

Meeting Material August 10, 2021

Fund Evaluation Report

MEKETA.COM



Agenda

Agenda

- **1.** Estimated Retirement System Performance
- **2.** Executive Summary
- **3.** Second Quarter 2021 Performance Review
- 4. Private Equity Search Finalists
- 5. Appendices
 - Economic and Market Update
 - Corporate Update
 - Disclaimer, Glossary, and Notes

Estimated Retirement System Performance As of July 31, 2021



Estimated Retirement System Performance

Estimated Aggregate Performance¹

	July² (%)	YTD (%)	1 YR (%)	3 YR (%)	5 YR (%)	10 YR (%)
Total Retirement System	0.1	9.7	24.4	11.9	10.6	8.2
60% MSCI ACWI/40% Barclays Global Aggregate	1.0	7.1	20.2	10.1	9.3	6.9

Benchmark Returns

	July (%)	YTD (%)	1 YR (%)	3 YR (%)	5 YR (%)	10 YR (%)
S&P 500	2.4	18.0	37.5	18.3	17.3	15.3
MSCI EAFE	0.8	9.7	28.5	7.6	9.4	6.1
MSCI Emerging Markets	-6.7	0.2	20.3	7.8	10.4	3.6
Barclays Aggregate	1.1	-0.5	-0.7	5.8	3.1	3.3
Barclays TIPS	2.7	4.4	7.2	7.7	4.5	3.3
Barclays High Yield	0.4	4.0	10.8	7.2	7.0	6.6
JPM GBI-EM Global Diversified (Local Currency)	-0.4	-3.8	3.0	3.2	3.0	0.3
S&P Global Natural Resources	-0.3	19.5	42.8	5.8	10.4	2.2

¹ The July performance estimates are calculated using index returns as of July 31, 2021 for each asset class. No performance estimate was included for private equity, real estate, infrastructure asset classes. ² As of July 31 2021.

Executive Summary

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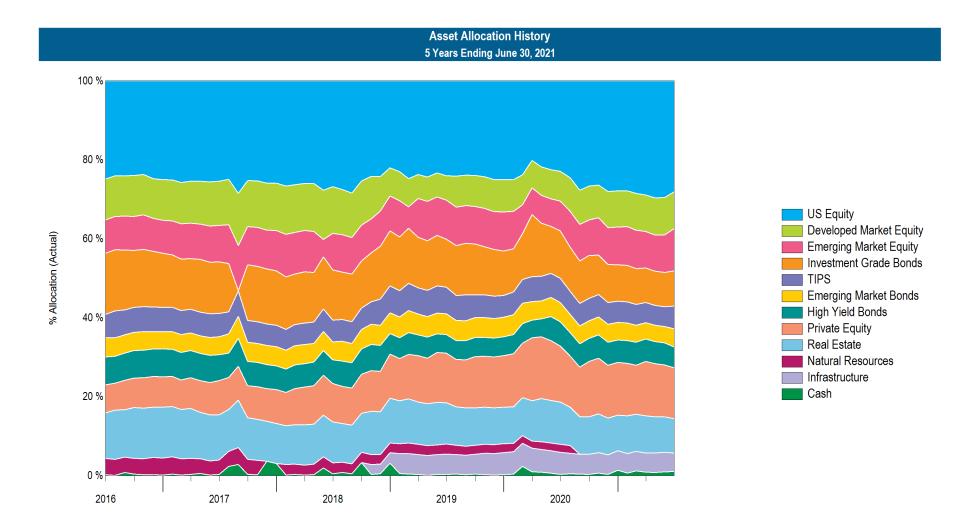
Executive Summary

- As of June 30, 2021 the Fund was valued at \$236.0 up from \$211.2 at the end of Q1 2021.
 - The increase was driven by investment gains primarily in public and private equities.
 - The System returned 5.8% during the second quarter and 28.6% for the trailing year.
 - As of June 30, 2021, all asset classes were within their respective target asset allocation ranges.
- Performance was strong for the year-to-date period across all risky asset classes through June 30.
 - Through June 30, 2021, US equities (Russell 3000) rose 15.1% for the year, international developed equities (MSCI EAFE) were up 8.8% and emerging market equities (MSCI Emerging Markets) were up 7.4%.
 - Fixed income returns were mixed. Investment grade bonds (Bloomberg Barclays Aggregate Index) were down 1.6%. TIPS (Bloomberg Barclays US TIPS) were up 1.7%. Emerging market debt (50% JPM EMBI GD / 50% JPM GBI-EM) was down 2.0%, while high yield bonds (CSFB High Yield) were up 3.9%.
 - Real asset performance was positive. Real estate (NCREIF ODCE) was up 5.7% year to date.

Second Quarter 2021 Performance Review

	Current Balance	Current Allocation	Policy	Policy Range	Within IPS Range?
US Equity	\$66,284,610	28%	27%	22% - 32%	Yes
Developed Market Equity	\$22,129,631	9%	10%	6% - 14%	Yes
Emerging Market Equity	\$25,263,264	11%	11%	7% - 15%	Yes
Investment Grade Bonds	\$21,002,413	9%	9%	5% - 13%	Yes
TIPS	\$13,638,431	6%	6%	3% - 9%	Yes
Emerging Market Bonds	\$10,876,467	5%	5%	2% - 8%	Yes
High Yield Bonds	\$12,384,956	5%	5%	1% - 9%	Yes
Private Equity	\$30,386,519	13%	12%	8% - 16%	Yes
Real Estate	\$20,645,344	9%	8%	5% - 11%	Yes
Infrastructure	\$10,971,787	5%	7%	4% - 10%	Yes
Cash	\$2,456,320	1%	0%	0% - 5%	Yes
Total	\$236,039,741	100%	100%		





Asset Class Performance Summary												
	Market Value (\$)	% of Portfolio	QTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date		
Total Retirement System	236,039,741	100.0	5.8	9.6	28.6	12.6	11.3	8.2	6.6	Jul-01		
60% MSCI ACWI / 40% Barclays Global Aggregate			4.9	5.9	23.6	10.7	9.8	6.9	6.6	Jul-01		
InvMetrics Public DB \$50mm-\$250mm Net Median			5.1	8.5	26.3	11.4	11.0	8.4	6.8	Jul-01		
InvMetrics Public DB \$50mm-\$250mm Net Rank			14	24	23	22	39	55	69	Jul-01		
Domestic Equity Assets	66,284,610	28.1	8.1	15.0	44.4	18.7	17.9	14.7	8.8	Jul-01		
Russell 3000			8.2	15.1	44.2	18.7	17.9	14.7	8.9	Jul-01		
eV US Large Cap Equity Gross Median			7.7	15.4	41.6	17.7	16.8	14.2	9.5	Jul-01		
eV US Large Cap Equity Gross Rank			45	55	33	43	40	44	76	Jul-01		
Total International Developed Market Equity	22,129,631	9.4	5.0	9.1	35.3	8.6	11.1	6.8	6.8	Jul-01		
MSCI EAFE			5.2	8.8	32.3	8.3	10.3	5.9	5.8	Jul-01		
eV EAFE Core Equity Gross Median			6.1	10.4	36.1	9.5	11.5	7.6	7.6	Jul-01		
eV EAFE Core Equity Gross Rank			77	69	58	62	59	75	81	Jul-01		
International Emerging Market Equity Assets	25,263,264	10.7	5.5	4.5	40.0	10.8	11.9	2.4	3.1	Jul-07		
MSCI Emerging Markets			5.0	7.4	40.9	11.3	13.0	4.3	4.3	Jul-07		
eV Emg Mkts Equity Gross Median			5.3	9.3	45.1	12.1	13.8	5.8	5.6	Jul-07		
eV Emg Mkts Equity Gross Rank			47	90	74	71	77	99	99	Jul-07		
Investment Grade Bond Assets	21,002,413	8.9	2.1	-0.5	2.5	6.3	3.6	3.7	4.8	Jul-01		
BBgBarc US Aggregate TR			1.8	-1.6	-0.3	5.3	3.0	3.4	4.6	Jul-01		
eV US Core Fixed Inc Gross Median			2.1	-1.2	1.0	6.0	3.7	4.0	5.1	Jul-01		
eV US Core Fixed Inc Gross Rank			41	13	18	30	55	77	84	Jul-01		
High Yield Bond Assets	12,384,956	5.2	3.1	4.5	19.5	9.1	7.6	6.8	6.8	Feb-05		
CSFB High Yield Index			2.5	3.9	15.7	6.8	7.2	6.4	6.9	Feb-05		
eV US High Yield Fixed Inc Gross Median			2.7	3.6	14.7	7.4	7.4	6.7	7.2	Feb-05		
eV US High Yield Fixed Inc Gross Rank			16	23	11	8	43	40	75	Feb-05		



	Market Value	% of	QTD	YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	Inception	Inception
	(\$)	Portfolio	(%)	(%)	(%)	(%)	(%)	(%)	(%)	Date
TIPS Assets	13,638,431	5.8	3.2	1.7	6.5	6.5	4.1	3.4	4.6	Jul-07
BBgBarc US TIPS TR			3.2	1.7	6.5	6.5	4.2	3.4	4.6	Jul-07
eV US TIPS / Inflation Fixed Inc Gross Median			3.2	1.8	6.7	6.6	4.3	3.5	4.7	Jul-07
eV US TIPS / Inflation Fixed Inc Gross Rank			44	77	74	61	73	68	71	Jul-07
Emerging Market Debt Assets	10,876,467	4.6	4.1	-0.9	10.1	6.3	4.3		-0.6	Mar-13
50% JPM EMBI GD / 50% JPM GBI-EM			3.8	-2.0	7.1	5.5	4.1	3.1	2.2	Mar-13
Real Estate Assets	20,645,344	8.7	4.3	6.5	8.1	6.8	7.6	9.9	6.1	Apr-05
NCREIF ODCE (net)			<i>3</i> .7	5.7	7.1	4.6	5.6	8.6	6.3	Apr-05
Private Equity Assets	30,386,519	12.9	9.2	23.7	55.3	24.8	19.0	12.9	8.4	Oct-03
Cambridge Associates US All PE (1 Qtr Lag)			11.9	26.6	53.8	20.2	18.8	15.0	15.5	Oct-03
Infrastructure Assets	10,971,787	4.6	6.0	8.0	14.7				10.4	Oct-18
CPI + 3%			3.0	5.0	8.4	5.6	5.5	4.9	5.7	Oct-18
Cash	2,456,320	1.0								



Trailing Gross Performance											
	Market Value (\$)	% of Portfolio	% of Sector	QTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Total Retirement System	236,039,741	100.0		5.8	9.6	28.6	12.6	11.3	8.2	6.6	Jul-01
60% MSCI ACWI / 40% Barclays Global Aggregate				4.9	5.9	23.6	10.7	9.8	6.9	6.6	Jul-01
InvMetrics Public DB \$50mm-\$250mm Net Median				5.1	8.5	26.3	11.4	11.0	8.4	6.8	Jul-01
InvMetrics Public DB \$50mm-\$250mm Net Rank				14	24	23	22	39	55	69	Jul-01
Domestic Equity Assets	66,284,610	28.1	28.1	8.1	15.0	44.4	18.7	17.9	14.7	8.8	Jul-01
Russell 3000				8.2	15.1	44.2	18.7	17.9	14.7	8.9	Jul-01
eV US Large Cap Equity Gross Median				7.7	15.4	41.6	17.7	16.8	14.2	9.5	Jul-01
eV US Large Cap Equity Gross Rank				45	55	33	43	40	44	76	Jul-01
SSgA Russell 1000 Value Index-NL	30,995,375	13.1	46.8	5.2	17.1	43.7	12.4	11.9	11.6	8.2	Jan-05
Russell 1000 Value				5.2	17.0	<i>43</i> .7	12.4	11.9	11.6	8.1	Jan-05
eV US Large Cap Value Equity Gross Median				5.7	18.1	44.3	13.3	13.3	12.3	9.3	Jan-05
eV US Large Cap Value Equity Gross Rank				63	61	53	62	78	70	86	Jan-05
SSgA Russell 1000 Growth-NL	29,874,240	12.7	45.1	11.9	13.0	42.5	25.1	23.6	17.9	13.1	Jul-07
Russell 1000 Growth				11.9	13.0	42.5	25.1	23.7	17.9	13.1	Jul-07
eV US Large Cap Growth Equity Gross Median				11.1	13.3	40.8	24.1	22.7	17.0	12.7	Jul-07
eV US Large Cap Growth Equity Gross Rank				31	56	38	36	41	30	37	Jul-07
SSgA Russell 2000 Index-NL	5,414,995	2.3	8.2	4.3	17.6	62.1	13.6	16.5	12.4	13.9	Aug-10
Russell 2000				4.3	17.5	62.0	13.5	16.5	12.3	13.8	Aug-10
eV US Small Cap Core Equity Gross Median				4.7	19.3	60.3	13.9	16.1	13.1	14.9	Aug-10
eV US Small Cap Core Equity Gross Rank				60	61	43	56	46	68	77	Aug-10



	Market Value (\$)	% of Portfolio	% of Sector	QTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Total International Developed Market Equity	22,129,631	9.4	9.4	5.0	9.1	35.3	8.6	11.1	6.8	6.8	Jul-01
MSCI EAFE				5.2	8.8	32.3	8.3	10.3	5.9	5.8	Jul-01
eV EAFE Core Equity Gross Median				6.1	10.4	36.1	9.5	11.5	7.6	7.6	Jul-01
eV EAFE Core Equity Gross Rank				77	69	58	62	59	75	81	Jul-01
SSgA MSCI EAFE Index-NL	14,803,085	6.3	66.9	5.3	9.1	32.8	8.7	10.7	6.2	7.4	Aug-10
MSCI EAFE				5.2	8.8	32.3	8.3	10.3	5.9	7.1	Aug-10
eV EAFE Core Equity Gross Median				6.1	10.4	36.1	9.5	11.5	7.6	9.2	Aug-10
eV EAFE Core Equity Gross Rank				69	69	76	62	68	91	93	Aug-10
SSgA MSCI EAFE Small Cap Index-NL	7,326,546	3.1	33.1	4.4	9.1	40.9	8.5	12.2	8.6	10.2	Aug-10
MSCI EAFE Small Cap				4.3	9.0	41.0	8.4	12.0	8.4	9.9	Aug-10
eV EAFE Small Cap Core Gross Median				6.7	12.5	43.4	9.9	13.1	9.8	11.7	Aug-10
eV EAFE Small Cap Core Gross Rank				96	83	75	62	65	87	90	Aug-10
International Emerging Market Equity Assets	25,263,264	10.7	10.7	5.5	4.5	40.0	10.8	11.9	2.4	3.1	Jul-07
MSCI Emerging Markets				5.0	7.4	40.9	11.3	13.0	4.3	4.3	Jul-07
eV Emg Mkts Equity Gross Median				5.3	9.3	45.1	12.1	13.8	5.8	5.6	Jul-07
eV Emg Mkts Equity Gross Rank				47	90	74	71	77	99	99	Jul-07
GQG Partners Emerging Markets	25,263,264	10.7	100.0	5.5	4.5	42.4			-	21.5	Mar-19
MSCI Emerging Markets				5.0	7.4	40.9	11.3	13.0	4.3	15.0	Mar-19
eV Emg Mkts Equity Gross Median				5.3	9.3	45.1	12.1	13.8	5.8	16.6	Mar-19
eV Emg Mkts Equity Gross Rank				47	90	64				21	Mar-19



	Market Value (\$)	% of Portfolio	% of	QTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Investment Grade Bond Assets	21,002,413	8.9	8.9	2.1	-0.5	2.5	6.3	3.6	3.7	4.8	Jul-01
BBgBarc US Aggregate TR				1.8	-1.6	-0.3	5.3	3.0	3.4	4.6	Jul-01
eV US Core Fixed Inc Gross Median				2.1	-1.2	1.0	6.0	<i>3</i> .7	4.0	5.1	Jul-01
eV US Core Fixed Inc Gross Rank				41	13	18	30	55	77	84	Jul-01
Longfellow Investment Grade Bond	21,002,413	8.9	100.0	2.1	-0.5	2.5	6.3			4.5	Sep-17
BBgBarc US Aggregate TR				1.8	-1.6	-0.3	5.3	3.0	3.4	3.7	Sep-17
eV US Core Fixed Inc Gross Median				2.1	-1.2	1.0	6.0	<i>3</i> .7	4.0	4.3	Sep-17
eV US Core Fixed Inc Gross Rank				41	13	18	30			29	Sep-17
High Yield Bond Assets	12,384,956	5.2	5.2	3.1	4.5	19.5	9.1	7.6	6.8	6.8	Feb-05
CSFB High Yield Index				2.5	3.9	15.7	6.8	7.2	6.4	6.9	Feb-05
eV US High Yield Fixed Inc Gross Median				2.7	3.6	14.7	7.4	7.4	6.7	7.2	Feb-05
eV US High Yield Fixed Inc Gross Rank				16	23	11	8	43	40	75	Feb-05
Lord Abbett High Yield Core	12,384,956	5.2	100.0	3.1	4.5	19.5				8.8	Jul-19
BBgBarc US High Yield TR				2.7	3.6	15.4	7.4	7.5	6.7	7.4	Jul-19
eV US High Yield Fixed Inc Gross Median				2.7	3.6	14.7	7.4	7.4	6.7	7.3	Jul-19
eV US High Yield Fixed Inc Gross Rank				16	23	11				16	Jul-19
TIPS Assets	13,638,431	5.8	5.8	3.2	1.7	6.5	6.5	4.1	3.4	4.6	Jul-07
BBgBarc US TIPS TR				3.2	1.7	6.5	6.5	4.2	3.4	4.6	Jul-07
eV US TIPS / Inflation Fixed Inc Gross Median				3.2	1.8	6.7	6.6	4.3	3.5	4.7	Jul-07
eV US TIPS / Inflation Fixed Inc Gross Rank				44	77	74	61	73	68	71	Jul-07
SSgA TIPS-NL	13,638,431	5.8	100.0	3.2	1.7	6.5	6.5	4.1	3.4	4.6	Jul-07
BBgBarc US TIPS TR				3.2	1.7	6.5	6.5	4.2	3.4	4.6	Jul-07
eV US TIPS / Inflation Fixed Inc Gross Median				3.2	1.8	6.7	6.6	4.3	3.5	4.7	Jul-07
eV US TIPS / Inflation Fixed Inc Gross Rank				44	77	74	61	74	68	71	Jul-07



	Market Value (\$)	% of Portfolio	% of Sector	QTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Emerging Market Debt Assets	10,876,467	4.6	4.6	4.1	-0.9	10.1	6.3	4.3		-0.6	Mar-13
50% JPM EMBI GD / 50% JPM GBI-EM				3.8	-2.0	7.1	5.5	4.1	3.1	2.2	Mar-13
Metlife Emerging Markets Debt (Net)	4,475,849	1.9	41.2	4.2	-1.2	9.8	6.1			5.0	Nov-16
MetLife Custom Benchmark				3.2	-0.9	7.4	6.2	4.6	4.0	4.4	Nov-16
Aberdeen Emerging Markets Bond Fund	6,400,618	2.7	58.8	4.2	-0.5	10.4	6.6			5.5	Dec-16
JP Morgan EMBI Global Diversified				4.1	-0.7	7.5	6.7	4.9	5.7	5.7	Dec-16
JP Morgan GBI EM Global Diversified TR USD				3.5	-3.4	6.6	4.1	3.2	0.5	4.8	Dec-16
Real Estate Assets	20,645,344	8.7	8.7	4.3	6.5	8.1	6.8	7.6	9.9	6.1	Apr-05
NCREIF ODCE (net)				3.7	5.7	7.1	4.6	5.6	8.6	6.3	Apr-05
TA Associates Realty Fund X	286,288	0.1	1.4								
Intercontinental U.S. REIF (Net)	10,133,115	4.3	49.1	4.2	6.6	7.8	7.0	8.5		9.0	Oct-14
NCREIF ODCE (net)				3.7	5.7	7.1	4.6	5.6	8.6	7.3	Oct-14
AEW Core Property Trust (Net)	10,225,941	4.3	49.5	4.2	6.1	7.6	4.8	5.6		7.1	Oct-14
NCREIF ODCE (net)				3.7	5.7	7.1	4.6	5.6	8.6	7.3	Oct-14

Retirement System Summary | As of June 30, 2021

TA Associates Realty Fund X is based on March 31, 2021 fair market value, 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 (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Private Equity Assets	30,386,519	12.9	12.9	9.2	23.7	55.3	24.8	19.0	12.9	8.4	Oct-03
Cambridge Associates US All PE (1 Qtr Lag)				11.9	26.6	53.8	20.2	18.8	15.0	15.5	Oct-03
Ascent Venture Partners - Fund III	11,746	0.0	0.0								
Ascent Venture Partners - Fund IV	3,555	0.0	0.0								
Ascent Venture Partners - Fund V	840,040	0.4	2.8								
Ascent Venture Partners - Fund VI	1,504,807	0.6	5.0								
Constitution Capital Partners Ironsides III	5,901,853	2.5	19.4								
Constitution Capital Partners Ironsides IV	3,015,094	1.3	9.9								
Constitution Capital Partners Ironsides V	664,058	0.3	2.2								
Constitution Capital Direct IV	2,994,951	1.3	9.9								
Constitution Capital Direct V	3,658,897	1.6	12.0								
Goldman Sachs PEP 2005	275,127	0.1	0.9								
HarbourVest Partners VIII	413,566	0.2	1.4								
HarbourVest Partners IX	4,178,048	1.8	13.7								
HarbourVest X Buyout Fund	4,686,981	2.0	15.4								
HarbourVest Partners XI	2,237,796	0.9	7.4								

Retirement System Summary | As of June 30, 2021

Private Equity Assets are based on March 31, 2021 fair market value, adjusted for subsequent cash flows.



Market Value % of % of QTD YTD 1Yr 3 Yrs 5 Yrs 10 Yrs Inception Inception (\$) Portfolio Sector (%) (%) (%) (%) (%) (%) (%) Date 10,971,787 Infrastructure Assets 4.6 8.0 ---Oct-18 4.6 6.0 14.7 -----10.4 CPI + 3% 5.0 8.4 5.6 5.5 4.9 5.7 Oct-18 3.0 IFM Global Infrastructure (U.S.), L.P. 10,971,787 4.6 100.0 6.0 8.0 14.7 ------10.4 Oct-18 ---CPI + 3% 5.0 8.4 5.7 3.0 5.6 5.5 4.9 Oct-18 2,456,320 Cash 1.0 1.0 Cash STIF 2,456,320 1.0 100.0



	Calendar Y	ear Perf	ormance	•						
	2020 (%)	2019 (%)	2018 (%)	2017 (%)	2016 (%)	2015 (%)	2014 (%)	2013 (%)	2012 (%)	2011 (%)
Total Retirement System	14.4	17.6	-3.0	14.5	9.6	-2.7	4.3	10.9	12.2	2.2
60% MSCI ACWI / 40% Barclays Global Aggregate	14.0	18.6	-6.0	17.1	5.7	-2.5	2.8	12.1	11.5	-2.1
Domestic Equity Assets	21.6	30.9	-5.5	21.0	13.1	0.4	12.4	33.5	16.3	1.0
Russell 3000	20.9	31.0	-5.2	21.1	12.7	0.5	12.6	33.6	16.4	1.0
SSgA Russell 1000 Value Index-NL	2.8	26.5	-8.3	13.8	17.3	-3.7	13.4	32.5	17.4	0.4
Russell 1000 Value	2.8	26.5	-8.3	13.7	17.3	-3.8	13.5	32.5	17.5	0.4
SSgA Russell 1000 Growth-NL	38.5	36.4	-1.7	30.2	7.2	5.6	13.1	33.5	15.4	2.6
Russell 1000 Growth	38.5	36.4	-1.5	30.2	7.1	5.7	13.0	33.5	15.3	2.6
SSgA Russell 2000 Index-NL	20.0	25.6	-11.0	14.7	21.5	-4.4	5.0	38.9	16.4	-4.1
Russell 2000	20.0	25.5	-11.0	14.6	21.3	-4.4	4.9	38.8	16.3	-4.2
Total International Developed Market Equity	9.3	23.3	-14.7	27.5	1.6	2.0	-4.7	24.4	18.1	-12.6
MSCI EAFE	7.8	22.0	-13.8	25.0	1.0	-0.8	-4.9	22.8	17.3	-12.1
SSgA MSCI EAFE Index-NL	8.3	22.5	-13.5	25.5	1.4	-0.5	-4.6	23.1	17.7	-11.9
MSCI EAFE	7.8	22.0	-13.8	25.0	1.0	-0.8	-4.9	22.8	17.3	-12.1
SSgA MSCI EAFE Small Cap Index-NL	12.4	25.0	-17.6	33.3	2.4	9.7	-4.7	29.5	20.1	-15.0
MSCI EAFE Small Cap	12.3	25.0	-17.9	33.0	2.2	9.6	-4.9	29.3	20.0	-15.9
International Emerging Market Equity Assets	25.4	16.6	-17.3	32.5	11.7	-18.1	-4.4	-3.8	18.8	-25.6
MSCI Emerging Markets	18.3	18.4	-14.6	37.3	11.2	-14.9	-2.2	-2.6	<i>18.2</i>	-18.4
GQG Partners Emerging Markets	34.8									
MSCI Emerging Markets	18.3	18.4	-14.6	37.3	11.2	-14.9	-2.2	-2.6	<i>18.2</i>	-18.4



Retirement System Summary | As of June 30, 2021

	2020 (%)	2019 (%)	2018 (%)	2017 (%)	2016 (%)	2015 (%)	2014 (%)	2013 (%)	2012 (%)	2011 (%)
Investment Grade Bond Assets	9.2	8.9	-0.1	3.5	2.7	0.8	6.1	-3.1	4.6	8.5
BBgBarc US Aggregate TR	7.5	8.7	0.0	3.5	2.6	0.5	6.0	-2.0	4.2	7.8
Longfellow Investment Grade Bond	9.2	8.9	-0.1							
BBgBarc US Aggregate TR	7.5	8.7	0.0	3.5	2.6	0.5	6.0	-2.0	4.2	7.8
High Yield Bond Assets	9.1	15.9	-3.2	7.2	11.5	-0.2	4.1	6.0	13.6	6.2
CSFB High Yield Index	5.5	14.0	-2.4	7.0	18.3	-4.9	1.9	7.5	14.7	5.5
Lord Abbett High Yield Core	9.1									
BBgBarc US High Yield TR	7.1	14.3	-2.1	7.5	17.1	-4.5	2.5	7.4	15.8	5.0
TIPS Assets	11.0	8.4	-1.3	3.0	4.5	-1.4	3.6	-8.6	6.9	13.5
BBgBarc US TIPS TR	11.0	8.4	-1.3	3.0	4.7	-1.4	3.6	-8.6	7.0	13.6
SSgA TIPS-NL	11.0	8.4	-1.3	3.0	4.5	-1.4	3.6	-8.6	6.9	13.5
BBgBarc US TIPS TR	11.0	8.4	-1.3	3.0	4.7	-1.4	3.6	-8.6	7.0	13.6
Emerging Market Debt Assets	5.8	15.1	-6.9	13.3	10.0	-15.2	-8.5			
50% JPM EMBI GD / 50% JPM GBI-EM	4.0	14.3	-5.2	12.7	10.2	-7.1	0.7	-7.1	17.2	2.8
Metlife Emerging Markets Debt (Net)	6.1	14.5	-6.6	13.4						
MetLife Custom Benchmark	5.4	13.7	-4.0	10.6	10.0	-3.8	1.9	-5.2	16.9	
Aberdeen Emerging Markets Bond Fund	5.5	15.7	-7.1	13.3						
JP Morgan EMBI Global Diversified	5.3	15.0	-4.3	10.3	10.2	1.2	7.4	-5.3	17.4	7.3
JP Morgan GBI EM Global Diversified TR USD	2.7	13.5	-6.2	15.2	9.9	-14.9	-5.7	-9.0	16.8	-1.8

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.



	2020 (%)	2019 (%)	2018 (%)	2017 (%)	2016 (%)	2015 (%)	2014 (%)	2013 (%)	2012 (%)	2011 (%)
Real Estate Assets	1.0	8.7	8.8	8.5	9.0	13.8	12.8	10.1	12.5	16.7
NCREIF ODCE (net)	0.3	4.4	7.4	6.7	7.8	14.0	11.5	12.9	9.8	15.0
TA Associates Realty Fund X										
Intercontinental U.S. REIF (Net)	1.0	8.9	10.5	7.5	10.9	12.5				
NCREIF ODCE (net)	0.3	4.4	7.4	6.7	7.8	14.0	11.5	12.9	9.8	15.0
AEW Core Property Trust (Net)	0.3	5.1	6.6	6.6	7.6	12.8				
NCREIF ODCE (net)	0.3	4.4	7.4	6.7	7.8	14.0	11.5	12.9	9.8	15.0
Private Equity Assets	25.8	15.7	13.7	11.8	6.3	0.8	13.5	9.5	9.2	7.9
Cambridge Associates US All PE (1 Qtr Lag)	13.5	9.5	19.2	16.8	8.7	6.0	17.9	17.5	15.2	15.1
Ascent Venture Partners - Fund III										
Ascent Venture Partners - Fund IV										
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										
Goldman Sachs PEP 2005										



	2020 (%)	2019 (%)	2018 (%)	2017 (%)	2016 (%)	2015 (%)	2014 (%)	2013 (%)	2012 (%)	2011 (%)
HarbourVest Partners VIII										
HarbourVest Partners IX										
HarbourVest X Buyout Fund										
HarbourVest Partners XI										
Infrastructure Assets	3.1	14.6								
CPI + 3%	4.3	5.3	4.9	5.1	5.1	3.7	3.7	4.5	4.8	6.1
IFM Global Infrastructure (U.S.), L.P.	3.1	14.6								
CPI + 3%	4.3	5.3	4.9	5.1	5.1	3.7	3.7	4.5	4.8	6.1
Cash										
Cash STIF										

		Statistics Sum	mary			
5 Years Ending June 30, 2021						
	Anlzd Return	Anlzd Standard Deviation	Information Ratio	Beta	Sharpe Ratio	Tracking Error
Total Retirement System	11.1%	7.2%	0.4	0.7	1.4	3.3%
60% MSCI ACWI / 40% Barclays Global Aggregate	9.8%	9.5%		1.0	0.9	0.0%
Total Equity	15.0%	14.6%	-0.8	0.9	0.9	3.6%
Russell 3000	17.9%	15.6%		1.0	1.1	0.0%
Domestic Equity Assets	17.9%	15.7%	-0.1	1.0	1.1	0.3%
Russell 3000	17.9%	15.6%		1.0	1.1	0.0%
SSgA Russell 1000 Value Index-NL	11.8%	16.2%	-0.7	1.0	0.7	O.1%
Russell 1000 Value	11.9%	16.2%		1.0	0.7	0.0%
SSgA Russell 1000 Growth-NL	23.5%	16.1%	-2.2	1.0	1.4	O.1%
Russell 1000 Growth	23.7%	16.1%		1.0	1.4	0.0%
SSgA Russell 2000 Index-NL	16.4%	21.0%	-0.4	1.0	0.7	O.1%
Russell 2000	16.5%	21.0%		1.0	0.7	0.0%
International Equity Assets	11.1%	14.5%	-0.2	0.9	0.7	3.3%
MSCI ACWI ex USA IMI Gross	11.7%	14.9%		1.0	0.7	0.0%
Total International Developed Market Equity	10.9%	15.2%	0.4	1.0	0.6	1.6%
MSCI EAFE	10.3%	14.7%		1.0	0.6	0.0%
SSgA MSCI EAFE Index-NL	10.6%	14.6%	2.3	1.0	0.6	O.1%
MSCI EAFE	10.3%	14.7%		1.0	0.6	0.0%

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Massachusetts Housing Finance Agency Retirement System

	Anlzd Return	Anlzd Standard Deviation	Information Ratio	Beta	Sharpe Ratio	Tracking Error
SSgA MSCI EAFE Small Cap Index-NL	11.9%	16.5%	-0.5	1.0	0.7	0.2%
MSCI EAFE Small Cap	12.0%	16.7%		1.0	0.7	0.0%
International Emerging Market Equity Assets	11.2%	15.7%	-0.4	0.9	0.6	4.3%
MSCI Emerging Markets	13.0%	16.2%		1.0	0.7	0.0%
GQG Partners Emerging Markets						
MSCI Emerging Markets	13.0%	16.2%		1.0	0.7	0.0%
Fixed Income Assets	4.7%	4.6%	0.4	1.2	0.8	2.7%
BBgBarc US Universal TR	3.5%	3.2%		1.0	0.7	0.0%
Investment Grade Bond Assets	3.6%	3.3%	0.8	1.0	0.8	0.8%
BBgBarc US Aggregate TR	3.0%	3.3%		1.0	0.6	0.0%
Longfellow Investment Grade Bond						
BBgBarc US Aggregate TR	3.0%	3.3%		1.0	0.6	0.0%
High Yield Bond Assets	7.2%	8.9%	0.0	1.1	0.7	1.7%
CSFB High Yield Index	7.2%	7.7%		1.0	0.8	0.0%
Lord Abbett High Yield Core						
BBgBarc US High Yield TR	7.5%	7.4%		1.0	0.9	0.0%
TIPS Assets	4.1%	3.5%	-1.8	1.0	0.8	0.0%
BBgBarc US TIPS TR	4.2%	3.5%		1.0	0.9	0.0%
SSgA TIPS-NL	4.1%	3.5%	-1.7	1.0	0.8	0.1%
BBgBarc US TIPS TR	4.2%	3.5%		1.0	0.9	0.0%

	Anlzd Return	Anlzd Standard Deviation	Information Ratio	Beta	Sharpe Ratio	Tracking Error
Emerging Market Debt Assets	4.1%	10.6%	0.0	1.1	0.3	2.5%
50% JPM EMBI GD / 50% JPM GBI-EM	4.1%	9.4%		1.0	0.3	0.0%
Metlife Emerging Markets Debt						
MetLife Custom Benchmark	4.6%	8.1%		1.0	0.4	0.0%
Aberdeen Emerging Markets Bond Fund						
JP Morgan EMBI Global Diversified	4.9%	9.0%		1.0	0.4	0.0%
Real Estate Assets	7.4%	3.7%	1.1	1.1	1.7	1.5%
NCREIF ODCE (net)	5.6%	3.0%		1.0	1.5	0.0%
TA Associates Realty Fund X	12.6%	13.1%	0.6	1.9	0.9	12.1%
NCREIF ODCE (net)	5.6%	3.0%		1.0	1.5	0.0%
Intercontinental U.S. REIF	8.5%	4.2%	1.5	1.3	1.8	1.9%
NCREIF ODCE (net)	5.6%	3.0%		1.0	1.5	0.0%
AEW Core Property Trust	5.6%	3.0%	0.0	0.9	1.5	1.3%
NCREIF ODCE (net)	5.6%	3.0%		1.0	1.5	0.0%
Private Equity Assets	19.0%	12.0%	0.2	0.9	1.5	4.3%
Cambridge Associates US All PE (1 Qtr Lag)	18.2%	12.1%		1.0	1.4	0.0%
Ascent Venture Partners - Fund III	-17.3%	17.2%	-1.5	-0.5	-1.1	24.5%
Cambridge Associates US All PE (1 Qtr Lag)	18.2%	12.1%		1.0	1.4	0.0%
Ascent Venture Partners - Fund IV	-45.1%	49.0%	-1.2	-0.3	-0.9	51.3%
Cambridge Associates US All PE (1 Qtr Lag)	18.2%	12.1%		1.0	1.4	0.0%

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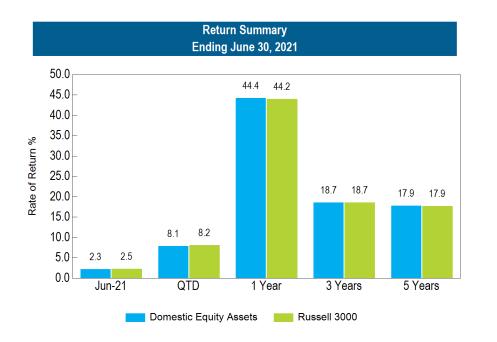
	Anlzd Return	Anlzd Standard Deviation	Information Ratio	Beta	Sharpe Ratio	Tracking Error
Ascent Venture Partners - Fund V	-1.7%	8.2%	-1.7	0.3	-0.3	11.8%
Cambridge Associates US All PE (1 Qtr Lag)	18.2%	12.1%		1.0	1.4	0.0%
Ascent Venture Partners - Fund VI	3.6%	7.1%	-1.3	0.3	0.4	11.1%
Cambridge Associates US All PE (1 Qtr Lag)	18.2%	12.1%		1.0	1.4	0.0%
Constitution Capital Partners Ironsides III	22.3%	15.8%	0.3	0.8	1.3	12.3%
Cambridge Associates US All PE (1 Qtr Lag)	18.2%	12.1%		1.0	1.4	0.0%
Constitution Capital Partners Ironsides IV	24.7%	16.5%	0.5	0.9	1.4	12.7%
Cambridge Associates US All PE (1 Qtr Lag)	18.2%	12.1%		1.0	1.4	0.0%
Constitution Capital Partners Ironsides V						
Cambridge Associates US All PE (1 Qtr Lag)	18.2%	12.1%		1.0	1.4	0.0%
Constitution Capital Direct IV	18.4%	18.6%	0.0	1.0	0.9	14.3%
Cambridge Associates US All PE (1 Qtr Lag)	18.2%	12.1%		1.0	1.4	0.0%
Constitution Capital Direct V						
Cambridge Associates US All PE (1 Qtr Lag)	18.2%	12.1%		1.0	1.4	0.0%
Goldman Sachs PEP 2005	10.8%	19.0%	-0.6	1.2	0.5	12.9%
Cambridge Associates US All PE (1 Qtr Lag)	18.2%	12.1%		1.0	1.4	0.0%
HarbourVest Partners VIII	17.0%	13.4%	-0.3	1.1	1.2	4.1%
Cambridge Associates US All PE (1 Qtr Lag)	18.2%	12.1%		1.0	1.4	0.0%
HarbourVest Partners IX	23.2%	13.8%	1.0	1.1	1.6	4.8%
Cambridge Associates US All PE (1 Qtr Lag)	18.2%	12.1%		1.0	1.4	0.0%

	Anlzd Return	Anlzd Standard Deviation	Information Ratio	Beta	Sharpe Ratio	Tracking Error
HarbourVest X Buyout Fund	25.5%	16.3%	0.7	1.0	1.5	10.4%
Cambridge Associates US All PE (1 Qtr Lag)	18.2%	12.1%		1.0	1.4	0.0%
HarbourVest Partners XI						
Cambridge Associates US All PE (1 Qtr Lag)	18.2%	12.1%		1.0	1.4	0.0%
Infrastructure Assets						
CPI + 3%	5.5%	0.9%		1.0	5.0	0.0%
IFM Global Infrastructure (U.S.), L.P.						
CPI + 3%	5.5%	0.9%		1.0	5.0	0.0%



Domestic Equity Assets | As of June 30, 2021

Asset Allocation on June 30, 2021						
	Actual	Actual				
SSgA Russell 1000 Growth-NL	\$29,874,240	45.1%				
SSgA Russell 1000 Value Index-NL	\$30,995,375	46.8%				
SSgA Russell 2000 Index-NL	\$5,414,995	8.2%				
Total	\$66,284,610	100.0%				



Domestic Equity Assets Style Map 3 Years Ending June 30, 2021



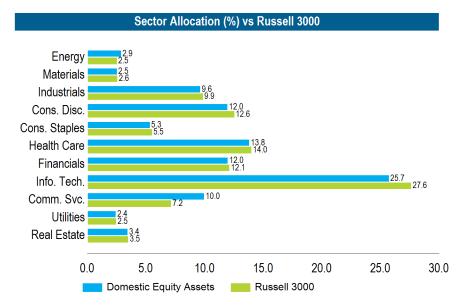
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Domestic Equity Assets	As of June 30, 2021
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Domestic	Equity Assets Ch	aracteristics	
	Portfolio	Index	Portfolio
	Q2-21	Q2-21	Q1-21
Market Value			
Market Value (\$M)	66.3		61.4
Number Of Holdings	2989	2916	3055
Characteristics			
Weighted Avg. Market Cap. (\$B)	424.9	408.7	371.2
Median Market Cap (\$B)	3.4	2.8	2.9
P/E Ratio	26.3	26.5	29.1
Yield	1.3	1.3	1.4
EPS Growth - 5 Yrs.	18.3	18.3	14.0
Price to Book	4.3	4.4	4.1

Top 10 Holdings	
APPLE INC	4.6%
MICROSOFT CORP	4.4%
AMAZON.COM INC	3.2%
FACEBOOK INC	1.8%
ALPHABET INC	1.6%
ALPHABET INC	1.5%
BERKSHIRE HATHAWAY INC	1.2%
TESLA INC	1.1%
JPMORGAN CHASE & CO	1.1%
NVIDIA CORPORATION	1.0%
Total	21.5%

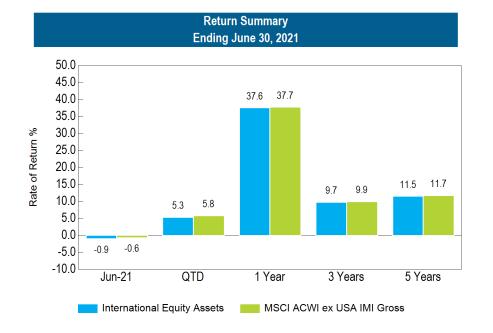


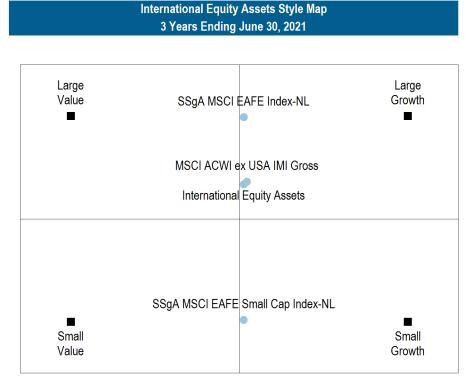
	Portfolio	Index
	Q2-21	Q2-21
Sector Performance		
Energy	11.52	12.39
Materials	4.36	4.86
Industrials	3.90	3.89
Consumer Discretionary	6.53	6.65
Consumer Staples	3.53	3.57
Health Care	8.39	8.20
Financials	7.48	7.33
Information Technology	11.32	11.40
Communication Services	10.08	11.10
Utilities	-0.59	-0.44
Real Estate	11.82	11.67

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Massachusetts Housing Finance Agency Retirement System

Asset Allocation on June 30, 2021				
Actual Ac				
GQG Partners Emerging Markets	\$25,263,264	53.3%		
SSgA MSCI EAFE Index-NL	\$14,803,085	31.2%		
SSgA MSCI EAFE Small Cap Index-NL	\$7,326,546	15.5%		
Total	\$47,392,895	100.0%		

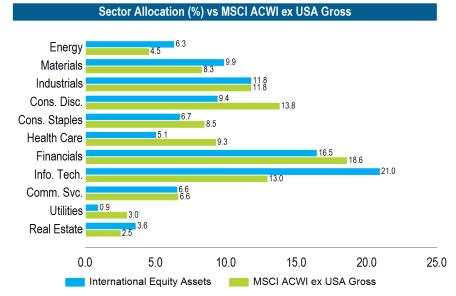




International Equity Assets	As of June 30, 2021
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Total International Equity Characteristics				
	Portfolio	Index	Portfolio	
	Q2-21	Q2-21	Q1-21	
Market Value				
Market Value (\$M)	47.4		39.3	
Number Of Holdings	3295	2344	3263	
Characteristics				
Weighted Avg. Market Cap. (\$B)	118.5	105.9	118.4	
Median Market Cap (\$B)	2.2	10.4	2.0	
P/E Ratio	17.9	19.1	21.5	
Yield	2.4	2.4	2.3	
EPS Growth - 5 Yrs.	12.2	9.2	8.7	
Price to Book	2.6	2.7	3.0	

Top 10 Holdings	
TAIWAN SEMICONDUCTOR MANUFACTURING CO LTD	3.5%
SAMSUNG ELECTRONICS CO LTD	2.9%
HOUSING DEVELOPMENT FINANCE CORP LTD	2.2%
INFOSYS LTD	2.2%
ASML HOLDING NV	2.1%
VALE SA	2.1%
WULIANGYE ORD A	1.9%
SBERBANK OF RUSSIA	1.9%
TENCENT HOLDINGS LTD	1.9%
RELIANCE INDUSTRIES LTD	1.6%
Total	22.3%



	Portfolio	Index
	Q2-21	Q2-21
Sector Performance		
Energy	1.52	8.83
Materials	8.48	6.64
Industrials	5.10	4.61
Consumer Discretionary	3.76	4.85
Consumer Staples	6.65	7.96
Health Care	8.90	10.11
Financials	0.97	4.60
Information Technology	5.20	6.87
Communication Services	1.46	1.44
Utilities	-1.03	0.07
Real Estate	5.81	2.52



Total International Equity Region Allocation			
vs MSCI ACWI ex USA Gross			
Region	% of Total	% of Bench	% Diff
North America ex U.S.	0.0%	7.0%	-7.0%
United States	2.9%	0.0%	2.9%
Europe Ex U.K.	9.9%	30.9%	-21.0%
United Kingdom	3.0%	8.9%	-5.9%
Pacific Basin Ex Japan	5.1%	7.2%	-2.1%
Japan	34.3%	14.3%	20.0%
Emerging Markets	42.6%	31.0%	11.6%
Other	2.1%	0.6%	1.6%
Total	100.0%	100.0%	0.0%



Tota	I International Equity Country Allocation	n	
	vs MSCI ACWI ex USA Gross		
Country	% of Total	% of Bench	% Diff
ARGENTINA	0.0%	0.0%	0.0%
AUSTRALIA	2.0%	4.4%	-2.4%
AUSTRIA	0.2%	0.1%	0.1%
BAHRAIN	0.0%	0.0%	0.0%
BANGLADESH	0.0%	0.0%	0.0%
BELGIUM	0.3%	0.6%	-0.3%
BRAZIL	7.0%	1.6%	5.4%
CANADA	0.0%	7.0%	-7.0%
CHILE	0.0%	0.1%	-0.1%
CHINA	10.8%	11.7%	-0.9%
COLOMBIA	0.0%	0.0%	0.0%
CROATIA	0.0%	0.0%	0.0%
CZECH REPUBLIC	0.0%	0.0%	0.0%
DENMARK	0.5%	1.6%	-1.1%
EGYPT	0.0%	0.0%	0.0%
ESTONIA	0.0%	0.0%	0.0%
FINLAND	0.3%	0.7%	-0.3%
FRANCE	0.5%	7.1%	-6.6%
GERMANY	0.8%	5.8%	-5.0%
GREECE	0.0%	0.0%	0.0%

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Massachusetts Housing Finance Agency Retirement System

Country	Total 2.6%	Bench	% Diff
	2.6%	0.00/	
HONG KONG		2.0%	0.6%
HUNGARY	0.0%	O.1%	-0.1%
INDIA	10.1%	3.1%	7.0%
INDONESIA	0.4%	0.3%	0.1%
IRELAND	0.2%	0.4%	-0.2%
ISRAEL	0.4%	0.4%	0.1%
ITALY	0.5%	1.5%	-1.1%
JAPAN	34.3%	14.3%	20.0%
JORDAN	0.0%	0.0%	0.0%
KAZAKHSTAN	0.0%	0.0%	0.0%
KENYA	0.0%	0.0%	0.0%
KOREA	4.3%	4.1%	0.1%
KUWAIT	0.0%	0.2%	-0.2%
LEBANON	0.0%	0.0%	0.0%
LITHUANIA	0.0%	0.0%	0.0%
LUXEMBOURG	0.1%	0.0%	0.1%
MALAYSIA	0.0%	0.4%	-0.4%
MAURITIUS	0.0%	0.0%	0.0%
MEXICO	0.0%	0.5%	-0.5%
MOROCCO	0.0%	0.0%	0.0%
NETHERLANDS	2.6%	2.7%	-0.1%
NEW ZEALAND	0.1%	O.1%	0.0%
NIGERIA	0.0%	0.0%	0.0%



Country	% o f	% of	
	Total	Bench	% Diff
NORWAY	0.4%	0.4%	0.0%
OMAN	0.0%	0.0%	0.0%
OTHER	1.7%	0.0%	1.7%
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	0.0%	0.1%	-0.1%
QATAR	0.0%	0.2%	-0.2%
ROMANIA	0.0%	0.0%	0.0%
RUSSIA	5.4%	1.0%	4.5%
SAUDI ARABIA	0.0%	0.9%	-0.9%
SERBIA	0.0%	0.0%	0.0%
SINGAPORE	0.3%	0.7%	-0.3%
SLOVENIA	0.0%	0.0%	0.0%
SOUTH AFRICA	0.0%	1.1%	-1.1%
SPAIN	1.2%	1.5%	-0.3%
SRI LANKA	0.0%	0.0%	0.0%
SWEDEN	1.4%	2.3%	-0.9%
SWITZERLAND	0.9%	6.1%	-5.2%
TAIWAN	4.1%	4.4%	-0.3%
THAILAND	0.0%	0.5%	-0.5%
TUNISIA	0.0%	0.0%	0.0%



Country	% of Total	% of Bench	% Diff
TURKEY	0.4%	0.1%	0.3%
UNITED ARAB EMIRATES	0.0%	0.2%	-0.2%
UNITED KINGDOM	3.0%	8.9%	-5.9%
UNITED STATES	2.9%	0.0%	2.9%
VIETNAM	0.0%	0.0%	0.0%
Total	100.0%	100.0%	0.0%

MEKETA

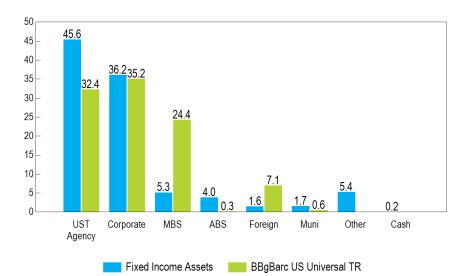
Massachusetts Housing Finance Agency Retirement System

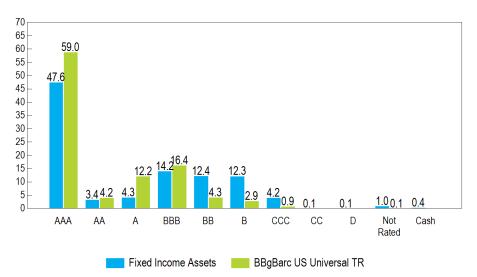
Asset Allocation on June 30, 2021				
	Actual	Actual		
Aberdeen Emerging Markets Bond Fund	\$6,400,618	11.1%		
Longfellow Investment Grade Bond	\$21,002,413	36.3%		
Lord Abbett High Yield Core	\$12,384,956	21.4%		
Metlife Emerging Markets Debt	\$4,475,849	7.7%		
SSgA TIPS-NL	\$13,638,431	23.6%		
Total	\$57,902,266	100.0%		

Fixed Income Assets | As of June 30, 2021

Total Fixed Income Fixed Income Characteristics				
vs. BBgBarc US Universal TR				
Portfolio Index Portfol				
	Q2-21	Q2-21	Q1-21	
Fixed Income Characteristics				
Yield to Maturity	2.87	1.76	3.00	
Average Duration	6.01	6.42	6.16	
Average Quality	А	AA	А	
Weighted Average Maturity	7.85	12.71	7.94	

Sector Allocation





Credit Quality Allocation

SSgA Russell 1000 Value Index-NL | As of June 30, 2021

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 (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	Inception I (%)	nception Date
SSgA Russell 1000 Value Index-NL	5.2	17.1	43.7	12.4	11.9	8.2	Jan-05
Russell 1000 Value	5.2	17.0	43.7	12.4	11.9	8.1	Jan-05
eV US Large Cap Value Equity Gross Median	5.7	18.1	44.3	13.3	13.3	9.3	Jan-05
eV US Large Cap Value Equity Gross Rank	63	61	53	62	78	86	Jan-05

Top 10 Holdings	
BERKSHIRE HATHAWAY INC	2.6%
JPMORGAN CHASE & CO	2.3%
JOHNSON & JOHNSON	2.2%
UNITEDHEALTH GROUP INC	1.7%
PROCTER & GAMBLE CO (THE)	1.6%
BANK OF AMERICA CORP	1.5%
WALT DISNEY CO (THE)	1.5%
EXXON MOBIL CORP	1.3%
COMCAST CORP	1.3%
VERIZON COMMUNICATIONS INC	1.2%
Total	17.3%

SSgA Russell 1000 Value Index-NL Characteristics					
	Portfolio	Index	Portfolio		
	Q2-21	Q2-21	Q1-21		
Market Value					
Market Value (\$M)	31.0		29.5		
Number Of Holdings	832	832	842		
Characteristics					
Weighted Avg. Market Cap. (\$B)	152.7	153.1	146.8		
Median Market Cap (\$B)	14.1	14.3	13.2		
P/E Ratio	20.7	20.8	24.1		
Yield	1.9	1.9	2.0		
EPS Growth - 5 Yrs.	11.0	11.1	6.6		
Price to Book	2.7	2.7	2.7		
Sector Distribution					
Energy	5.1	4.6	5.1		
Materials	3.8	3.8	4.8		
Industrials	12.0	12.1	13.9		
Consumer Discretionary	5.7	5.3	7.6		
Consumer Staples	7.2	7.2	7.1		
Health Care	17.3	17.5	12.6		
Financials	20.8	21.1	20.7		
Information Technology	10.2	10.3	9.6		
Communication Services	8.5	8.6	9.2		
Utilities	4.8	4.8	5.1		
Real Estate	4.5	4.6	4.3		

Massachusetts Housing Finance Agency Retirement System

SSgA Russell 1000 Growth-NL | As of June 30, 2021

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 (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	Inception (%)	Inception Date
SSgA Russell 1000 Growth-NL	11.9	13.0	42.5	25.1	23.6	13.1	Jul-07
Russell 1000 Growth	11.9	13.0	42.5	25.1	23.7	13.1	Jul-07
eV US Large Cap Growth Equity Gross Median	11.1	13.3	40.8	24.1	22.7	12.7	Jul-07
eV US Large Cap Growth Equity Gross Rank	31	56	38	36	41	37	Jul-07

Top 10 Holding	s
APPLE INC	10.2%
MICROSOFT CORP	9.7%
AMAZON.COM INC	7.1%
FACEBOOK INC	3.9%
ALPHABET INC	3.0%
ALPHABET INC	2.9%
TESLA INC	2.5%
NVIDIA CORPORATION	2.3%
VISA INC	1.9%
HOME DEPOT INC. (THE)	1.6%
Total	45.1%

SSgA Russell 1000 Growth-NL Characteristics					
	Portfolio	Index	Portfolio		
	Q2-21	Q2-21	Q1-2		
Market Value					
Market Value (\$M)	29.9		26.		
Number Of Holdings	482	486	450		
Characteristics					
Weighted Avg. Market Cap. (\$B)	783.3	787.8	690.		
Median Market Cap (\$B)	19.2	19.4	17.		
P/E Ratio	38.4	38.3	38.		
Yield	0.7	0.7	0.		
EPS Growth - 5 Yrs.	26.4	26.4	23		
Price to Book	13.5	13.5	11.		
Sector Distribution					
Energy	0.3	0.2	C		
Materials	1.0	1.0	0		
Industrials	6.4	6.4	4		
Consumer Discretionary	18.5	18.7	16		
Consumer Staples	3.9	3.9	4		
Health Care	9.1	9.1	13		
Financials	2.3	2.4	1		
Information Technology	44.1	43.8	44		
Communication Services	12.6	12.7	11		
Utilities	0.0	0.0	0.		
Real Estate	1.7	1.8	1		

Massachusetts Housing Finance Agency Retirement System

SSgA Russell 2000 Index-NL | As of June 30, 2021

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 (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	Inception (%)	Inception Date
SSgA Russell 2000 Index-NL	4.3	17.6	62.1	13.6	16.5	13.9	Aug-10
Russell 2000	4.3	17.5	62.0	13.5	16.5	13.8	Aug-10
eV US Small Cap Core Equity Gross Median	4.7	19.3	60.3	13.9	16.1	14.9	Aug-10
eV US Small Cap Core Equity Gross Rank	60	61	43	56	46	77	Aug-10

Top 10 Holdings	
AMC ENTERTAINMENT HOLDINGS INC	0.8%
INTELLIA THERAPEUTICS INC	0.3%
ARROWHEAD PHARMACEUTICALS INC	0.3%
OVINTIV INC	0.3%
LATTICE SEMICONDUCTOR CORP	0.3%
II VI INC	0.3%
CROCS INC	0.2%
SCIENTIFIC GAMES CORP	0.2%
STAAR SURGICAL CO	0.2%
DENALI THERAPEUTICS INC	0.2%
Total	3.1%

SSgA Russell 2000 Index-NL Characteristics					
	Portfolio	Index	Portfolio		
	Q2-21	Q2-21	Q1-21		
Market Value					
Market Value (\$M)	5.4		5.2		
Number Of Holdings	1969	1903	2039		
Characteristics					
Weighted Avg. Market Cap. (\$B)	3.4	3.4	3.7		
Median Market Cap (\$B)	1.3	1.3	1.1		
P/E Ratio	19.9	19.9	24.0		
Yield	1.0	1.0	0.9		
EPS Growth - 5 Yrs.	12.0	12.0	10.0		
Price to Book	2.9	2.9	2.9		
Sector Distribution					
Energy	4.1	4.0	2.6		
Materials	3.7	3.7	4.5		
Industrials	14.1	14.2	16.0		
Consumer Discretionary	11.8	11.9	14.6		
Consumer Staples	3.1	3.2	3.3		
Health Care	20.3	21.2	19.1		
Financials	14.7	15.2	15.7		
Information Technology	13.3	13.5	12.6		
Communication Services	3.7	3.7	2.4		
Utilities	2.4	2.4	2.8		
Real Estate	6.8	7.0	5.9		

SSgA MSCI EAFE Index-NL | As of June 30, 2021

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			

Port	folio Per	forman	ce Sun	nmary			
	QTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	Inception (%)	Inception Date
SSgA MSCI EAFE Index-NL	5.3	9.1	32.8	8.7	10.7	7.4	Aug-10
MSCI EAFE	5.2	8.8	32.3	8.3	10.3	7.1	Aug-10
eV EAFE Core Equity Gross Median	6.1	10.4	36.1	9.5	11.5	9.2	Aug-10
eV EAFE Core Equity Gross Rank	69	69	76	62	68	93	Aug-10

	Top 10 Holdings
TOYOTA MOTOR CORP	4.5%
SONY GROUP CORPORATION	3.0%
KEYENCE CORP	2.4%
SOFTBANK GROUP CORP	2.1%
RECRUIT HOLDINGS CO LTD	1.6%
MITSUBISHI UFJ FINANCIAL GROUP	1.6%
NINTENDO CO LTD	1.6%
TOKYO ELECTRON LTD	1.6%
SHIN-ETSU CHEMICAL CO LTD	1.4%
HITACHI LTD	1.3%
Total	21.1%

SSgA MSCI EAFE Index-NL Characteristics				
	Portfolio	Index	Portfolio	
	Q2-21	Q2-21	Q1-21	
Market Value				
Market Value (\$M)	14.8		12.7	
Number Of Holdings	843	843	865	
Characteristics				
Weighted Avg. Market Cap. (\$B)	53.0	80.2	73.3	
Median Market Cap (\$B)	14.1	14.3	12.6	
P/E Ratio	17.9	21.1	23.3	
Yield	2.0	2.5	2.3	
EPS Growth - 5 Yrs.	7.5	6.0	3.3	
Price to Book	2.2	2.7	2.7	
Sector Distribution				
Energy	0.8	3.2	3.7	
Materials	5.0	7.9	7.7	
Industrials	21.6	15.5	15.6	
Consumer Discretionary	18.6	13.0	12.5	
Consumer Staples	7.3	10.5	10.2	
Health Care	10.3	12.4	11.8	
Financials	9.6	16.9	17.1	
Information Technology	13.6	9.1	9.1	
Communication Services	8.5	4.9	5.3	
Utilities	1.2	3.4	3.5	
Real Estate	3.7	3.0	3.0	

SSgA MSCI EAFE Small Cap Index-NL | As of June 30, 2021

Account InformationAccount NameSSgA MSCI EAFE Small Cap Index-NLAccount StructureCommingled FundInvestment StylePassiveInception Date8/01/10Account TypeEquityBenchmarkMSCI EAFE Small CapUniverseeV EAFE Small Cap Core Gross

Portf	olio Per	forman	ce Sun	nmary			
	QTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	Inception (%)	Inception Date
SSgA MSCI EAFE Small Cap Index-NL	4.4	9.1	40.9	8.5	12.2	10.2	Aug-10
MSCI EAFE Small Cap	4.3	9.0	41.0	8.4	12.0	9.9	Aug-10
eV EAFE Small Cap Core Gross Median	6.7	12.5	43.4	9.9	13.1	11.7	Aug-10
eV EAFE Small Cap Core Gross Rank	96	83	75	62	65	90	Aug-10

Top 10 Holdings	
IMCD NV	0.3%
VAT GROUP AG	0.3%
SIG COMBIBLOC GROUP AG	0.3%
GETINGE AB	0.3%
EURONEXT NV	0.3%
INTERMEDIATE CAPITAL GROUP PLC	0.3%
SIGNIFY NV	0.3%
D S SMITHPLC	0.3%
RIGHTMOVE PLC	0.2%
METSO OUTOTEC OYJ	0.2%
Total	2.7%

SSgA MSCI EAFE Small Cap Index-NL Characteristics				
	Portfolio	Index	Portfolio	
	Q2-21	Q2-21	Q1-21	
Market Value				
Market Value (\$M)	7.3		7.0	
Number Of Holdings	2393	2387	2351	
Characteristics				
Weighted Avg. Market Cap. (\$B)	3.4	3.4	3.2	
Median Market Cap (\$B)	1.4	1.4	1.3	
P/E Ratio	19.3	19.4	21.1	
Yield	2.1	2.1	1.9	
EPS Growth - 5 Yrs.	6.5	6.4	4.0	
Price to Book	2.4	2.4	2.3	
Sector Distribution				
Energy	1.5	1.6	1.6	
Materials	9.0	9.0	9.2	
Industrials	23.3	23.4	23.6	
Consumer Discretionary	13.2	13.3	13.3	
Consumer Staples	5.7	5.7	5.8	
Health Care	7.3	7.4	6.7	
Financials	10.4	10.4	10.9	
Information Technology	10.0	10.0	9.9	
Communication Services	4.5	4.5	4.6	
Utilities	2.9	2.9	2.8	
Real Estate	11.7	11.7	11.3	

GQG Partners Emerging Markets | As of June 30, 2021

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 (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	Inception (%)	Inception Date
GQG Partners Emerging Markets	5.5	4.5	42.4			21.5	Mar-19
MSCI Emerging Markets	5.0	7.4	40.9	11.3	13.0	15.0	Mar-19
eV Emg Mkts Equity Gross Median	5.3	9.3	45.1	12.1	13.8	16.6	Mar-19
eV Emg Mkts Equity Gross Rank	47	90	64			21	Mar-19

Top 10 Holdings	
TAIWAN SEMICONDUCTOR MANUFACTURING CO LTD	6.6%
SAMSUNG ELECTRONICS CO LTD	5.4%
HOUSING DEVELOPMENT FINANCE CORP LTD	4.2%
INFOSYS LTD	4.1%
ASML HOLDING NV	3.9%
VALE SA	3.9%
WULIANGYE ORD A	3.6%
SBERBANK OF RUSSIA	3.5%
TENCENT HOLDINGS LTD	3.5%
RELIANCE INDUSTRIES LTD	3.1%
Total	41.8%

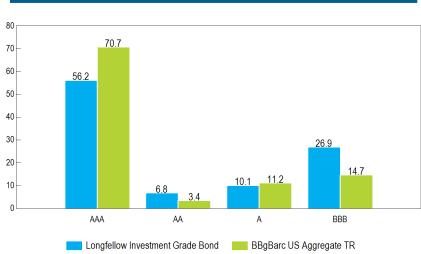
GQG Partners Emerging Markets Characteristics				
	Portfolio	Index	Portfolio	
	Q2-21	Q2-21	Q1-21	
Market Value				
Market Value (\$M)	25.3		19.6	
Number Of Holdings	65	1411	53	
Characteristics				
Weighted Avg. Market Cap. (\$B)	197.3	169.1	193.8	
Median Market Cap (\$B)	58.8	7.3	66.5	
P/E Ratio	17.7	16.4	19.7	
Yield	2.8	2.1	2.5	
EPS Growth - 5 Yrs.	16.7	14.3	13.6	
Price to Book	3.1	3.1	3.8	
Sector Distribution				
Energy	11.0	5.0	6.4	
Materials	13.0	8.4	8.0	
Industrials	2.8	4.9	1.9	
Consumer Discretionary	3.0	17.6	6.9	
Consumer Staples	6.7	5.6	8.9	
Health Care	1.3	5.1	2.0	
Financials	22.3	17.8	23.4	
Information Technology	28.5	20.5	28.1	
Communication Services	6.0	11.0	5.9	
Utilities	0.2	2.0	0.0	
Real Estate	1.2	2.0	1.9	

Longfellow Investment Grade Bond | As of June 30, 2021

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

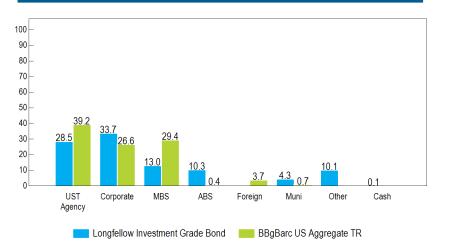
Portfolio Performance Summary							
	QTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	Inception (%)	Inception Date
Longfellow Investment Grade Bond	2.1	-0.5	2.5	6.3		4.5	Sep-17
BBgBarc US Aggregate TR	1.8	-1.6	-0.3	5.3	3.0	3.7	Sep-17
eV US Core Fixed Inc Gross Median	2.1	-1.2	1.0	6.0	3.7	4.3	Sep-17
eV US Core Fixed Inc Gross Rank	41	13	18	30		29	Sep-17

Longfellow Investment	Longfellow Investment Grade Bond Characteristics							
vs. BBgBarc	vs. BBgBarc US Aggregate TR							
	Portfolio Index P							
	Q2-21	Q2-21	Q1-21					
Fixed Income Characteristics								
Yield to Maturity	1.9	1.4	1.9					
Average Duration	5.7	6.6	5.9					
Average Quality	AA	AA	AA					
Weighted Average Maturity	7.2	13.7	7.8					



Credit Quality Allocation





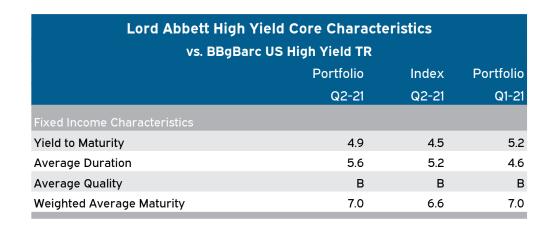
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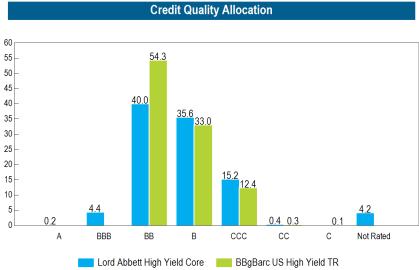
Massachusetts Housing Finance Agency Retirement System

Lord Abbett High Yield Core | As of June 30, 2021

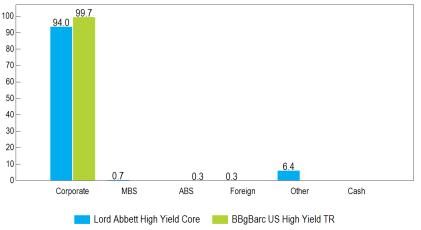
Account Information					
Account Name	Lord Abbett High Yield Core				
Account Structure	Commingled Fund				
Investment Style	Active				
Inception Date	7/01/19				
Account Type	Fixed				
Benchmark	BBgBarc US High Yield TR				
Universe	eV US High Yield Fixed Inc Gross				

Portfolio Performance Summary							
	QTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	Inception (%)	Inception Date
Lord Abbett High Yield Core	3.1	4.5	19.5			8.8	Jul-19
BBgBarc US High Yield TR	2.7	3.6	15.4	7.4	7.5	7.4	Jul-19
eV US High Yield Fixed Inc Gross Median	2.7	3.6	14.7	7.4	7.4	7.3	Jul-19
eV US High Yield Fixed Inc Gross Rank	16	23	11			16	Jul-19





Sector Allocation

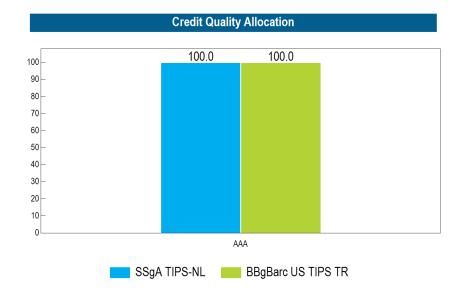


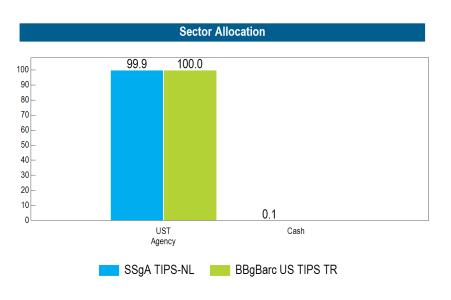
SSgA TIPS-NL | As of June 30, 2021

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

Portfolio Performance Summary							
	QTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	Inception (%)	Inception Date
SSgA TIPS-NL	3.2	1.7	6.5	6.5	4.1	4.6	Jul-07
BBgBarc US TIPS TR	3.2	1.7	6.5	6.5	4.2	4.6	Jul-07
eV US TIPS / Inflation Fixed Inc Gross Median	3.2	1.8	6.7	6.6	4.3	4.7	Jul-07
eV US TIPS / Inflation Fixed Inc Gross Rank	44	77	74	61	74	71	Jul-07

SSgA TIPS-NL Characteristics vs. BBgBarc US TIPS TR								
Portfolio Index Por								
	Q2-21	Q2-21	Q1-21					
Fixed Income Characteristics								
Yield to Maturity	1.1	1.0	1.1					
Average Duration	6.6	7.5	8.2					
Average Quality	AAA	AAA	AAA					
Weighted Average Maturity	8.0	8.0	8.0					





MEKETA INVESTMENT GROUP

MEKETA

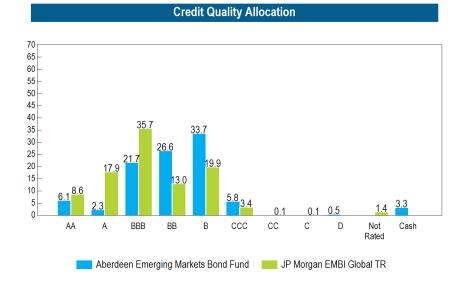
Massachusetts Housing Finance Agency Retirement System

Aberdeen Emerging Markets Bond Fund | As of June 30, 2021

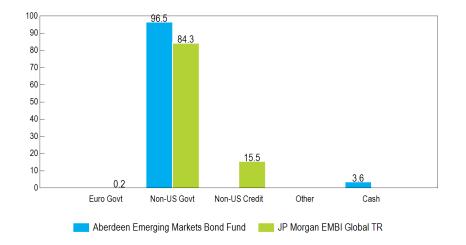
Account Information			
Account Name	Aberdeen Emerging Markets Bond Fund		
Account Structure	Commingled Fund		
Investment Style	Active		
Inception Date	12/01/16		
Account Type	Fixed		
Benchmark	JP Morgan EMBI Global Diversified		
Universe			

Portfolio Performance Summary							
	QTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	Inception (%)	Inception Date
Aberdeen Emerging Markets Bond Fund	4.2	-0.5	10.4	6.6		5.5	Dec-16
JP Morgan EMBI Global Diversified	4.1	-0.7	7.5	6.7	4.9	5.7	Dec-16
JP Morgan GBI EM Global Diversified TR USD	3.5	-3.4	6.6	4.1	<i>3.2</i>	4.8	Dec-16

Aberdeen Emerging Markets Bond Fund Fixed Income Characteristics							
vs. JP Morgan EMBI Global TR							
Portfolio Index Portfo							
	Q2-21	Q2-21	Q1-21				
Fixed Income Characteristics							
Yield to Maturity	5.8	3.8	6.1				
Average Duration	6.7	8.0	6.7				
Average Quality	BB	BBB	BB				
Weighted Average Maturity	11.1	12.5	11.1				

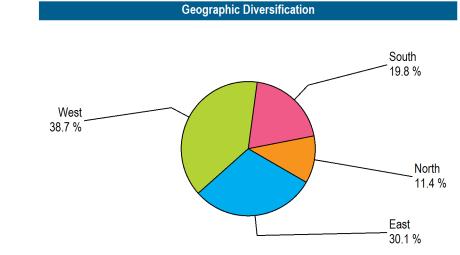


Global Sector Allocation

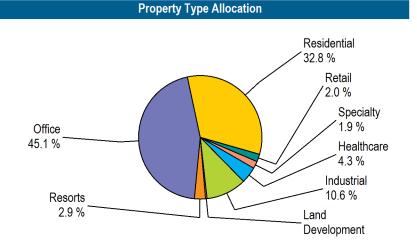


MEKETA

Intercontinental U.S. REIF | As of June 30, 2021



North represents Midwest.

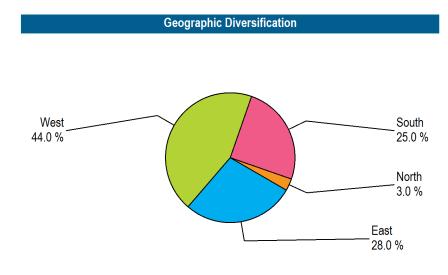


Account Information						
Account Name	Intercontinental U.S. REIF					
Account Structure	Other					
Investment Style	Active					
Inception Date	10/01/14					
Account Type	Real Estate					
Benchmark	NCREIF ODCE (net)					
Universe						

Portfolio Performance Summary							
	QTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	Inception (%)	Inception Date
Intercontinental U.S. REIF	4.4	7.0	8.7	7.7	9.3	10.2	Oct-14
NCREIF ODCE (net)	3.7	5.7	7.1	4.6	5.6	7.3	Oct-14

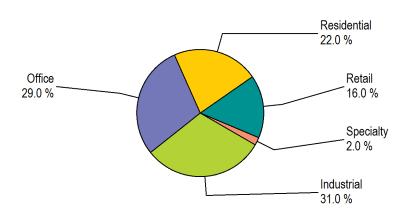
Note: As of June 30, 2021, the number of investments is 137.

AEW Core Property Trust | As of June 30, 2021



North represents Midwest.





F	Portfolio Per	forman	ce Sur	nmary			
	QTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	Inception I (%)	nception Date
AEW Core Property Trust	4.2	6.1	7.6	4.9	5.8	7.5	Oct-14
NCREIF ODCE (net)	3.7	5.7	7.1	4.6	5.6	7.3	Oct-14

Note: As of June 30, 2021, the number of investments is 81.

MEKETA

Universe

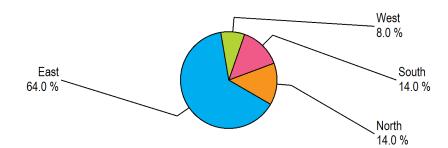
Massachusetts Housing Finance Agency Retirement System

TA Associates Realty Fund X | As of June 30, 2021

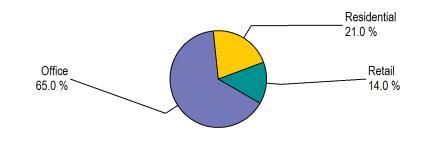
Account Information				
Account Name	TA Associates Realty Fund X			
Account Structure	Other			
Investment Style	Active			
Inception Date	4/01/13			
Account Type	Real Estate			
Benchmark	NCREIF ODCE (net)			
Universe				

	Non-Marketable Securities Overview							
			As of June	30, 2021				
Account Type	Account	Vintage Year	Commitment	Cumulative Takedown	Cumulative Distributions	Value (RV)	Total Value (RV + Dist)	Unfunded Commitment
Real Estate	TA Associates Realty F	und X 2013	\$3,000,000	\$3,000,000	\$4,530,416	\$286,288	\$4,816,704	\$0
	Total Account		\$3,000,000	\$3,000,000	\$4,530,416	\$286,288	\$4,816,704	\$0





Property Type Allocation



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 June 30, 2021, the number of investments is 6 and Net IRR is 12.61%.



Ascent Venture Partners - Fund III | As of June 30, 2021

Account Information				
Account Name	Ascent Venture Partners - Fund III			
Account Structure	Other			
Investment Style	Active			
Inception Date	6/01/01			
Account Type	Private Equity			
Benchmark	Cambridge Associates US All PE (1 Qtr Lag)			
Universe				

		Non-Marke	table Securities	Overview by A	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 III	1999	\$1,500,000	\$1,395,000	\$1,721,907	\$11,746	\$1,733,653	\$105,000
	Total Account		\$1,500,000	\$1,395,000	\$1,721,907	\$11,746	\$1,733,653	\$105,000

Investment Strategy:

Ascent Venture Partners seeks to build private equity portfolios that are balanced with respect to industry (high and low technology ventures), and diverse with respects to company growth stage (from seed through buyout and re-capitalization). Ascent favors proven management teams and reasonable valuations. Ascent has shifted their focus to liquidating the remaining investments in the partnership.



Ascent Venture Partners - Fund IV | As of June 30, 2021

Account Information				
Account Name	Ascent Venture Partners - Fund IV			
Account Structure	Other			
Investment Style	Active			
Inception Date	3/19/04			
Account Type	Private Equity			
Benchmark	Cambridge Associates US All PE (1 Qtr Lag)			
Universe				

		Non-Marke	etable Securities	Overview by A	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 IV	2004	\$1,000,000	\$1,000,000	\$167,055	\$3,555	\$170,610	\$0
	Total Account		\$1,000,000	\$1,000,000	\$167,055	\$3,555	\$170,610	\$0

Investment Strategy:

Located in Boston, Ascent Venture Partners (formerly known as Pioneer Capital) was formed in 1999, after Landmark Partners purchased Pioneer's interest. Ascent focuses primarily on high growth companies in the information technology sector. Ascent is an active investor, typically taking a board seat in portfolio companies. As a result, Ascent has focused its investments in the Eastern United States.



Ascent Venture Partners - Fund V | As of June 30, 2021

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	Cambridge Associates US All PE (1 Qtr Lag)			
Universe				

		Non-Marke	atable Securities	Overview by A	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	\$649,106	\$840,040	\$1,489,145	\$30,000
	Total Account		\$1,000,000	\$970,000	\$649,106	\$840,040	\$1,489,145	\$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.



Ascent Venture Partners - Fund VI | As of June 30, 2021

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	Cambridge Associates US All PE (1 Qtr Lag)				
Universe					

		Non-Marke	table Securities	Overview by A	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	\$1,410,000	\$0	\$1,504,807	\$1,504,807	\$90,000
	Total Account		\$1,500,000	\$1,410,000	\$0	\$1,504,807	\$1,504,807	\$90,000

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.



Goldman Sachs PEP 2005 | As of June 30, 2021

Account Information					
Account Name	Goldman Sachs PEP 2005				
Account Structure	Other				
Investment Style	Active				
Inception Date	8/01/06				
Account Type	Private Equity				
Benchmark	Cambridge Associates US All PE (1 Qtr Lag)				
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	\$2,947,157	\$3,951,495	\$275,127	\$4,226,622	\$52,843
	Total Account		\$3,000,000	\$2,947,157	\$3,951,495	\$275,127	\$4,226,622	\$52,843

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 September 30, 2020, the Net IRR is 4.59%.



HarbourVest Partners VIII | As of June 30, 2021

Account Information				
Account Name	HarbourVest Partners VIII			
Account Structure	Other			
Investment Style	Active			
Inception Date	12/20/07			
Account Type	Private Equity			
Benchmark	Cambridge Associates US All PE (1 Qtr Lag)			
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	\$3,934,263	\$413,566	\$4,347,829	\$75,000
	Total Account		\$2,500,000	\$2,425,000	\$3,934,263	\$413,566	\$4,347,829	\$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.



HarbourVest Partners IX | As of June 30, 2021

Account Information					
Account Name	HarbourVest Partners IX				
Account Structure	Other				
Investment Style	Active				
Inception Date	10/22/13				
Account Type	Private Equity				
Benchmark	Cambridge Associates US All PE (1 Qtr Lag)				
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	\$4,549,494	\$4,178,048	\$8,727,542	\$737,500
	Total Account		\$5,000,000	\$4,262,500	\$4,549,494	\$4,178,048	\$8,727,542	\$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.



HarbourVest X Buyout Fund | As of June 30, 2021

Account Information					
Account Name	HarbourVest X Buyout Fund				
Account Structure	Other				
Investment Style	Active				
Inception Date	4/06/16				
Account Type	Private Equity				
Benchmark	Cambridge Associates US All PE (1 Qtr Lag)				
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	\$3,835,000	\$1,631,664	\$4,686,981	\$6,318,645	\$2,665,000
	Total Account		\$6,500,000	\$3,835,000	\$1,631,664	\$4,686,981	\$6,318,645	\$2,665,000

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.



HarbourVest Partners XI | As of June 30, 2021

Account Information					
Account Name	HarbourVest Partners XI				
Account Structure	Other				
Investment Style	Passive				
Inception Date	7/31/19				
Account Type	Private Equity				
Benchmark	Cambridge Associates US All PE (1 Qtr Lag)				
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 XI	2019	\$5,000,000	\$1,845,000	\$241,033	\$2,237,796	\$2,478,829	\$3,155,000
	Total Account		\$5,000,000	\$1,845,000	\$241,033	\$2,237,796	\$2,478,829	\$3,155,000

Investment Strategy:

HarbourVest Partners, known as Hancock Venture Partners until 1997, was founded in 1982 to invest in private equity partnerships. The HarbourVest Partners 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.



Constitution Capital Partners Ironsides III | As of June 30, 2021

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	Cambridge Associates US All PE (1 Qtr Lag)				
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	\$3,460,763	\$4,035,507	\$5,901,853	\$9,937,361	\$1,539,237
	Total Account		\$5,000,000	\$3,460,763	\$4,035,507	\$5,901,853	\$9,937,361	\$1,539,237

Investment Strategy:



Constitution Capital Partners Ironsides IV | As of June 30, 2021

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	Cambridge Associates US All PE (1 Qtr Lag)				
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	\$1,842,537	\$1,719,397	\$3,015,094	\$4,734,491	\$1,407,463	
	Total Account		\$3,250,000	\$1,842,537	\$1,719,397	\$3,015,094	\$4,734,491	\$1,407,463	

Investment Strategy:



Constitution Capital Partners Ironsides V | As of June 30, 2021

Account Information						
Account Name	Constitution Capital Partners Ironsides V					
Account Structure	Other					
Investment Style	Passive					
Inception Date	3/09/20					
Account Type	Private Equity					
Benchmark	Cambridge Associates US All PE (1 Qtr Lag)					
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	\$495,629	\$0	\$664,058	\$664,058	\$2,004,371	
	Total Account		\$2,500,000	\$495,629	\$0	\$664,058	\$664,058	\$2,004,371	

Investment Strategy:



Constitution Capital Direct IV | As of June 30, 2021

Account Information						
Account Name	Constitution Capital Direct IV					
Account Structure	Other					
Investment Style	Active					
Inception Date	6/30/16					
Account Type	Private Equity					
Benchmark	Cambridge Associates US All PE (1 Qtr Lag)					
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	\$2,714,355	\$3,501,019	\$2,994,951	\$6,495,971	\$535,645	
	Total Account		\$3,250,000	\$2,714,355	\$3,501,019	\$2,994,951	\$6,495,971	\$535,645	

Investment Strategy:



Constitution Capital Direct V | As of June 30, 2021

Account Information						
Account Name	Constitution Capital Direct V					
Account Structure	Other					
Investment Style	Active					
Inception Date	3/27/19					
Account Type	Private Equity					
Benchmark	Cambridge Associates US All PE (1 Qtr Lag)					
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 V	2019	\$2,500,000	\$2,037,060	\$175,938	\$3,658,897	\$3,834,835	\$462,940		
	Total Account		\$2,500,000	\$2,037,060	\$175,938	\$3,658,897	\$3,834,835	\$462,940		

Investment Strategy:



Private Equity Search Finalists

Background

- Despite currently being overweight to private equity (13% versus 12% target), the System must continue to commit to new private equity investments to maintain its allocation and vintage year diversification over time.
 - The Retirement System should commit an average of \$5-\$10 million per year, targeting approximately 1-2 new commitments annually.
- To help execute this strategy, Meketa issued an RFP for middle market buyout PE investments with responses due March 26, 2021.
- Meketa Investment Group received eleven responses; three finalists were selected in the May meeting.
 - The closing date for one of the finalists, Fort Washington, was accelerated, removing them as a realistic investment option for the System.
- The two remaining finalists, Constitution Capital and Harbourvest have come to this meeting to present an overview of their strategies. A brief overview of each manager follows in the next few pages.



Constitution Capital Partners Overview

Constitution Capital Partners						
Firm Location	Andover, MA					
Firm Inception	2008					
Strategy Name	Buyout and Growth Equity Co-Investments					
Strategy Inception	2011					
Assets Under Management (Firm)	\$4.2 billion					

Organization

- Established in 2008, Constitution Capital Partners ("CCP" or "the Firm") is an alternative asset manager focused on private equity and private credit investments.
- Prior to its inception, CCP's private equity team managed the North American private equity operations of Standard life Investments, where they focused on middle market buyout primary fund and direct investing.
- CCP's private equity program is comprised of two strategies primary fund investing and direct co-investing which are executed through separate and dedicated investment vehicles.
- Since its inception, the Firm has screened more than 875 co-investment opportunities, and committed approximately \$1.8 billion to 89 co-investments.



Constitution Capital Partners

Investment Team

- CCP's private equity team is comprised of 13 investment professionals, including two Managing Partners and four Partners.
- These investment professionals are responsible for executing both the Firm's primary fund investment strategy, as well as its direct co-investment strategy.
- CCP's senior investment professionals have worked together for an average of 24 years, dating back to their tenure at Standard Life Investments.



Private Equity Search Finalists

Constitution Capital Partners Track Record¹ As of September 30, 2020

Fund	Vintage Year	Fund Size (\$mm)	Invested (\$mm)	Realized (\$mm)	TVPI ²	Net IRR (%)	IRR Upper Quartile ³	IRR Median ²	Quartile Ranking
Ironsides II	2011	100	103.3	161.2	1.5	15.5	19.7	14.4	2nd
Ironsides III	2014	100	111.4	85.3	1.8	20.3	20.4	17.3	2nd
Ironsides IV	2016	100	90.9	27.9	1.6	22.9	19.4	15.9	1st
Ironsides V	2018	100	48.7	0.1	1.3	24.9	16.6	15.1	1st

¹ Simulated Track Record (assuming 50/50 allocation to the Partnership vehicle and Co-investment vehicle).

² TVPI: Total Value to Paid-In ratio (a realization ratio). The TVPI is the total of the net asset value and distributions, as compared to contributed capital.

 $^{^3}$ Cambridge Associates Global Funds-of-Funds Benchmark (As of September 30, 2020).



Constitution Capital Partners (Ironsides Partnership Fund VI/Co-Investment Fund VI) Summary

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funds and get), which nvestment are made es. th a range ed private revenues and have
p quartile
r 0.25% on nent Fund. 5% carried



HarbourVest Partners Overview

HarbourVest Partners							
Firm Location	Boston, MA						
Firm Inception	1982						
Strategy Name	Buyout and Growth Equity Co-Investments						
Strategy Inception	1983						
Asset Under Management (Firm)	\$76.2 billion						

Organization

- HarbourVest Partners ("HVP" or "the Firm") launched its first institutional private equity fund-of-funds vehicle in 1982.
- In 1983, HVP made its first direct co-investment, and began expanding its investment reach into Europe and Asia in 1984.
- HVP now manages more than \$76 billion across its private equity primary and secondary funds-of-funds, direct co-investment, and private credit platforms.
- Today, the Firm employs more than 700 professionals (150 investment professionals) across offices in Boston, Hong Kong, London, Tokyo, Bogota, Beijing, Seoul, Tel Aviv, Toronto, Singapore, Dublin, and Frankfurt.



HarbourVest Partners Investment Team

- The investment team is led by 17 senior investment professionals, including seven Managing Directors and ten Principals.
- The team's Managing Directors average 16 years working together at the Firm, and average 20 years total experience.
- The direct co-investment team will continue to leverage the investment professionals on the Firm's primary fund investment team to gain access to co-investment opportunities brought forth by its network of GPs.

Private Equity Search Finalists

HarbourVest Partners Track Record As of September 30, 2020

Fund ¹	Vintage Year	Fund Size (\$mm)	# of Commitments	Invested (\$mm)	TVPI ²	Net IRR (%)	IRR Upper Quartile ³	IRR Median²	Quartile Ranking
Fund V – Partnership	1996	707.1	49	706.0	1.7	15.3	NA	NA	NA
Fund VI – Partnership	1999	3,030.3	91	3,100.0	1.3	3.6	9.3	3.6	2nd
Fund VI – Buyout	1999	1,084.8	19	1,041.0	1.8	12.1	9.3	3.6	1st
Fund VII – Venture	2003	2,020.2	45	2,140.4	1.6	6.9	11.0	9.2	4th
Fund VII – Buyout	2003	2.,020.2	35	2,051.5	1.7	8.9	11.0	9.2	3rd
Fund VII – Mezzanine	2003	428.4	14	444.8	1.5	6.4	11.0	9.2	4th
Fund VIII – Venture	2006	2,084.6	50	2,130.1	2.0	10.9	10.5	6.9	1st
Fund VIII – Buyout	2006	2,937.9	33	2,849.5	1.8	10.5	10.5	6.9	1st
Fund VIII – Mezzanine	2006	485.1	18	475.1	1.4	6.9	10.5	6.9	2nd
Fund IX – Venture	2011	1,149.2	42	1,110.6	2.5	21.3	19.7	14.4	1st
Fund IX – Buyout	2011	1,402.6	32	1,248.2	1.8	18.1	19.7	14.4	2nd
Fund IX – Credit	2011	246.0	12	198.1	1.5	11.9	19.7	14.4	Зrd

¹ Fund IX Combined, Fund X Combined, and Fund XI Combined are feeder funds into the relevant Buyout, Venture, Credit, and Micro Buyout Funds.

² TVPI: Total Value to Paid-In ratio (a realization ratio). The TVPI is the total of the net asset value and distributions, as compared to contributed capital.

³ Cambridge Associates Global Funds-of-Funds Benchmark (As of September 30, 2020).

MEKETA

Massachusetts Housing Finance Agency Retirement System

Private Equity Search Finalists

Fund ¹	Vintage Year	Fund Size (\$mm)	# of Commitments	Invested (\$mm)	TVPI	Net IRR (%)	IRR Upper Quartile²	IRR Median ²	Quartile Ranking
Fund IX – Combined	2011	537.3	86	485.9	2.0	18.5	19.7	14.4	2nd
Fund X – Venture	2015	743.1	48	612.0	1.8	27.4	20.8	15.9	1st
Fund X – Buyout	2015	1,181.5	33	753.6	1.5	22.5	20.8	15.9	1st
Fund X – Combined	2015	423.4	81	291.0	1.6	24.3	20.8	15.9	1st
Fund XI – Venture	2018	904.6	57	352.2	1.2	42.8	16.6	15.0	1st
Fund XI – Buyout	2018	1,513.2	29	466.3	1.2	33.8	16.6	15.0	1st
Fund XI – Micro Buyout	2018	220.1	8	57.1	1.1	18.0	16.6	15.0	1st
Fund XI - Combined	2018	858.5	94	285.6	1.2	33.2	16.6	15.0	1st

¹ Fund IX Combined, Fund X Combined, and Fund XI Combined are feeder funds into the relevant Buyout, Venture, Credit, and Micro Buyout Funds.

 $^{^2}$ Cambridge Associates Global Funds-of-Funds Benchmark (As of September 30, 2020).



Private Equity Search Finalists

HarbourVest Partners (HarbourVest Partners Fund XII Combined Program) Summary

Rating Criteria	Score	Rationale
Overall	Highly Advantageous	 HarbourVest Partners is managed by a well-resourced and experienced investment team that has implemented a consistent strategy with performance consistently ranking top quartile.
Organization	Highly Advantageous	 Having launched its first fund in 1983, HarbourVest is a global, 100% employee-owned private markets investment manager. The Firm is headquartered in Boston, and maintains offices in Toronto, Bogota, Dublin, London, Tel Aviv, Beijing, Seoul, Tokyo, and Hong Kong. As of the end of 2020, HarbourVest had \$71.7 billion of assets under management across its private equity primary funds-of-funds, secondary funds, direct co-investment funds, as well as its private credit platform.
Team	Highly Advantageous	 The U.S. Primary team is comprised of 24 investment professionals, including nine Managing Directors with an average tenure of 16 years at the Firm. This team is supported by 14 non-U.S. professionals, 54 global secondary and co-investment professionals, and a 14 member quantitative investment science team. The Firm has had six Managing Directors depart the firm in the last five years, five of whom have transitioned to Senior Advisors roles, and one who departed for personal reasons.
Investment Philosophy & Process	Highly Advantageous	 HarbourVest Fund XII will construct a diversified portfolio of primary (70% of invested capital), secondary (20% of invested capital) and direct co-investments (10% of invested capital), with a primary focus on North American opportunities. At its \$2.0 billion target, the Fund expects to invest \$1.0 billion in buyout related opportunities (approx. 25 funds), \$700 million in venture/growth related opportunities (approx. 25 funds), and \$300 million in micro buyout opportunities (approx. 15 funds, defined as managers raising sub-\$500 million funds). The combined allocation will provide 60% buyout exposure, 30% venture exposure, and 10% micro buyout exposure, though the investor may choose how their commitment is allocated.
Performance [,]	Highly Advantageous	 Across 19 mature and maturing portfolios, 11 funds have generated top quartile returns, four funds have generated second quartile returns, two funds have generated third quartile returns, and two funds have generated fourth quartile returns. Of funds raised since 2010 with meaningful performance, nine funds have generated top quartile returns, two funds have generated second quartile returns, and one fund has generated third quartile returns.
Fees	Advantageous	 Terms: 0.75% average annual management fee based on capital commitments over the life of the fund; no preferred return; no carried interest on primary fund investments, 10% carried interest on secondary investments, 10% carried interest on direct co-investments.

¹ Please refer to the Detailed Performance for Managers section for more information on performance benchmarking criteria.

Appendices

MEKETA

Economic and Market Update

Data as of June 30, 2021



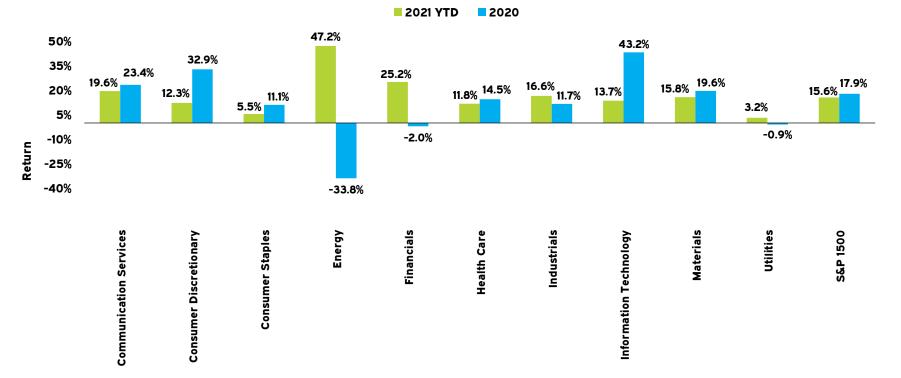
Indices	June	YTD	1 Year	3 Year	5 Year	10 Year
S&P 500	2.3%	15.3%	40.8%	18.7%	17.7%	14.8%
MSCI EAFE	-1.1%	8.8%	32.4%	8.3%	10.3%	5.9%
MSCI Emerging Markets	0.2%	7.5%	40.9%	11.3%	13.0%	4.3%
MSCI China	0.1%	1.8%	27.4%	10.4%	16.6%	7.7%
Bloomberg Barclays Aggregate	0.7%	-1.6%	-0.3%	5.3%	3.0%	3.4%
Bloomberg Barclays TIPS	0.6%	1.7%	6.5%	6.5%	4.2%	3.4%
Bloomberg Barclays High Yield	1.3%	3.6%	15.4%	7.5%	7.5%	6.7%
10-year US Treasury	1.3%	-4.2%	-7.1%	5.9%	1.8%	3.7%
30-year US Treasury	4.3%	-13.0%	-13.8%	8.2%	2.9%	7.0%

Market Returns¹

- So far this year, global risk assets continue to appreciate, leading to significant gains over the trailing year. This has largely been driven by record fiscal and monetary policy stimulus and positive developments with the COVID-19 vaccine.
- In June, Treasuries continued to recover, particularly longer dated issues, as inflation concerns declined.
- Equity markets had mixed results in June with the US leading the way. A stronger US dollar and continued vaccine rollout struggles weighed on international equity markets.

¹ Source: Investment Metrics and Bloomberg. Data is as of June 30, 2021.





Sector Returns¹

• Despite growth's recovery in June, cyclical sectors like energy and financials continue to lead the way in 2021, as some investors rotate out of stay-at-home focused companies in the technology sector as the economy reopens.

¹ Source: Bloomberg. Data is as of June 30, 2021.



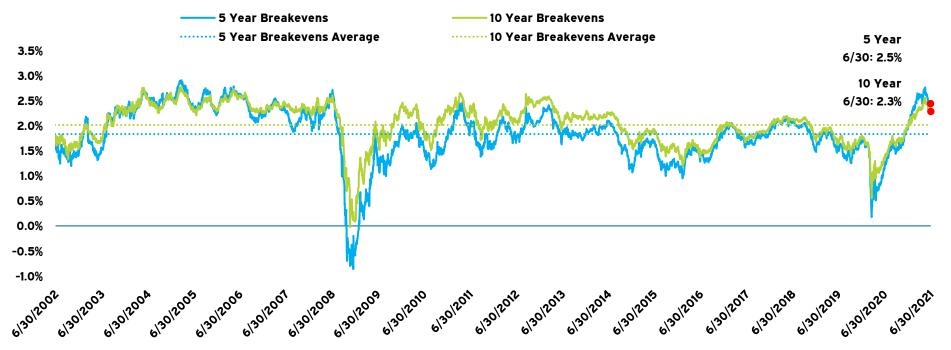




- Overall for 2021, the yield curve steepened on inflation fears related to gradual signs of economic improvement given the vaccine rollout.
- Shorter-dated rates have been largely unmoved given Fed policy, while longer-dated rates recently declined from their peak as investors consider whether inflationary pressures have topped.
- Looking ahead, the yield curve could resume its steepening if growth and inflation pressures build beyond current expectations. Alternatively, if the economy weakens, or if economic progress is simply accelerated versus the prior expectations, the flattening trend could continue.

¹ Source: Bloomberg. Data is as of June 30, 2021.



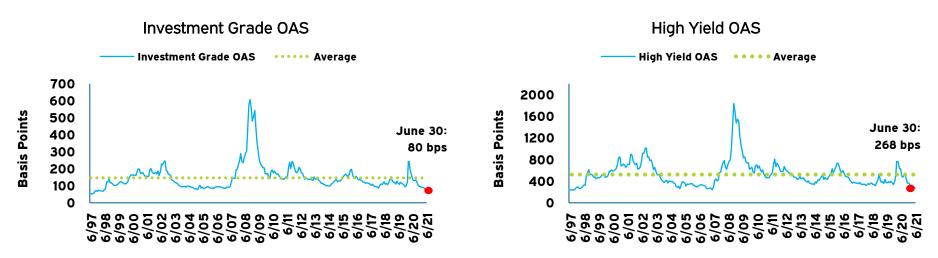


Breakeven Inflation¹

- In 2021, inflation expectations remain well above long-term averages, with the vaccine roll-out, high raw material prices, and expected additional fiscal stimulus as key drivers.
- Recently though, inflation expectations declined from their highs as base effects wane, growth forecasts moderate, and cost pressures slow.
- Looking forward, the track of economic growth and the inflationary effects of the unprecedented US fiscal response will be key issues. Additionally, changes to Fed policy focused on an average inflation target may play a role in the inflation market dynamics.

¹ Source: Bloomberg. Data is as of June 30, 2021.



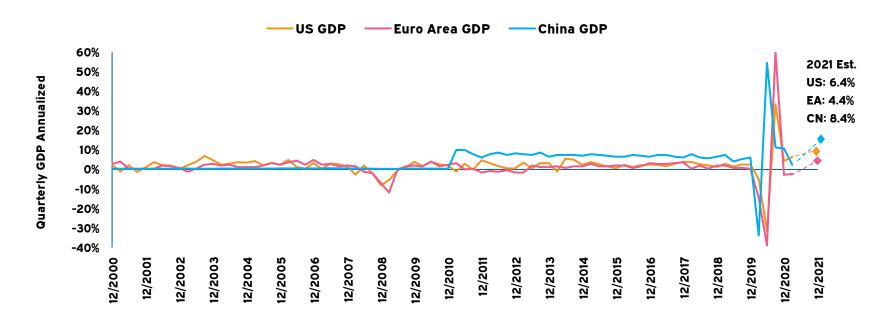


Credit Spreads (High Yield & Investment Grade)¹

- Credit spreads (the spread above a comparable maturity Treasury) for investment-grade and high yield corporate debt continued to compress in June.
- Policy support and the search for yield in a low, and in some cases negative, rate environment have been key drivers in the decline in US credit spreads to below long-term averages, particularly for high yield.

¹ Source: Barclays Live. Data represents OAS and is as of June 30, 2021.



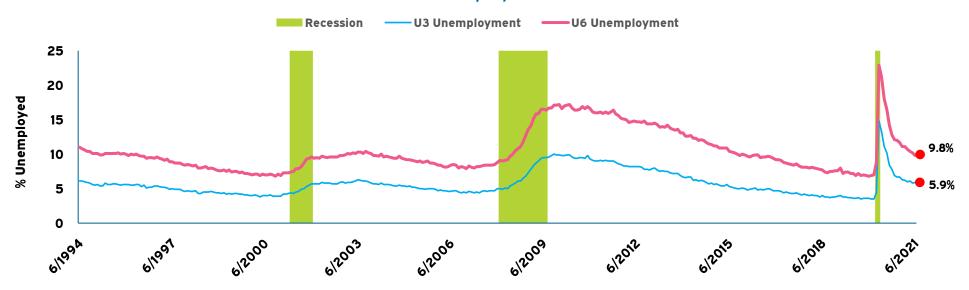


GDP Data Shows Projected Improvements in 2021¹

- Major economies experienced historic declines in growth during the second quarter of 2020, followed by record increases in the third quarter driven by pent-up demand from the lockdown measures earlier in the year.
- Looking forward, strong growth is expected in 2021 particularly for China, projected to grow at an impressive 8.4%, due in part to their ability to quickly control the virus and reopen their economy.
- The US is expected to grow faster than the euro area this year, with some growth pulled forward due to the success in distributing the vaccine.

¹ Source: Bloomberg, and IMF; Euro Area and China figures annualized by Meketa. Projections via April 2021 IMF World Economic Outlook and represent annual numbers.





US Unemployment¹

- The unemployment rate (U3) rose slightly in June from 5.8% to 5.9% and remains well above pre-pandemic levels, but far below the pandemic peak.
- The broader measure of unemployment (U6) that includes discouraged and underemployed workers continues to decline, but remains much higher at 9.8%.
- Pandemic related concerns, childcare issues, and a mismatch of skills and available jobs have all contributed to slack in the labor market.

¹ Source: Bloomberg. Data is as of June 30, 2021. Bars represent recessions as observed by the National Bureau of Economic Research.



Corporate Update

Meketa Investment Group Corporate Update

MEKETA

- Staff of 221, including 147 investment professionals and 44 CFA Charterholders
- More than 220 clients, with over 350 funds throughout the United States
- Significant investment in staff and resources
- Offices in Boston, Chicago, Miami, New York, Portland (OR), San Diego, and London
- We advise on \$1.6 trillion in client assets

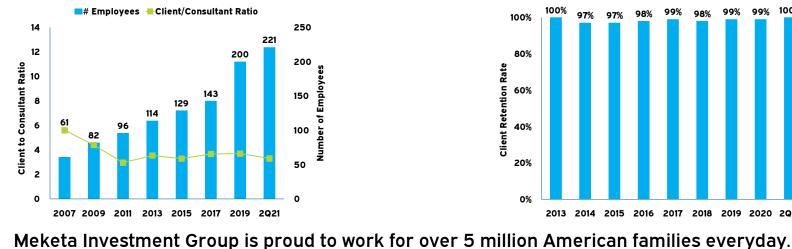
Over \$125 billion in assets committed to alternative investments _

¹ On March 15, 2019, 31 employees joined the firm as part of the merger of Meketa Investment Group and Pension Consulting Alliance.

² Client Retention Rate is one minus the number of clients lost divided by the number of clients at prior year-end.

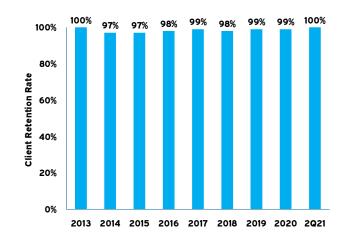
- Private Equity
 - Infrastructure Hedge Funds
 - **Real Estate**





Natural Resources

Commodities



Client Retention Rate²

Corporate Update



Domestic	International	Private	Real	Fixed	Hedge
Equities	Equities	Equity	Assets	Income	Funds
Passive Enhanced Index Large Cap Midcap Small Cap Microcap 130/30	 Large Cap Developed Small Cap Developed Emerging Markets Frontier Markets 	 Buyouts Venture Capital Private Debt Special Situations Secondaries Fund of Funds 	 Public REITs Core Real Estate Value Added Real Estate Opportunistic Real Estate Infrastructure Timber Natural Resources Commodities 	 Short-Term Core Core Plus TIPS High Yield Bank Loans Distressed Global Emerging Markets 	 Long/Short Equity Event Driven Relative Value Fixed Income Arbitrage Multi Strategy Market Neutra Global Macro Fund of Funds Portable Alpha



Disclaimer, Glossary, and Notes



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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.



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.

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%.

5% (discount) = 5 (yrs. to maturity)

1% pro rata, plus 5.26% (current yield)

6.26% (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.