

Preliminary, subject to revision



Baltimore Employees' Retirement System

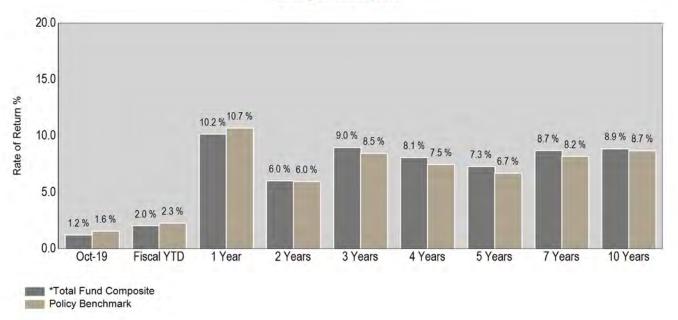
Baltimore
Employees' Retirement System
Flash Report
October 31, 2019

Investment Portfolio Analysis

October 31, 2019

Market Value: \$1,836.1 Million and 100.0% of Fund

Return Summary Ending October 31, 2019



Gross Return Summary 10 Years

	Anlzd Return
Total Fixed Income Composite	4.3%
Total Domestic Equity Composite	13.6%
Total International Equity Composite	6.2%
Defensive Equity Composite	
Risk Premia Composite	
Total Real Estate Composite	9.8%
*Total Fund Composite	8.9%

Asset Allocation vs. Target

	Current	Current	Policy	Difference	%
Fixed Income	\$394,277,024	21.5%	22.0%	-\$9,670,749	-0.5%
U.S. Equity	\$555,810,364	30.3%	27.0%	\$60,056,279	3.3%
Non-U.S. Equity	\$392,357,616	21.4%	20.0%	\$25,132,368	1.4%
Real Assets	\$220,722,475	12.0%	13.0%	-\$17,973,937	-1.0%
Private Equity	\$120,973,653	6.6%	13.0%	-\$117,722,758	-6.4%
Other	\$151,985,110	8.3%	5.0%	\$60,178,798	3.3%
Total	\$1,836,126,243	100.0%	100.0%		

Summary of Cash Flows

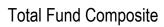
	Last Month	Year-To-Date	One Year	Three Years	Five Years
Beginning Market Value	\$1,826,574,614	\$1,658,863,826	\$1,732,580,189	\$1,584,649,081	\$1,557,112,743
Net Cash Flow	-\$11,807,615	-\$35,703,522	-\$59,886,628	-\$166,732,554	-\$277,462,216
Net Investment Change	\$21,359,245	\$212,965,939	\$163,432,682	\$418,209,716	\$556,475,715
Ending Market Value	\$1,836,126,243	\$1,836,126,243	\$1,836,126,243	\$1,836,126,243	\$1,836,126,243



Manager Status

Market Value: \$1,836.1 Million and 100.0% of Fund

				Most Recent
Investment Manager	Asset Class	Status	Reason	Meeting Date
Mellon EB Aggregate Bond Index Fund	US Fixed Income Core		199	1/17/2019
Semper	US Fixed Income Mortgage Backed Securities			9/24/2019
PIMCO	US Fixed Income Core			7/26/2019
Payden & Rygel	International Emerging Market Debt	-		7/30/2019
Pacific Asset Management	Senior Secured Loans			7/29/2019
Mellon EB Large Cap SIF	US Stock Large Cap Core			1/17/2019
Edgar Lomax	US Stock Large Cap Value			2/4/2019
RhumbLine Advisers	US Stock Mid Cap Growth			8/9/2018
DF Dent	US Stock Mid Cap Growth			7/19/2019
Rothschild	US Stock Small Cap Value			8/1/2019
Harding Loevner LP	International Large Stocks			7/12/2019
Mellon ACWI ex. USA Index	International Large Stocks			1/17/2019
Ariel Investments	International			6/28/2019
Mondrian	International Small Stocks	-	-	8/29/2019
Lazard Emerging SC	International Emerging Stocks	Watch	Performance	7/16/2019
FIS Funds Management	Non-US Equity		4	8/19/2019
Neuberger Berman	Defensive Equity	-		7/29/2019



Market Values

Market Value: \$1,836.1 Million and 100.0% of Fund

Asset Class	Market Value	3 Mo Net $^{\%}$ Cash Flows	of Portfolio	Policy %	Policy Difference
	\$1,836,126,243	-\$38,762,150	100.0%	100.0%	\$0
	\$394,277,024	-\$35,265,515	21.5%	22.0%	-\$9,670,749
Core Fixed Income	\$101,349,818	-\$35,005,066	5.5%	6.0%	-\$8,817,756
MBS Fixed Income	\$73,032,217	-\$14,620	4.0%	4.0%	-\$412,832
Core Plus Fixed Income	\$67,311,547	-\$65,525	3.7%	4.0%	-\$6,133,502
Senior Secured Loans	\$71,162,287		3.9%	4.0%	-\$2,282,763
EM Fixed Income	\$81,421,155	-\$109,178	4.4%	4.0%	\$7,976,105
	\$555,810,364	-\$272,633	30.3%		\$60,056,279
Large-Cap Core	\$235,648,147		12.8%		\$52,035,523
• ,					\$21,992,395
• .					\$2,887,503
•					\$5,923,837
•					-\$22,782,979
oman oup raids					\$16,576,558
Non-U.S. Large-Cap Growth	\$55,356,829	-\$25,112,488	3.0%	2.0%	\$18,634,305
Non-U.S. Large-Cap Core	\$14,621,093	-\$709	0.8%	0.0%	\$14,621,093
Non-U.S. All-Cap Core	\$39,303,074	-\$65,575	2.1%	2.0%	\$2,580,549
Non-U.S. Small-Cap Value	\$93,197,541	-\$25,205,078	5.1%	5.0%	\$1,391,229
EM Small-Cap	\$21,155,694	-\$45,813	1.2%	2.0%	-\$15,566,831
EM Small-Cap	\$50,000,000	\$50,000,000	2.7%	3.0%	-\$5,083,787
	\$118,723,384	\$8,000	6.5%	6.0%	\$8,555,810
Non-U.S. Large-Cap Core	\$12,371,882	\$0	0.7%		
Non-U.S. Large-Cap Core	\$5,574,186	\$0	0.3%		
Non-U.S. Large-Cap Core	\$22,917,177	\$0	1.2%		
Non-U.S. Large-Cap Core	\$6,500,687	\$0	0.4%		
Non-U.S. Large-Cap Core	\$11,872,429	\$0	0.6%		
Non-U.S. Large-Cap					
Core	\$13,396,858	\$0	0.7%		
Core Emerging Markets	\$13,396,858 \$10,670,700	-\$86	0.6%		
			0.6% 0.8%		
Emerging Markets	\$10,670,700	-\$86	0.6%		
Emerging Markets Emerging Markets	\$10,670,700 \$14,966,711	-\$86 -\$252	0.6% 0.8%	3.0%	\$25,411,417
Emerging Markets Emerging Markets	\$10,670,700 \$14,966,711 \$20,354,115	-\$86 -\$252 \$0	0.6% 0.8% 1.1%	3.0% 3.0%	\$25,411,417 \$25,411,417
Emerging Markets Emerging Markets Global Core Equity	\$10,670,700 \$14,966,711 \$20,354,115 \$80,495,204	-\$86 -\$252 \$0 -\$69,300	0.6% 0.8% 1.1% 4.4%		
Emerging Markets Emerging Markets Global Core Equity	\$10,670,700 \$14,966,711 \$20,354,115 \$80,495,204 \$80,495,204	-\$86 -\$252 \$0 -\$69,300 -\$69,300	0.6% 0.8% 1.1% 4.4% 4.4%	3.0%	\$25,411,417
Emerging Markets Emerging Markets Global Core Equity Defensive Equity	\$10,670,700 \$14,966,711 \$20,354,115 \$80,495,204 \$80,495,204 \$45,537,421	-\$86 -\$252 \$0 -\$69,300 -\$69,300	0.6% 0.8% 1.1% 4.4% 4.4% 2.5%	3.0% 2.0%	\$25,411,417 \$8,814,896
Emerging Markets Emerging Markets Global Core Equity Defensive Equity	\$10,670,700 \$14,966,711 \$20,354,115 \$80,495,204 \$80,495,204 \$45,537,421	-\$86 -\$252 \$0 -\$69,300 -\$69,300 -\$98,424 -\$98,424	0.6% 0.8% 1.1% 4.4% 4.4% 2.5%	3.0% 2.0% 2.0%	\$25,411,417 \$8,814,896 \$8,814,896
Emerging Markets Emerging Markets Global Core Equity Defensive Equity Other Alternative	\$10,670,700 \$14,966,711 \$20,354,115 \$80,495,204 \$80,495,204 \$45,537,421 \$45,537,421 \$220,722,475	-\$86 -\$252 \$0 -\$69,300 -\$69,300 -\$98,424 -\$98,424	0.6% 0.8% 1.1% 4.4% 4.4% 2.5% 2.5% 12.0%	3.0% 2.0% 2.0% 13.0%	\$25,411,417 \$8,814,896 \$8,814,896 -\$17,973,937
Emerging Markets Emerging Markets Global Core Equity Defensive Equity Other Alternative Core Real Estate	\$10,670,700 \$14,966,711 \$20,354,115 \$80,495,204 \$80,495,204 \$45,537,421 \$45,537,421 \$220,722,475 \$110,143,290	-\$86 -\$252 \$0 -\$69,300 -\$69,300 -\$98,424 -\$98,424 -\$926,496 -\$234,553	0.6% 0.8% 1.1% 4.4% 4.4% 2.5% 2.5% 12.0%	3.0% 2.0% 2.0% 13.0% 5.0%	\$25,411,417 \$8,814,896 \$8,814,896 -\$17,973,937 \$18,336,978
Emerging Markets Emerging Markets Global Core Equity Defensive Equity Other Alternative Core Real Estate Core Real Estate	\$10,670,700 \$14,966,711 \$20,354,115 \$80,495,204 \$80,495,204 \$45,537,421 \$45,537,421 \$220,722,475 \$110,143,290 \$97,542,229	-\$86 -\$252 \$0 -\$69,300 -\$69,300 -\$98,424 -\$98,424 -\$926,496 -\$234,553 -\$158,201	0.6% 0.8% 1.1% 4.4% 4.4% 2.5% 12.0% 6.0% 5.3%	3.0% 2.0% 2.0% 13.0% 5.0%	\$25,411,417 \$8,814,896 \$8,814,896 -\$17,973,937 \$18,336,978 \$5,735,917
	Core Fixed Income MBS Fixed Income Core Plus Fixed Income Senior Secured Loans EM Fixed Income Large-Cap Core Large-Cap Value Mid-Cap Growth Mid-Cap Growth Small-Cap Value Non-U.S. Large-Cap Core Non-U.S. All-Cap Core Non-U.S. Small-Cap Value EM Small-Cap EM Small-Cap EM Small-Cap Core Non-U.S. Large-Cap Core	\$1,836,126,243 \$394,277,024 Core Fixed Income \$101,349,818 MBS Fixed Income \$73,032,217 Core Plus Fixed Income \$67,311,547 Senior Secured Loans \$71,162,287 EM Fixed Income \$81,421,155 \$555,810,364 Large-Cap Core \$235,648,147 Large-Cap Value \$113,798,707 Mid-Cap Growth \$57,971,291 Mid-Cap Growth \$61,007,624 Small-Cap Value \$87,384,596 \$273,634,232 Non-U.S. Large-Cap \$55,356,829 Growth \$93,197,541 Non-U.S. Small-Cap \$93,197,541 EM Small-Cap \$93,197,541 EM Small-Cap \$50,000,000 \$118,723,384 Non-U.S. Large-Cap \$55,000,000 \$118,723,384 Non-U.S. Large-Cap \$55,574,186 Core \$55,006,87 Non-U.S. Large-Cap \$6,500,687 Non-U.S. Large-Cap \$6,500,687 Non-U.S. Large-Cap \$6,500,687 Non-U.S. Large-Cap \$6,500,687	\$1,836,126,243	\$1,836,126,243	\$1,836,126,243



Market Values

Market Value: \$1,836.1 Million and 100.0% of Fund

	Asset Class	Market Value	3 Mo Net % Cash Flows	of Portfolio	Policy %	Policy Difference
Private Equity Composite		\$120,973,653	-\$3,022,564	6.6%	13.0%	-\$117,722,758
Abbott PE Fund III	U.S. Private Equity FoF	\$505,215	\$0	0.0%		
Abbott PE Fund V	U.S. Private Equity FoF	\$5,164,517	-\$720,000	0.3%		
Abbott PE Fund VI	U.S. Private Equity FoF	\$25,527,327	-\$2,300,000	1.4%		
Abbott Select Buyouts Partners III	LBO Private Equity FoF	\$10,495,498	-\$300,000	0.6%		
Adams Street Partnership Fund - 2012 LP	Global Divers. Private Equity FoF	\$17,942,714	-\$889,566	1.0%		
Chicago Pacific Founders	LBO Private Equity	\$400,000	\$100,000	0.0%		
Fairview Venture III	U.S. Private Equity FoF	\$3,979,799	-\$256,557	0.2%		
I Squared Global Infrastructure II	Global Infrastructure	\$5,322,423	\$1,221,177	0.3%		
Landmark Partners XVI	Secondary Private Equity FoF	\$1,363,112	\$540,936	0.1%		
Oaktree Special Situations Fund II	Distressed Private Equity	\$440,000	\$440,000	0.0%		
RCP Fund Direct Feeder	LBO Private Equity	\$803,730	\$0	0.0%		
RCP Fund Direct II Feeder	LBO Private Equity	\$3,445,961	-\$210,609	0.2%		
RCP Fund VII Feeder	LBO Private Equity FoF	\$13,400,707	-\$1,694,355	0.7%		
Reverence Capital Partners Opportunities Fund II	LBO Private Equity	\$7,201,077	\$1,043,347	0.4%		
RLJ Equity Partners II	LBO Private Equity	\$5,429,419	\$0	0.3%		
Siris Partners IV	LBO Private Equity	\$6,068,540	\$0	0.3%		
Summit Partners Credit Fund, LP	Mezz. Private Equity	\$1,100,648	-\$296,606	0.1%		
Summit Partners Growth Equity IX	Venture Private Equity	\$4,368,538	-\$354,945	0.2%		
Warburg Pincus XII, LP	U.S. Private Equity FoF	\$4,987,447	\$175,000	0.3%		
Vivo Capital Fund IX, LP	LBO Private Equity	\$3,026,980	\$479,613	0.2%		
Cash Equivalents Composite		\$25,952,485	\$1,314,445	1.4%	0.0%	\$25,952,485
BNY Mellon Cash Reserve	Cash & Equivalents	\$25,952,485	\$1,314,445	1.4%		

Total Fund Composite

Market Values

Market Value: \$1,836.1 Million and 100.0% of Fund

				IVIAINEL	value: \$1,8	JO. I WIIIIC	% of	.0 /0 01 1
	Asset Class	Current Market Value	Changes	Market Value after CFs	Current % of Portfolio	Current Policy %	Portfolio after CFs	New Policy %
otal Fund Composite Total Fixed Income Composite		\$1,836,126,243 \$394,277,024	\$0 \$0	\$1,836,126,243 \$394,277,024	100.0% 21.5%	100.0% 22.0%	100.0% 21.5%	100.0%
Mellon EB Aggregate Bond Index Fund	Core Fixed Income	\$101,349,818		\$101,349,818	5.5%	6.0%	5.5%	6.0%
Semper	MBS Fixed Income	\$73,032,217		\$73,032,217	4.0%	4.0%	4.0%	4.0%
PIMCO	Core Plus Fixed Income	\$67,311,547		\$67,311,547	3.7%	4.0%	3.7%	4.0%
Pacific Asset	Bank Loans	\$71,162,287		\$71,162,287	3.9%	4.0%	3.9%	4.0%
Payden	Emerging Market Debt	\$81,421,155		\$81,421,155	4.4%	4.0%	4.4%	4.0%
Total Domestic Equity Composite		\$555,810,365	\$0	\$555,810,365	30.3%	27.0%	30.3%	27.0%
Edgar Lomax	Large-Cap Value	\$113,798,707		\$113,798,707	6.2%	6.0%	6.2%	5.0%
Mellon EB Large Cap SIF	Large-Cap Core	\$235,648,147	-\$90,000,000	\$145,648,147	12.8%	10.0%	7.9%	5.0%
DF Dent	Mid-Cap Growth	\$61,007,624		\$61,007,624	3.3%	3.0%	3.3%	3.0%
Rhumbline	Mid-Cap Growth	\$57,971,291		\$57,971,291	3.2%	3.0%	3.2%	3.0%
Rothschild	Small-Cap Value	\$87,384,596		\$87,384,596	4.8%	5.0%	4.8%	6.0%
Analytic	US Low Volatility	\$0	\$90,000,000	\$90,000,000	0.0%	0.0%	4.9%	5.0%
Total International Equity Composite		\$273,634,232	\$0	\$273,634,232	14.9%	14.0%	14.9%	14.09
Mellon ACWI ex. USA Index	Non-U.S. Large-Cap Core	\$14,621,093		\$14,621,093	0.8%	1.0%	0.8%	0.0%
Ariel	Non-U.S. Large-Cap Core	\$39,303,074		\$39,303,074	2.1%	2.5%	2.1%	2.0%
Harding Loevner LP	Non-U.S. Large-Cap Growth	\$55,356,829		\$55,356,829	3.0%	3.5%	3.0%	2.0%
Mondrian	Non-U.S. Small-Cap Value	\$93,197,541		\$93,197,541	5.1%	5.0%	5.1%	5.0%
Lazard Emerging SC	EM Small-Cap	\$21,155,694		\$21,155,694	1.2%	2.0%	1.2%	2.0%
SSgA	EM Small-Cap	\$50,000,000		\$50,000,000	2.7%	0.0%	2.7%	3.0%
FIS Funds Management		\$118,723,384	\$0	\$118,723,384	6.5%	6.0%	6.5%	6.0%
Osmosis	Non-U.S. Large-Cap Core	\$12,371,882		\$12,371,882	0.7%		0.7%	
Metis Global Partners	Non-U.S. Large-Cap Core	\$5,574,186		\$5,574,186	0.3%		0.3%	
Ativo Capital Management	Non-U.S. Large-Cap Core	\$22,917,177		\$22,917,177	1.2%		1.2%	
Redwood Investments	Non-U.S. Large-Cap Core	\$6,500,687		\$6,500,687	0.4%		0.4%	
Decatur EAFE	Non-U.S. Large-Cap Core	\$11,872,429		\$11,872,429	0.6%		0.6%	
Denali EAFE	Non-U.S. Large-Cap Core	\$13,396,858		\$13,396,858	0.7%		0.7%	
Aubrey	Emerging Markets	\$10,670,700		\$10,670,700	0.6%		0.6%	
North of South Capital	Emerging Markets	\$14,966,711		\$14,966,711	0.8%		0.8%	
FIS Group	Global Core Equity	\$20,354,115		\$20,354,115	1.1%		1.1%	
Transition Account	Cash & Equivalents	\$98,639		\$98.639	0.0%		0.0%	
Defensive Equity Composite		\$80,495,204	\$0	\$80,495,204	4.4%	3.0%	4.4%	3.0%
Neuberger Berman	Defensive Equity	\$80,495,204		\$80,495,204	4.4%	3.0%	4.4%	3.0%
Risk Premia Composite		\$45,537,421	\$0	\$45,537,421	2.5%	2.0%	2.5%	2.0%
Lombard Odier	Risk Premia	\$45,537,421		\$45,537,421	2.5%	2.0%	2.5%	2.0%
Total Real Estate Composite	CONTRACTOR OF THE PARTY OF THE	\$220,722,475	\$0	\$220,722,475	12.0%	13.0%	12.0%	13.0%
Basis Investment Group	Real Estate Debt	\$8,418,523		\$8,418,523	0.5%	1.0%	0.5%	1.0%
American Realty	Core Real Estate	\$110,143,290		\$110,143,290	6.0%	5.0%	6.0%	5.0%
	Core Real Estate				5.3%	5.0%	5.3%	5.0%
Barings		\$97,542,229		\$97,542,229				
Thor Equities	Value-Added Real Estate	\$1,561,267		\$1,561,267	0.1%	1.0%	0.1%	1.0%
Ares Management VEF VI, L.P.	Value-Added Real Estate	\$3,057,166		\$3,057,166	0.2%	1.0%	0.2%	1.0%
Private Equity Composite		\$120,973,653	\$0	\$120,973,653	6.6%	13.0%	6.6%	13.09
Abbott PE Fund III	U.S. Private Equity FoF	\$505,215		\$505,215	0.0%		0.0%	
Abbott PE Fund V	U.S. Private Equity FoF	\$5,164,517		\$5,164,517	0.3%		0.3%	
Abbott PE Fund VI	U.S. Private Equity FoF	\$25,527,327		\$25,527,327	1.4%		1.4%	
Abbott Select Buyouts Partners III	LBO Private Equity FoF	\$10,495,498		\$10,495,498	0.6%		0.6%	
Fairview Venture III	U.S. Private Equity FoF	\$3,979,799		\$3,979,799	0.2%		0.2%	
I Squared Global Infrastructure II	Global Infrastructure	\$5,322,423		\$5,322,423	0.3%		0.3%	
Landmark XVI	Secondary Private Equity FoF	\$1,363,112		\$1,363,112	0.1%		0.1%	
RCP Fund VII Feeder	LBO Private Equity FoF	\$13,400,707		\$13,400,707	0.7%		0.7%	
RCP Fund Direct Feeder	LBO Private Equity	\$803,730		\$803,730	0.0%		0.0%	
RCP Fund Direct II Feeder	LBO Private Equity	\$3,445,961		\$3,445,961	0.2%		0.2%	
Reverence Capital Partners Opp Fund II	LBO Private Equity	\$7,201,077		\$7,201,077	0.3%		0.4%	
RLJ Equity Partners II	LBO Private Equity	\$5,429,419		\$5,429,419	0.3%		0.3%	
Siris Partners IV	LBO Private Equity	\$6,068,540		\$6,068,540	0.3%		0.3%	
Summit Partners Credit Fund, LP	Mezz, Private Equity	\$1,100,648		\$1,100,648	0.1%		0.1%	
Summit Partners Growth Equity IX	Venture Private Equity	\$4,368,538		\$4,368,538	0.2%		0.2%	
Adams Street Partnership Fund - 2012 LP	Global Divers. Private Equity FoF	\$17,942,714		\$17,942,714	1.0%		1.0%	
Warburg Pincus XII, LP	U.S. Private Equity FoF	\$4,987,447		\$4,987,447	0.3%		0.3%	
Chicago Pacific Founders	LBO Private Equity	\$400,000		\$400,000	0.0%		0.0%	
Oaktree Special Situations Fund II	Distressed Private Equity	\$440,000		\$440,000	0.0%		0.0%	
Vivo Capital Fund IX, LP	LBO Private Equity	\$3,026,980		\$3,026,980	0.2%		0.2%	
Cash Equivalents Composite	0.145.111	\$25,952,485	\$0	\$25,952,485	1.4%	0.0%	1.4%	0.0%
BNY Mellon Cash Reserve	Cash & Equivalents	\$25,952,485		\$25,952,485	1.4%	0.0%	1.4%	0.09
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Notes

*Please note the following:

- · Pacific: market value estimated for October.
- · Lazard Emerging: market value estimated for October.
- · Neuberger: market value estimated for October.
- · American Reality: market value as of September 30, 2019, adjusted for capital calls/distributions.
- · Barings: market value as of September 30, 2019, adjusted for capital calls/distributions.
- · Thor Equities: market value as of June 30, 2019, adjusted for capital calls/distributions.
- · Ares: market value as of September 30, 2019, adjusted for capital calls/distributions.
- · Abbott Capital Fund III: market value as of June 30, 2019, adjusted for capital calls/distributions, Abbott Capital V & VI: market values as of June 30, 2019, adjusted for capital calls/distributions.
- · Abbott Select Buyouts: market value as of June 30, 2019, adjusted for capital calls/distributions
- · Fairview Ventures Fund III: market value as of June 30, 2019, adjusted for capital calls/distributions.
- · RCP Fund VII Feeder: market value as of June 30, 2019; RCP Fund Direct: market value as of March 31, 2019, RCP Direct II: market value as of June 30, 2019, adjusted for capital calls/distributions.
- · Summit Partners Credit & Growth Equity IX: market values as of June 30, 2019, adjusted for capital calls/distributions.
- · Adams Street 2012 Global Fund: market value as of June 30, 2019, adjusted for capital calls/distributions.
- · Warburg Pincus: market value as of June 30, 2019, adjusted for capital calls/distributions.
- · I Squared:market value as of June 30, 2019; adjusted for capital calls/distributions.
- · Landmark: market value as of June 30, 2019 adjusted for capital calls/distributions.
- RLJ Equity: market value as of June 30, 2019; adjusted for capital calls/distributions.
- Reverence Capital Partners: market value as of June 30, 2019; adjusted for capital calls/distributions.
- Siris Partners: market value as of June 30, 2019; adjusted for capital calls/distributions.
- · Basis Investment Group: market value as of June 30, 2019; adjusted for capital calls/distributions.
- $\cdot \ \text{Chicago Pacific Founders: market value funded amount; adjusted for capital calls/distributions.}$
- · Oaktree Special Situations: market value funded amount; adjusted for capital calls/distributions.
- · Vivo Capital Fund IX: market value funded amount; adjusted for capital calls/distributions.
- SSgA Emerging Small Cap: was funded on October 21st, 2019.
- · FIS Funds Management: market value excludes the Transition Account (\$98,639).



Total Fund Composite

Annualized Performance (Gross of Fees)

Market Value: \$1,836.1 Million and 100.0% of Fund

Ending October 31, 2019

	1 Mo	Fiscal YTD	1 Yr	2 Yrs	3 Yrs	4 Yrs	5 Yrs	7 Yrs	10 Yrs
*Total Fund Composite	1.2%	2.0%	10.2%	6.0%	9.0%	8.1%	7.3%	8.7%	8.9%
Policy Benchmark	1.6%	2.3%	10.7%	6.0%	8.5%	7.5%	6.7%	8.2%	8.7%
Target Rate of Return 7%	0.6%	2.3%	7.0%	7.0%	7.0%	7.0%	7.0%	7.0%	7.0%

^{*}Total Fund Composite does not include cash.

Ending October 31, 2019

	1 Mo	YTD	1 Yr	2 Yrs	3 Yrs	4 Yrs	5 Yrs	7 Yrs	10 Yrs
Total Fixed Income Composite	0.2%	2.3%	9.6%	4.5%	3.7%	3.9%	3.6%	3.0%	4.3%
BBgBarc US Aggregate TR	0.3%	2.6%	11.5%	4.5%	3.3%	3.6%	3.2%	2.7%	3.7%
Total Domestic Equity Composite	1.5%	3.0%	13.2%	9.8%	14.2%	11.8%	10.1%	13.5%	13.6%
Russell 3000	2.2%	3.3%	13.5%	10.0%	14.5%	11.8%	10.3%	13.6%	13.6%
Total International Equity Composite	4.7%	3.1%	12.4%	2.4%	9.4%	8.3%	6.2%	6.9%	6.2%
MSCI ACWI ex USA Gross	3.5%	1.7%	11.8%	1.5%	8.6%	6.6%	4.3%	6.0%	5.4%
FIS Funds Management	4.1%	2.1%	10.8%	-0.2%	6.5%	5.5%	5.1%	8.8%	9.9%
FIS Benchmark	3.5%	1.6%	10.6%	0.7%	7.7%	6.3%	5.0%	9.0%	10.4%

Ending October 31, 2019

	1 Mo	Fiscal YTD	1 Yr	2 Yrs	3 Yrs	4 Yrs	5 Yrs	7 Yrs	10 Yrs
Defensive Equity Composite	1.7%	3.7%	8.8%	4.5%					
CBOE Put Write Index	2.3%	3.5%	5.1%	3.5%	6.2%	5.9%	6.2%	6.7%	8.1%
50% S&P 500/50% 91 Day T-Bill	1.2%	2.3%	8.5%	6.6%	8.3%	6.8%	6.0%	7.3%	7.1%

Ending October 31, 2019

	1 Mo	Fiscal YTD	1 Yr	2 Yrs	3 Yrs	4 Yrs	5 Yrs	7 Yrs	10 Yrs
Risk Premia Composite	-1.9%	0.2%	4.0%		-				
T-Bills +5%	0.5%	2.3%	7.3%	7.1%	6.7%	6.3%	6.0%	5.8%	5.6%

Ending September 30, 2019

	3 Mo	Fiscal YTD	1 Yr	2 Yrs	3 Yrs	4 Yrs	5 Yrs	7 Yrs	10 Yrs
Total Real Estate Composite	1.4%	1.4%	6.9%	7.5%	7.7%	8.6%	10.1%	10.9%	9.8%
NPI	1.4%	1.4%	6.2%	6.7%	6.8%	7.4%	8.6%	9.3%	9.8%
CPI +5%	1.5%	1.5%	6.8%	7.1%	7.2%	7.0%	6.6%	6.6%	6.8%



Annualized Performance (Gross of Fees)

Market Value: \$1,836.1 Million and 100.0% of Fund

	1 Mo	Fiscal YTD	1 Yr	2 Yrs	3 Yrs	4 Yrs	5 Yrs	7 Yrs	10 Yrs	Inception	Inception Date
Total Fixed Income Composite	0.2%	2.3%	9.6%	4.5%	3.7%	3.9%	3.6%	3.0%	4.3%		
BBgBarc US Aggregate TR	0.3%	2.6%	11.5%	4.5%	3.3%	3.6%	3.2%	2.7%	3.7%		
Mellon EB Aggregate Bond Index Fund	0.3%	2.6%	11.5%	4.5%	3.3%	3.6%	3.2%	2.7%	3.7%		Aug-08
BBgBarc US Aggregate TR	0.3%	2.6%	11.5%	4.5%	3.3%	3.6%	3.2%	2.7%	3.7%	4.2%	Aug-08
Semper	-0.3%	1.0%	7.2%	4.0%	4.0%	4.2%	4.1%	3.8%	5.0%	5.9%	Nov-97
Semper Benchmark	0.4%	1.7%	8.9%	3.5%	2.5%	2.7%	2.7%	2.4%	3.5%	4.9%	Nov-97
PIMCO	0.3%	2.5%	11.1%	4.5%	3.4%	3.8%	3.3%	2.7%	4.2%		Jul-08
BBgBarc US Aggregate TR	0.3%	2.6%	11.5%	4.5%	3.3%	3.6%	3.2%	2.7%	3.7%	4.2%	Jul-08
Pacific Asset Management	-0.2%	1.3%	4.0%	4.5%		-	_			4.7%	Aug-17
Credit Suisse Leveraged Loans	-0.5%	0.4%	2.6%	3.7%	4.2%	4.8%	4.0%	4.3%	5.3%	4.0%	Aug-17
Payden & Rygel	1.0%	1.5%		-	-	-	_		-	5.8%	May-19
JPM EMBI Global Diversified	0.3%	1.8%	14.3%	4.6%	5.1%	6.7%	5.3%	4.7%	6.8%	5.2%	May-19
Total Domestic Equity Composite	1.5%	3.0%	13.2%	9.8%	14.2%	11.8%	10.1%	13.5%	13.6%		
Russell 3000	2.2%	3.3%	13.5%	10.0%	14.5%	11.8%	10.3%	13.6%	13.6%		
Mellon EB Large Cap SIF	2.1%	3.6%	14.2%	10.6%	14.8%	12.1%	10.6%	13.9%	13.8%	9.1%	May-06
Russell 1000	2.1%	3.6%	14.2%	10.5%	14.7%	12.0%	10.5%	13.8%	13.7%	9.0%	May-06
Edgar Lomax	0.5%	4.2%	10.3%	10.1%	13.7%	12.3%	9.6%	13.2%	13.5%	10.5%	Dec-92
S&P 500 Value	2.6%	5.6%	14.5%	8.6%	12.1%	10.7%	8.6%	12.2%	12.3%	9.0%	Dec-92
S&P 500	2.2%	3.9%	14.3%	10.8%	14.9%	12.2%	10.8%	13.9%	13.7%	9.7%	Dec-92
RhumbLine Advisers	1.9%	1.1%								27.5%	Jan-19
Russell MidCap Growth	1.9%	1.2%	18.9%	12.4%	16.8%	12.5%	10.9%	14.5%	14.8%	27.6%	Jan-19
DF Dent	0.6%	1.8%								34.3%	Jan-19
Russell MidCap Growth	1.9%	1.2%	18.9%	12.4%	16.8%	12.5%	10.9%	14.5%	14.8%	27.6%	Jan-19
S&P 400 MidCap	1.1%	1.0%	9.0%	4.9%	10.8%	9.6%	8.4%	12.1%	13.2%	19.2%	Jan-19
Rothschild	1.4%	2.3%	6.3%	1.2%	8.7%	7.9%	6.8%	11.3%	12.3%	11.1%	Oct-96
Russell 2000 Value	2.4%	1.8%	3.2%	1.3%	8.6%	8.6%	6.2%	9.9%	11.1%	9.2%	Oct-96
Russell 2000	2.6%	0.2%	4.9%	3.4%	11.0%	9.2%	7.4%	11.2%	12.3%	8.3%	Oct-96
Total International Equity Composite	4.7%	3.1%	12.4%	2.4%	9.4%	8.3%	6.2%	6.9%	6.2%	-	
MSCI ACWI ex USA Gross	3.5%	1.7%	11.8%	1.5%	8.6%	6.6%	4.3%	6.0%	5.4%		
Harding Loevner LP	3.2%	0.9%	11.9%	2.8%	9.9%	8.8%				6.9%	Mar-15
MSCI ACWI ex USA Gross	3.5%	1.7%	11.8%	1.5%	8.6%	6.6%	4.3%	6.0%	5.4%	4.6%	Mar-15
Mellon ACWI ex. USA Index	3.5%	1.7%	11.6%	1.4%	8.4%	6.4%	4.1%			4.7%	May-13
MSCI ACWI ex USA Gross	3.5%	1.7%	11.8%	1.5%	8.6%	6.6%	4.3%	6.0%	5.4%	4.9%	May-13
MSCI ACWI ex USA	3.5%	1.6%	11.3%	1.0%	8.1%	6.1%	3.8%	5.5%	4.9%	4.4%	May-13
Ariel Investments	1.5%	2.7%	6.8%				-			-0.6%	Feb-18
MSCI ACWI ex USA Gross	3.5%	1.7%	11.8%	1.5%	8.6%	6.6%	4.3%	6.0%	5.4%	-0.4%	Feb-18
Mondrian	3.0%	1.2%	10.3%	2.5%	9.6%	8.4%	7.1%	7.8%		8.1%	Sep-10
MSCI World ex USA Small Cap	4.1%	3.8%	8.6%	0.1%	8.0%	7.0%	6.5%	8.0%	7.5%	6.9%	Sep-10
Lazard Emerging SC	4.3%	1.5%	13.9%	-6.5%	1.6%	4.3%	1.2%			0.6%	Apr-13
MSCI Emerging Markets Small Cap	3.8%	-0.9%	9.7%	-4.7%	3.1%	3.5%	1.0%	2.6%	3.5%	0.8%	Apr-13
SSGA Emerging SC						-	-				Oct-19
MSCI Emerging Markets Small Cap	3.8%	-0.9%	9.7%	-4.7%	3.1%	3.5%	1.0%	2.6%	3.5%		Oct-19



Investment Manager

Annualized Performance (Gross of Fees)

Market Value: \$1,836.1 Million and 100.0% of Fund

	1 Mo	Fiscal YTD	1 Yr	2 Yrs	3 Yrs	4 Yrs	5 Yrs	7 Yrs	10 Yrs	Inception	Inception Date
FIS Funds Management	4.1%	2.1%	10.8%	-0.2%	6.5%	5.5%	5.1%	8.8%	9.9%	9.1%	Mar-03
FIS Benchmark	3.5%	1.6%	10.6%	0.7%	7.7%	6.3%	5.0%	9.0%	10.4%	8.5%	Mar-03
Osmosis	3.7%	2.1%	7.7%	-0.7%						-0.7%	Oct-17
MSCI EAFE Gross	3.6%	2.6%	11.6%	2.2%	9.0%	6.0%	4.8%	7.0%	5.9%	2.2%	Oct-17
Metis Global Partners	5.4%	4.2%	4.8%	-3.6%						1.3%	Apr-17
MSCI EAFE Gross	3.6%	2.6%	11.6%	2.2%	9.0%	6.0%	4.8%	7.0%	5.9%	6.1%	Apr-17
Ativo Capital Management	3.2%	2.0%	12.4%	2.6%	8.7%	5.6%				5.5%	Feb-15
MSCI EAFE + Canada	3.2%	2.3%	11.1%	1.8%	8.3%	5.6%	3.7%	5.9%	5.1%	3.3%	Feb-15
Redwood Investments	3.7%	3.2%	14.0%	4.4%					-	10.2%	Apr-17
MSCI EAFE + Canada	3.2%	2.3%	11.1%	1.8%	8.3%	5.6%	3.7%	5.9%	5.1%	5.6%	Apr-17
Decatur EAFE	3.7%	1.6%	6.4%	-0.7%	-	-	-		-	-0.7%	Oct-17
MSCI EAFE + Canada	3.2%	2.3%	11.1%	1.8%	8.3%	5.6%	3.7%	5.9%	5.1%	1.8%	Oct-17
Denali EAFE	4.2%	0.9%	7.2%	0.3%					-	0.3%	Oct-17
MSCI EAFE + Canada	3.2%	2.3%	11.1%	1.8%	8.3%	5.6%	3.7%	5.9%	5.1%	1.8%	Oct-17
Aubrey	7.0%	5.7%	30.2%	5.6%	-	-	-		-	5.6%	Oct-17
MSCI Emerging Markets Gross	4.2%	-0.1%	12.3%	-0.7%	7.8%	8.2%	3.3%	3.5%	4.1%	-0.7%	Oct-17
North of South Capital	4.6%	1.2%							-	8.5%	May-19
MSCI Emerging Markets Gross	4.2%	-0.1%	12.3%	-0.7%	7.8%	8.2%	3.3%	3.5%	4.1%	6.3%	May-19
FIS Group	3.4%	1.4%	8.7%	-1.1%	4.8%	3.5%	-		-	2.7%	Feb-15
MSCI ACWI	2.7%	2.7%	12.6%	5.8%	11.3%	8.9%	7.1%	9.4%	8.8%	6.8%	Feb-15
Defensive Equity Composite	1.7%	3.7%	8.8%	4.5%							
CBOE Put Write Index	2.3%	3.5%	5.1%	3.5%	6.2%	5.9%	6.2%	6.7%	8.1%		
50% S&P 500/50% 91 Day T-Bill	1.2%	2.3%	8.5%	6.6%	8.3%	6.8%	6.0%	7.3%	7.1%		
Neuberger Berman	1.7%	3.7%	8.8%	4.5%						5.9%	Feb-17
CBOE Put Write Index	2.3%	3.5%	5.1%	3.5%	6.2%	5.9%	6.2%	6.7%	8.1%	4.7%	Feb-17
50% S&P 500/50% 91 Day T-Bill	1.2%	2.3%	8.5%	6.6%	8.3%	6.8%	6.0%	7.3%	7.1%	7.0%	Feb-17
Risk Premia Composite	-1.9%	0.2%	4.0%	7.40/	0.70/	0.00/	0.00/	 		-	
T-Bills +5%	0.5%	2.3%	7.3%	7.1%	6.7%	6.3%	6.0%	5.8%	5.6%		
Lombard Odier	-1.9%	0.2%	4.0%							1.9%	Jul-18
T-Bills + 5%	0.5%	2.3%	7.3%	7.1%	6.7%	6.3%	6.0%	5.8%	5.6%	7.3%	Jul-18

Investment Manager

Annualized Performance (Gross of Fees)

Market Value: \$1,836.1 Million and 100.0% of Fund

Ending September 30, 2019

	3 Mo	Fiscal YTD	1 Yr	2 Yrs	3 Yrs	4 Yrs	5 Yrs	7 Yrs	10 Yrs	Inception	Inception Date	
American Realty	1.4%	1.4%	6.8%	7.6%	7.6%	8.0%	9.1%	10.1%	10.0%	5.2%	Jul-08	
NPI	1.4%	1.4%	6.2%	6.7%	6.8%	7.4%	8.6%	9.3%	9.8%	6.3%	Jul-08	
		Ending September 30, 2019										
					Endi	ng Septe	ember 30), 2019				
	3 Mo	Fiscal YTD	1 Yr	2 Yrs	Endii 3 Yrs	ng Septe 4 Yrs	ember 30 5 Yrs	7 Yrs	10 Yrs	Inception	Inception Date	
Barings	3 Mo 1.4%		1 Yr 7.1%	2 Yrs					10 Yrs	Inception 9.7%		

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