REXEL SA	0.2%
Total	2.5%

SSgA MSCI EAFE Small Cap Index-NL Characteristics

	Portfolio Q1-23	Index Q1-23	Portfolio Q4-22
Market Value			
Market Value (\$M)	6.1	--	5.8
Number Of Holdings	2423	2265	2427
Characteristics			
Weighted Avg. Market Cap. (\$B)	2.7	2.7	2.6
Median Market Cap (\$B)	1.2	1.2	1.1
P/E Ratio	12.9	12.8	12.0
Yield	3.3	3.3	3.4
EPS Growth - 5 Yrs.	7.5	7.7	8.5
Price to Book	2.2	2.2	2.1
Sector Distribution			
Energy	2.9	2.9	2.8
Materials	9.8	9.8	9.4
Industrials	22.9	23.2	22.6
Consumer Discretionary	12.5	12.8	12.2
Consumer Staples	6.2	6.3	6.4
Health Care	6.4	6.5	6.8
Financials	11.2	11.3	11.7
Information Technology	9.4	9.6	9.0
Communication Services	4.2	4.2	3.9
Utilities	3.1	3.1	3.1
Real Estate	10.2	10.3	11.0

GQG Partners Emerging Markets | As of March 31, 2023

Account Information

Account Name	GQG Partners Emerging Markets
Account Structure	Commingled Fund
Investment Style	Active
Inception Date	3/31/19
Account Type	Non-US Stock Emerging
Benchmark	MSCI Emerging Markets
Universe	eV Emg Mkts Equity Gross

Portfolio Performance Summary

	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	Inception (%)	Inception Date
GQG Partners Emerging Markets	3.6	-10.9	10.9	--	4.9	Mar-19
MSCI Emerging Markets	4.0	-10.7	7.8	-0.9	0.8	Mar-19
eV Emg Mkts Equity Gross Median	5.1	-8.6	10.6	0.7	2.8	Mar-19
eV Emg Mkts Equity Gross Rank	81	77	48	--	25	Mar-19

Top 10 Holdings

ITC LTD	7.5%
VALE SA	5.6%
HOUSING DEVELOPMENT FINANCE CORP LTD	4.9%
PETROLEO BRASILEIRO S.A.- PETROBRAS	4.0%
TOTALENERGIES SE	3.6%
TAIWAN SEMICONDUCTOR MANUFACTURING CO LTD	3.2%
ITAU UNIBANCO HOLDING PN	3.1%
ICICI BANK	2.8%
ASML HOLDING NV	2.6%
PT BANK CENTRAL ASIA TBK	2.5%
Total	39.8%

GQG Partners Emerging Markets Characteristics

	Portfolio Q1-23	Index Q1-23	Portfolio Q4-22
Market Value			
Market Value (\$M)	19.5	--	18.8
Number Of Holdings	63	1375	69
Characteristics			
Weighted Avg. Market Cap. (\$B)	107.1	112.4	88.0
Median Market Cap (\$B)	35.0	6.6	29.4
P/E Ratio	9.6	11.7	8.6
Yield	7.6	3.5	8.1
EPS Growth - 5 Yrs.	17.8	14.2	23.9
Price to Book	3.1	2.4	2.3
Sector Distribution			
Energy	18.7	4.7	24.7
Materials	10.4	8.6	11.2
Industrials	4.3	6.0	0.8
Consumer Discretionary	0.4	13.8	0.3
Consumer Staples	15.2	6.5	16.2
Health Care	3.0	3.8	3.3
Financials	25.4	21.0	26.6
Information Technology	11.3	20.5	4.6
Communication Services	3.1	10.6	4.9
Utilities	5.9	2.6	5.0
Real Estate	0.0	1.9	0.7

Longfellow Investment Grade Bond | As of March 31, 2023

Account Information

Account Name	Longfellow Investment Grade Bond
Account Structure	Separate Account
Investment Style	Active
Inception Date	9/01/17
Account Type	Fixed
Benchmark	Bloomberg US Aggregate TR
Universe	eV US Core Fixed Inc Gross

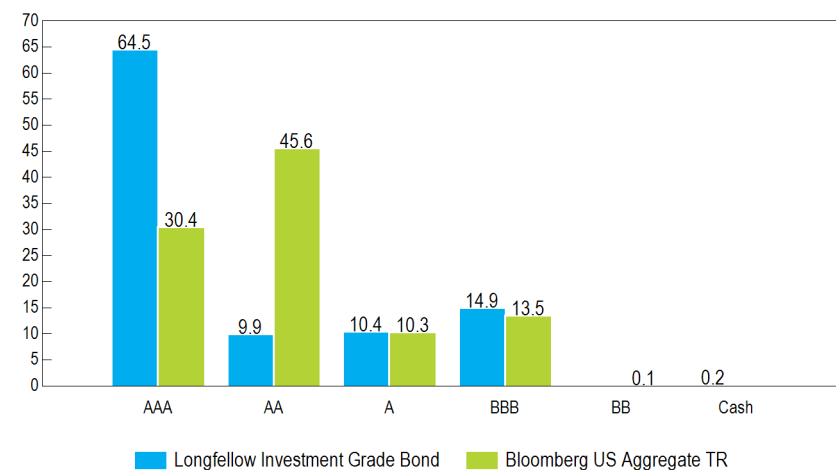
Portfolio Performance Summary

	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	Inception (%)	Inception Date
Longfellow Investment Grade Bond	3.3	-4.6	-1.4	1.5	1.1	Sep-17
Bloomberg US Aggregate TR	3.0	-4.8	-2.8	0.9	0.5	Sep-17
eV US Core Fixed Inc Gross Median	3.1	-4.5	-1.7	1.4	1.1	Sep-17
eV US Core Fixed Inc Gross Rank	31	58	36	36	37	Sep-17

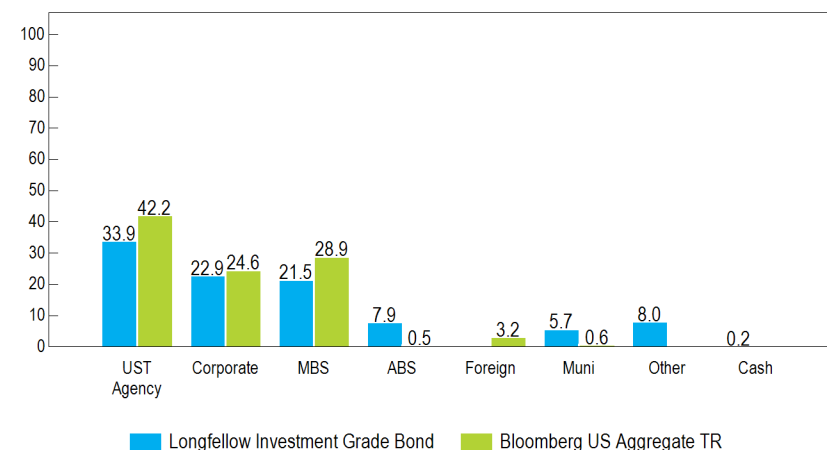
Longfellow Investment Grade Bond Characteristics vs. Bloomberg US Aggregate TR

	Portfolio Q1-23	Index Q1-23	Portfolio Q4-22
Fixed Income Characteristics			
Yield to Maturity	5.0	4.6	5.3
Average Duration	6.2	6.5	6.0
Average Quality	AA	AA	AA
Weighted Average Maturity	9.1	13.1	8.3

Credit Quality Allocation



Sector Allocation



Lord Abbett High Yield Core | As of March 31, 2023

Account Information

Account Name	Lord Abbett High Yield Core
Account Structure	Commingled Fund
Investment Style	Active
Inception Date	7/01/19
Account Type	Fixed
Benchmark	Bloomberg US High Yield TR
Universe	eV US High Yield Fixed Inc Gross

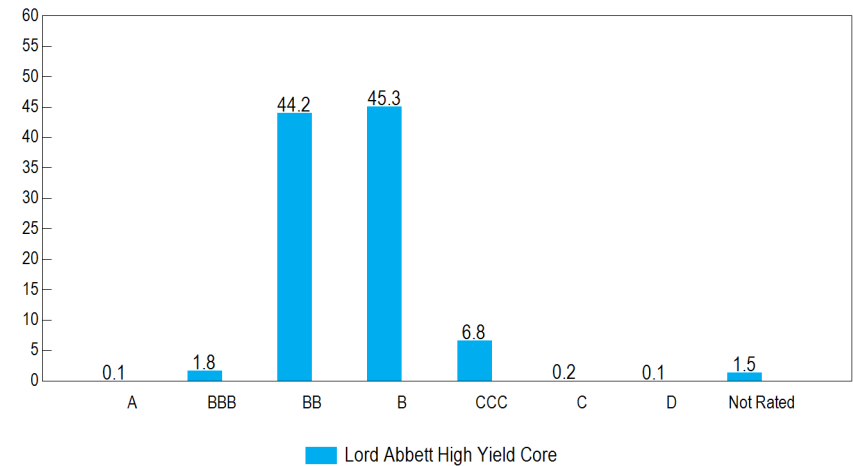
Portfolio Performance Summary

	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	Inception (%)	Inception Date
Lord Abbett High Yield Core	3.1	-4.7	7.2	--	2.3	Jul-19
Bloomberg US High Yield TR	3.6	-3.3	5.9	3.2	2.0	Jul-19
eV US High Yield Fixed Inc Gross Median	3.4	-2.4	6.1	3.5	2.6	Jul-19
eV US High Yield Fixed Inc Gross Rank	65	90	22	--	66	Jul-19

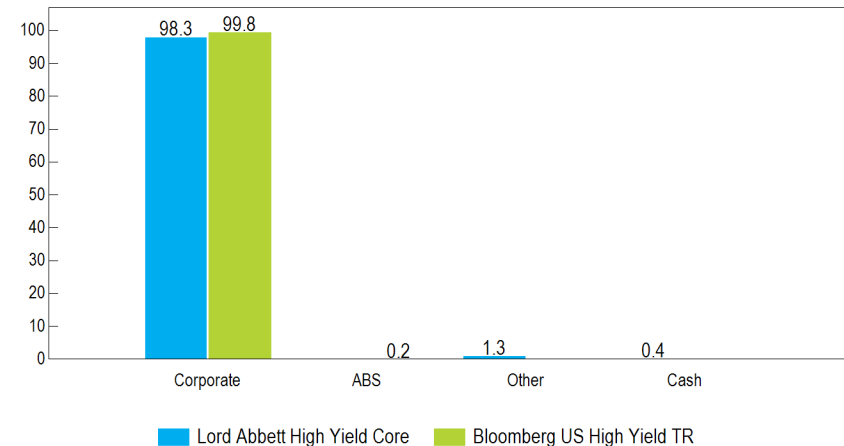
Lord Abbett High Yield Core Characteristics vs. Bloomberg US High Yield TR

	Portfolio Q1-23	Index Q1-23	Portfolio Q4-22
Fixed Income Characteristics			
Yield to Maturity	7.9	8.9	8.1
Average Duration	4.6	4.3	4.3
Average Quality	B	B	B
Weighted Average Maturity	5.8	5.3	5.9

Credit Quality Allocation



Sector Allocation



Account Information

Account Name	SSgA TIPS-NL
Account Structure	Commingled Fund
Investment Style	Passive
Inception Date	7/01/07
Account Type	Fixed
Benchmark	Bloomberg US TIPS TR
Universe	eV US TIPS / Inflation Fixed Inc Gross

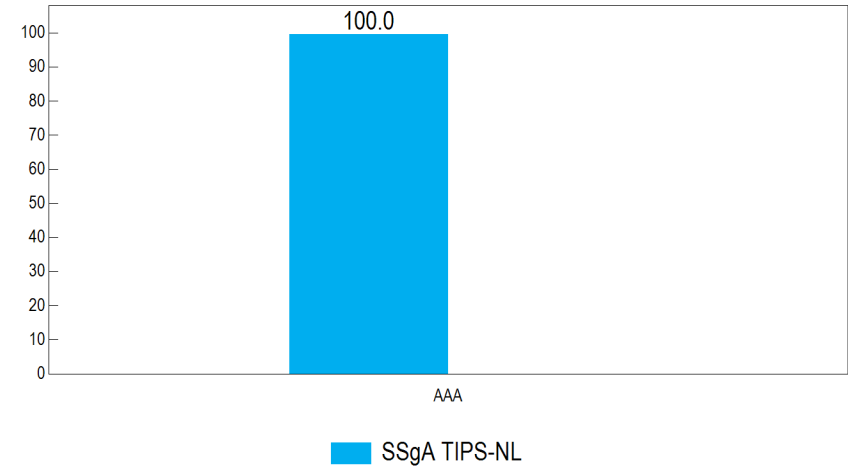
Portfolio Performance Summary

	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	Inception (%)	Inception Date
SSgA TIPS-NL	3.5	-6.1	1.7	2.9	3.7	Jul-07
Bloomberg US TIPS TR	3.3	-6.1	1.8	2.9	3.7	Jul-07
eV US TIPS / Inflation Fixed Inc Gross Median	3.3	-5.8	2.4	3.2	3.9	Jul-07
eV US TIPS / Inflation Fixed Inc Gross Rank	23	76	88	89	76	Jul-07

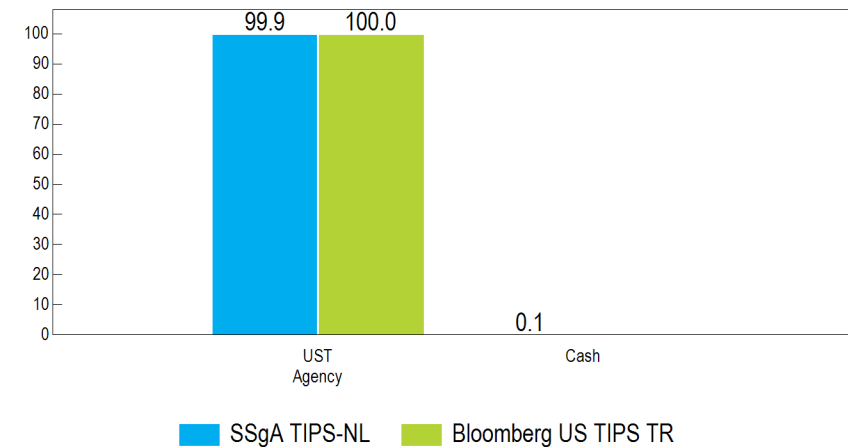
SSgA TIPS-NL Characteristics vs. Bloomberg US TIPS TR

	Portfolio Q1-23	Index Q1-23	Portfolio Q4-22
Fixed Income Characteristics			
Yield to Maturity	4.0	4.1	4.3
Average Duration	5.0	6.9	5.4
Average Quality	AAA	AA	AAA
Weighted Average Maturity	7.4	7.4	7.1

Credit Quality Allocation



Sector Allocation



Aberdeen Emerging Markets Bond Fund | As of March 31, 2023

Account Information

Account Name	Aberdeen Emerging Markets Bond Fund
Account Structure	Commingled Fund
Investment Style	Active
Inception Date	12/01/16
Account Type	Fixed
Benchmark	JP Morgan EMBI Global Diversified
Universe	

Portfolio Performance Summary

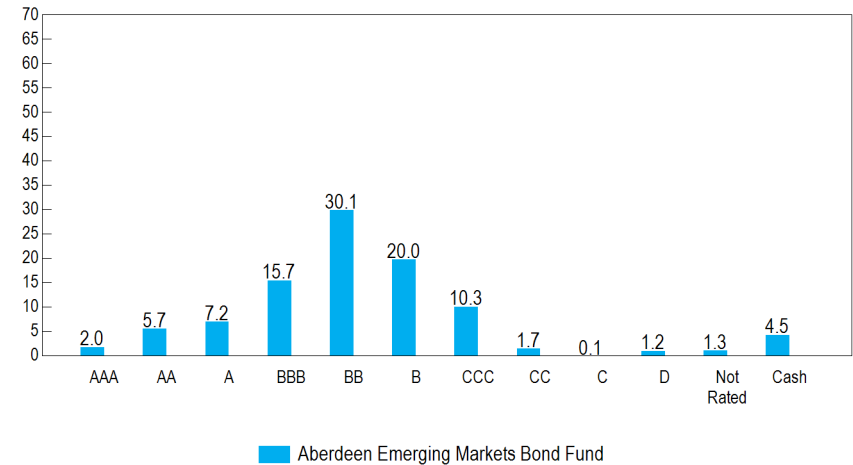
	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	Inception (%)	Inception Date
Aberdeen Emerging Markets Bond Fund	0.7	-7.7	0.6	-1.4	0.7	Dec-16
JP Morgan EMBI Global Diversified	1.9	-6.9	0.0	-0.6	1.0	Dec-16
JP Morgan GBI EM Global Diversified TR USD	5.2	-0.7	0.9	-2.4	1.3	Dec-16

Aberdeen Emerging Markets Bond Fund Fixed Income Characteristics

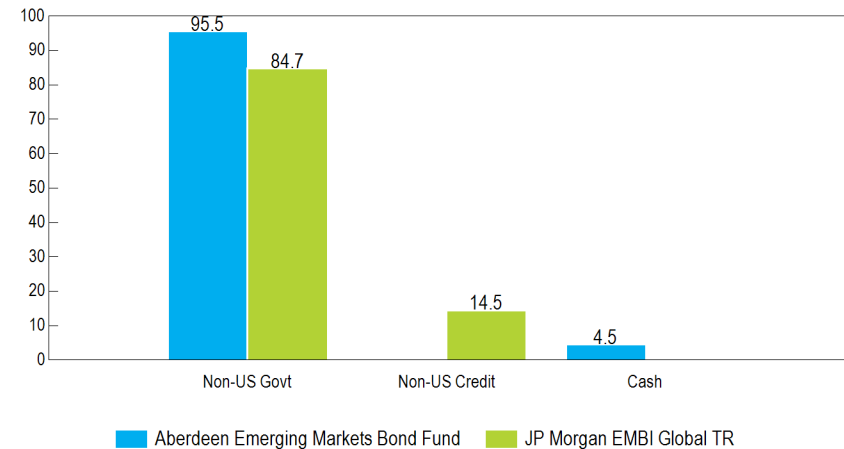
vs. JP Morgan EMBI Global TR

	Portfolio Q1-23	Index Q1-23	Portfolio Q4-22
Fixed Income Characteristics			
Yield to Maturity	10.7	7.2	10.6
Average Duration	6.8	7.1	6.6
Average Quality	BB	BBB	BB
Weighted Average Maturity	12.4	11.9	12.1

Credit Quality Allocation



Global Sector Allocation



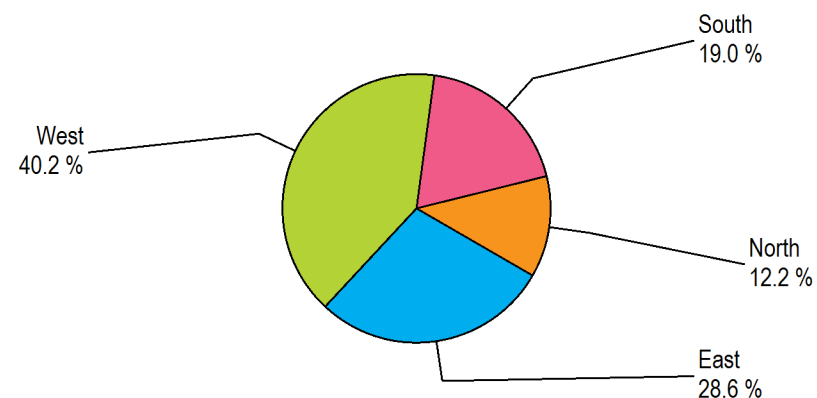
Account Information

Account Name	Intercontinental U.S. REIF
Account Structure	Other
Investment Style	Active
Inception Date	10/01/14
Account Type	Real Estate
Benchmark	NCREIF ODCE (net)
Universe	

Portfolio Performance Summary

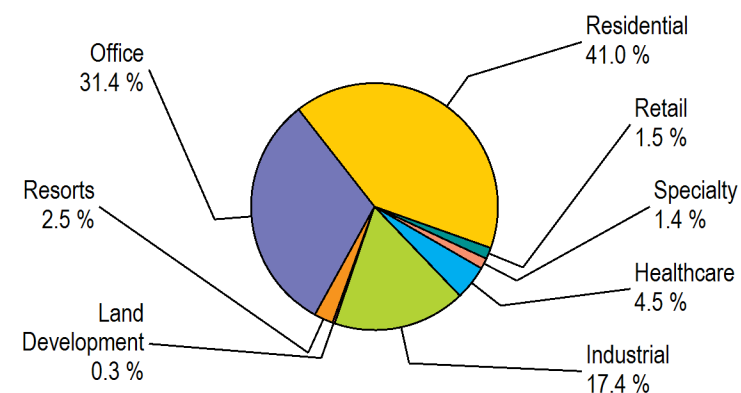
	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	Inception (%)	Inception Date
Intercontinental U.S. REIF	-3.8	-2.1	7.8	7.6	8.8	Oct-14
NCREIF ODCE (net)	-3.3	-3.9	7.5	6.6	7.8	Oct-14

Geographic Diversification



North represents Midwest.

Property Type Allocation



Note: As of March 31, 2023, the number of investments is 155.

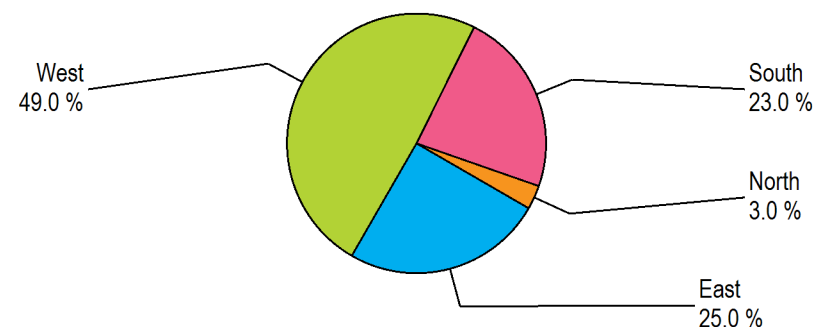
Account Information

Account Name	AEW Core Property Trust
Account Structure	Commingled Fund
Investment Style	Active
Inception Date	10/01/14
Account Type	Real Estate
Benchmark	NCREIF ODCE (net)
Universe	

Portfolio Performance Summary

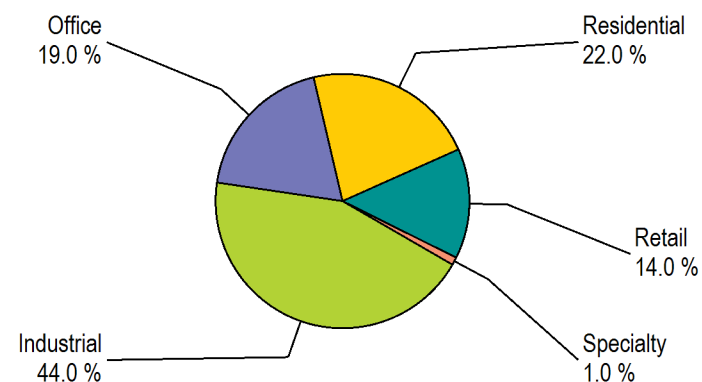
	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	Inception (%)	Inception Date
AEW Core Property Trust	-3.7	-4.1	8.3	6.8	8.0	Oct-14
NCREIF ODCE (net)	-3.3	-3.9	7.5	6.6	7.8	Oct-14

Geographic Diversification



North represents Midwest.

Property Type Allocation



Note: As of March 31, 2023, the number of investments is 78.

Account Information

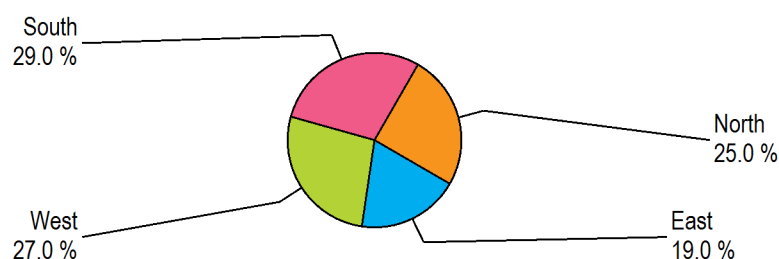
Account Name	AEW Partners IX, L.P.
Account Structure	Other
Investment Style	Active
Inception Date	3/29/21
Account Type	Real Estate
Benchmark	NCREIF ODCE (net)

Non-Marketable Securities Overview

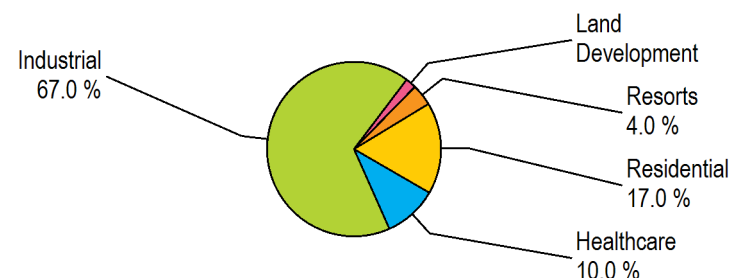
As of March 31, 2023

Account Type	Account	Vintage Year	Commitment	Cumulative Takedown	Cumulative Distributions	Value (RV)	Total Value (RV + Dist)	Unfunded Commitment
Real Estate	AEW Partners IX, L.P.	2019	\$5,000,000	\$3,499,754	\$1,867	\$3,720,381	\$3,722,248	\$1,500,246
	Total Account		\$5,000,000	\$3,499,754	\$1,867	\$3,720,381	\$3,722,248	\$1,500,246

Geographic Diversification



Property Type Allocation



Investment Strategy:

AEW IX will pursue an opportunistic real estate strategy comparable with predecessor funds, adapting as economies, property markets and capital markets transition through cycles. The Fund will focus on three themes: disruption and capital market dislocations, densification and urbanization, and demographics. Value will be created through repositioning, refinancing, development, redevelopment, market recovery, and emerging locations.

Note: As of December 31, 2022, the number of investments is 25.

Account Information

Account Name	TA Associates Realty Fund X
Account Structure	Other
Investment Style	Active
Inception Date	4/01/13
Account Type	Real Estate
Benchmark	NCREIF ODCE (net)
Universe	

Non-Marketable Securities Overview

As of March 31, 2023

Account Type	Account	Vintage Year	Commitment	Cumulative Takedown	Cumulative Distributions	Value (RV)	Total Value (RV + Dist)	Unfunded Commitment
Real Estate	TA Associates Realty Fund X	2013	\$3,000,000	\$3,000,000	\$4,811,372	\$3,334	\$4,814,706	\$0
	Total Account		\$3,000,000	\$3,000,000	\$4,811,372	\$3,334	\$4,814,706	\$0

Investment Strategy:

TA Associates Realty Fund X uses a value-added strategy to create a diversified portfolio of direct real estate investments. The strategy is anticipated to target under-leased office, industrial, multifamily, and retail assets that are expected to be well-located, functional buildings with strong net operating income (NOI) growth potential. Geographically, the fund will target over 35 U.S. markets with broad regional diversification targets of 25% to 40% in the west, 20% to 35% in the east, 20% to 30% in the south, and 10% to 20% in the Midwest. The fund will target 35% leverage, with a maximum of 50%. Most value-added improvements include redevelopment, repositioning, retenanting, or recapitalization.

Note: As of December 31, 2022 the number of investments is 0.

Account Information

Account Name	Ascent Venture Partners - Fund V
Account Structure	Other
Investment Style	Active
Inception Date	9/22/08
Account Type	Private Equity
Benchmark	Preqin Private Equity 1Q Lagged
Universe	

Non-Marketable Securities Overview by Account Type

Account Type	Account	Vintage Year	Commitment	Cumulative Takedown	Cumulative Distributions	Value (RV)	Total Value (RV + Dist)	Unfunded Commitment
Private Equity	Ascent Venture Partners - Fund V	2011	\$1,000,000	\$970,000	\$911,356	\$631,135	\$1,542,492	\$30,000
	Total Account		\$1,000,000	\$970,000	\$911,356	\$631,135	\$1,542,492	\$30,000

Investment Strategy:

Ascent Venture Partners V is an early stage venture capital fund focused on making investments within the technology products and services industry. Specific areas of interest include next generation software (open source and Software-as-a-Service), data management and analysis, automated computing, security and compliance, financial services, and applications associated with the convergence of remote devices. The GP is located in Boston and will invest in the eastern United States and Canada. The Fund will target companies that have pre-money valuations of \$3 to \$15 million and have the potential for a \$100 million exit value.

Note: As of December 31, 2022, the Net IRR is 7.03%.

Account Information

Account Name	Ascent Venture Partners - Fund VI
Account Structure	Other
Investment Style	Active
Inception Date	6/30/15
Account Type	Private Equity
Benchmark	Preqin Private Equity 1Q Lagged
Universe	

Non-Marketable Securities Overview by Account Type

Account Type	Account	Vintage Year	Commitment	Cumulative Takedown	Cumulative Distributions	Value (RV)	Total Value (RV + Dist)	Unfunded Commitment
Private Equity	Ascent Venture Partners - Fund VI	2015	\$1,500,000	\$1,455,000	\$0	\$1,628,879	\$1,628,879	\$45,000
	Total Account		\$1,500,000	\$1,455,000	\$0	\$1,628,879	\$1,628,879	\$45,000

Investment Strategy:

Ascent Venture Partners VI is a limited partnership that was formed on November 25, 2013 under the Delaware Uniform Limited Partnership Act and commenced operations on November 16, 2015. The purpose of the Partnership is to provide early stage financing to emerging technology companies.

Note: As of December 31, 2022, the Net IRR is 2.33%.

Account Information

Account Name	Goldman Sachs PEP 2005
Account Structure	Other
Investment Style	Active
Inception Date	8/01/06
Account Type	Private Equity
Benchmark	Preqin Private Equity 1Q Lagged
Universe	

Non-Marketable Securities Overview by Account Type

Account Type	Account	Vintage Year	Commitment	Cumulative Takedown	Cumulative Distributions	Value (RV)	Total Value (RV + Dist)	Unfunded Commitment
Private Equity	Goldman Sachs PEP 2005	2006	\$3,000,000	\$2,932,708	\$3,643,280	\$166,150	\$3,809,430	\$67,292
	Total Account		\$3,000,000	\$2,932,708	\$3,643,280	\$166,150	\$3,809,430	\$67,292

Investment Strategy:

Goldman Sachs Private Equity Partners 2005 is a fund of funds formed to create a diversified portfolio of 18 to 25 partnerships. The Fund will invest opportunistically in order to commit to the “very best managers.” The Fund expects to commit approximately \$40 million to each partnership. Previous funds have invested approximately 30% outside the U.S.

Note: As of June 30, 2022, the Net IRR is 4.9%.

Account Information

Account Name	HarbourVest Partners VIII
Account Structure	Other
Investment Style	Active
Inception Date	12/20/07
Account Type	Private Equity
Benchmark	Preqin Private Equity 1Q Lagged
Universe	

Non-Marketable Securities Overview by Account Type

Account Type	Account	Vintage Year	Commitment	Cumulative Takedown	Cumulative Distributions	Value (RV)	Total Value (RV + Dist)	Unfunded Commitment
Private Equity	HarbourVest Partners VIII	2006	\$2,500,000	\$2,425,000	\$4,206,525	\$193,355	\$4,418,176	\$75,000
	Total Account		\$2,500,000	\$2,425,000	\$4,206,525	\$193,355	\$4,418,176	\$75,000

Investment Strategy:

HarbourVest Partners, known as Hancock Venture Partners until 1997, was founded in 1982 to invest in private equity partnerships. The HarbourVest Partners VIII Investment Program consists of three separate fund of funds, each dedicated to distinct private equity strategies: buyout, venture capital and mezzanine debt partnerships. Each vehicle will invest primarily in newly raised funds, but will also invest a portion of assets in secondary interest.

Note: As of September 30, 2022, the Net IRR is 10.7%.

Account Information

Account Name	HarbourVest Partners IX
Account Structure	Other
Investment Style	Active
Inception Date	10/22/13
Account Type	Private Equity
Benchmark	Preqin Private Equity 1Q Lagged
Universe	

Non-Marketable Securities Overview by Account Type

Account Type	Account	Vintage Year	Commitment	Cumulative Takedown	Cumulative Distributions	Value (RV)	Total Value (RV + Dist)	Unfunded Commitment
Private Equity	HarbourVest Partners IX	2010	\$5,000,000	\$4,262,500	\$6,321,542	\$2,976,644	\$9,298,186	\$737,500
	Total Account		\$5,000,000	\$4,262,500	\$6,321,542	\$2,976,644	\$9,298,186	\$737,500

Investment Strategy:

HarbourVest Partners, known as Hancock Venture Partners until 1997, was founded in 1982 to invest in private equity partnerships. The HarbourVest Partners IX Fund consists of three separate fund of funds, each dedicated to distinct private equity strategies: buyout, venture capital, and mezzanine debt partnerships. Each vehicle will invest primarily in newly-raised funds, but will also invest a portion of assets in secondary interests.

Note: As of September 30, 2022, the Net IRR is 18.7%.

Account Information

Account Name	HarbourVest X Buyout Fund
Account Structure	Other
Investment Style	Active
Inception Date	4/06/16
Account Type	Private Equity
Benchmark	Preqin Private Equity 1Q Lagged
Universe	

Non-Marketable Securities Overview by Account Type

Account Type	Account	Vintage Year	Commitment	Cumulative Takedown	Cumulative Distributions	Value (RV)	Total Value (RV + Dist)	Unfunded Commitment
Private Equity	HarbourVest X Buyout Fund	2016	\$6,500,000	\$5,525,000	\$4,116,101	\$5,292,282	\$9,408,383	\$975,000
	Total Account		\$6,500,000	\$5,525,000	\$4,116,101	\$5,292,282	\$9,408,383	\$975,000

Investment Strategy:

HarbourVest Partners, known as Hancock Venture Partners until 1997, was founded in 1982 to invest in private equity partnerships. The HarbourVest Partners X Fund consists of three separate fund of funds, each dedicated to distinct private equity strategies: buyout, venture capital, and mezzanine debt partnerships. Each vehicle will invest primarily in newly-raised funds, but will also invest a portion of assets in secondary interests.

Note: As of September 30, 2022, the Net IRR is 25.0%.

Account Information

Account Name	HarbourVest Partners XI
Account Structure	Other
Investment Style	Active
Inception Date	7/31/19
Account Type	Private Equity
Benchmark	Preqin Private Equity 1Q Lagged
Universe	

Non-Marketable Securities Overview by Account Type

Account Type	Account	Vintage Year	Commitment	Cumulative Takedown	Cumulative Distributions	Value (RV)	Total Value (RV + Dist)	Unfunded Commitment
Private Equity	HarbourVest X Buyout Fund	2016	\$6,500,000	\$3,621,500	\$1,079,195	\$4,561,501	\$5,640,696	\$1,378,500
	Total Account		\$6,500,000	\$3,621,500	\$1,079,195	\$4,561,501	\$5,640,696	\$1,378,500

Investment Strategy:

HarbourVest Partners, known as Hancock Venture Partners until 1997, was founded in 1982 to invest in private equity partnerships. The HarbourVest Partners XI Fund consists of three separate fund of funds, each dedicated to distinct private equity strategies: buyout, venture capital, and mezzanine debt partnerships. Each vehicle will invest primarily in newly-raised funds, but will also invest a portion of assets in secondary interests.

Note: As of September 30, 2022, the Net IRR is 40.3%.

Account Information

Account Name	HarbourVest Fund XII
Account Structure	Other
Investment Style	Active
Inception Date	9/07/22
Account Type	Private Equity
Benchmark	Preqin Private Equity 1Q Lagged
Universe	

Non-Marketable Securities Overview by Account Type

Account Type	Account	Vintage Year	Commitment	Cumulative Takedown	Cumulative Distributions	Value (RV)	Total Value (RV + Dist)	Unfunded Commitment
Private Equity	HarbourVest Fund XII	2022	\$4,000,000	\$472,000	-	\$471,267	\$471,267	\$3,528,000
	Total Account		\$4,000,000	\$472,000	-	\$471,267	\$471,267	\$3,528,000

Investment Strategy:

HarbourVest Partners, known as Hancock Venture Partners until 1997, was founded in 1982 to invest in private equity partnerships. The HarbourVest Partners XII Fund consists of three separate fund of funds, each dedicated to the following private equity strategies: buyout, micro-buyout, and venture partnerships. Each vehicle will consist mainly of primary partnership investments, predominately in North America, but will also invest a portion of assets in secondary interests with no geographic or strategic restriction.

Account Information

Account Name	Constitution Capital Partners Ironsides III
Account Structure	Other
Investment Style	Active
Inception Date	1/29/14
Account Type	Private Equity
Benchmark	Preqin Private Equity 1Q Lagged
Universe	

Non-Marketable Securities Overview by Account Type

Account Type	Account	Vintage Year	Commitment	Cumulative Takedown	Cumulative Distributions	Value (RV)	Total Value (RV + Dist)	Unfunded Commitment
Private Equity	Constitution Capital Partners Ironsides III	2014	\$5,000,000	\$3,597,655	\$7,744,249	\$5,472,950	\$13,217,199	\$1,402,344
	Total Account		\$5,000,000	\$3,597,655	\$7,744,249	\$5,472,950	\$13,217,199	\$1,402,344

Investment Strategy:

Constitution Capital seeks investments in underlying private equity funds ranging in size from \$200 million to approximately \$1.0 billion, with a few larger potentially. Constitution has noted their preference to invest the majority of capital to funds of less than \$1 billion. Constitution targets a variety of fund types (domestic middle-market buyout, special situations, growth equity, distressed, and sector-specific) and will allocate amongst them opportunistically. The group will not invest in early-stage venture capital funds or mega buyout funds. The portfolio will have 12 to 15 underlying fund investments of approximately \$10 million to \$20 million each. For co-investments, it is anticipated that a total of 12-15 co-investments will each range from \$5 million to \$25 million. The enterprise values of the underlying companies are expected to range from \$100 million to \$1.5 billion.

Note: As of September 30, 2022, the Net IRR is 27.6%.

Account Information

Account Name	Constitution Capital Partners Ironsides IV
Account Structure	Other
Investment Style	Active
Inception Date	6/01/16
Account Type	Private Equity
Benchmark	Preqin Private Equity 1Q Lagged
Universe	

Non-Marketable Securities Overview by Account Type

Account Type	Account	Vintage Year	Commitment	Cumulative Takedown	Cumulative Distributions	Value (RV)	Total Value (RV + Dist)	Unfunded Commitment
Private Equity	Constitution Capital Partners Ironsides IV	2016	\$3,250,000	\$1,719,576	\$3,290,549	\$3,127,777	\$6,418,327	\$1,530,423
	Total Account		\$3,250,000	\$1,719,576	\$3,290,549	\$3,127,777	\$6,418,327	\$1,530,423

Investment Strategy:

Constitution Capital seeks investments in underlying private equity funds ranging in size from \$200 million to approximately \$1.0 billion, with a few larger potentially. Constitution has noted their preference to invest the majority of capital to funds of less than \$1 billion. Constitution targets a variety of fund types (domestic middle-market buyout, special situations, growth equity, distressed, and sector-specific) and will allocate amongst them opportunistically. The group will not invest in early-stage venture capital funds or mega buyout funds. The portfolio will have 12 to 15 underlying fund investments of approximately \$10 million to \$20 million each. For co-investments, it is anticipated that a total of 12-15 co-investments will each range from \$5 million to \$25 million. The enterprise values of the underlying companies are expected to range from \$100 million to \$1.5 billion.

Note: As of September 30, 2022, the Net IRR is 33.1%.

Account Information

Account Name	Constitution Capital Partners Ironsides V
Account Structure	Other
Investment Style	Active
Inception Date	3/09/20
Account Type	Private Equity
Benchmark	Preqin Private Equity 1Q Lagged
Universe	

Non-Marketable Securities Overview by Account Type

Account Type	Account	Vintage Year	Commitment	Cumulative Takedown	Cumulative Distributions	Value (RV)	Total Value (RV + Dist)	Unfunded Commitment
Private Equity	Constitution Capital Partners Ironsides V	2020	\$2,500,000	\$1,815,301	\$202,734	\$2,471,361	\$2,674,095	\$684,698
	Total Account		\$2,500,000	\$1,815,301	\$202,734	\$2,471,361	\$2,674,095	\$684,698

Investment Strategy:

Constitution Capital seeks investments in underlying private equity funds ranging in size from \$200 million to approximately \$1.0 billion, with a few larger potentially. Constitution has noted their preference to invest the majority of capital to funds of less than \$1 billion. Constitution targets a variety of fund types (domestic middle-market buyout, special situations, growth equity, distressed, and sector-specific) and will allocate amongst them opportunistically. The group will not invest in early-stage venture capital funds or mega buyout funds. The portfolio will have 12 to 15 underlying fund investments of approximately \$10 million to \$20 million each. For co-investments, it is anticipated that a total of 12-15 co-investments will each range from \$5 million to \$25 million. The enterprise values of the underlying companies are expected to range from \$100 million to \$1.5 billion.

Note: As of September 30, 2022, the Net IRR is 34.8%.

Account Information

Account Name	Constitution Capital Direct IV
Account Structure	Other
Investment Style	Active
Inception Date	6/30/16
Account Type	Private Equity
Benchmark	Preqin Private Equity 1Q Lagged
Universe	

Non-Marketable Securities Overview by Account Type

Account Type	Account	Vintage Year	Commitment	Cumulative Takedown	Cumulative Distributions	Value (RV)	Total Value (RV + Dist)	Unfunded Commitment
Private Equity	Constitution Capital Direct IV	2016	\$3,250,000	\$2,941,583	\$4,788,485	\$2,030,413	\$6,818,898	\$308,416.56
	Total Account		\$3,250,000	\$2,941,583	\$4,788,485	\$2,030,413	\$6,818,898	\$308,416.56

Investment Strategy:

Constitution Capital seeks investments in underlying private equity funds ranging in size from \$200 million to approximately \$1.0 billion, with a few larger potentially. Constitution has noted their preference to invest the majority of capital to funds of less than \$1 billion. Constitution targets a variety of fund types (domestic middle-market buyout, special situations, growth equity, distressed, and sector-specific) and will allocate amongst them opportunistically. The group will not invest in early-stage venture capital funds or mega buyout funds. The portfolio will have 12 to 15 underlying fund investments of approximately \$10 million to \$20 million each. For co-investments, it is anticipated that a total of 12-15 co-investments will each range from \$5 million to \$25 million. The enterprise values of the underlying companies are expected to range from \$100 million to \$1.5 billion.

Note: As of December 31, 2022, the Net IRR is 17.5%.

Account Information

Account Name	Constitution Capital Direct V
Account Structure	Other
Investment Style	Active
Inception Date	3/27/19
Account Type	Private Equity
Benchmark	Preqin Private Equity 1Q Lagged
Universe	

Non-Marketable Securities Overview

As of March 31, 2023

Account Type	Account	Vintage Year	Commitment	Cumulative Takedown	Cumulative Distributions	Value (RV)	Total Value (RV + Dist)	Unfunded Commitment
Private Equity	Constitution Capital Direct V	2019	\$2,500,000	\$2,056,588	\$656,677	\$3,845,428	\$4,502,106	\$443,411
	Total Account		\$2,500,000	\$2,056,588	\$656,677	\$3,845,428	\$4,502,106	\$443,411

Investment Strategy:

Constitution Capital seeks investments in underlying private equity funds ranging in size from \$200 million to approximately \$1.0 billion, with a few larger potentially. Constitution has noted their preference to invest the majority of capital to funds of less than \$1 billion. Constitution targets a variety of fund types (domestic middle-market buyout, special situations, growth equity, distressed, and sector-specific) and will allocate amongst them opportunistically. The group will not invest in early-stage venture capital funds or mega buyout funds. The portfolio will have 12 to 15 underlying fund investments of approximately \$10 million to \$20 million each. For co-investments, it is anticipated that a total of 12-15 co-investments will each range from \$5 million to \$25 million. The enterprise values of the underlying companies are expected to range from \$100 million to \$1.5 billion.

Note: As of December 31, 2022, the Net IRR is 19.8%.

Account Information

Account Name	Constitution Capital Co-Investment Fund VI, L.P.
Account Structure	Other
Investment Style	Active
Inception Date	10/29/21
Account Type	Private Equity
Benchmark	Preqin Private Equity 1Q Lagged
Universe	

Non-Marketable Securities Overview

As of March 31, 2023

Account Type	Account	Vintage Year	Commitment	Cumulative Takedown	Cumulative Distributions	Value (RV)	Total Value (RV + Dist)	Unfunded Commitment
Private Equity	Constitution Capital Co-Investment Fund VI, L.P.	2021	\$4,000,000	\$3,856,042	\$58,076	\$4,354,398	\$4,412,474	\$143,957
	Total Account		\$4,000,000	\$3,856,042	\$58,076	\$4,354,398	\$4,412,474	\$143,957

Investment Strategy:

Constitution Capital seeks investments in underlying private equity funds ranging in size from \$200 million to approximately \$1.0 billion, with a few larger potentially. Constitution has noted their preference to invest the majority of capital to funds of less than \$1 billion. Constitution targets a variety of fund types (domestic middle-market buyout, special situations, growth equity, distressed, and sector-specific) and will allocate amongst them opportunistically. The group will not invest in early-stage venture capital funds or mega buyout funds. The portfolio will have 12 to 15 underlying fund investments of approximately \$10 million to \$20 million each. For co-investments, it is anticipated that a total of 12-15 co-investments will each range from \$5 million to \$25 million. The enterprise values of the underlying companies are expected to range from \$100 million to \$1.5 billion.

Appendices

Corporate Update



7
Offices



245+
Employees



240+
Clients



1.7T
Assets Under Advisement



150B
Assets in Alternative Investments



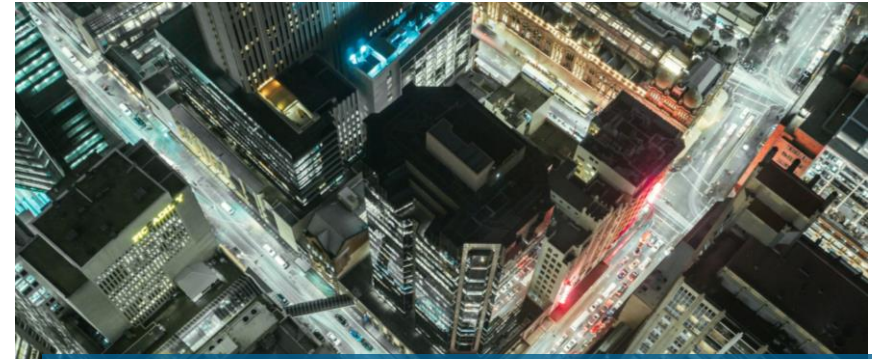
99%
Client Retention Rate



4:1
Client | Consultant Ratio

Meketa
Investment Group
is proud to work
for over 5 million
American families
everyday!

Upcoming Events



Q2 Investment Perspectives Webcast
July 2023



Emerging and Diverse Manager Research Day
October 2023

Client and employee counts as of March 31, 2023; assets as of December 31, 2022.
Client retention rate is one minus the number of clients lost divided by the number of clients at prior year-end.

Meketa in the News

fin|news

Nonprofit News Special Report:
2023 Alternative Investments Outlook
TRENDS 01.19.23 By **JUSTIN SLAUGHTER**

"A restrictive policy from the Fed always comes with the risk of a hard landing. In a recession, the highest risk markets such as venture may be most vulnerable," said **John Haggerty**, managing principal and director of private market investments at **Meketa Investment Group**.

In this environment, Meketa "advocates for identifying partners in venture that have shown skill protecting capital in market conditions and trusting them to navigate more challenging economic conditions," Haggerty said.

Meketa is also focused on building diversified infrastructure portfolios for clients, including high-growth asset like communications or logistics that will benefit from the 2021 Infrastructure Investment and Jobs Act, according to **Lisa Bacon**, managing principal, private markets consultant and infrastructure program lead at the consulting firm.

"The sheer breadth and variety of sector and geographic exposures accessible via infrastructure also is a draw. The asset class's overall performance during COVID demonstrated these attributes, performance resiliency, and spotlighted important growth sectors e.g., communications, logistics," Bacon said.

Mary Bates, managing principal and private markets consultant at Meketa, found that "the benefits of private credit – attractive absolute and risk-adjusted returns, diversification and low volatility – were evident this year as private credit investors benefitted from the structural benefits of floating rate instruments and the ability to be liquidity providers to dislocated markets."

The increases in rates and a "frozen broadly syndicated [loan] market" provided new opportunities for return to investors, with some "top of the capital structure" private credit strategies now offering the "potential for returns historically associated with mezzanine risk" and other strategies even offering "returns previously offered by private equity," Bates added.

The unpredictability of hedge fund performance is not necessarily a reason to not include the strategies in a diversified portfolio as there are many strategies that can benefit from an inflationary environment, Meketa Senior V.P. and Research Consultant **Jason Josephiac** said.

"There are some strategies that may have a higher probability of positive outcomes when the market's expectations for inflation are materially different than realized inflation. The magnitude of this difference is what drives dispersion and the ability for some hedge fund strategies, and perhaps specific sub-strategies, to perform well in such an environment. The degree of protection from hedge funds depends on inflation surprises, inflation persistence relative to expectations and how quickly market participants are able to adjust to a different future macro environment," Josephiac said. Accordingly, the Westwood, Mass.-based consultant is recommending "multi-asset long volatility and trend following strategies as well as a disperse set of relative value/market neutral oriented strategies," he noted.



These Days, Institutional Investors Eye China Warily
US and Canadian allocators no longer pile into Chinese assets. By Larry Light | January 24, 2022

The Last Word

All right, is China a worthwhile destination for investments?

True, it remains an economic powerhouse. "The world still needs China's goods," says Alison Adams, executive vice president at Meketa Investment Group.

Yet those other worrisome factors intrude. Investors in its securities, she goes on, can be "optimistic over the short term, but there are questions over the long term."

The upshot is that many institutional investors are well aware of these realities as they plan for the future. They may not be bailing out, but the thrill is gone.

WSJ PRO PRIVATE EQUITY

By **JENNIFER ROSSA** | 01/11/23

"Both Covid-19 and the GFC were trying periods for companies of all types," said Steven Hartt, managing principal with Meketa Investment Group. "Those are different muscles than dealing with inflation. But at least being quick to respond, trying to make timely decisions and being able to make strategic shifts in a well-thought through and rapid fashion are exercises that a number of GPs have been through recently." ■

Celebrating this Quarter



Alison Adams, PhD

Meketa has expanded its employee ownership to include four new shareholders.

Principals Alison Adams, William Duryea, Colin Hill, and Hayley Tran have joined the firm's ownership group, bringing the total number of Meketa shareholders to 75.



William Duryea

"It is a pleasure to further expand our ownership team and to welcome these accomplished professionals as Meketa shareholders," said Stephen McCourt, Managing Principal and Co-Chief Executive Officer, Meketa. "Each has proven to be a valuable contributor, serving our clients with the integrity, excellence and personal attention that have been the hallmarks of Meketa for 45 years."



Colin Hill

"Our sincere congratulations to Alison, Will, Colin and Hayley for their well-deserved appointment as shareholders," said Peter Woolley, Managing Principal and Co-Chief Executive Officer, Meketa. "As a 100 percent employee-owned firm, adding to our ownership group on an annual basis demonstrates our commitment to fully invest in our employees, recognize their contributions, and create a thriving workforce that provides the highest level of service to our clients."



Hayley Tran, CFA, CAIA

Read the full article here:

<https://meketa.com/news/meketa-investment-group-expands-employee-ownership-team/>

MEKETA | 45

CELEBRATING A MILESTONE | YEARS

Meketa announces they are celebrating 45 years as an investment consulting firm.

Since its founding in Boston in 1978, Meketa has continually evolved to meet the ever-changing needs of the marketplace and its institutional investor clients. In most respects, from the size of its client roster, to the number of employees and employee shareholders, number of offices, and assets under advisement, Meketa has seen continuous and meaningful growth. Among the notable milestones was the firm's 2019 merger with Pension Consulting Alliance (PCA), which combined two of the industry's most experienced and highly-regarded investment consulting firms.

In founding Meketa 45 years ago, we sought to fill a clear market need for a consulting firm dedicated to providing a broad range of customized, strategic investment advisory services to institutional clients," said Jim Meketa, Managing Principal and Chairman, Meketa Investment Group. "Our considerable growth since then, in breadth and depth, is due in no small part to our dedicated staff and to remaining true to our client-first business model. I am immensely proud of our accomplishments and extend a sincere thank you to all those who helped us realize that success."

Read the full article here:

<https://meketa.com/news/meketa-investment-group-marks-45th-year/>

Thought Leadership



Watch our recent webinar on Risk Mitigating Strategies: Diversifiers

Risk Mitigating Strategies (RMS) is a strategic investment framework designed to provide investors diversification relative to the single largest risk factor in most portfolios: equity risk. Jason Josephiac, a member of Meketa's Marketable Alternatives research team, provides an overview of "Diversifiers", one of the three main building blocks of RMS. Diversifiers are meant to provide uncorrelated returns to stabilize 1st and 2nd responders (or lines of protection in an equity drawdown and/or market shocks across or within multiple asset classes). Given the headwinds facing investors in this current market environment, as well as the potential of future outcomes to be more variable, exposure to RMS may be an attractive allocation for investors' portfolios.

Watch the webinar here:

<https://meketa.com/leadership/risk-mitigating-strategies-rms-diversifiers/>



Read our 2023 Diversity, Equity, and Inclusion (DEI) Questionnaire Results Summary

In 2020 as a next step in our commitment to DEI, Meketa launched a formal initiative to gather data from public and private market asset management firms within our proprietary database, which focused on evaluating their efforts towards DEI within their own organizations. 2022 marked the third year in a row we have asked firms to complete our questionnaire to report on their work in this area. As the asset management industry continues its focus on improving DEI, we believe an increase in transparency and reporting, more clarity on DEI policies and internal initiatives, and a deeper understanding of employee conduct provide the industry with better information to monitor, improve, and create enduring changes.

Read the report here:

<https://meketa.com/leadership/2023-diversity-equity-and-inclusion-annual-questionnaire-results-summary/>



Read our 2023 Annual Newsletter Dedicated to Endowment and Foundation Investing

In this issue, we take a look at the challenges and opportunities presented during the course of 2022, share return data over the past year, examine the results of the NACUBO-TIAA Study of Endowments, dive into a few initiatives of Meketa and one of its clients, and highlight some of our recent research, including the latest iteration of our Annual E&F Survey.

Read the report here:

<https://meketa.com/leadership/endowment-and-foundation-2022-annual-newsletter/>

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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