

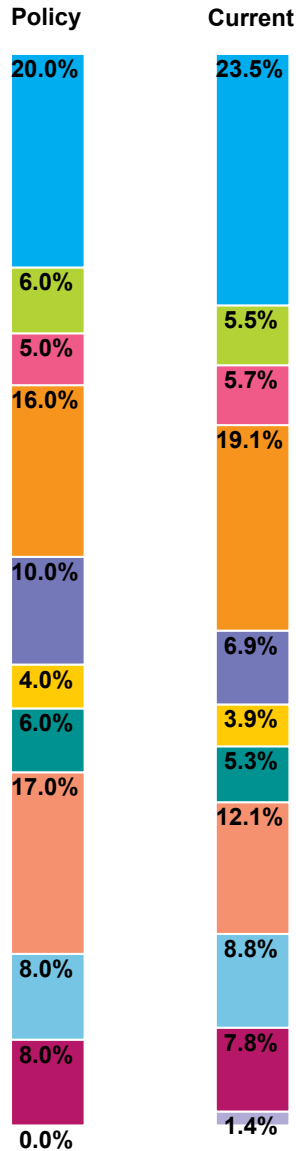
Massachusetts Housing Finance Agency Retirement System

February 11, 2025

2024 Q4 Review

Fourth Quarter 2024 Performance Review

Asset Allocation Compliance | As of December 31, 2024



Allocation vs. Targets							
	Balance (\$)	Current Allocation (%)	Policy (%)	Difference (%)	Policy Range (%)	Within IPS Range?	
US Equity	59,666,251	23	20	3	15 - 25	Yes	
Developed Market Equity	13,933,130	5	6	-1	2 - 10	Yes	
Emerging Market Equity	14,578,208	6	5	1	0 - 15	Yes	
Investment Grade Bonds	48,555,400	19	16	3	11 - 21	Yes	
TIPS	17,472,885	7	10	-3	5 - 15	Yes	
Emerging Market Bonds	9,811,848	4	4	0	1 - 7	Yes	
High Yield Bonds	13,538,403	5	6	-1	3 - 9	Yes	
Private Equity	30,775,877	12	17	-5	12 - 22	Yes	
Real Estate	22,364,345	9	8	1	5 - 11	Yes	
Infrastructure	19,778,200	8	8	0	5 - 12	Yes	
Cash	3,477,742	1	0	1	0 - 5	Yes	
Total	253,952,289	100	100	0			

Asset Allocation & Performance | As of December 31, 2024

Asset Class Performance Summary									
	Market Value \$	% of Portfolio	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Total Retirement System	253,952,289	100.0	-0.7	7.8	3.1	7.8	7.2	6.2	Jul-01
<i>60% MSCI ACWI / 40% Barclays Global Aggregate</i>			<i>-2.6</i>	<i>9.5</i>	<i>1.5</i>	<i>5.3</i>	<i>5.7</i>	<i>5.9</i>	
<i>InvMetrics Public DB \$50mm-\$250mm Median</i>			<i>-0.8</i>	<i>11.1</i>	<i>3.0</i>	<i>7.2</i>	<i>7.3</i>	<i>6.2</i>	
Total Retirement System Rank			49	95	41	26	56	52	
Domestic Equity Assets	59,666,251	23.5	2.5	22.8	7.7	13.7	12.4	8.8	Jul-01
<i>Russell 3000 Index</i>			<i>2.6</i>	<i>23.8</i>	<i>8.0</i>	<i>13.9</i>	<i>12.5</i>	<i>9.0</i>	
<i>eV US Large Cap Equity Median</i>			<i>0.6</i>	<i>19.0</i>	<i>7.0</i>	<i>12.2</i>	<i>11.2</i>	<i>8.8</i>	
Domestic Equity Assets Rank			33	38	41	35	35	52	
Total International Developed Market Equity	13,933,130	5.5	-8.1	3.5	0.3	4.1	5.4	5.8	Jul-01
<i>MSCI EAFE (Net)</i>			<i>-8.1</i>	<i>3.8</i>	<i>1.6</i>	<i>4.7</i>	<i>5.2</i>	<i>5.2</i>	
<i>eV EAFE Core Equity Median</i>			<i>-7.5</i>	<i>4.6</i>	<i>1.0</i>	<i>4.8</i>	<i>5.4</i>	<i>5.9</i>	
Total International Developed Market Equity Rank			65	60	61	67	54	55	
International Emerging Market Equity Assets	14,578,208	5.7	-6.3	7.7	3.4	6.3	4.5	2.6	Jul-07
<i>MSCI Emerging Markets (Net)</i>			<i>-8.0</i>	<i>7.5</i>	<i>-1.9</i>	<i>1.7</i>	<i>3.6</i>	<i>2.5</i>	
<i>eV Emg Mkts Equity Median</i>			<i>-7.0</i>	<i>7.0</i>	<i>-0.9</i>	<i>3.0</i>	<i>4.2</i>	<i>3.0</i>	
International Emerging Market Equity Assets Rank			37	42	15	19	41	68	
Investment Grade Bond Assets	48,555,400	19.1	-3.0	2.1	-1.8	0.7	1.9	3.8	Jul-01
<i>Blmbg. U.S. Aggregate Index</i>			<i>-3.1</i>	<i>1.3</i>	<i>-2.4</i>	<i>-0.3</i>	<i>1.3</i>	<i>3.6</i>	
<i>eV US Core Fixed Inc Median</i>			<i>-3.0</i>	<i>1.7</i>	<i>-2.2</i>	<i>0.0</i>	<i>1.6</i>	<i>3.8</i>	
Investment Grade Bond Assets Rank			59	31	19	10	16	52	
High Yield Bond Assets	13,538,403	5.3	0.3	8.8	2.0	4.0	4.9	5.9	Feb-05
<i>Credit Suisse High Yield Index</i>			<i>0.3</i>	<i>7.9</i>	<i>3.1</i>	<i>4.0</i>	<i>5.0</i>	<i>6.2</i>	
<i>eV US High Yield Fixed Inc Median</i>			<i>0.2</i>	<i>7.6</i>	<i>2.9</i>	<i>3.9</i>	<i>4.7</i>	<i>5.9</i>	
High Yield Bond Assets Rank			46	17	86	42	35	54	

Asset Allocation & Performance | As of December 31, 2024

	Market Value \$	% of Portfolio	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
TIPS Assets	17,472,885	6.9	-2.9	1.9	-2.3	1.8	2.2	3.5	Jul-07
<i>Blmbg. U.S. TIPS Index</i>			-2.9	1.8	-2.3	1.9	2.2	3.5	
<i>eV US TIPS / Inflation Fixed Inc Median</i>			-2.9	2.1	-2.2	1.9	2.3	3.4	
TIPS Assets Rank			63	61	60	56	68	40	
Emerging Market Debt Assets	9,811,848	3.9	-1.9	6.3	0.7	0.7	1.5	-0.6	Mar-13
<i>50% JPM EMBI GD / 50% JPM GBI-EM</i>			-4.5	2.0	-0.9	-0.8	1.8	1.0	
Real Estate Assets	22,364,345	8.8	0.3	-1.6	-1.7	2.6	6.0	5.3	Apr-05
<i>NCREIF ODCE (Net)</i>			1.0	-2.3	-3.1	2.0	4.9	5.4	
Private Equity Assets	30,775,877	12.1	1.2	0.0	4.7	16.0	12.7	8.5	Oct-03
<i>Preqin Private Equity 1Q Lagged</i>			0.0	4.7	5.1	14.5	13.7	13.1	
Infrastructure Assets	19,778,200	7.8	2.5	6.2	7.6	8.6	--	9.6	Oct-18
<i>CPI +3% (Unadjusted)</i>			0.8	6.0	7.3	7.3	6.1	6.7	
Cash	3,477,742	1.4							

Asset Allocation & Performance | As of December 31, 2024

	Trailing Net Performance								
	Market Value \$	% of Portfolio	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Total Retirement System	253,952,289	100.0	-0.7	7.8	3.1	7.8	7.2	6.2	Jul-01
<i>60% MSCI ACWI / 40% Barclays Global Aggregate</i>			<i>-2.6</i>	<i>9.5</i>	<i>1.5</i>	<i>5.3</i>	<i>5.7</i>	<i>5.9</i>	
<i>InvMetrics Public DB \$50mm-\$250mm Median</i>			<i>-0.8</i>	<i>11.1</i>	<i>3.0</i>	<i>7.2</i>	<i>7.3</i>	<i>6.2</i>	
<i>Total Retirement System Rank</i>			<i>49</i>	<i>95</i>	<i>41</i>	<i>26</i>	<i>56</i>	<i>52</i>	
Domestic Equity Assets	59,666,251	23.5	2.5	22.8	7.7	13.7	12.4	8.8	Jul-01
<i>Russell 3000 Index</i>			<i>2.6</i>	<i>23.8</i>	<i>8.0</i>	<i>13.9</i>	<i>12.5</i>	<i>9.0</i>	
<i>eV US Large Cap Equity Median</i>			<i>0.6</i>	<i>19.0</i>	<i>7.0</i>	<i>12.2</i>	<i>11.2</i>	<i>8.8</i>	
<i>Domestic Equity Assets Rank</i>			<i>33</i>	<i>38</i>	<i>41</i>	<i>35</i>	<i>35</i>	<i>52</i>	
SSgA Russell 1000 Value Index-NL	25,344,056	10.0	-2.0	14.4	5.6	8.6	8.4	7.8	Jan-05
<i>Russell 1000 Value Index</i>			<i>-2.0</i>	<i>14.4</i>	<i>5.6</i>	<i>8.7</i>	<i>8.5</i>	<i>7.9</i>	
<i>eV US Large Cap Value Equity Median</i>			<i>-1.6</i>	<i>14.2</i>	<i>6.5</i>	<i>9.8</i>	<i>9.1</i>	<i>8.3</i>	
<i>SSgA Russell 1000 Value Index-NL Rank</i>			<i>62</i>	<i>49</i>	<i>63</i>	<i>69</i>	<i>70</i>	<i>72</i>	
SSgA Russell 1000 Growth-NL	29,769,541	11.7	7.1	33.3	10.5	18.9	16.7	13.0	Jul-07
<i>Russell 1000 Growth Index</i>			<i>7.1</i>	<i>33.4</i>	<i>10.5</i>	<i>19.0</i>	<i>16.8</i>	<i>13.1</i>	
<i>eV US Large Cap Growth Equity Median</i>			<i>4.9</i>	<i>28.7</i>	<i>7.6</i>	<i>15.7</i>	<i>14.4</i>	<i>11.6</i>	
<i>SSgA Russell 1000 Growth-NL Rank</i>			<i>19</i>	<i>24</i>	<i>16</i>	<i>10</i>	<i>7</i>	<i>9</i>	
SSgA Russell 2000 Index-NL	4,552,654	1.8	0.3	11.5	1.3	7.4	7.8	10.4	Aug-10
<i>Russell 2000 Index</i>			<i>0.3</i>	<i>11.5</i>	<i>1.2</i>	<i>7.4</i>	<i>7.8</i>	<i>10.4</i>	
<i>eV US Small Cap Core Equity Median</i>			<i>0.3</i>	<i>11.6</i>	<i>2.4</i>	<i>9.5</i>	<i>8.8</i>	<i>11.4</i>	
<i>SSgA Russell 2000 Index-NL Rank</i>			<i>51</i>	<i>52</i>	<i>68</i>	<i>81</i>	<i>79</i>	<i>81</i>	

Asset Allocation & Performance | As of December 31, 2024

	Market Value \$	% of Portfolio	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Total International Developed Market Equity	13,933,130	5.5	-8.1	3.5	0.3	4.1	5.4	5.8	Jul-01
<i>MSCI EAFE (Net)</i>			-8.1	3.8	1.6	4.7	5.2	5.2	
eV EAFE Core Equity Median			-7.5	4.6	1.0	4.8	5.4	5.9	
Total International Developed Market Equity Rank			65	60	61	67	54	55	
SSgA MSCI EAFE Index-NL	10,894,942	4.3	-8.1	4.0	1.9	5.0	5.5	6.1	Aug-10
<i>MSCI EAFE (Net)</i>			-8.1	3.8	1.6	4.7	5.2	5.8	
eV EAFE Core Equity Median			-7.5	4.6	1.0	4.8	5.4	6.5	
SSgA MSCI EAFE Index-NL Rank			65	56	38	45	48	74	
SSgA MSCI EAFE Small Cap Index-NL	3,038,188	1.2	-8.3	1.8	-3.0	2.3	5.5	6.8	Aug-10
<i>MSCI EAFE Small Cap (Net)</i>			-8.4	1.8	-3.2	2.3	5.5	6.8	
eV EAFE Small Cap Core Median			-8.2	2.0	-2.8	3.3	6.1	7.4	
SSgA MSCI EAFE Small Cap Index-NL Rank			57	53	52	65	66	64	
International Emerging Market Equity Assets	14,578,208	5.7	-6.3	7.7	3.4	6.3	4.5	2.6	Jul-07
<i>MSCI Emerging Markets (Net)</i>			-8.0	7.5	-1.9	1.7	3.6	2.5	
eV Emg Mkts Equity Median			-7.0	7.0	-0.9	3.0	4.2	3.0	
International Emerging Market Equity Assets Rank			37	42	15	19	41	68	
GQG Partners Emerging Markets	10,578,208	4.2	-6.3	7.7	3.4	7.8	--	8.5	Apr-19
<i>MSCI Emerging Markets (Net)</i>			-8.0	7.5	-1.9	1.7	3.6	2.8	
eV Emg Mkts Equity Median			-7.0	7.0	-0.9	3.0	4.2	4.1	
GQG Partners Emerging Markets Rank			38	43	15	11	--	11	
ABS Emerging Markets	4,000,000	1.6							
<i>MSCI Emerging Markets (Net)</i>			-8.0	7.5	-1.9	1.7	3.6	--	
eV Emg Mkts Equity Median			-7.0	7.0	-0.9	3.0	4.2	--	
ABS Emerging Markets Rank			--	--	--	--	--	--	

Asset Allocation & Performance | As of December 31, 2024

	Market Value \$	% of Portfolio	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Investment Grade Bond Assets	48,555,400	19.1	-3.0	2.1	-1.8	0.7	1.9	3.8	Jul-01
<i>Blmbg. U.S. Aggregate Index</i>			-3.1	1.3	-2.4	-0.3	1.3	3.6	
eV US Core Fixed Inc Median			-3.0	1.7	-2.2	0.0	1.6	3.8	
Investment Grade Bond Assets Rank			59	31	19	10	16	52	
Longfellow Investment Grade Bond	48,555,400	19.1	-3.0	2.1	-1.8	0.7	--	1.6	Sep-17
<i>Blmbg. U.S. Aggregate Index</i>			-3.1	1.3	-2.4	-0.3	1.3	0.9	
eV US Core Fixed Inc Median			-3.0	1.7	-2.2	0.0	1.6	1.2	
Longfellow Investment Grade Bond Rank			59	31	19	10	--	11	
High Yield Bond Assets	13,538,403	5.3	0.3	8.8	2.0	4.0	4.9	5.9	Feb-05
<i>Credit Suisse High Yield Index</i>			0.3	7.9	3.1	4.0	5.0	6.2	
eV US High Yield Fixed Inc Median			0.2	7.6	2.9	3.9	4.7	5.9	
High Yield Bond Assets Rank			46	17	86	42	35	54	
Lord Abbett High Yield Core	13,538,403	5.3	0.3	8.8	2.0	4.1	--	4.4	Jul-19
<i>Blmbg. U.S. Corp: High Yield Index</i>			0.2	8.2	2.9	4.2	5.2	4.6	
eV US High Yield Fixed Inc Median			0.2	7.6	2.9	3.9	4.7	4.2	
Lord Abbett High Yield Core Rank			46	17	86	42	--	41	

Asset Allocation & Performance | As of December 31, 2024

	Market Value \$	% of Portfolio	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
TIPS Assets	17,472,885	6.9	-2.9	1.9	-2.3	1.8	2.2	3.5	Jul-07
<i>Blmbg. U.S. TIPS Index</i>			<i>-2.9</i>	<i>1.8</i>	<i>-2.3</i>	<i>1.9</i>	<i>2.2</i>	<i>3.5</i>	
<i>eV US TIPS / Inflation Fixed Inc Median</i>			<i>-2.9</i>	<i>2.1</i>	<i>-2.2</i>	<i>1.9</i>	<i>2.3</i>	<i>3.4</i>	
TIPS Assets Rank			63	61	60	56	68	40	
SSgA TIPS-NL	17,472,885	6.9	-2.9	1.9	-2.3	1.8	2.2	3.4	Jul-07
<i>Blmbg. U.S. TIPS Index</i>			<i>-2.9</i>	<i>1.8</i>	<i>-2.3</i>	<i>1.9</i>	<i>2.2</i>	<i>3.5</i>	
<i>eV US TIPS / Inflation Fixed Inc Median</i>			<i>-2.9</i>	<i>2.1</i>	<i>-2.2</i>	<i>1.9</i>	<i>2.3</i>	<i>3.4</i>	
SSgA TIPS-NL Rank			63	61	61	57	71	45	
Emerging Market Debt Assets	9,811,848	3.9	-1.9	6.3	0.7	0.7	1.5	-0.6	Mar-13
<i>50% JPM EMBI GD / 50% JPM GBI-EM</i>			<i>-4.5</i>	<i>2.0</i>	<i>-0.9</i>	<i>-0.8</i>	<i>1.8</i>	<i>1.0</i>	
Metlife Emerging Markets Debt	3,476,844	1.4	-3.0	4.0	0.5	0.8	--	2.7	Nov-16
<i>MetLife Custom Benchmark</i>			<i>-3.1</i>	<i>3.9</i>	<i>-0.2</i>	<i>0.4</i>	<i>2.7</i>	<i>2.2</i>	
Aberdeen Emerging Markets Bond Fund	6,335,003	2.5	-1.2	7.8	0.8	0.6	--	2.7	Dec-16
<i>JPM EMBI Global Diversified</i>			<i>-1.9</i>	<i>6.5</i>	<i>-0.9</i>	<i>0.1</i>	<i>3.1</i>	<i>2.7</i>	
Real Estate Assets	22,364,345	8.8	0.3	-1.6	-1.7	2.6	6.0	5.3	Apr-05
<i>NCREIF ODCE (Net)</i>			<i>1.0</i>	<i>-2.3</i>	<i>-3.1</i>	<i>2.0</i>	<i>4.9</i>	<i>5.4</i>	
Intercontinental U.S. REIF	8,973,641	3.5	0.4	-5.0	-5.0	0.8	5.1	5.3	Oct-14
<i>NCREIF ODCE (Net)</i>			<i>1.0</i>	<i>-2.3</i>	<i>-3.1</i>	<i>2.0</i>	<i>4.9</i>	<i>5.1</i>	
AEW Core Property Trust	9,130,583	3.6	0.5	-1.2	-1.5	3.0	5.3	5.5	Oct-14
<i>NCREIF ODCE (Net)</i>			<i>1.0</i>	<i>-2.3</i>	<i>-3.1</i>	<i>2.0</i>	<i>4.9</i>	<i>5.1</i>	
AEW Partners IX, L.P.	4,260,121	1.7	-0.4	5.9	6.0	--	--	-3.2	Apr-21
<i>NCREIF ODCE (Net)</i>			<i>1.0</i>	<i>-2.3</i>	<i>-3.1</i>	<i>2.0</i>	<i>4.9</i>	<i>2.1</i>	

AEW Core Property Trust market value is preliminary as of 12/31/2024.
 AEW Partners IX, L.P. market value is as of 9/30/2024 adjusted for subsequent cash flows.

Asset Allocation & Performance | As of December 31, 2024

	Market Value \$	% of Portfolio	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Private Equity Assets	30,775,877	12.1	1.2	0.0	4.7	16.0	12.7	8.5	Oct-03
<i>Preqin Private Equity 1Q Lagged</i>			<i>0.0</i>	<i>4.7</i>	<i>5.1</i>	<i>14.5</i>	<i>13.7</i>	<i>13.1</i>	
Ascent Venture Partners - Fund V	612,301	0.2							
Ascent Venture Partners - Fund VI	1,261,636	0.5							
Constitution Capital Partners Ironsides III	30,641	0.0							
Constitution Capital Partners Ironsides IV	2,872,082	1.1							
Constitution Capital Partners Ironsides V	3,088,396	1.2							
Constitution Capital Direct IV	746,083	0.3							
Constitution Capital Direct V	3,699,983	1.5							
Constitution Capital Co-Investment Fund VI, L.P.	4,105,622	1.6							
Goldman Sachs PEP 2005	101,992	0.0							
HarbourVest Partners VIII	12,205	0.0							
HarbourVest Partners IX	1,538,790	0.6							
HarbourVest X Buyout Fund	5,342,018	2.1							
HarbourVest Partners XI	5,494,650	2.2							
HarbourVest Fund XII	1,869,478	0.7							

Private Equity Asset market values are as of 9/30/2024 adjusted for subsequent cash flows.

Asset Allocation & Performance | As of December 31, 2024

	Market Value \$	% of Portfolio	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Infrastructure Assets	19,778,200	7.8	2.5	6.2	7.6	8.6	--	9.6	Oct-18
<i>CPI +3% (Unadjusted)</i>			<i>0.8</i>	<i>6.0</i>	<i>7.3</i>	<i>7.3</i>	<i>6.1</i>	<i>6.7</i>	
IFM Global Infrastructure (U.S.), L.P.	19,778,200	7.8	2.5	6.2	7.6	8.6	--	9.6	Oct-18
<i>CPI +3% (Unadjusted)</i>			<i>0.8</i>	<i>6.0</i>	<i>7.3</i>	<i>7.3</i>	<i>6.1</i>	<i>6.7</i>	
Cash	3,477,742	1.4							
Cash STIF	3,477,742	1.4							

Asset Allocation & Performance | As of December 31, 2024

	Calendar Year Performance									
	2024 (%)	2023 (%)	2022 (%)	2021 (%)	2020 (%)	2019 (%)	2018 (%)	2017 (%)	2016 (%)	
Total Retirement System	7.8	11.2	-8.6	16.2	14.1	17.4	-3.2	14.3	9.6	
<i>60% MSCI ACWI / 40% Barclays Global Aggregate</i>	<i>9.5</i>	<i>15.4</i>	<i>-17.3</i>	<i>8.8</i>	<i>14.0</i>	<i>18.6</i>	<i>-6.0</i>	<i>17.1</i>	<i>5.7</i>	
Domestic Equity Assets	22.8	24.3	-18.2	25.2	21.5	30.8	-5.6	20.9	13.0	
<i>Russell 3000 Index</i>	<i>23.8</i>	<i>26.0</i>	<i>-19.2</i>	<i>25.7</i>	<i>20.9</i>	<i>31.0</i>	<i>-5.2</i>	<i>21.1</i>	<i>12.7</i>	
SSgA Russell 1000 Value Index-NL	14.4	11.4	-7.6	25.1	2.8	26.5	-8.3	13.7	17.2	
<i>Russell 1000 Value Index</i>	<i>14.4</i>	<i>11.5</i>	<i>-7.5</i>	<i>25.2</i>	<i>2.8</i>	<i>26.5</i>	<i>-8.3</i>	<i>13.7</i>	<i>17.3</i>	
SSgA Russell 1000 Growth-NL	33.3	42.7	-29.2	27.5	38.4	36.3	-1.8	30.1	7.1	
<i>Russell 1000 Growth Index</i>	<i>33.4</i>	<i>42.7</i>	<i>-29.1</i>	<i>27.6</i>	<i>38.5</i>	<i>36.4</i>	<i>-1.5</i>	<i>30.2</i>	<i>7.1</i>	
SSgA Russell 2000 Index-NL	11.5	17.0	-20.3	14.9	19.9	25.5	-11.0	14.6	21.4	
<i>Russell 2000 Index</i>	<i>11.5</i>	<i>16.9</i>	<i>-20.4</i>	<i>14.8</i>	<i>20.0</i>	<i>25.5</i>	<i>-11.0</i>	<i>14.6</i>	<i>21.3</i>	
Total International Developed Market Equity	3.5	16.6	-16.4	10.9	9.2	23.1	-14.8	27.3	1.6	
<i>MSCI EAFE (Net)</i>	<i>3.8</i>	<i>18.2</i>	<i>-14.5</i>	<i>11.3</i>	<i>7.8</i>	<i>22.0</i>	<i>-13.8</i>	<i>25.0</i>	<i>1.0</i>	
SSgA MSCI EAFE Index-NL	4.0	18.5	-14.2	11.4	8.2	22.4	-13.6	25.4	1.3	
<i>MSCI EAFE (Net)</i>	<i>3.8</i>	<i>18.2</i>	<i>-14.5</i>	<i>11.3</i>	<i>7.8</i>	<i>22.0</i>	<i>-13.8</i>	<i>25.0</i>	<i>1.0</i>	
SSgA MSCI EAFE Small Cap Index-NL	1.8	13.4	-21.1	9.9	12.2	24.7	-17.8	33.0	2.2	
<i>MSCI EAFE Small Cap (Net)</i>	<i>1.8</i>	<i>13.2</i>	<i>-21.4</i>	<i>10.1</i>	<i>12.3</i>	<i>25.0</i>	<i>-17.9</i>	<i>33.0</i>	<i>2.2</i>	
International Emerging Market Equity Assets	7.7	30.3	-21.2	-1.5	24.6	15.8	-17.9	31.8	11.7	
<i>MSCI Emerging Markets (Net)</i>	<i>7.5</i>	<i>9.8</i>	<i>-20.1</i>	<i>-2.5</i>	<i>18.3</i>	<i>18.4</i>	<i>-14.6</i>	<i>37.3</i>	<i>11.2</i>	
GQG Partners Emerging Markets	7.7	30.3	-21.2	-1.5	33.9	--	--	--	--	
<i>MSCI Emerging Markets (Net)</i>	<i>7.5</i>	<i>9.8</i>	<i>-20.1</i>	<i>-2.5</i>	<i>18.3</i>	<i>18.4</i>	<i>-14.6</i>	<i>37.3</i>	<i>11.2</i>	
ABS Emerging Markets										
<i>MSCI Emerging Markets (Net)</i>	<i>7.5</i>	<i>9.8</i>	<i>-20.1</i>	<i>-2.5</i>	<i>18.3</i>	<i>18.4</i>	<i>-14.6</i>	<i>37.3</i>	<i>11.2</i>	

Asset Allocation & Performance | As of December 31, 2024

	2024 (%)	2023 (%)	2022 (%)	2021 (%)	2020 (%)	2019 (%)	2018 (%)	2017 (%)	2016 (%)
Investment Grade Bond Assets	2.1	6.8	-13.1	-0.2	9.2	8.9	-0.1	3.5	2.7
<i>Blmbg. U.S. Aggregate Index</i>	<i>1.3</i>	<i>5.5</i>	<i>-13.0</i>	<i>-1.5</i>	<i>7.5</i>	<i>8.7</i>	<i>0.0</i>	<i>3.5</i>	<i>2.6</i>
Longfellow Investment Grade Bond	2.1	6.8	-13.1	-0.2	9.2	8.9	-0.1	--	--
<i>Blmbg. U.S. Aggregate Index</i>	<i>1.3</i>	<i>5.5</i>	<i>-13.0</i>	<i>-1.5</i>	<i>7.5</i>	<i>8.7</i>	<i>0.0</i>	<i>3.5</i>	<i>2.6</i>
High Yield Bond Assets	8.8	12.1	-13.0	5.8	8.6	15.5	-3.7	6.8	11.5
<i>Credit Suisse High Yield Index</i>	<i>7.9</i>	<i>13.6</i>	<i>-10.6</i>	<i>5.5</i>	<i>5.5</i>	<i>14.0</i>	<i>-2.4</i>	<i>7.0</i>	<i>18.3</i>
Lord Abbett High Yield Core	8.8	12.1	-12.9	5.8	8.6	--	--	--	--
<i>Blmbg. U.S. Corp: High Yield Index</i>	<i>8.2</i>	<i>13.4</i>	<i>-11.2</i>	<i>5.3</i>	<i>7.1</i>	<i>14.3</i>	<i>-2.1</i>	<i>7.5</i>	<i>17.1</i>
TIPS Assets	1.9	3.9	-12.0	5.9	10.9	8.4	-1.3	3.0	4.6
<i>Blmbg. U.S. TIPS Index</i>	<i>1.8</i>	<i>3.9</i>	<i>-11.8</i>	<i>6.0</i>	<i>11.0</i>	<i>8.4</i>	<i>-1.3</i>	<i>3.0</i>	<i>4.7</i>
SSgA TIPS-NL	1.9	3.9	-12.0	5.9	10.9	8.4	-1.3	2.9	4.4
<i>Blmbg. U.S. TIPS Index</i>	<i>1.8</i>	<i>3.9</i>	<i>-11.8</i>	<i>6.0</i>	<i>11.0</i>	<i>8.4</i>	<i>-1.3</i>	<i>3.0</i>	<i>4.7</i>
Emerging Market Debt Assets	6.3	13.3	-15.3	-4.0	5.5	14.9	-7.1	13.1	10.0
<i>50% JPM EMBI GD / 50% JPM GBI-EM</i>	<i>2.0</i>	<i>11.9</i>	<i>-14.8</i>	<i>-5.3</i>	<i>4.0</i>	<i>14.3</i>	<i>-5.2</i>	<i>12.7</i>	<i>10.2</i>
Metlife Emerging Markets Debt	4.0	12.6	-13.3	-3.7	6.1	14.5	-6.6	13.4	--
<i>MetLife Custom Benchmark</i>	<i>3.9</i>	<i>10.7</i>	<i>-13.5</i>	<i>-2.9</i>	<i>5.4</i>	<i>13.7</i>	<i>-4.0</i>	<i>10.6</i>	<i>10.0</i>
Aberdeen Emerging Markets Bond Fund	7.8	13.8	-16.6	-4.0	5.0	15.3	-7.5	12.7	--
<i>JPM EMBI Global Diversified</i>	<i>6.5</i>	<i>11.1</i>	<i>-17.8</i>	<i>-1.8</i>	<i>5.3</i>	<i>15.0</i>	<i>-4.3</i>	<i>10.3</i>	<i>10.2</i>

Asset Allocation & Performance | As of December 31, 2024

	2024 (%)	2023 (%)	2022 (%)	2021 (%)	2020 (%)	2019 (%)	2018 (%)	2017 (%)	2016 (%)
Real Estate Assets	-1.6	-10.6	7.8	19.4	0.5	8.1	8.3	8.4	9.0
<i>NCREIF ODCE (Net)</i>	<i>-2.3</i>	<i>-12.7</i>	<i>6.5</i>	<i>21.0</i>	<i>0.3</i>	<i>4.4</i>	<i>7.4</i>	<i>6.7</i>	<i>7.8</i>
Intercontinental U.S. REIF	-5.0	-16.0	7.4	20.0	1.0	8.2	9.3	7.5	10.9
<i>NCREIF ODCE (Net)</i>	<i>-2.3</i>	<i>-12.7</i>	<i>6.5</i>	<i>21.0</i>	<i>0.3</i>	<i>4.4</i>	<i>7.4</i>	<i>6.7</i>	<i>7.8</i>
AEW Core Property Trust	-1.2	-10.3	7.8	20.8	0.3	5.1	6.6	6.6	7.6
<i>NCREIF ODCE (Net)</i>	<i>-2.3</i>	<i>-12.7</i>	<i>6.5</i>	<i>21.0</i>	<i>0.3</i>	<i>4.4</i>	<i>7.4</i>	<i>6.7</i>	<i>7.8</i>
AEW Partners IX, L.P.	5.9	6.5	5.6	--	--	--	--	--	--
<i>NCREIF ODCE (Net)</i>	<i>-2.3</i>	<i>-12.7</i>	<i>6.5</i>	<i>21.0</i>	<i>0.3</i>	<i>4.4</i>	<i>7.4</i>	<i>6.7</i>	<i>7.8</i>
Private Equity Assets	0.0	3.3	11.1	46.1	25.3	15.7	13.7	11.8	6.3
<i>Prequin Private Equity 1Q Lagged</i>	<i>4.7</i>	<i>7.9</i>	<i>2.9</i>	<i>44.7</i>	<i>17.0</i>	<i>10.2</i>	<i>15.7</i>	<i>18.0</i>	<i>10.2</i>
Ascent Venture Partners - Fund V									
Ascent Venture Partners - Fund VI									
Constitution Capital Partners Ironsides III									
Constitution Capital Partners Ironsides IV									
Constitution Capital Partners Ironsides V									
Constitution Capital Direct IV									
Constitution Capital Direct V									
Constitution Capital Co-Investment Fund VI, L.P.									
Goldman Sachs PEP 2005									
HarbourVest Partners VIII									
HarbourVest Partners IX									
HarbourVest X Buyout Fund									

Asset Allocation & Performance | As of December 31, 2024

	2024 (%)	2023 (%)	2022 (%)	2021 (%)	2020 (%)	2019 (%)	2018 (%)	2017 (%)	2016 (%)
HarbourVest Partners XI									
HarbourVest Fund XII									
Infrastructure Assets	6.2	8.4	8.2	17.4	3.1	14.6	--	--	--
<i>CPI +3% (Unadjusted)</i>	<i>6.0</i>	<i>6.4</i>	<i>9.6</i>	<i>10.2</i>	<i>4.4</i>	<i>5.3</i>	<i>5.0</i>	<i>5.2</i>	<i>5.1</i>
IFM Global Infrastructure (U.S.), L.P.	6.2	8.4	8.2	17.4	3.1	14.6	--	--	--
<i>CPI +3% (Unadjusted)</i>	<i>6.0</i>	<i>6.4</i>	<i>9.6</i>	<i>10.2</i>	<i>4.4</i>	<i>5.3</i>	<i>5.0</i>	<i>5.2</i>	<i>5.1</i>
Cash									
Cash STIF									

Benchmark History

From Date	To Date	Benchmark
Metlife Emerging Markets Debt		
02/01/2002	Present	30.0% JPM GBI-EM Global Diversified, 35.0% JPM CEMBI Broad Diversified Index, 35.0% JPM EMBI Global Index (USD)

	Risk Return Statistics	
	3 Yrs (%) Total Retirement System	5 Yrs (%) Total Retirement System
RETURN SUMMARY STATISTICS		
Maximum Return	4.6	5.7
Minimum Return	-4.4	-6.5
Return	3.1	7.8
Excess Return	-0.5	5.4
Excess Performance	1.6	2.4
RISK SUMMARY STATISTICS		
Beta	0.6	0.6
Upside Risk	6.0	7.1
Downside Risk	5.2	5.3
RISK/RETURN SUMMARY STATISTICS		
Standard Deviation	7.9	8.6
Sortino Ratio	-0.1	1.0
Alpha	2.0	4.1
Sharpe Ratio	-0.1	0.6
Excess Risk	7.7	8.7
Tracking Error	5.5	5.3
Information Ratio	0.2	0.4
CORRELATION STATISTICS		
R-Squared	0.9	0.9
Actual Correlation	1.0	1.0

Closed End Funds Overview

Fund	Vintage Year	Committed (\$mm)	Called (\$mm)	Distributed (\$mm)	Fair Value (\$mm)	Net IRR ¹ (%)
AEW Partners IX, L.P.	2019	5.0	4.0	0.4	4.2	6.1
Ascent Venture Partners – Fund V	2011	1.0	1.0	0.9	0.6	5.8
Ascent Venture Partners – Fund VI	2015	1.5	1.5	0.2	1.3	0.0
Constitution Capital Partnership Ironsides III	2014	5.0	6.7	13.4	0.0	23.4 ²
Constitution Capital Partnership Ironsides IV	2016	3.3	3.4	3.7	3.2	25.4
Constitution Capital Partnership Ironsides V	2020	2.5	2.3	0.3	3.1	17.5
Constitution Capital Direct IV	2016	3.3	3.9	5.5	0.9	17.6
Constitution Capital Direct V	2019	2.5	3.0	1.4	4.1	22.2
Constitution Capital Co-Investment Fund VI, L.P.	2021	4.0	3.7	0.3	4.4	8.8
Goldman Sachs PEP 2005	2006	2.3	2.4	3.0	0.1	4.4
HarbourVest Partners VIII	2006	2.5	2.4	4.4	0.0	10.6
HarbourVest Partners IX	2010	5.0	4.4	7.4	2.2	17.3
HarbourVest X Buyout Fund	2016	6.5	5.6	4.6	5.5	20.0
HarbourVest Partners XI	2019	5.0	4.3	1.2	5.5	19.8
HarbourVest Fund XII	2019	4.0	1.5	0.0	1.8	15.3

¹ As of September 30, 2024.

² Most recent reported value as of June 30, 2024.

Appendices

Corporate Update



6
Offices



240+
Employees



250+
Clients



\$2T
Assets Under Advisement



\$340B
Assets in Alternative Investments



98%
Client Retention Rate



5:1
Client | Consultant Ratio

UPCOMING EVENTS

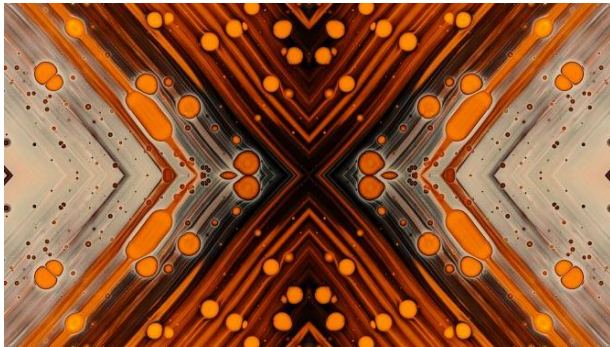


Q4 Investment Perspectives Webcast
January 2025

Meketa Investment Group is
proud to work for over 25 million
American families everyday!

Client and employee counts as of December 31, 2024; assets under advisement as of June 30, 2024; assets in alternative investments as of December 31, 2023.
Client retention rate is one minus the number of clients lost divided by the number of clients at prior year-end. Average over the previous five years.

THOUGHT LEADERSHIP



The X Factor: China or ex-China?

Meketa invites you to join our latest webinar as we unpack China's recent economic stimulus and reveal the potential impact on emerging markets, including opportunities in India and other growth economies.

In this 45-minute session, our experts discuss portfolio strategies for capitalizing on China's latest moves, offering insights on diversification within China and ex-China, and exploring the evolving landscape of emerging market investments. Whether you're looking to adjust your current portfolio or explore new avenues for growth, this session provides perspectives on navigating today's dynamic global market.

Read more here:

<https://meketa.com/leadership/the-x-factor-china-or-ex-china/>



Risk Budgeting Primer

For CIOs, investment staff, and trustees tasked with assessing the risk of a capital pool, risk budgeting provides a structured approach. This practice involves setting a "budget" for risk and then allocating and monitoring that risk across the portfolio.

This paper focuses on risk budgeting at the active risk level, examining how active risk is allocated and managed within a portfolio. We will explore the concept of active risk, why it exists in portfolios, and the expected outcomes for investors based on different levels of active risk exposure.

Read more here:

<https://meketa.com/leadership/risk-budgeting-primer/>



Cash Flow Gridlock: Understanding the PE Distribution Challenge

Over the last three years, many investors have experienced a considerable decline in the distributions they had grown accustomed to receiving from their private market investments.

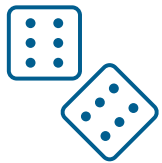
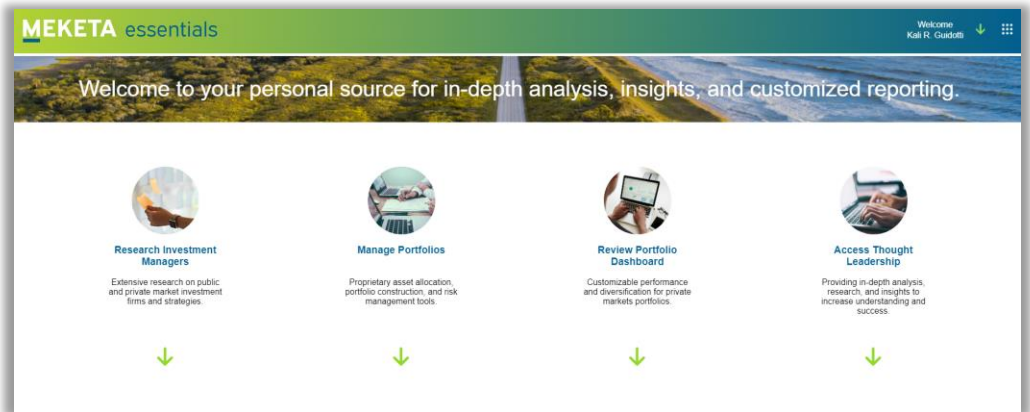
The liquidity that fueled a robust cycle of exits and distributions slowed dramatically beginning in 2022, coinciding with the rise in interest rates. Many general partners (GPs) responded by extending hold periods and seeking alternative sources of liquidity, leading to a collective bottleneck in distribution activity in private equity.

Read more here:

<https://meketa.com/leadership/cash-flow-gridlock-understanding-the-private-equity-distribution-challenge/>

MEKETA ESSENTIALS: PORTFOLIO BUILDER LAUNCH AND NEW LANDING PAGE

Meketa Essentials provides an advanced asset allocation and risk management toolset designed to empower chief investment officers, investment staff, and trustees to make data-driven decisions with confidence.



What is the probability of achieving our target returns?

The asset allocation tool within Meketa Essentials uses sophisticated modeling to estimate the likelihood of reaching your target returns over multiple time periods. By providing insights through probability distributions, it enables decision-makers to gauge if their current strategy is aligned with long-term financial goals.



How might our portfolio respond to economic and market shifts?

With capabilities like stress testing and economic regime modeling, Meketa Essentials allows clients to simulate the effects of different growth, inflation, and interest rate scenarios on their portfolios. This helps in understanding potential vulnerabilities and preparing for various market conditions.



Are we effectively managing portfolio risk?

The platform's risk decomposition tool breaks down overall portfolio risk by asset class, helping stakeholders pinpoint which areas contribute most to volatility. Additionally, tools like tracking error analysis provide insights into deviations from benchmarks, enabling a clearer view of whether risks are within acceptable limits.

New this quarter is the release of our **Portfolio Builder** module. With **Portfolio Builder**, users are able to review manager specific information when building portfolios and see how these managers interact when combined in a portfolio. The tool includes a broad array of public markets and liquid alternatives managers, as well as provides the ability for a user to upload managers. It allows for both analysis and optimization of portfolios.

The tool can answer questions such as:

- What is the information ratio of my current global equity allocation? What changes to my portfolio would optimize that information ratio?
- If I were to change the allocations to the managers in my US equity allocation, how would that impact my factor exposures?
- What impact would a change to my fixed income portfolio have had during the recent increase in interest rates?
- How would introducing a new manager affect the tracking error versus my benchmark and my overall risk exposure?

MEKETA IN THE COMMUNITY



32

Employees
Participated



\$9,640

Total Donations



In late September of 2024, a devastating tropical cyclone (Hurricane Helene) made landfall. It caused widespread catastrophic damage and numerous fatalities across the Southeast.

To show our support for the region (which is the location of one of our clients, Warren Wilson College), Meketa encouraged employees to donate to The Community Foundation of Western North Carolina's "Emergency and Disaster Response Fund", matching all donations. We had \$4,820 from 32 employees, and then a 100% match from Meketa for a total of \$9,640 donated.

When families can't afford enough to eat, they often can't meet other basic needs as well, including housing, employment, healthcare, and more. Feeding America helps provide meals to people in need through a network of food banks and helps address root causes of hunger.

As we entered into the last few weeks of the year, we recognized that food insecurity remains a challenge for many in our local communities. During the month of November, the Corporate Responsibility Committee focused on our company value of **Community Influence** by sponsoring a donation matching challenge in support of Feeding America, to which Meketa and its employees have donated close to \$40,000 over the past few years. Again this year, any donations made by employees to Feeding America in the month of November were matched 100% by Meketa.



45

Employees
Participated



\$7,587

Total
Donations



MEKETA IN THE NEWS

fin|news

Not Investing In China: More Of A Political Decision Than A Financial One

By Zack Cziryak | October 15, 2024

The industry is constantly shifting, with landscapes changing and investment managers and consultants determined to keep up, however, a May 2024 whitepaper from investment consultant **Meketa Investment Group** noted that “there has been a clear pivot towards EM exChina.”

Emerging markets ex-China searches have seemed to gather enough traction at this point, with a cyclical trend line depending on the ebbs and flows of Chinese equities performance, according to **Hayley Tran**, managing principal and head of global equity at Meketa. “This dates back to the discussions leading up to and final decision to add China A shares in the MSCI EM Index which has contributed to the subsequent domination of the Index by the country.” “It’s just such a significant concentration in that Index which is a real headwind to active management ... So, the talk of exclusion started then, but I think over time it has sustained further interest especially from the geopolitical front,” she said.

“It is more practical to try to limit China exposure by excluding China listed names versus attempting to minimize China revenue exposure,” Hayley Tran, Meketa.

[Read Full Article Here](#)

Buyouts

Too Big to Exit? GPs seek Alternatives

By Chris Witkowsky | October 1, 2024

With slow exit activity, including public filings, several GPs are facing a challenge: What to do with portfolio companies that, after years of successful growth, have become challenging to sell?

“It may be a material consideration: as firms raise larger and larger funds and conduct larger deals, the opportunity set of potential buyers generally grows smaller,” says Mr. Fergusson.

“That can make it more challenging to exit deals and ultimately makes you more reliant on the IPO market, which we know has not been very favorable recently.” – Tad Fergusson, Meketa

[Read Full Article Here](#)

Private Equity International

PE Poised for a Comeback

By Alex Lynn | December 2, 2024

“US public equities, certainly, but also global equities, have been in a very positive performance trend, and that’s helped the denominator effect,” says Steve Hartt, managing principal at investment consultancy **Meketa Investment Group**. “Folks generally just aren’t feeling so much of that overallocation issue. I think it’s really been the expansion of the denominator that has helped them, that when you do the math, they end up being not so overallocated.”

“Distributions have continued to be on the lighter side, and just not hitting what historical averages have been,” Meketa’s Hartt notes. “I think that it’s been a busier time for transactions in the second half of 2024, but maybe still being a little below what people would hope for. What I’m hearing is 2025 is supposed to be a big year for exits.”

“What I’m hearing is 2025 is supposed to be a big year for exits” – Steven Hartt, Meketa.

[Read Full Article Here](#)

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Sources: Investment Terminology, International Foundation of Employee Benefit Plans, 1999.
The Handbook of Fixed Income Securities, Fabozzi, Frank J., 1991

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

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

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